

**Water Resources Department (WRD),
The State of Rajasthan,
Republic of India**

**THE PREPARATORY SURVEY
ON
RAJASTHAN WATER SECTOR LIVELIHOOD
IMPROVEMENT PROJECT**

**FINAL REPORT
Volume – II Attachments**

February 2017

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NIPPON KOEI CO., LTD.

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The Preparatory Survey on Rajasthan Water Sector Livelihood Improvement Project

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Chapter 2
Attachment

Attachment 2.1.1
National Water Policy

Attachment 2.1.1 National Water Policy

(a) Basic Principles

Basic principles that govern the NWP includes:

- The principle of equity and social justice must inform the use and allocation of water;
- A common integrated perspective should govern the planning and management of water resources. Such a perspective would consider local, regional and national context and have an environmentally sound basis;
- Water needs to be managed as a common pool community resource that is held by the state under the public trust doctrine to ensure equitable and sustainable development for all.
- Water may be treated as an economic good to promote its conservation and efficient use after basic needs such as those of drinking water and sanitation are met; and
- River basin should be considered as the basic hydrological unit for the purpose of NWP.

NWP makes recommendations on several issues such as adapting the availability of water to climate change, water pricing and conservation of river corridors, water bodies and infrastructure. NWP priorities water allocation are :

- i) Drinking,
- ii) Irrigation,
- iii) Hydropower,
- iv) Navigation, and
- v) Industrial and other uses.

(b) Main Features of NWP

Main features of NWP are:

- Increasing water storage in the forms of soil moisture, ponds, ground water, small and large reservoirs.
- Enhancing the efficiency of water use through the adoption of agricultural strategies, cropping patterns, and improved water management, such as land leveling and micro irrigation.
- Stakeholder participation in land-soil-water management with scientific inputs from local research and academic institutions to evolve different agricultural strategies, reduce soil erosion and improve soil fertility.
- Declining ground water levels in over-exploited areas need to be arrested by introducing improved technologies of water use and encouraging community based management of aquifers. Additionally, artificial recharging projects should be undertaken so that more water is recharged rather than extracted from aquifers.
- Inter-basin transfers of water from surplus basins to deficit basins/areas need to be encouraged to increase the production of water.
- Integrated watershed development activities with groundwater perspectives need to be undertaken to increase soil moisture, reduce sediment yield, and increase overall land and water productivity. Existing programs such Mahatma Gandhi National Rural Employment Guarantee Act may be used by farmers to harvest rain water using farm ponds and other soil and water conservation measures.
- Systems to benchmark water use, such as water footprints and water auditing, need to be developed. Continuous water balance and water accounting studies need to be conducted to improve the efficiency of water use from irrigation projects and river basins.
- Water needs to be saved during irrigation. Methods to encourage water saving include, aligning cropping pattern with natural resource endowments, micro irrigation (drip, sprinkler, etc.), automated irrigation operation, and evaporation-transpiration reduction. Canal seepage water can also be recycled through conjunctive ground water use.
- Small local level irrigation through small bunds, field ponds, agricultural and engineering methods for watershed development, need to be encouraged.
- Users of water should be involved in monitoring the pattern of water use if it is causing problems like unacceptable depletion or building up of ground water, salinity, alkalinity etc.

-
- A Water Regulatory Authority should be established in each state. The authority will be responsible for fixing and regulating the water tariff system and charges to be levied.
 - Water charges should be determined on a volumetric basis.
 - To keep aside a portion of river water flow to meet the ecological needs and to ensure that low and high flow releases correspond in time closely to natural flow regime.
 - Recycle and reuse of water should be incentivized through a properly planned tariff system.
 - Water Users Associations (WUA) should be given statutory powers to collect and retain a portion of water charges, manage the volumetric quantum of water allotted to them and maintain the distribution system in their jurisdiction.
 - Conservation of river corridors, water bodies and infrastructure needs to be undertaken in a regulated and scientifically planned manner through community participation.
 - Pollution of sources of water and water bodies should not be allowed.
 - Legally empowered dam safety services need to be ensured in the centre as well as states.
 - All clearances, including environmental and investment clearances, required for implementation of projects should be made time bound to avoid the economic losses incurred due to delays in implementation.
 - To avoid time and cost over-runs, concurrent monitoring at project, state and central levels should be undertaken for timely interventions.
 - Local governing bodies such as *panchayats*, municipalities, corporations, and WUAs should be involved in the planning of projects.
 - Flood forecasting needs to be expanded to the rest of the country and modernized using real time data acquisition system.
 - Operating procedures for reservoirs should be evolved and implemented so as to have a flood cushion and reduce trapping of sediment during flood season.
 - Frequency based flood inundation maps should be prepared to evolve coping strategies. Communities should be involved in preparing an action plan for dealing with floods/droughts.
 - Efforts should be made to provide improved water supply in rural areas with proper sewerage facilities. Least water intensive sanitation and sewerage systems with decentralized sewage treatment plants should be incentivized.
 - In urban and industrial areas, rainwater harvesting and de-salinization should be encouraged to increase availability of utilizable water. Urban water supply and sewage treatment schemes should be integrated and executed simultaneously. Water supply bills should include sewerage charges.
 - Subsidies and incentives should be implemented to encourage the recovery of industrial pollutants and recycling, which are otherwise capital intensive.
 - A Permanent Water Disputes Tribunal should be established at the centre to resolve disputes expeditiously.
 - Communities should participate in the management of water resource projects and services.
 - Integrated Water Resources Management should be the main principle for planning, development and management of water resources.
 - Riparian (along the banks of rivers) states should be consulted during negotiations about sharing and management of water of international rivers keeping national interests in mind.
 - A National Water Informatics Centre should be established to process hydrological data regularly from all over the country. All hydrological data should be put into the public domain.
 - Grants should be given to states to update technology, design practices, and planning and management practices.
 - To meet the demand of skilled manpower in the water sector, regular training and academic courses in water management should be promoted. A national campaign for water literacy needs to be started for capacity building of stakeholders in the water sector.

NWP contemplates paradigm shift in approach from service provider of water to facilitator of services. Effective intuitional and administrative mechanisms are necessary to deal with the ever escalating, conflicting, competing and well articulated demand for water. NWP states that for cost effective

development and optimal utilization of water, it is necessary to formulate projects within the framework of an overall plan treating hydrologic basin /sub-basin as a unit for purpose of development. To achieve this objective, necessary institutional mechanism can be created through minor and simple amendments in the relevant acts in vogue.

Attachment 2.1.2
State Policy Reforms in Water Sector

Attachment 2.1.2 State Policy Reforms in Water Sector

The Government of Rajasthan (the GoR) plans to implement SWP within a long term programmatic framework for introducing water sector reforms.

Planning and policy formulation is a dynamic process and for any policy to be successful a regular review and timely refinement/modification is necessary. In order to achieve the goals certain policy reforms are needed in water sector. As such following policy reforms have been initiated:

- Adoption of state water policy incorporating farmers' participation in irrigation management,
- Adoption of Resettlement and Rehabilitation (R&R) policy in accordance with National R&R Policy 2007,
- Enactment of a legal act to facilitate farmers' participation in irrigation management,
- Ensure improved O&M of irrigation system & expenditure prioritization for O&M, and
- Strengthening Water Resources Planning & Environmental sustainability while planning for water development projects.

The concept of rehabilitation of the persons displaced by the construction of a project was originally missing. The displaced persons were paid the price of land and property acquired by the Government in accordance with the Land Acquisition Act and very little attention was paid to their resettlement and rehabilitation. It has now been recognized that it is the responsibility of government to suitably rehabilitate the displaced persons. R&R policy for all the state's water resources development projects was adopted by GoR in October 2000. Directorate for Resettlement and Rehabilitation was also established in WRD in the year 2002. Subsequently, GoR has adopted (June 06, 2011) National Resettlement and Rehabilitation (R&R) Policy 2007 to address R&R issues in infrastructure development projects across all sectors in the state. Resettlement /rehabilitation of families affected by new projects is being done by project authorities in close coordination with district revenue officers and the principles laid down the R&R policy are being followed.

The Government of Rajasthan has already taken up the following institutional reforms in the water resources sector so far:

- A 'Rajasthan River Basin and Water resources Planning Authority' has been established in the year 2015 to adopt an integrated Water Resources Management approach for management and development of river basins and sub-basins on sustainable basis by planning of all watershed, irrigation and drinking water projects covering basins, sub-basins aquifers and watershed to develop state level resource plan to ensure optimal and efficient utilization of ground and surface water including inter basin water transfer, interlinking of rivers from surplus to deficit basins, sub-basins.
- A State level 'Rajasthan State Water Resources Advisory Council' under the Chairmanship of Chief Minister has also been constituted. This council over views and decides about the policies for water resources development in the State. The Ministers and Secretaries of the relevant departments, and experts are members of this Council.
- A Standing Committee on State Water Resources has been constituted under the Chairmanship of Chief Secretary. The Secretaries of various departments related to water resources and the heads of the departments along with farmer's representatives are members of this Committee. The committee works as a unified agency, which has complete control over water resources development activities in the State and ensures proper co-ordination between the various development and user departments.
- As a part of long-term planning of scarce water resources of the state, a separate State Water Resources Planning Department (SWRPD) has been created with adequate staff. SWRPD is the secretariat for council / committee constituted by GoR for overseeing policy framing, utilization, planning and development of water resources (i) State Water Resources Council (SWRC) chaired by the Chief Minister and (ii) Standing Committee on State Water Resources chaired by Chief Secretary. In conformity to state water policy, all the new water utilization projects are being cleared by SWRPD after assessment of the water availability in the basin.
- R&R policy for all the state's water resources development projects was adopted by GoR in

October 2000. Directorate for Resettlement and Rehabilitation was also established in WRD in the year 2002. Subsequently, GoR has adopted (6 June 2011) National Resettlement and Rehabilitation Policy 2007 to address R&R issues in infrastructure development projects across all sectors in the state.

- As a part of capacity building of water sector institutions, framework has been developed to present training needs across all the levels and different functional area of management under water sector. For the purpose of the training of the framers, officials of WUAs and trainers, two Institutes i.e. IMTI Kota and Water and Land Management Institute (WALMI) at state level have been strengthened. These institutes cater the training needs on water management related issues.
- “Field Operational Manual for the Environment Management in Water Resource Projects” for the Rajasthan State for guiding the field staff of the WRD Rajasthan to mainstream environmental management from planning, implementation to O&M stages in Water Sector projects has been developed and disseminated to all the staff through workshops.
- New, Water Resource Information System has been designed to handle both regular and ad-hoc queries to automate the process of generating reports. Development of web based GIS enabled ‘Water Resources Information System’ (WRIS). WRIS is a repository of data and processed information of wide spectrum of water resource domain pertaining to state of Rajasthan. WRIS enables users and stakeholders to maintain up-to-date information on projects, dams, reservoirs, canals, anicuts, surface and ground water resources including recharge, chemical analysis and water quality of available water, crop. WUAs etc. WRIS was launched in July 2011.
- Earlier, the management of irrigation systems was being done under the provisions of Irrigation and Drainage Act, 1954 and Irrigation and Drainage Rules, 1955. This act states that operation and maintenance of irrigation systems, collection of irrigation revenues and equitable distribution of water is the prime responsibility of Irrigation department. Subsequently, as a part of major reform initiative in the water sector GoR enacted the Rajasthan Farmers’ Participation in Management of Irrigation System (RFPMIS) Act 2000 (November 20, 2000) and notified RFPMIS Rule 2002 (October 22, 2002) enabling formation of WUAs (please refer to Section 2.4.1). WUAs are being formed on selected projects to take over management and maintenance of minor canal level of irrigation system for efficient and economical use of water. Thus WRD is acting as facilitator. GoR has also issued order that 50 percent of collected water charges/tax distributed amongst Water Users’ Association, Distributary Committee and Project Committee for maintenance of the system under their control. WUAs would also be formed on the irrigation projects proposed under this project.
- State government introduced ‘Integrated Finance Management System – IFMS’ for budgeting and accounting purpose. When Integrated Finance Management System was launched, it was launched without Letter of credit (LC) functionality (used by state works department only). Now, Government of Rajasthan is making this function also available from 1st April 2013 onwards.
- GoR has also authorized WUAs to undertake water conservation / harvesting, irrigation and restoration of traditional water bodies. GoR has proposed convergence of the rehabilitation activities under the project with MGNREGA by providing employment in rural sector under MGNREGA for Rehabilitation of canals having discharge less than 5 cusecs ($0.14 \text{ m}^3/\text{s}$) as well as rehabilitation of watercourses through agency of WUAs.

Attachment 2.1.3
National Policy for Agriculture

Attachment 2.1.3 National Policy for Agriculture

(a) The Salient Features of Agricultural Policies are;

- i) Greater private sector participation through contract farming.
- ii) Price protection for farmers.
- iii) Dismantling of restrictions on movement of agricultural commodities throughout the country.
- iv) Rational utilization of country's water resources for optimum use of irrigation potential.
- v) High priority to development of animal husbandry, poultry, dairy and aquaculture.
- vi) Capital inflow and assured markets for crop production.
- vii) Exemption from payment of capital gains tax on compulsory acquisition of agricultural land.
- viii) Minimum fluctuation in commodity prices.
- ix) Adequate and timely supply of quality inputs to farmers.
- x) High priority to rural electrification.
- xi) Setting up of agro processing units and creation of off farm employments in rural areas.

(b) Sustainable Agriculture:

The policy will seek to promote technically sound, economically, viable environmentally, non degrading and socially acceptable use of country's natural resources-land, water and genetic endowment to promote sustainable development of agriculture. Attention will be given for increasing cropping intensity through multiple cropping balanced and conjunctive use of biomass, organic and inorganic fertilizers and controlled use of agrochemicals through integrated nutrient and pest management (INM and IPM) will be promoted to achieve the sustainable increases in agricultural production.

(c) Food and Nutritional Security:

Efforts will be made to raise the productivity and production of crops to meet the increasing demand of food and raw materials for expanding agro based industries.

A major thrust will be given to development of irrigated horticulture, aromatic and medicinal plants, bee keeping and sericulture for augmenting food supply, exports and generating employment in rural areas.

Animal husbandry and fisheries also generate wealth and employment in agriculture sector. Development of animal husbandry, poultry, dairying and aqua culture will receive high priority in the efforts for diversifying agriculture increasing animal protein availability in the food basket and generating exportable surpluses.

(d) Generation and Transfer of Technology:

The research and extension linkage will be strengthened to improve quality and effectiveness of research and extension system. Role of Krishi Vigyan Kendra (KVK's), Non Governmental Organizations (NGO's), Farmers Organizations, Co-operatives, Corporate Sector and Para-Technicians in agriculture extension will be encouraged for organizing demand driven production systems. Development of human resources through capacity building and skill up gradation of public extension functionaries and other functionaries will be accorded high priority.

(e) Inputs Management

Adequate and timely supply of quality inputs such as seeds, fertilizers, plant protection chemicals, bio pesticides, agricultural machinery and credit at reasonable rates to farmers will be endeavor of the government. Soil testing and quality testing of fertilizers and seeds will be ensured and supply of spurious inputs will be checked. Balanced and optimum use of fertilizers will be promoted together with use of organic manures and bio fertilizers to optimize the efficiency of nutrient use.

(f) Incentives for Agriculture

The government will endeavor to create a favorable economic environment for increasing capital formation and farmer's own investment by removal of distortions in the incentive regime for agriculture improving the terms of trade with manufacturing sectors and bringing about external and

domestic market reforms backed by rationalization of domestic tax structure. Appropriate measures will be adopted to ensure that agriculturist by and large remain outside the regulatory tax collection systems. Farmers will be exempted from payment of capital gains tax on compulsory acquisition of agricultural land.

(g) Investments in Agriculture:

The agriculture sector has been starved of capital. There has been decline in the public sector investment in the agriculture sector. A time bound strategy for rationalization and transparent pricing inputs will be formulated to encourage judicious input use and to generate resources for agriculture.

Bridging the gap between irrigation potential created and utilized, completion of all ongoing projects, restoration and modernization of irrigation infrastructure including drainage, evolving and implementing an integrated plan of augmentation and management of national water resources will receive special attention for augmenting the availability and use of irrigation water.

Emphasis will be laid on development of marketing infrastructure and techniques of preservation, storage and transportation with a view to reducing post harvest losses and ensuring a better return to the grower.

Attachment 2.1.4
State Policy for Agriculture 2013

Attachment 2.1.4 State Policy for Agriculture 2013

State have framed state agriculture Policy 2013 to ensure food and nutritional security and economic empowerment and doubling the production of food grains in the next 10 years to attain a minimum 4 per cent of agriculture per annum.

(a) The Vision of Agricultural Policy

The vision of Agriculture Policy of Rajasthan will be to ensure food and nutritional security and economic empowerment of the people through accelerated yet sustainable growth in Agriculture. Agriculture policy shall strive for doubling the production of food grains in the next 10 years and to obtain a minimum of 4% agriculture growth per annum.

(b) Social Justice and Equity

To ensure social justice and equity, food and nutritional security will be given high priority to ensure a balanced diet for all, the policy will promote fruit and vegetable production and their consumption in rural areas.

(c) Fodder Security

To achieve fodder security to meet the demand of live stock population which is increasing by 4% annually, and is expected to be around 8.68 *Crore* by 2020. This shall be ensured by promoting fodder crops and fodder and feed storage systems. This shall be ensured by promoting fodder crops and fodder and feed storage systems.

(d) To Bridge the Existing Yield Gap

To bridge the existing yield gap through adoption and up sealing of improved technologies involving public, private and community approaches for extension delivery and input availability.

(e) Water Management

To promote best practices in water management system that save water at least by 30 per cent and increase in productivity.

(f) Greening

To make grey areas green through adoption of new technologies, including scientific land use planning and integrated farming systems mode.

(g) Increase of Farm Income

To increase farm income by initiating measures to minimize cost of cultivation increase productivity encourage rural base agro processing and value addition and to link farmers to the market.

(h) Increase of Productivity

To enhance productivity of crops of cereals, pulses, oil seed and seed spices etc.

(i) Diversification of Agriculture

To promote much needed diversification of agriculture specially crops like seed spices medicinal crops, horticulture, animal husbandry, dairying, bee keeping, agro forestry and in land aqua culture.

(j) Specialty Crops

To encourage individual, joint or contract farming for specialty crops in order to ensure higher income through efficient production, processing and export of value added commodities.

(k) Improvement of Rural Livelihood

To discourage migration, both seasonal and permanent of rural people of urban areas through various means of improved rural livelihood and income generation through on farm and off farm opportunities.

(l) Long Term Investment

To accelerate capital formation in agriculture through long term public and private investments including development of infrastructure such as silos, cold chain and agro based processing industries.

(m) Strategy:

- i) Integrated farming system approach especially for dry land Agriculture
- ii) Organic farming.
- iii) Micro Irrigation
- iv) Integrated Nutrient Management (INM)
- v) Integrated Pest Management.(IPM)
- vi) Farm Mechanization.
- vii) Fodder Production.
- viii) Ensure the Quality of inputs like fertilizer insecticides and seeds.
- ix) Infrastructure Facilities
- x) Alternate energy – Utilization of renewable energy mainly solar.
- xi) For extension support and capacity development.
- xii) Improving the livelihood of farmers crop-horticulture-live stock integrated farming system's and creating better livelihood options through agro processing and value addition will be promoted.
- xiii) Credit support – credit at lower interest rate will be insured to all small farmers in the state.
- xiv) Gender - Mainstreaming: Women empowerment in agriculture will be a major thrust of the policy. Special programme for women empowerment in agriculture sector, especially targeting maternal and child health care to overcome their drudgery and to provide them proper education/training/skills associated with required incentives will be launched.
- xv) Capital formation and investment in agriculture for diversification – The strategy under this policy emphasis major effort towards diversification of agriculture. But diversification is not to be parochially in terms crops alone but would encompass composite agriculture having crops, horticulture, live stock, fisheries and secondary agriculture. Switching from traditional crop cultivation to horticulture, for example would require more investments on cold chain including cold storage ware houses, processing units and marketing network.
- xvi) Organization and Management Reforms – Farmers meet to be linked to markets. They need to have a role in deciding the price of a commodity and be enabled to do so through co-operative, self help groups (SHGs) and civil societies.

Attachment 2.1.5
Summary of State Action Plan

Attachment 2.1.5 Summary of State Action Plan

Farmers of the state of Rajasthan will have to be encouraged to take step from subsistence agriculture to modern consumer and market oriented production to modern consumer and market oriented production only in that way it will be possible to achieve higher and sustainable farm income, higher efficiency in utilization of scarce natural resources of which water is the most important one.

The government agencies and institution in charge of agricultural development are first and foremost.

- The Department of Agriculture (DoA) followed by
- The Department of Horticulture (DoH)
- The Department of Livestock (DoL) and
- Krishi Vigyan Kendra (KVK)

The roles of the governmental agencies and of KVK are related to disseminating know how to farmers at various level and support the development by provision of subsidies. Dissemination of know-how and promotion of new techniques and equipment will be achieved by field demonstrations.

The three government agencies are well established at each district capital.

(1) On and Off Field Demonstrations

Field demonstrations will be arranged by DoA and DoH complemented by class room and practical training at KVK centers.

(2) Crops and Crop Diversification (through DoA)

Water saving in irrigation is of paramount importance in mitigating the problems arising on account of monoculture. Glaring example of crop diversification are, Soybean in Kota, Baran, Jhalawar, Chittore and Banswara winter maize in Banswara and Isabgol in Bikaner, Barmer, Nagaur, Jodhpur, Jalore, Jaisalmer and Chittore. Water wise crops (Crops of low water demand) like Gram, Lentil, Mustard, Linseed and Isabgol can be tried for demonstration on crop diversification.

(3) Cultivation of Vegetables and Fruits

Keeping in view location, climate, soil access to market and experience of DoH, cultivation of vegetables as well as the establishment fruit orchards e.g. Orange, Guava, Mango, Custard, Apple, Dat Palm, Pomogranate and Ber (*Zizyphus Mauritians*) can be done.

Field demonstrations on vegetable productions can be organized in selected WUA's. Major advantage of fruit trees are the higher market value, less water requirement by the use of drip irrigation, inter cropping during initial years of establishment can be practiced.

(4) Organic Farming (through KVK & DoH)

Organic farming is a holistic approach, which promotes and improves biodiversity, nutrient biocycles and soil microbial and biochemical activities. Organic produce fetch better market

prices hence increase farm income. Currently DoH is providing subsidy of Rs. 10,000 per hectare for organic farming of vegetables & fruits. Subsidy is provided in three years in 40:30:30 ratios.

(5) Integrated Nutrient Management (INM) (through DoA, DoH and KVK)

The degeneration of soil fertility owing to over mining nutrients. Critical analysis of available information shows that problems of degradation of soil health and ground water pollution are caused due to imbalanced fertilizer use and inadequate use of organic manures.

Use of organic manures with balanced application of fertilizer can alleviate the emerging problems of micronutrients deficiency. DoA may initiate demonstrations and supervise the demonstration on INM in crops and DoH in vegetable crops and fruit orchards.

(6) Integrated Pest Management (IPM) (through DoA, DoH and KVK)

Indiscriminate use of pesticides affects the ecological balance, resulting pest resurgence, pesticide resistant, pollution of environment and accumulation of pesticide residues at toxic level in food chain. Demonstrations on IPM are essential for sustainable environmental friendly, agriculture production. DoA will initiate and supervise the demonstration on IPM in crops and DoH in vegetable crops and fruits.

(7) Poly-tunnels, Green Houses and Agro Shade-net House

The advanced form and intensive form of horticulture (DoH) is providing subsidies for promoting the construction of green houses and the use of poly tunnels (high as well as low polythene tunnel) and “Agro-Shade net houses for raising in off season in small areas. This type of protected farming is entirely for production of marketable produce of high value. Due to enclosed environment water demand is relatively low due to very low evapo transpiration. Poly tunnels, Green Houses and Agro-Shade-Net houses will be useful for the farmers.

(8) Irrigation Methods (through DoA and DoH)

Higher irrigation efficiency at farm level requires uniform application of water at the proper time and in the proper amount. Under overwhelming conditions of water scarcity only water saving methods of irrigation should be promoted such as low pressure mini-sprinkler and drip irrigation systems. Rajasthan has no other recourse but to take the path of more crop and income per drop of water. Pressurized irrigation promotion is the only option and hence shall be promoted in the fields of farmer. Sprinkler system is an important method of pressurized irrigation method. This system saves 30 to 40 per cent irrigation water. Subsidies are provided to farmers by DoA and DoH for sprinkler systems of irrigation. In drip system of irrigation water is applied in drops which cause root zone wetting. This system of irrigation enhances water use efficiency but is also enabling effective use of nutrient for higher productivity, especially through fertigation. DoH is providing subsidies to farmer for drip irrigation. Field demonstration therefore, must also be related to proper installation of sprinkler and drip lines, on measurements of discharge of nozzle and emitter, cleaning of nozzle and emitters and of filters.

(9) Surface Irrigation (through DoA)

To promote efficient water management practices, surface irrigation methods like: Check basin, furrow and border strip method should be adopted. Irrigation efficiencies of these methods are at 40 to 60% ie. By more than 30% higher than so called wild flooding which is still practiced at too many places. Field demonstrations be carried out in WUA.

(10) Sprinkler Irrigation (through DoA)

In particular low pressure sprinkler systems driven by solar powered pumps should be promoted and subsidized. Low pressure systems should be preferred consuming less energy and thus can be powered by solar pumps. Field demonstrations should be organized at WUA area at least over a period two years.

(11) Pipelines

The introduction of pipelines to supply water to the edge of the field either by for surface irrigation or for pressurized systems which has proved to be water saving. DoA estimated that 20-25% of losses can be saved by using pipelines. Hence the supply of pipelines as a water saving means is most recommendable. DoA is providing subsidy for the purchase of pipelines.

(12) Drip Irrigation Systems (through DoH)

It is pertinent that root zone wetting through drip irrigation will lead to efficient use of scarce water resources. Drip irrigation is the most water saving irrigation method to date. However, it is only economically applicable in vegetable row crops and in orchards. Demonstrations with drip irrigation should include the application of liquid fertilizer through drip system. DoH is providing subsidy to farmers for drip irrigation. To avail subsidies for solar powered pump, installation of drip irrigation system is essential.

DoH assists farmers in planning and installation of drip irrigation and solar driven pumps.

(13) Livestock Rearing

Livestock production is an integral part of farming and contributes substantially to nutritional security and poverty alleviation through increased house hold income. Farmers in Rajasthan state are largely dependent upon dairy farming and small ruminants like goat and sheep. The total number of livestock in currently 5.77 crore of heads, which is almost comparable that of human population of the state. Demonstration on fodder crops like Berseem, Lucerne, Oat and multi cut sorghum will be useful for the farmers of the projects.

Thar parkar, Rathi and Gir are important breeds of milch type cattle. Murrah and Surti are breeds of milch type buffalo.

Goats are a multiple purpose animal. There are 21.50 million heads of goats in Rajasthan. Rajasthan is having 11.18 million sheep. Farmers can generate income through their meat, milk, wool and manure. Currently farmers are facing the difficulty for marketing of Goat and Sheep.

30% of India's mutton comes from the finest breeds of goat of Rajasthan like Sirohi, Marwari and Jhakrana.

The state has eight well defined breeds of Sheep-Chokla, Magra, Nali, Pugal, Marwari, Malpura, Sonadi and Jaisalmeri. These produce nearly 35% of India's wool.

Currently farmers are facing difficulty for marketing of goat and sheep.

The National Research Institute for Goat at Mathura (U.P.) is imparting training to farmers in goat rearing.

(14) Modern Farm Machinery and Tools (through DoA and DoH)

Rapid increase in agriculture mechanization helped in increasing the crop production. Modern farm machinery helps in increasing the crop production and decreasing the cost of production. Generally farmers using modern farm machinery to achieve higher crop productivity.

Use of modern farm machinery like disc plough, seed drill, seed cum fertilizer drill and rotavator will prove useful to the WUA farmers. Subsidy is provided to farmers. Subsidy schemes for purchase of farm equipment must be made known to farmers of WUAs. Subsidies should be provided to farmers of WUA for the purchase of farm machinery.

(15) Postharvest Handling, Processing of Produce and Storage

Postharvest Management: To minimize the loss of horticultural produce, post management is important. Post harvest technologies should be promoted to improve the quality of horticultural produce. Activities like waxing, grading, packaging, protection and conservation of produce are useful. Post harvest handling will improve the quality of the produce to and will fetch better market prices.

(16) Postharvest Product Handling (through KVK)

By centralized demonstration at KVK centers post harvest technologies should be promoted to improve the quality of agricultural produce including produce protection, conservation, packaging and distribution to meet the food and nutritional requirements of modern day consumers. Post-harvest product handling will improve the quality of the product and farmers will fetch better market prices.

(17) Farmer-level Processing of Produce (through KVK)

Demonstrations of devices and small processing equipment and practical training at KVK centers in preservation of fruits and vegetables.

Small scale processing of products such as Aonla Murabba, Aonla Candy, Squashes, Jam, Jelly, Chatnis, Sharbats etc. as well as of milk products, packaging and marketing of product. These will considerably add to the income of the farmer families.

(18) Cold Storage

Farmers of WUAs are producing substantial amounts of perishable fruits and vegetables, construction of cold storage might be essential investment to fetch better market prices and to reduce losses of produce due to inadequate storage. Transportation of cooled products needs to be cooled too i.e.

Cold storage trucks may be a viable asset to production groups of participating WUAs. Cold storage and transport could be used to supply super markets in large cities with quality products based on long term contracts between WUAs and super markets such as Big Bazaar and Hyper city.

DoH is supporting such investment with technical advice and financial subsidies.

(19) Low Cost Onion Storage Structure

Farmers have to dispose of their onion on cheaper rate after harvest. Onion cannot be stored for longer period, therefore, to store the onion bulb for longer period to fetch better price store in

onion storage structure. Low cost onion storage structure will be useful to store the bulbs of onion. DoH is having a model of low cost onion storage structure. DoH is providing 50% subsidy for the construction of low cost onion storage. Subsidies can be provided to WUA farmers for construction of low cost onion storage.

(20) Grain Stores

Most of the farmers have to sell their grain and spices immediately after harvesting and threshing at lowest market prices as there is no grain store within their village.

Every year farmers have heavy loss of grain due to damage by rodents and by untimely early rains, if the grain left in the field under the open sky.

Marketing board is providing 25% subsidy for the construction of grain stores of 50 to 100 ton capacity.

It is proposed that for promotional purposes to add the remaining 75% cost out of project funds for a limited number of grain stores.

(21) Training

Every year two one day training to farmers and women farmers may be provided by DoA and KVK. Out of two one day training, one training may be for women farmers. Topics of training are summarized in Table 1:

Table 1 : Topics of Training

No.	Topics of Training
1	Awareness of departmental programme.
2	How to improve productivity.
3	Village level cropping pattern (Area, Production & Productivity)
4	Improved varieties of different crops.
5	Use of fertilizers and soil test.
6	Irrigation at critical stages of crops.
7	Increase in sprinkler irrigation.
8	Drip irrigation system.
9	Organic farming.
10	INM
11	IPM
12	Summer Ploughing.
13	Use of Pheromone trap and light trap.
14	Management of different insect pests.
15	Weed management.
16	Crop and varietal diversification.

(22) Training at KVK Centres

43 KVK'S are in operation in Rajasthan. KVK's are established in each district of the state. KVK's belongs to state agricultural universities, ICAR and N.G.O's. Under the motto of "lab to the land". KVK's are promoting modern agriculture production methods, appropriate agriculture machinery and utilization of alternate energy sources such as biogas and solar energy as well as food preservation, cottage level processing of fruits, vegetables and dairy products.

Farmers can be trained by KVK's in well established technical training on vermi compost, improved rearing practices of goats, cattle, pig, poultry, production of planting material of vegetables and fruits, bee keeping and seed production.

(23) Major Areas of KVK Training

- Crop diversification in irrigated areas.
- Introduction of horticulture based cropping system.
- Farming system ie. raising of crops and dairy for higher income.
- Rejuvenation of old orchards.
- Introduction of more remunerative new crops and water wise crops into the cropping system.
- Income generation of rural poor women.
- Enforcement of proper IRM strategies.
- Yield enhancement of vegetables, pulses, oil seed crops and seed spices through implementation of proper INM and IPM.
- Water management and soil conservation.
- Farm mechanization.
- Post harvest product handling and marketing.
- Solar power in agriculture.

(24) Exposure Visit

Exposure visit of officer/experts of DoA may be conducted. Exposure visit of farmers of WUA should be conducted. Exposure visit of farmers will be useful as farmers can observe various progressive activities of agriculture in the field/centers.

(25) Workshops

One two day state level workshop for officials of DoA should be conducted at State Institute of Agriculture Management (SIAM) Durgapura every year. The Dy. Director Agriculture, Agriculture Research Officer (ARO), Agriculture Officer (AO) can participate in 2 day state level workshop.

Seven two day district level workshops can be conducted at SIAM, Durgapura & SIAM, Kota, Asstt. Agriculture Officer (AAO) and Agriculture Supervisors of Projects District can participate.

(26) Solar (DoH)

Rajasthan State received 6-7 kv/m²/day of solar insolation which one of the best in the world. There are around 325 sunny days in the state which makes it most suitable for solar project. The solar venture provides opportunities for production and uninterrupted supply and access of energy during day time in the remote areas which are otherwise unfeasible for distribution. Currently subsidy for 3 HP and 5 HP solar pumps is provided by DoH.

(27) Krishi Vigyan Kendra (KVK)

KVK are trying to help farmers through transfer technology, skill development, adoption of holistic approach to agriculture, farm women empowerment and promotion of innovative farming approaches. The mandate of KVK is to conduct “on farm testing” for identifying technologies in term of location specific sustainable land use systems. KVKs are organizing short term and long term vocational training in agriculture and allied vocations for farmers and rural youths with emphasis on “learning by doing” for higher production on farms and generating self employment.

(28) Thrust Areas

- Increasing crop production through agriculture techniques.
- Sustainable crop production through INM.
- IPM (Integrated Pest Management)
- Water harvesting and water management techniques.
- Increasing productivity of dairy animals through breeding, feeding and health management.
- Diversification through Horticultural and medicinal crops.
- Value addition and post harvest technology of agro and milk products.
- Woman empowerment through SHG groups and income generating activities.
- Popularization of organic farming for sustainable agriculture.
- Popularizing of back yard poultry farming and goatry among weaker section.

Farmer of WUAs will be imparted training at KVKs.

(29) Agricultural Marketing

Agricultural marketing in Rajasthan has made a notable progress with paradigm shift in approach to keep pace with the change, in agriculture production and growing marketable surplus. A wide network of dynamic and vibrant marketing system for agriculture produce with well developed 134 main markets and 308 market yards exist in the state.

The state has promulgated a policy for the promotion of agro processing industries and agribusiness, which seeks to address the entire value chain in agro processing and marketing entrepreneurs are entitled to the following category incentives:

- A. Incentives admissible under the Rajasthan invest promotion scheme 2010.
- B. Additional incentives / concessions under this policy for:
 - (a) New employment creation.

- (b) Electricity duty.
- (c) Stamp duty.
- (d) Land related issues.
- (e) Market development and diversification.
- (f) Quality and Standards.
- (g) Direct purchase and market fee.
- (h) New project development.

Attachment 2.1.6
Subsidies by National and
State Governments

Attachment 2.1.6 Subsidies by National and State Governments

A. Several Kinds of Subsidies

(1) Pipelines on Farm

Use of pipelines plays an important role for saving of irrigation water by 15-20 percent. Irrigation water is lost in irrigation channels due to percolation. This loss is higher in light loamy soils as the infiltration rate is 25 to 70 MM/hr and in case of loamy soils the infiltration rate is 15 to 20 MM/hr. In clay and clay loam the percolation loss is less as compared to light soils as these soils are having low infiltration rate i.e. 4 to 10 MM/hr. Farmers are provided 50 percent subsidy of the cost or maximum 15,000 INR whichever is less. DoA and DoH are providing subsidy on pipelines.

(2) Solar PV System

Rajasthan state receives 6-7 KW/M2/day of solar insolation which is one of the best in the world. There are around 325 sunny days in the state, which make it most suitable for solar projects. The solar venture provides opportunities for productions an uninterrupted supply and access of energy during day time in the remote areas.

Government of India launched Jawaharlal Nehru National Solar Mission in January 2010. The objective is to achieve large-scale deployment of Solar Energy Systems and also to assist domestic production of critical raw materials, components and products to achieve grid parity by 2022.

As part of this mission the Government has initiated a subsidy scheme to help individuals and organizations procure these Solar Energy Systems at reduced capital costs. The scheme is being implemented by IREDA (Indian Renewable Energy Development Agency Ltd.) through NABARD (National Bank for Agriculture and Rural Development). The scheme that was last modified on 15th March 2012 provides 40% subsidy on capital costs of Solar PV Systems for units located in both urban and rural areas in India.

(3) Solar Pump

The programme of solar pumps started in 2008-09 under RKVY¹ (Rashtriya Krishi Vikas Yojana) on 14 Government farms. The success of the experiment led to inception of pilot project of 34 solar pumps at farmers' field during 2010-11. Large-scale implementation funded by JNNSM (Jawahar Lal Nehru National Solar Mission) began in 2011-12 in 14 districts and achieved 1675 pumps. Target and Achievement of solar pump installation programme is summarized in the following table.

Table 1 Target and Achievement of Solar Pump

Year	Project	No. Of Dist. Covered	Target	Achievement	Project cost (Rs. Cr.)	MWp	Pump capacity (wp)	Subsidy rate (%)	Funding source
2008-09	Government Farms	7	14	14	0.75	0.025	1800	100%	RKVY
2010-11	Pilot Project	6	50	34	1.83	0.097	2200/3000	86%	JNNSM, RKVY
2011-12	First major jump	14	500	1,649	95.86	4.967	2200/3000	86%	JNNSM, RKVY
2012-13 (in progress)	Second major jump	33	2,200	4,280	258.29	13.340	2200/3000	86%	JNNSM, RKVY/State
2013-14	Third major	33	10,000	9,626	584.69	30.000	2200/	86%	JNNSM+

¹ Rashtriya Krishi Vikas Yojana (राष्ट्रीय कृषि विकास योजना) is a special Additional Central Assistance Scheme which was launched in August 2007 to orient agricultural development strategies, to reaffirm its commitment to achieve 4 per cent annual growth in the agricultural sector during the 11th plan. The scheme was launched to incentivize the States to provide additional resources in their State Plans over and above their baseline expenditure to bridge critical gaps.

Year	Project	No. Of Dist. Covered	Target	Achievement	Project cost (Rs. Cr.)	MWp	Pump capacity (wp)	Subsidy rate (%)	Funding source
(Projected)	jump						3000		RKVY/ State
2014-15 (Projected)		33	5,200	1,500 under	166.31	11.100	2200/3000	70%	JNNSM+ State Resources

Source: FAO, Dinesh Kumar, 2016, "Solar Water Pumpset Programme Rajasthan"

(4) Pressurized Micro Irrigation Method

Rajasthan has no other recourse, but to take the path of more crop and income per drop of water. Pressurized irrigation methods are the only option.

(a) Sprinkler System

Sprinkler system of irrigation is more suitable for light soils having higher infiltration rate. The sprinkler systems of two holes work successfully with pressure 2.0 to 2.5 Kg. /Sq. Cm. This system is suitable for low row spacing crops like wheat, barley, gram and mustard. It save water and labour and an overall 36-40 percent decrease in the expenditure of irrigation. Farmers are provided 50 percent subsidy of the cost or 10,000 INR per hectare, whichever is lower. DoA and DoH are providing subsidy on sprinkler system.

(b) Drip Irrigation

Drip irrigation is recent and effective method of irrigation for fruits plants like guava, papaya, grapes, dat palm, citrus, vegetable crops like: Tomato, Brinjal, Battle Guard, Chillies, Cole crops and wide spacing crop sugar cane. In this method saving of water is 50 to 80 percent. Earlier DoA was providing 90 percent subsidy but currently it has been reduced to 70 percent.

(5) Water Storage (doggi and farm pond) and Water hose

Rajasthan has no other recourse but to the path of efficient use of water. Special attention should be given on harnessing the rain water. Emphasis should be given on promotion of water harvesting structures. Construction of water reservoirs or "diggies" in canal command areas, should be supported with installation of sprinkler and drip system. For efficient use of canal water construction of water hose for efficient use of water for irrigation and construction of farm pond for rain water harvesting and storage should be promoted.

(a) Construction of Diggi (4 Lakh capacities)

For district of Sri Ganganagar, Hanumangarh, Baran, Bundi and Kota. A subsidy of 50% cost or maximum 2.0 Lakh whichever is less for construction of diggi.

(b) Farm Pond

Construction of farm pond scheme is for all the districts. A farm pond of 20x20x3 meter (1200 m³) size is to be constructed. For construction of farm pond, 50% of cost or 52,500 INR whichever is less is provided as subsidy.

(c) Water Hose

Areas having irrigation from wells/tube wells, subsidy is provided by DoA for construction of water hose of 30x20x06 ft. (3600 cubic ft. size) or not less than 1 Lakh Liter capacity. Subsidy of 50% of cost of construction or 75,000 INR whichever is less.

Table 2 Subsidies for Development of Water Storage

A	Construction of Water Storage Tank Plastic Lining or RCC lining (In group of farmers)	12.0 Lakh INR	On 50M x 50M x 3M Size. Water Storage tank 3.75 Lakh INR from National Horticulture mission and 3.75 Lakh INR from National Agriculture Development plan.
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B	Development water storage tank (Individual farmer)	2.80 Lakh INR plastic lining RCC Lining 2.80 Lakh INR per Unit	50% cost or maximum 1.40 Lakh INR / Unit (0.60 Lakh INR National Horticulture Development Mission and 0.80 Lakh INR National Agriculture Development)
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Source: Department of Horticulture

(6) Protected Cultivation

Under adverse climatically condition to provide favourable environment for the growth of horticultural crops, promotion of improved techniques like green house, shade net, plastic tunnel and plastic mulch are useful and subsidies are provided.

Table 3 Subsidies for Protected Cultivation

Name of Item	Unit Cost	Subsidy Available
Green House (Tubular Structure)	935 INR / m ²	50% of cost or maximum 467.50 INR / m ² . One farmer can avail subsidy for 4,000 sq. meter in addition to this small and marginal farmers avail, additional subsidy of 25% from State Govt.
Shade net house (Tubular Structure)	600 INR / m ²	50% of cost or maximum 300 INR / m ² . One farmer can avail subsidy for 4,000 sq. meter area
Plastic mulch	20,000 INR / ha	50% of cost or maximum 10,000 INR / ha. One farmer can avail subsidy for 2 hectare
Plastic tunnel	30 INR / m ²	50% of cost or maximum 15 INR / m ² . One farmer can avail subsidy for 4,000 sq. meter.
Anti Bird net	20 INR / m ²	50% of cost or maximum 10 INR / m ² . One farmer can avail subsidy for 5,000 sq. meter.

Source: Department of Horticulture

(7) Under National Food Security Mission (wheat) of DoA are Providing Subsidy on

- i) Field demonstration on wheat.
- ii) Distribution of seed of improved variety of wheat: 50% cost of seed or 1,000 INR whichever is less.
- iii) For promotion of use of micronutrients: 50% of cost or 500 INR per farmer whichever is less.
- iv) For use of plant protection chemicals or Bio agent: 50% of cost or 500 INR per farmer whichever is less.
- v) For use of chemical weedicides: 50% of cost or 500 INR per farmer whichever is less.
- vi) Subsidy on farm machinery:
 - (a) Seed drill & seed cum fertilizer drill.
 - (b) Disc plough and disc harrow.
 - (c) Multi crop thresher.
 - (d) Tractor mounted reaps.
 - (e) Seed storage bin – 50% of cost or 1,000 INR whichever is less.
- vii) Subsidy on pump set: for purchase of pump of 10 HP or 7.5 KW capacities, 50% of cost or 10,000 INR whichever is less. Subsidy is also provided on pipeline, sprinkler system.

(8) Subsidies under National Food Security Mission (Pulse, oilseeds and maize)

Subsidies are also provided under National Food Security Mission (Pulse, oilseeds and maize).

In case of pulses, oilseeds and maize, the farmers would get 2,000 INR per quintal of 50 percent of cost, whichever is less, on seeds including hybrid ones. The earlier maximum limit was 1,200 INR per quintal.

(9) Training on Integrate Pest Management (IPM) and IPM Materials

Subsidy will be provided for IPM training for 30 persons. Maximum subsidy INR 26,700 and the subsidies are also provided for IPM materials (light trap, seed drum, power driven sprayers and tractor mounted sprayers).

(10) Other Subsidies through Department of Horticulture

Table 4 Subsidies by Department of Horticulture through National Horticulture Development Mission

No.	Name of Item	Unit Cost	Subsidy Available
1	Model Nursery Development (2 to 4 Hectare)	6.25 INR / Unit	50% of unit cost or maximum 12.50 Lakh INR for 4 Hectare
2	Small Nursery (1 Hectare)	6.50 Lakh INR / Ha Unit	50% of unit cost or maximum 3.12 Lakh INR
3	Structure for seed development	As per project	50% cost of the project maximum 100 Lakh. INR Project is being approved by Govt. of India.
4	Intensive development of Orchard	80,000 INR / Ha	50% of cost or maximum 40,000 INR / Ha. In three years 60:20:20 ratio. One farmer can avail subsidy upto 4 hectares.
5	Normal development of Normal Orchard	Maximum 40,000 INR	75% of cost or maximum 30,000 INR / per hectare (In three years 60:20:20 ratio). One farmer maximum area 4 ha.
6	Rejuvenation of old orchards	30,000 INR / ha	50% of cost or maximum amount 15,000 INR / ha one farmer maximum area 2 hectare
7	Formation of Spice Orchards	11,000 INR / ha	50% of cost or maximum amount 5,500 INR /-
8	Construction of vermi compost unit	1.00 Lakh INR	50% of cost or maximum 50,000 INR
9	(a) Beekeeping Colony (8 Frames) (b) Beekeeping Box	2,000.00 INR 2,000.00 INR	(a) 40% cost or maximum 800 INR/- per colony (Maximum 50 colony to a farmer) (b) (a) 40% cost or maximum 800 INR/- per box (Maximum 50 boxes to a farmer)

Source: Department of Horticulture

(11) Postharvest Management

To minimize the loss of horticultural produce, post management is important. Postharvest technologies should be promoted to improve the quality of horticultural produce. Activities like: Waxing, Grading, Packaging, Protection and Conservation of produce are useful. Postharvest handling will improve the quality of the product and will fetch better market prices.

Table 5 Provision of Study for Development Programme

No.	Development Programme	Estimated Cost	Provision of subsidy for help
1	(a) Pack house (b) Refrigerated Van (c) Ripening chamber 300 MT	4 Lakh / unit 26.0 Lakh (4 to 9 MT) 1.0 L / MT	50% of cost or maximum 2.0 Lakh INR / unit 35% of cost. 35% of cost.
2	Store for Onion bulbs	1.75 Lakh	50% of cost.
3	National Bamboo Mission	10,500/-	35% of cost for planting bamboo seedlings for three years. 1st year 5,250 INR, IInd & IIIrd year 2,625 INR and 2,625 INR

Source: Department of Horticulture

Attachment 2.1.7
Procedure to Get Subsidy on Solar PV
Systems through NABARD in India

Attachment 2.1.7 Procedure to Get Subsidy on Solar PV Systems through NABARD in India

The steps mentioned below outlines the process of purchasing a Solar PV System and also to obtain subsidy/loan through NABARD.

1. As a first step, it is important to choose the right manufacturer/supplier from whom you purchase the Solar PV system. The manufacturer/supplier should be a MNRE (Ministry of New and Renewable Energy) approved manufacturer/supplier. To get a list of approved suppliers in your area, you can check the link: <http://www.mnre.gov.in/information/manufacturesindustriesarchitectsconsulting-organisation/>
2. Only the models approved by MNRE are eligible to be covered under the scheme. The list below gives models approved by MNRE:

Technical and Financial parameters of pre-approved Models to be financed

Model	Photovoltaic modules/ panels (Wp)	Battery capacity	Maximum recommended load and duty cycle	Benchmark Cost (₹.)	Max. capital subsidy eligible * (₹.)
I	10	12 V, 7 AH (SMF)	5-7 watt load for 3 to 4 hrs (20 watt hrs/day)	2700	1080
II	18-20	12 V, 20 AH (Tubular L.M./Gel VRLA)	10 watt load for 4 hrs (40 watt hrs/day)	4860-5400	2160
III	37-40	12 V, 40 AH (Tubular L.M./Gel VRLA)	20 watt load for 4 hrs (80 watt hrs/day)	9990-10800	4320
IV	50	12 V, 60 AH (Tubular L.M./Gel VRLA)	30 watt load for 4 hrs (120 watt hrs/day)	13500	5400
V	70-80	12 V, 80 AH (Tubular L.M./Gel VRLA)	45 watt load for 4 hrs (180 watt hrs/day)	18900-21600	8640
VI	100	12 V, 120 AH (Tubular L.M./Gel VRLA)	60 watt load for 4 hrs (240 watt hrs/day)	27000	10800
VII	125	12 V, 150 AH (Tubular L.M./Gel VRLA)	75 watt load for 4 hrs (300 watt hrs/day)	33750	13500
VIII	150-160	24 V, 75/80 AH (Tubular L.M./Gel VRLA)	90 watt load for 4 hrs (360 watt hrs/day)	40500-43200	17280
IX	200-210	24 V, 100/120 AH (Tubular L.M./Gel VRLA)	120 watt load for 4 hrs (480 watt hrs/day)	54000-56700	22680

* @ ₹ 108 per watt of module capacity

(Source: NABARD)

3. The benchmark cost of solar PV system as per a NABARD document (link) is Rs 270 per Wp. But the unit costs are revised from time to time and your manufacturer/supplier should be able to guide you properly on the same.
4. In case the cost of the unit is less than the benchmark cost then the full 40% subsidy can be claimed. But if unit cost is more than the benchmark cost then the capital subsidy will be limited to the maximum capital subsidy ceiling as indicated in the table above.
5. To avail the subsidy, you need to have an account with a scheduled commercial bank or a regional rural bank. Most public nationalized banks can be approached for this.
6. 40% of the cost is subsidized and the rest 60% of the cost is eligible for a soft loan. However the margin to be paid by the beneficiary (out of the 60%) is decided as per RBI norms. The repayment period of the loan is 5 years. The interest rates are also as per RBI norms.
7. To obtain the loan one has to submit the quotation and the documents available from the vendor. Vendor should provide the MNRE approval form, TIN number, project proposal, etc which needs to be submitted to the bank.
8. After processing the loan and verifying all the documents, the banks provide loan and the documents are sent to NABARD for release of subsidy. The EMIs start as soon as the loan is processed; however release of subsidy through NABARD takes some time. As per MNRE, the interest on the loan should not be for the subsidy part.
9. The banks have the right to recall the subsidy in case they observe that the subsidy is misused.

Attachment 2.4.1
Organizational Composition of WUA

Attachment 2.4.1 Organizational Composition of WUA

1. Outline of WUA composition

According to PIM Act, 2000, water users' association (WUA) is formed at the primary level, notified by the Project Authority as a water users' area, consisting of all the water users who are landowners in such water users' area as members.

The Act also mentions that the command area under the minor and lift irrigation systems, the entire command area may, as far as possible, form a single water users' area. All these members constitute the General body of the WUA and have right to vote.

Then there is a Managing Committee (MC) for every WUA. It consists of President and one Member from each of the territorial constituencies of a water users' area. The president and the MC members are elected by the general body by the method of secret ballot.

Besides MC, PIM Rules, 2002, suggested forming sub-committees as follows;

- i) Administration, Finance and Resources sub-committee
 - Not more than three members having minimum education qualification of the secondary.
 - Nominated by president of WUA/MC
- ii) Works sub-committee
 - Eight nominated members: six members are nominated by MC (two members representing head reach, two from middle reach and two from tail reach), the rest two members are nominated by the competent authority on request of MC out of which one shall be from available technical/supervisory staff of the department and other shall be either a village level agricultural assistant or any other local government employee nominated by District collector on the request of the competent authority.
- iii) Water Management and Agriculture sub-committee
 - Constituted by president on the recommendation of MC
 - Consisting of six members: two members representing head reach, two from middle reach and two from tail reach
 - Two members from concerned department employee in charge of the reach or Agriculture Supervisor as nominee of the competent authority for technical guidance
- iv) Monitoring, Evaluation and Training sub-committee
 - Constituted by president in consultation with the competent authority
 - Consisting of three members: two are nominated by president and one by the competent authority
- v) *Chak Samiti* (Outlet committee)
 - Constituted *chak*-wise by MC
 - Consisting of three farmer members of the concerned *chak* nominated by the president

2. Estimated WUA composition in the Project

Since the Project targets minor and medium irrigation schemes, a single water users' area is estimated 1,000 ha in average and every water users' area is divided into territorial constituencies (TC) on the basis of following norms:

- i) Area up to 500 ha : 4 TCs
- ii) Area from 501 ha to 1000 ha : 6 TCs.
- iii) Area from 1001 ha to 1500 ha : 8 TCs
- iv) Area from 1501 ha to 2000 ha : 10 TCs

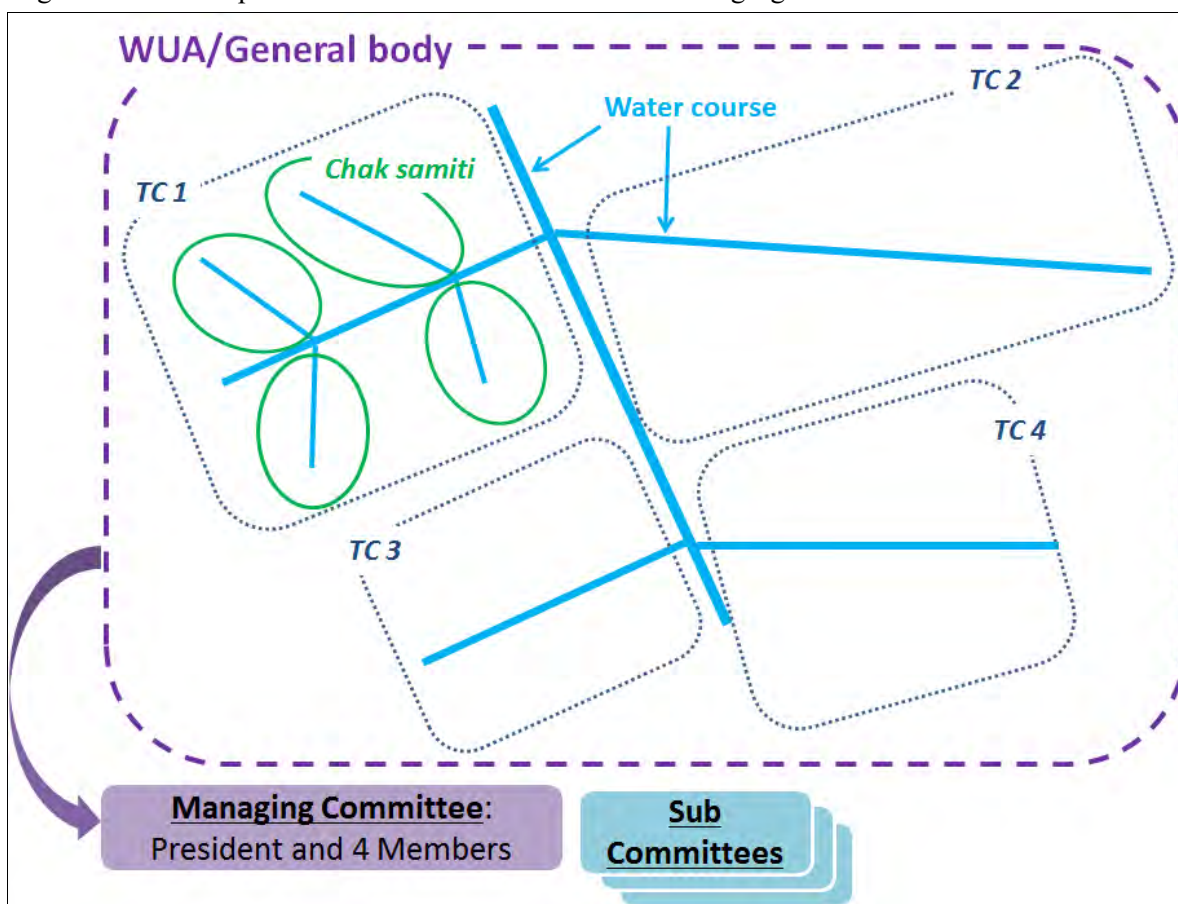
Example for sub-project of 400 ha and 6,500 ha is shown in the following table.

Table 1 Sample Calculation on Number of WUA and TC

Sub-project	CCA (ha)	Number of WUA (1 WUA per 1,000ha)	Area per WUA in average (ha) (CCA/No. of WUA)	Number of TC per WUA	Total number of TC in sub-project
A	400	1	400	4	4
B	6,500	7	928.57	6	42

Source: JICA survey team

Organizational composition of WUA is shown in the following figure.



Source: JICA survey team

Figure 1 Sample Organizational Composition of WUA with 450 ha (4 TCs)

Attachment 2.5.1
KVK (Krishi Vigyan Kendras)

Attachment 2.5.1 KVK (Krishi Vigyan Kendras)

(a) Historical Background of Krishi Vigyan Kendras (Farm Science Centre)

Krishi Vigyan Kendra (KVK), a plan scheme designed and nurtured by Indian Council of Agricultural Research (ICAR) for the past four decades, will play a vital role as it has the following unique features:

- Creation of valuable resources in terms of technical manpower and assets,
- Confirmation of technologies to suit local specificity,
- Showcasing the frontier technologies,
- Capacity building among stakeholders,
- Front runner in technological application, information and inputs, and
- Participatory approaches in planning, implementing, executing and evaluation.

All the KVKs are working towards reducing the time lag between generation of technology at the research institution and its application to the location specific farmer fields for increasing production, productivity, and net farm income on a sustained basis with the following mandate:

(b) Mandate

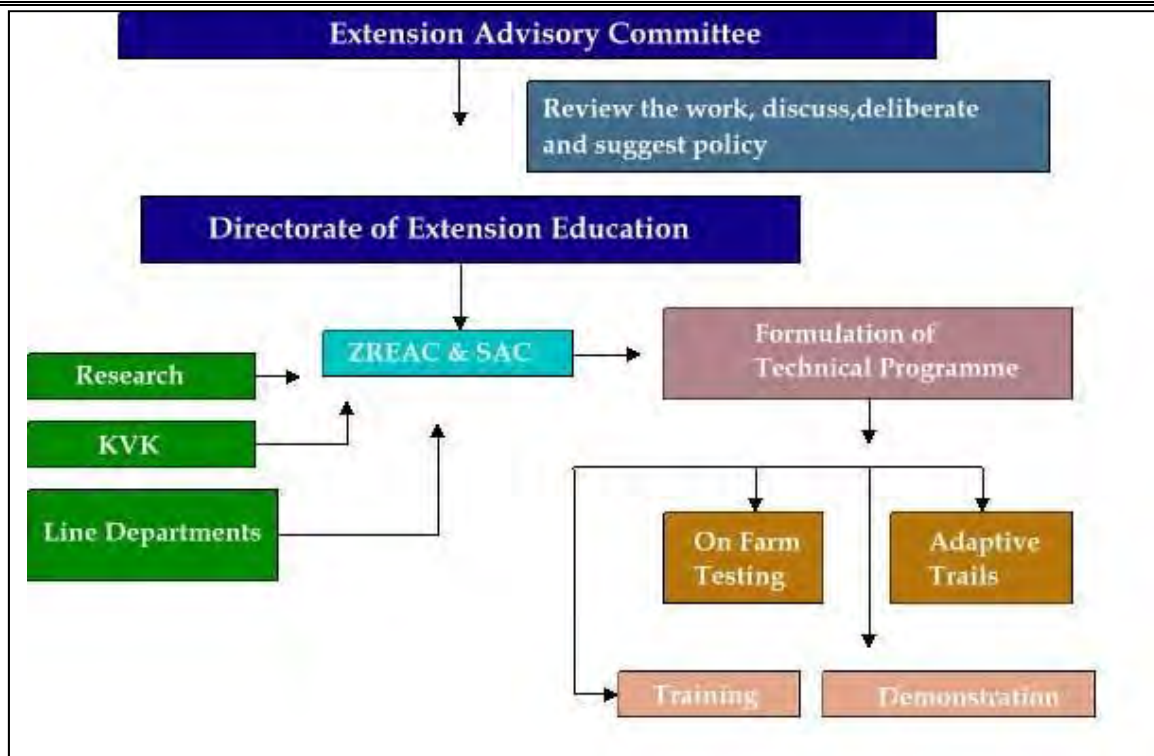
Mandate of KVK is to apply technology and products through assessment, refinement, and demonstration for adoption. To achieve the mandate effectively, the following activities are envisaged for each KVK:

- On-farm testing to identify the location specificity of agricultural technologies under various farming systems.
- Frontline demonstrations to establish its production potentials on the farmers' fields.
- Training of farmers and extension personnel to update their knowledge and skills in modern agricultural technologies.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.
- Produce and make available technological products like seed, planting material, bio agents, young ones of livestock etc to the farmers
- Organize extension activities to create awareness about improved agricultural technologies to facilitate fast diffusion and adoption of technologies in agriculture and allied sectors

(c) KVKs in Rajasthan

There are 42 KVKs in Rajasthan State. Out of 42 KVKs, 33 KVKs are under 5 State Agriculture Universities (SAU) and 3 KVKs, 4 KVKs and 2 KVKs are under Indian Council of Agricultural Research (ICAR), under NGOs control, and under Other Education Institutes (OEI) respectively. A list of KVKs in Rajasthan should be referred to Attachment 2.5.1. 5 SAU include Swami Keshwanand Rajasthan Agricultural University (Bikaner), Maharana Pratap University of Agriculture and Technology (Udaipur), Shri Karan Narendra Agriculture University (Jobner), Kota Agriculture University (Kota) and Jodhpur Agriculture University (Jodhpur).

Overall structure and its position for KVKs under SAU in Kota as a sample are illustrated in the figure below.



Source: JICA Survey Team

Figure KVK's Position in the Structure of State Agriculture University

KVKs under Agriculture University are financially sponsored by the national government, but are technically supported by the University. KVKs can get information from Zonal Research and Extension Committee (ZREAC) and Scientific Advisory Committee (SAC). Usually the scientists of KVKs are dispatched by the university. The university has Directorate of Extension Education for training to farmers and extension staffs of lined departments.

For example, Directorate of Extension Education, Kota organizes short duration trainings for practicing farmers and farm women on crop production, horticulture, plant protection, animal production, home science, and other related disciplines. The trainings are sponsored by line departments of agriculture, horticulture, soil water conservation, and NGOs. The university sells the following products of Directorate of Extension Education:

- Seeds of field, vegetable and horticultural crops;
- Nursery plants of vegetable, fruits and ornamental plants;
- Bio-fertilizers;
- IPM- organic and bio-pesticides;
- Small farm implements;
- Processed agro- products and by-products; and
- Vermiculture and vermicompost;

They also provide services:

- Soil and water testing,
- On farm consultancy for farmers,
- Farm literature – leaflets, pamphlets, journals, farm magazine, and booklets,
- Audio and video CD's of crops and other agri-enterprises, and
- Exhibition and live specimen.

1) KVKs under Agriculture University, Kota

There are 6 KVKs under Kota Agriculture University, in Kota. They cover Agro-climatic Zone V and IIIB. There are usually 6 scientists in each KVK such as in charge of horticulture (vegetable and fruits), plant protection, agronomy, home science, animal husbandry, and extension.

a) Main Activities

Their main activities are:

- Experimental cultivation in trial farm (Evaluation of techniques and improvement);
- Training to farmers, woman farmers, rural youth and extension staffs of lined department;
- Practical vocational training for agriculture and concerned industries;
- Demonstration of new variety and effective varieties in experimental farm; and
- Extension activities (Farm visit, visit to advanced farmers, distribution of hand-out or other materials).

b) Other Activities

In addition to the above, KVKs covers the following activities:

- Cost and profit calculation for *Kharif* and *Rabi* crops;
- Awareness campaign for IPM (Integrated Pest Management), IDM (Integrated Disease Management), INM(Integrated Nutrition Management) and water management;
- Extension of organic farming for effective resource utilization and for soil health;
- Extension of high-tech production techniques for protected cultivation including micro irrigation;
- Empowerment of rural women in social status, health and economy; and
- Public relations for improvement of thought and acts for leadership and institutional development of farmers.

c) Trainings

The KVK provides two types of trainings: (1) short duration trainings, e.g. on-campus trainings of 2-3 days and off-campus trainings of one day; and (2) long duration trainings of 5-50 days depending on the budget and sponsorship. The budget is provided by ICAR and other sponsoring agencies, e.g. DoA, RMoL, NHM, Zila Parisad, NGO and so on.

On an average a KVK conducts 50 to 60 need-based training programs in a year for farmers, farmwomen, and rural youth. More emphasis has been given on a long duration self-employment oriented training for school dropouts and unemployed rural youth. Many participants on completion of the training have been successfully self-employed by way of establishing their own unit for poultry, animal, nursery, fruits & vegetable processing, jewellery making, beauty parlour, pump repairing, and beekeeping. Efforts have also been concentrated to empower the women component technically, as they play a very vital role in agricultural operations.

As these information showed, KVKs can provide the most localized information and agricultural techniques to farmers, woman farmers, and rural youth. Therefore, both training of trainers (ToT) of extension staffs from DoA, DoH, and NGO staffs; and training for farmers will be conducted effectively in KVKs.

Attachment 2.5.2
Sample of Questionnaire for
Household Survey

c.	Area: Kharif (ha, ha, ha, ha, ha), Rabi (ha, ha, ha, ha)
d.	Crop water requirement: Kharif(mm/ha, mm/ha, mm/ha, mm/ha, mm/ha), Rabi(mm/ha, .. /ha, mm/ha, mm/ha, mm/ha)
e.	Land preparation date(day/month): Kharif (, / , / , / , /), Rabi (/ , / , / , / , /)
f.	Seed sowing/seedling planting date (day/month): Kharif ()
g.	Period for raising (in seedling nursery):
h.	Frequency and amounts of
	1) Watering (if irrigated, irrigation number and time):
	2) Fertilizer application:
	3) Crop protection:
i.	Harvesting period:
j.	Post-harvest processing period (on the field):
2. Farm input costs in 2015	
a.	Seeds/Seedlings:
b.	Chemical fertilizer (crop & Rs./kg/ha/times): ()
	Manure (crop & Rs./ton/ha/times):
c.	Plant protection (crop & Rs./kg/ha/times):
d.	Fuel for irrigation pump (frequency & Rs./liter/ha):
e.	Irrigation water(if purchased) crop, frequency & Rs. mm/ha):
3. Labor costs in 2015 on each crop	
a.	Gross/permanent (crop & Rs./day, week, month):
b.	Gross/Temporal/Part-time (crop & Rs./day, week, month):

c.	Itemized labor costs (crop & Rs./day, week, month, ha)
	1) Land preparation:
	2) Sowing/Planting/Transplanting:
	3) Watering:
	4) Weeding:
	5) Spraying:
	6) Fertilizer application:
	7) Harvesting:
	8) Post-harvest/Processing: Total Rs.
	9) Transportation:
4. Agro-produce storage	
a.	Facility types:
b.	Conditions of facility at the each farm:
c.	At the repository (where produces are collected):
5. Prospective/Expecting crops that farmers will grow after irrigation development	
a.	Crops (Select 5 major proposed crops, even current crops can be selected/included):
b.	Crops water requirement (each crop):
c.	Planned planting area (ha): Kharif (Crop name ha, ha, ha, ha), Rabi (ha, ha, ha, ha)
d.	Estimated gross production (kg/ha): Kharif (Crop name kg/ha, kg/ha, kg/ha, kg/ha, Kg/ha), Rabi (kg/ha, kg/ha, kg/ha, kg/ha)
e.	Estimated/Predicted wholesale price (at the nearest market): Kharif (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg), Rabi (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg)
f.	Estimated/Predicted wholesale price (at the nearest town, city/or National average price): Kharif (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg) Rabi (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg)
g.	Estimated farm input costs (If prospective/expecting crops are newly introduced, estimate or obtain prices from nearest market place per each expecting crop):
	1) Seeds/seedlings: Kharif (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg), Rabi (Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg, Crop name Rs. /kg), Seedling (Crop name Rs. /plant, Crop name Rs. /plant)

	4) Weeding: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha),
	5) Spraying: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha)
	6) Fertilizer application: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha)
	7) Harvesting: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha)
	8) Post-harvest application: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha)
	9) Transportation: (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha), (Crop name/Rs. /day, week, month/ ha)
6. Experience in irrigated cultivation	
a.	Crop and types (Methods): (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,), (Crop name/surface, drip, sprinkler,)
b.	Period experienced (Length): (Surface years/drip years/sprinkler years/ years)
c.	Specific Techniques (Drip, sprinkler and etc.):
7. Prospective/Expecting irrigation technologies introducing	
a.	Types (Methods): Surface/ drip / sprinkler / others
b.	Estimated costs (per ha): Rs. /ha
8. Production constrains/Challenges	
a.	Technical: e.g. No availability of extension,
b.	Socio-economical: e.g. Lack of loans,

III. Marketing aspect

1. Agro-produces for selling				
Commodities (major ones)		Sales season	QTY	Unit
Grains/ Pulses/ oil crops				
Vegetables				
Fruits				
Spices/ Medicinal plants				
Dairy products				
Processed food				
2. Places of selling agro produces				
Places of selling produces	Buyers	Agro produces to sell		
On farm or At home				
Own retail shops				
Village mandi				
Town (city) mandi				
Cooperatives				
Contract buyers				
Government collection center				
Others:.....				
3. Transportation from your places to places of selling and transportation cost				
Mean (check the boxes)	Transportation cost (Rs./unit)	Loading/unloading cost (unit)		
<input type="checkbox"/> On foot				

<input type="checkbox"/> Own cart/motorcycle/truck		
<input type="checkbox"/> Hired cart/motorcycle/truck		
<input type="checkbox"/> Public transportation		
<input type="checkbox"/> Buyers' transportation		
<input type="checkbox"/> Others:.....		
4. Price determination and negotiation		
Situation (check the boxes)	For which agro produces?	With or by which buyers?
<input type="checkbox"/> I determine selling prices by myself		—
<input type="checkbox"/> I negotiate selling prices with buyers		
<input type="checkbox"/> Buyers determine prices		
5. Marketing options		
Situation	Circle the answer	
Are you belonging to a FPO/FIG or other marketing group?	Yes or No	
If Yes , do you have opportunities to directly negotiate with buyers as group?	Yes or No	
If No , are you interested in having such opportunities?	Yes or No	
Have you ever used services for agro produces distribution directly to consumers (e.g. Drishtee) or services for marketing information (e.g. e-choupal)?	Yes or No	
If No , are you interested in using such services?	Yes or No	
If Yes , please specify the name(s) of the service(s)		
How do you like it?		
6. Marketing constrains/Challenges that interviewed farmers are facing		
Please check the boxes		
<input type="checkbox"/> Middlemen require additional charge for marketing.		
<input type="checkbox"/> Transportation cost is too high.		
<input type="checkbox"/> I have no access to price information.		
<input type="checkbox"/> I have no access to market trend (traders'/customers' preference).		
<input type="checkbox"/> I have no technical knowledge for quality improvement.		
<input type="checkbox"/> I don't know where I can sell large quantity of agro produces at good prices when I gather a plentiful harvest.		
<input type="checkbox"/> Others if any:		
.....		
.....		
.....		
.....		

IV. Gender aspect

A. Question to Male Interviewee or husband of the interviewee

1. Background information			
a.	Involved in agriculture or not?: Full-time farmer, Part-time farmer, Not farmer having another job ()		
b.	Age:		
c.	Education/literacy: Can read, Just literate, Class (), Others ()		
d.	Land ownership		
	1) Owned land Area:		
	Irrigated (unit: ha or Bigha)	Not irrigated (unit: ha or Bigha)	
	2) Reasons why you own land:		
	3) Who will succeed your land?:		
2. Do you attend community meeting?			
a.	If yes, how often and which meeting?		
b.	If no, why?		
3. Roles and responsibilities on farm work		Male	Female
0: Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do			
a.	Name of crop: Veg () or Mustard or Wheat		
b.	Land preparation (cleaning)		
c.	Land preparation (plowing) by hand or by machine, by animal		
d.	Fertilizer application		
e.	Seed sowing (by hand or by machine)		
f.	Transplanting, if required		
g.	Watering		
h.	Weeding (by hand or by machine)		
i.	Spraying		
j.	Harvesting (by hand or by machine)		
k.	Post-harvest/processing (dry)		
l.	Post-harvest/processing (packing) (by hand or by machine)		
m.	Post-harvest/processing (cleaning) (by hand or by machine)		
n.	Transportation (field to house) by private transportation or by public transportation		
o.	Transportation (house to market) by private transportation or by public transportation		
p.	Sales (place:)		

4. Roles and responsibilities on house and social work		Male	Female	
0: Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do				
a.	Cooking			
b.	Cleaning			
c.	Fetching water			
d.	Fetching firewood			
e.	Washing clothes			
f.	Caring for children (if you have)			
g.	Caring for elder (if you have)			
h.	Caring for sick (if you have)			
i.	Caring for goat (if you have)			
j.	Caring for cattle (if you have)			
k.	Maintenance of house			
l.	Networking with neighbors			
m.	Attending community meeting			
5. Please briefly explain about your daily activities from morning to evening				
Farming season		Off season		
Time	Activity	Time	Activity	
	Wake up	5:00 am	Wake up	
6. Please briefly explain about decision making on the following items				
0: Not at all, 1: Only sometimes, 2: Often, 3: Mainly				
Resources/property	Who can use it?(access)		Who decide on it?(control)	
	Male	Female	Male	Female
a.	Farm land			
b.	House			
c.	Farming tools			
d.	Agri. machineries			
e.	Farm input (seed, fertilizer, etc.)			

f.	Cattle/buffalo/camel				
g.	Chicken/duck				
h.	Goat/sheep				
i.	Farm products				
j.	House expenditure				
k.	School fee				
l.	Cash/income				
7. Have you ever received any training in gender?					
a.	When				
b.	How long				
c.	Where				
d.	By whom (organization, project, etc.)				
e.	Contents:				
f.	Changes resulting from the training(if any):				
8. Agricultural Extension Services (Have you ever get any agricultural extension services?)					
a.	Types (Technical, Financial, management etc.):				
b.	Public/Private and location of their office(s):				
c.	The names of DAO and FEOs (Frontline Extension Officers):				
d.	Availability (frequency of the agent/officer's visit):				
9. Marketing information					
a.	Experience on using market information: Yes (how often? _____), No				
b.	Means to get information:				

V. Gender aspect

B. Question to Female Interviewee or wife of the interviewee who is involved in agriculture

1. Background information		
a.	Involved in agriculture or not?: Full-time farmer, Part-time farmer, Not farmer having another job (_____)	
b.	Age: _____	
c.	Education/literacy: Can read, Just literate, Class (_____), Others (_____)	
d.	Land ownership	
	1) Owned land Area:	
	Irrigated (unit: ha or Bigha)	Not irrigated (unit: ha or Bigha)
	2) Reasons why you own land:	

3) Who will succeed your land?:			
2. Do you attend community meeting?			
a.	If yes, how often and which meeting?		
b.	If no, why?		
3. Roles and responsibilities on farm work		Male	Female
0:Not at all, 1: Support occasionally, 2:Support every time, 3: Mainly do			
a.	Name of crop (same as VI-3a):	/	/
b.	Land preparation (cleaning)		
c.	Land preparation (plowing)		
d.	Fertilizer application		
e.	Seed sowing (by hand or by machine)		
f.	Transplanting, if required	/	/
g.	Watering		
h.	Weeding (by hand or by machine)		
i.	Spraying	/	/
j.	Harvesting (by hand or by machine)		
k.	Post-harvest/processing (dry)		
l.	Post-harvest/processing (packing) (by hand or by machine)		
m.	Post-harvest/processing (cleaning) (by hand or by machine)		
n.	Transportation (field to house) (by private transportation or by public transportation)		
o.	Transportation (house to market) by private transportation or by public transportation)		
p.	Sales (place:)		
4. Roles and responsibilities on house and social work		Male	Female
0:Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do			
a.	Cooking		
b.	Cleaning		
c.	Fetching water		
d.	Fetching firewood		
e.	Washing clothes		
f.	Caring for children (if you have)		
g.	Caring for elder (if you have)	/	/
h.	Caring for sick (if you have)	/	/
i.	Caring for goat (if you have)		
j.	Caring for cattle (if you have)		

i.	Cash/income				
7. Have you ever received any training in gender?					
a.	When:				
b.	How long:				
c.	Where:				
d.	By whom (organization, project, etc.):				
e.	Contents:				
f.	Changes resulting from the training(if any):				
8. Agricultural Extension Services (Have you ever get any agricultural extension services?)					
a.	Types (Technical, Financial, management etc.):				
b.	Public/Private and location of their office(s):				
c.	The names of DAO and FEOs (Frontline Extension Officers):				
d.	Availability (frequency of the agent/officer's visit):				
9. Marketing information					
a.	Experience on using market information: Yes (how often? _____), No				
b.	Means to get information:				

Attachment 2.6.1
List of Units at Kota Agro Food Park

Attachment 2.6.1: List of Units at Kota Agro Food Park (original)

OFFICE OF THE REGIONAL MANAGER, RIICO LTD., RANPUR, KOTA (RAJ.)

LIST OF ALLOTMENT OF AGRO FOOD PARK Ist, IND. AREA, RANPUR, (RAJ.)

S. No.	Name of Party	Address	Plot No		Area (In Sqm.)	Date of Allotment	Products	Category
			Plot No.	No. of Plots				
1	M/s Rashmi Agro Industries	Prop. Miss. Rashmi Joshi D/o Sh. N.B. Joshi, MPB-1, Mahaveer Nagar-Ist, Kota	G ₁ -4 Corner	1	1000.00	12.05.03	Masala Grinding	Women
2	M/s Shah Agro Pluse Pvt. Ltd.	252, Shopping Centre, Kota (Raj.)(Director) Smt. Shweta Jain 9314457583	G1-11	1	1000.00	12.05.03	Grain Grading	Women
3	M/s Annapurna Industries	R/o A-602, Talwandi, Kota (Raj.)Prop. Smt. Durga Devi 9829035574	G ₁ -12	1	1000.00	12.05.03	Seed Grading	Women
4	M/s Anubhav Industries	Prop. Smt. Chelna Devi Prop. Smt. Chelna Devi W/o Sh. Manohar Lal Ji, E-814, Indira Vihar, Kota (Raj.)	F-15	1	1950.00	17.07.04	Grain Grading	Women
5	M/s Manbhar Devi Agro Industries	Prop. Smt. Manbhar Devi W/o Sh. Late Sh. Ramswaroop Mehta, 30/377, Mehta Bhawan, Kotari Gowardhanpura, Kota (Raj.)	F-21	1	2000.00	12.05.03	Wheat & Dhaniya Grading	Women
6	M/s Monohari Devi Agro Industries	Prop. Smt. Manohari Devi W/o Sh. Ghanshyam Das Mehta, 30/377, Mehta Bhawan, Kotari Gowardhanpura, Kota (Raj.)	F-22	1	2000.00	12.05.03	Wheat & Dhaniya Grading	Women

subsidies
in plots.
promoters

7	M/s Rukamani Devi Agro Ind.	Prop. Smt. Rukmani Devi Mehta W/o Sh. Banshi Dhar Mehta, 30/377, Mehta Bhawan, Kotari, Gowardhanpura, Kota (Raj.)	F-23	1	2000.00	12.05.03	Wheat & Dhaniya Grading	Women
8	M/s Girnar Agro	Prop. Smt. Kamala Devi W/o Sh. Late Sh. Prem Singh Singhvi, Girnar Bhawan, Rampura, Kota (Raj.)	F-24	1	1950.00	21.07.04	Dhaniya Grading	Women
9	M/s Sheetal Agrotech P.Ltd.	Director, Smt. Sweta Jain W/o D.C. Jain, E-814, Indra Vihar, Kota (Raj.)	E-30	1	4000.00	17.07.04	Dhaniya Grading	Women
10	M/s P.P. Agro Industries	Partner Smt. Rajkumari Sharma W/o Sh. Narendra Kumar Sharma, Near Mouri Ke Hanuman ji, Ghandi Chowk, Rampura, Kota (Raj.)	F-36	1	1950.00	17.07.04	Dhaniya Grading	Women
11	M/s Ashok Agro	Prop. Smt. Gayatri Mehta W/o Late Sh. Ashok Mehta, 30/377, Mehta Bhawan, Gowardhanpura, Kota (Raj.)	F-40	1	1950.00	20.07.04		Women
12	M/s Sanmaty Industries	Partner Smt. Mohan Devi W/o Sh. B.D. Natani, 3-A, Talwandi, Kota (Raj.)	G-49	1	1738.00	14.08.03	Grain Grading	Women
13	M/s Bajarang Agro Ind.	Prop. Smt. Sulochana Devi W/o Sh. Jagdish Sharma R/o 18, Shiv Nagar, Police Line, Baran Road, Kota (Raj.)	G-51	1	1500.00	17.07.04	Spices	Women
14	M/s Lakhotia Agrotech P.Ltd.	(Director) Smt. Lata Lakhotia D/o Sh. G.D. Rathi, 7-B-32, Mahaveer Nagar IIIrd, Kota (Raj.)	G-52	1	1400.00	17.07.04	Dhaniya Grading	Women

25	M/s Jain Industries	Partner Smt. Indu Jain W/o Sh. Pawan Kumar Jain R/o 1556-A, R.K.Puram, Kota (Raj.)	H ₁ -83	1	741.00	23.02.04	Masala Grinding	Women
26	M/s Mamta Masala Udyog	Prop. Smt. Mamta Agarwal W/o Sh. Hari Prasad Agarwal, Subhash Nagar, Nanta Road, Kunhadi, Kota (Raj.)	H ₁ -84	1	525.00	14.08.03	Masala Grinding	Women
27	M/s Shree Ram Industeis	Prop Smt. Sumitra soni W/o Sh. Vijay kumar soni, 150 Pratap nagar, Dadabari kota (Raj.)	H ₁ -87	1	500.00	06.06.03	Seed Grading	Women
28	M/s Shree Ram Industeis	Prop Smt. Sumitra soni W/o Sh. Vijay kumar soni, 150 Pratap nagar, Dadabari kota (Raj.)	H ₁ -88	1	500.00	06.06.03	Seed Grading & Dhaniya Grading	Women
29	M/s Porwal Industries	Prop. Smt. Manju Jain W/o Sh. Kamal Kumar Jain, 154, Shakti Nagar, Dadabari, Kota (Raj.)	H ₁ -89	1	525.00	14.08.03	Spices Grinding	Women
30	M/s Neelam Food Product	Prop. Smt. Neelam Saxena W/o Sh. Harish Kumar Saxena, 1-E-20, Talwandi, Kota (Raj.)	G ₁ -94	1	1376.00	31.03.04	Pickles	Women
31	M/s Love Kush Meena	Prop.Smt. Sharda Meena W/o Sh. Mukesh Meena, V-58, Jawahar Nagar, Kota (Raj.)	G ₁ -95	1	1000.00	16.09.05	Dhaniya Grading	Women
32	M/s Jayant Food	Prop. Smt. Mamta Jain W/o Sh. Manoj Jain, C-144, Bhamashah Mandi, Kota (Raj.)	G ₁ -96	1	1000.00	16.09.05	Seed Grading	Women
33	M/s Aashirwad Industries	Prop. Smt. Vidhya Devi W/o Sh. Chandra Prakash, 4-A-33, Mahaveer Nagar (Extn.), Kota (Raj.)	G ₁ -99	1	1376.00	13.07.04	Tilly Processing	Women
34	M/s SIR Gangaram	Prop. Sa	G ₁ -102	1	1000.00	15.07.09		

35	M/s Anapurana Industries	Prop. Smt. Seema Maheshwari W/o Sh. Pramod Maheshwari R/o 17/260, Brijrajapura, Kota (Raj.)	G ₁ -103	1	1376.00	20.07.04	Seed Grading	Women
36	M/s Raj Agro Ind.	Prop. Smt. Rajkumari Jain W/o Sh. Ashok Kumar Jain, 119- New Grain Mandi, Kota (Raj.)	H1-119	1	500.00	14.08.03	Dhaniya Grading	Women
37	M/s Deep Agro Food Company	Prop. Smt. Anjana Agarwal W/o Sh. Shyam Sunder Agarwal, B-311, Talwandi kota (Raj.)	H ₁ -125	1	500.00	21.07.04	Papad Potato Chips, Anwala Juice	Women
38	M/s Deep Industries	Prop. Smt. Beena Agarwal W/o Sh. Naval kishore Agarwal B-11, Talwandi kota (Raj.)	H ₁ -126	1	500.00	21.07.04	Papad Potato Chips, Anwala Juice	Women
39	M/s Vibhuti Agro Tech Pvt. Ltd.	(Director) Smt. Vibhuti Sharma W/o Sh. Rajendra Kumar Sharma, 1-Ta-5, Dadabari (Extn.), Kota (Raj.)	H1-129	1	625.00	21.07.04	Seed Grading	Women
40	M/s Samit Agro Tech Pvt. Ltd.	(Director) Smt. Preeti Sharma W/o Sh. Samit Sharma, 1-Ta-5, Dadabari (Extn.), Kota (Raj.)	H1-130	1	625.00	21.07.04	Seed Procesing	Women
41	M/s Niharika Food Agro	Prop. Smt. Rachana Sharma W/o Sh. Prabhat sharma, 69 Railway housing society, Mala road Kota Junction, kota	H1-132	1	500.00	07.09.09	Aata (Flour)	Women
42	M/s Kiran Enterprises	Prop. Smt. Kiran Jain W/o Sh. Rakesh Jain R/o 1-Tha-10, Vigyan Nagar, Kota (Raj.)	H ₁ -135	1	500.00	21.07.04	Soyabean Milk & Product	Women
43	M/s Jay Enterprises	Partner, Miss Gunjan Chaturvedi D/o Sh. Kalicharan Chaturvedi, 314-A, Talwandi, Kota (Raj.)	H ₁ -141	1	625.00	01.07.04	Grain Grading	Women

LIST OF ALLOTMENT OF AGRO FOOD PARK PHASE-II, RANPUR, KOTA (RAJ.)

S. No.	Name of Party	Address	Contact No.	Plot No		Area (In Sqm.)	Date of Allotment	Category	Zone (Geneal/Wet)
				Plot No.	No. of Plots				
1	M/s Shah Agri Solutions	Prop. Smt. Seema Jain W/o Om Prakash , R/o E-814, Indira Vihar, Kota	9314457583	F-155	1	2000.81	24.09.10	Woman	Gen.
2	M/s Shah Cold Storage	Prop. Smt. Chelna Devi W/o Sh. Manohar Lal Jain, R/o E-814, Indira Vihar, Kota	9414186583	F-156	1	2000.81	24.09.10	Woman	Gen.
3	M/s Munmun Industries	Prop. Smt. Devaki Bai W/o Satyaprakash, R/o 2-P-3, Teachers Colony, Keshavpura, Kota	9351748479	F-158	1	2000.81	21.09.10	S.C.	Gen.
4	M/s Jai Ambey Industries	Prop. Smt. Sharda Meena W/o Mukesh Meena, R/o V-58, Jawahar Nagar, Kota	9414365666	F-159	1	2000.81	21.09.10	S.T.	Gen.
5	M/s S.K. Traders	Prop. Smt. Dropati Khandelwal W/o Sh. Suresh Khandelwal R/o 1-r-16, Teachers Colony, Keshavpura, Kota	9414183989 9887483989 0744-2400158	F-161	1	2000.81	07.07.10	Woman	Gen.
6	M/s Shree Kailash Ganga Ind.	Prop. Smt. Rekha Vijay W/o Sh. Surendra Vijay, R/o 1-Ka-31, Vigyan Nagar (N.H.12), Kota (Raj.)	9414180028	H1-185	1	510.00	18.10.10	Woman	Wet
7	M/s Nu Industries	Prop. Smt. Uma Vijay W/o Sh. Narendra Vijay, R/o A-205, Talwandi, Kota (Raj.)	0744-2427205	H1-186	1	510.00	25.10.10	Woman	Wet
8	M/s Aarti Enterprises	Prop. Smt. Aarti Malik W/o Harish Malik, R/o C-630, Indira Vihar, Kota (Raj.)	9251285075	H1-187	1	510.00	15.11.10	Woman	Wet
9	M/s Dholpur Gazak Bhandar	Prop. Smt. Rajni Goyal W/o Sh. Mukesh Goyal, R/o 7-M-17, Mahaveer Nagar IIIrd, Kota	9829544825	H1-189	1	510.00	28.09.10	Woman	Wet
10	M/s Vaishnavi Sales	Prop. Smt. Prerana Mehatani W/o Sh. Vijay Mehatani, R/o 3-N-5, Talwandi, Kota	9314487917 0744-2421101	H1-190	1	510.00	28.09.10	Woman	Wet
11	M/s Sahyog International	Prop. Smt. Sangeeta Nyati, R/o 1-E-23, Housing board Colony, Kunhadi, Kota	9413352972 0744-2372971 0744-2372972	H1-192	1	510.00	12.07.10	Woman	Wet
12	M/s Kairaly Garlic Centre	Prop. Smt. Lisamma W/o Sh. Sabastion, R/o S-36, I.P.I.A., Road No. 5, Kota	9828214412	H1-193	1	500.00	05.10.10	Woman	Wet
13	M/s Anupama Industries	Prop. Smt. Anupama Nirmal Sharma W/o Dr. Nirmal Sharma, R/o 10-D, Krishna Enclave, Civil Line, Kota	9414127445 0744-2333436	H1-194	1	500.00	21.09.10	Woman	Wet
14	M/s Tanvi Industries	Prop. Smt. Mamta Gochar W/o Sh. Anurag Gochar, R/o 7-C-34, Mahaveer Nagar IIIrd, Kota	9829231725	H1-195	1	500.00	21.09.10	Woman	Wet
15	M/s Santosh Ice-Cream	Prop. Smt. Santosh Chaudhary W/o C.R. Chaudhary, R/o F-379, Indira Vihar, Kota (Raj.)	8955679384 9414185222	H1-197	1	500.00	10.01.11	Woman	Wet
16	M/s Ganesh Enterprises	Prop. Smt. Harsha Gera W/o Sh. Dilip Gera, R/o H.No. 50, Ashoka Colony, Gumanpura, Kota (Raj.)	9414187211	H1-199	1	500.00	28.12.10	Woman	Wet
17	M/s Saniya Enterprises	Prop. Smt. Anju Gera W/o Sh. Satish Kumar Gera R/o H.No. 505, Vivekanand Nagar, Kota (Raj.)	9602558250	H1-200	1	500.00	28.12.10	Woman	Wet

	M/s Madnawat Agro Ind.	Prop. Smt. Premlata Mandawat W/o Sh. Mohan Chand Mandawat, R/o Manave Sewa Samiti Hospital Road, Gobriya Bawari, Kota	9636407240	H ₁ -205	1	500.00	23.09.10	S.C.	Gen.
19	M/s R.M. Ind.	Prop. Smt. Madhu Sharma W/o Raghvendra Bihari Sharma, R/o 16/128, Bajaj Khana, Kota	9414180621 0744-2380124	H1-212	1	500.00	05.08.10	Woman	Gen.
20	M/s Ujjwal Agro Ind.	Prop. Smt. Sunita Devi Ghoote W/o Sh. Hari Shankar, R/o 462, Mahaveer Nagar- Ist, Kota	0744-2433461	H ₁ -214	1	500.00	31.08.10	S.C.	Gen.
21	M/s Bagdi Seed & Grading Ind.	Prop. Smt. Geeta Bai W/o Sh. Rameshwar Bagdi R/o 17, Ambedkar Nagar, Near D.A.V. School, Talwandi, Kota	9414936872	H ₁ -215	1	500.00	21.09.10	S.C.	Gen.
22	M/s Mahendra Kumar Animesh Kumar	Prop. Smt. Indra Jain W/o Mahendra Jain, R/o C-339, Indira Vihar, Kota (Raj.)	9928619121 0744-2490352	G-222	1	1545.00	20.10.10	Woman	Gen.
23	M/s Yogi Flour Mill	Prop. Smt. Lalita Yogi W/o Sh. Prem Prakash Yogi, R/o H.No. 628 "Nathu Sadan" Dhudhari Marg, Ladpura, Kota (Raj.)	9414242356	G-225	1	1545.00	22.12.10	Woman	Gen.
24	M/s Jain Foods	Prop. Smt. Soneesha Jain W/o Sh. Nitin Jain, R/o 2-Kha-9, Vigyan Nagar, Kota (Raj.)	9414180620 0744-2420620	G-230 & G-231	2	3000.00	10.12.10	Woman	Gen.
25	M/s Kanhiya Lal Agro Industries	Prop. Smt. Kamlesh Meena W/o Sh. Yogesh Meena, R/o 32- New Jawahar Nagar, Kota (Raj.)	9414183527	G-232	1	1500.00	16.12.10	S.T.	Gen.
26	M/s Swastic Associates	Prop. Smt. Sapna Saklecha W/o Sh. Niraj Saklecha, R/o E-72, New Jawahar Nagar, Kota (Raj.)	9829036433 0744-2439054	G-234	1	1500.00	06.12.10	Woman	Gen.
27	M/s Dinesh Gas Agencies	Prop. Smt. Durgesh Sharma W/o Late Sh. (Major) D.D. Sharma, R/o 1-T-14, Vigyan Nagar, Kota (Raj.)	9983339938 0744-2437939	G-236	1	1500.00	06.12.10	Woman	Gen.
28	M/s Goyal Agro Group	(Partner) Smt. Radha Goyal W/o Sh. Natthi Goyal, R/o 83- New Grain Mandi, Kota	9413116844 0744-2363926 0744-2364375	G-245	1	1539.00	08.11.10	Woman	Gen.
29	M/s Paraliya Industries	Prop. Smt. Sulochana Meena W/o Sh. Giriraj Prasad Meena, R/o Village Napahera, Post Kishorpur, Tehsil Digod, District Kota	9414725839	F-250	1	1986.00	07.10.10	S.T.	Gen.
30	M/s Jai Shree Roller Flour Mill	Prop. Smt. Anita Meena W/o Sh. Rameshwar Meena, R/o 149, Chharakvada Ke Raste Par, Kodija, Tehsil Keshavrai Patan, District Bundi (Raj.)	8094444877	G-257	1	1500.00	25.10.10	S.T.	Gen.
31	M/s Piyush Associates	Prop. Smt. Manju Jain W/o Sh. Hemant Kumar Jain, 65- New Grain Mandi, DCM Road, Kota	9829036451	G-264 & G-265	2	3096.00	03.11.10	Woman	Gen.
32	M/s Smriti Industries	Prop. Smt. Kailash Devi W/o V.K. Chaoudhary, R/o 3/140 Ganesh Talab, Kota	9460494175	G-266	1	1548.00	05.10.10	Woman	Gen.
33	M/s Yash Agro Biotech	Prop. Smt. Chinkal Khotari W/o Sh. Sanjeev Kothari, R/o 1-Ch-26 & 27, Dadabari, Kota	9652831999 0744-2503335	G-268	1	1548.00	03.11.10	Woman	Gen.

34	M/s S.R. Enterprises	Prop. Smt. Pratima Sharma W/o Sh. Shashi Bhardwaj, R/o 211, Shiv Shakti Paradise Central Spine Vidyadhar Nagar, Jaipur -302 023 (Raj.)	9314084249	G-273	1	1500.00	15.12.10	Woman	Gen.
35	M/s R.K. Industries	Prop. Smt. Rama Vijay W/o Sh. Ramesh Chand Vijay, R/o 2-L-10, Talwandi, Kota	9783447000	G-278	1	1500.00	21.09.10	Woman	Gen.
36	M/s Maa Parvati Agro Foods	Prop. Smt. Maya Mangal W/o Sh. Hukum Chand Mangal, R/o 2-R-15, Talwandi, Kota	94141-85222	G1-284	1	984.54	05.10.10	Woman	Gen.
37	M/s Triveni Foods	Prop. Smt. Kusum Gupta W/o Sh. Umesh Gupta, R/o B-416, Indira Vihar, Kota	9414185222	G1-285	1	984.54	05.10.10	Woman	Gen.
38	M/s Astha Techno Eatables	Prop. Smt. Kalpana Bhatnagar W/o Puneet Bhatnagar, R/o D-408, Indira Vihar Kota	9414185222	G1-286	1	983.93	05.10.10	Woman	Gen.
39	M/s Mannat Agro	Prop. Smt. Archana Saroya W/o Dr. Sh. Jasvinder Saroya, R/o B-324, Indira Vihar, Kota	0744-2427055	G1-287	1	983.32	11.10.10	Woman	Gen.
40	M/s Asha Foods Processing Ind.	Prop. Smt. Asha Devi W/o Kailash, R/o B-416, Indira Vihar, Kota	9414185222	G1-288	1	983.32	07.10.10	Woman	Gen.
41	M/s K.N. Spices	Partner Kumari K.P. Liya D/o Late Sh. K.P. Pappachan, R/o 2-C-9, Mahaveer Nagar IIIrd, Kota	9829230090 0744-2476053	G1-290	1	983.32	03.11.10	Woman	Gen.
42	M/s Parvez Spices	Prop. Smt. Hazra Begum W/o Sh. Saleem Akhtar, R/o 646, Teliyon Ka Mohalla, Chawani, Ramchandrapura, Kota (Raj.)	9166442468, 9414182468, 0744-2362559	G1-291	1	983.32	25.10.10	Woman	Gen.
43	M/s Roma Agrotech	Prop. Smt. Vandana Singhal W/o Sh. Ashok Kumar Singhal, R/o 4-K-7, Talwandi, Kota (Raj.)	9414788822	G1-293	1	1162.50	06.01.11	Woman	Gen.
44	M/s Kothari Agro Industries	Prop. Kumari Nisha Kothari D/o Sh. Anil Kothari, R/o 260-C, Talwandi, Kota (Raj.)	9413009323 0744-2406026	G1-295	1	1101.25	26.11.10	Woman	Gen.
45	M/s Pushpa Industries	Prop. Smt. Pushpa Devi W/o Sh. Khem Chand, R/o 2-F-15, Talwandi, Kota (Raj.)	9785421472	G1-297	1	1050.62	15.11.10	Woman	Gen.
46	M/s Aurshi Ind.	Prop. Smt. Seema Mehra, R/o 53-A, Talwandi, Kota	9829058791 0744-2425866	G1-300	1	1000.00	07.07.10	Woman	Gen.
Total No. of Plots					48				

Source: Rajasthan State Industrial Development & Investment Corporation Ltd. (RIICO)

Attachment 2.6.2
List of Units at Sri Ganganagar
Agro Food Park

Attachment 2.6.2: List of Units at Sri Ganganagar Agro Food Park (original)

OFFICE OF THE REGIONAL MANAGER RIICO LTD., UDYOG VIHAR, SRIGANGANAGAR

No: 7775
Dated: 10.03.2016

Additional General Manager (Business Promotion)
RIICO Ltd.,
Udyog Bhawan, Tilak Marg,
Jaipur.

Sub:- List of units functioning in Agro Food Park, products manufactured and investment proposed in the project.
Ref:- Your email dated 09-03-2016

Sir,

In reference to above cited subject the list of unit functioning in Agro Food Park, products manufactured and investment proposed in the project for use in answering Vidhan Sabha-2016. The list is furnished in prescribed format as under:-

11456
11-3-16
BPC
Bmet

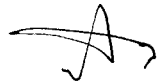
S. no.	Name of the unit	Contact details (Mobile/email)	Plot no.	Area (in sqm.)	Product(s)	Investment proposed (in lacs)	Employment proposed
1.	M/s. Om Traders Pro. Smt. Nirmla Devi	9414089815	E-254	3600	Warehouse	50	13
2.	M/s. Vikas W.S.P. Pro. Sh. B.D.A. Grawal	0154-2494361	E-255, 256 & 257	12000	Gaur Gum	100	250
3.	M/s. Kubar Warehouse & Food Pro. Co. Pvt. Ltd. Director. Sh. Sanjay	93513-26001	E-258 & 259	7700	Food Processing & Ware house unit	137.50	10
4.	M/s. Arihant Oil & General Mills	01624-223091	H1-298 (B), (C) H1-298, E -299,	5500	Mustered Oil	40	15
5.	M/s. Surya Gold Agro Foods Pro. Sh. Amit Goyal	94140-91218	E-300	4000	Grain Grading	50	20

6.	M/s. Jaidev Mailiables Pro. Sh. Sh. Jaidev	94140-88944	F-303	1718	Grain Grading	45	9
7.	M/s. Surya Gold Agro Foods Pro. Sh. Amit Gupta		F-304	2183	Grain Grading	50	10
8.	M/s. K.C. Agro Food Pro. Smt.Neha Goyal	98728-96306	F-305,306 & H1- 307(A), (B), H1- 308(A),	5090	Mustard Oil	25	5
9.	M/s. Dev Industries Pro. Smt. Sunita	99838-36509	H1-308 (B)	500	Flour Mill	40	5
10.	M/s. Shree Ram Seeds Pvt. Ltd. Director. Sh. Lalit Goyal	92144-60327	G-309	1518	Seed processing	17	9
11.	M/s. Shree Ram Seeds Pvt. Ltd. Director. Sh. Lalit Goyal	93528-01482	G-309(A), G-309(B)	1000	Seed processing	60	25
12.	M/s. S.M. Industries Partner Sh. Ratan Chander	94140-93225	G-310,311 G-316, 317	6090	Mustard Oil & Cake	50	20
13.	M/s. Khandelia Udyog Pvt. Ltd. Director Sh. S.P. Bahal	0154-2494104	G-312	1786	Mustard Oil & Cake	26	5
14.	M/s. Subhbhagan Farm in Pro. Sh. Pushpa Devi	94145-80849	G-314 (Corner)	1721	Cattle Feed	26	5
15.	M/s. Shree Balaji Agro Food Pro. Sh. Mahender Kumar	94143-44168	G-315	1747	Kinoow waxing & grading	70	10
16.	M/s. Ifsa Seeds Pro. Sh. Sukhamander	94140-91929	G-318	1588	Seed processing	26	11
17.	M/s. Chawla Flour Mill Pro. Smt. Darishana Chawla	99280-09902	H-318 (A) corner	528	Flour & Gram Flour	10	5
18.	M/s. Shree Ram Seeds Pvt. Ltd., Director Sh. Lalit Goyal	0154-244438	H1-318 (B) (C)	1000	Seed processing	60	15
19.	M/s. Nature Land Organic Foods Pvt. Ltd. Director Sh. Ajit Godara	94133-77711	D-325	4430	Grain grading	61	26
20.	M/s. Nature Land Organic Foods Pvt. Ltd. Director Sh. Ajit Godara	94133-77711	D-326	6929	Grain grading	57.85	11
21.	M/s. Rajasthan State Ganganagar Sugar Mill Ltd. Pro. Sh.	94610-5221	D-327 (Corner)	6807	Desi Liquor	100	40
22.	M/s. G.R.G. Home Developers Pvt. Ltd. Director Sh. Satish Goyal	94140-90347	D-328	6808	Grain Grading	66	10

23.	M/s. H.H. Bottling Plant Pro. Sh. Hemant Gupta	0154-3098066	G1-330, G1-330 (A), G1-330 (B)	3000	IMFL & country liquor	98.46	40
24.	M/s. Aditya Foods	93139-92039	F-331	1474	Grain Grading	52	3
25.	M/s. Pehoo Oil Mills Pro. Sh. Manish Aggarwal	98111-12304	F-332	1474	Grain Grading	15	3
26.	M/s. H.K. Kinoo Waxing & Grading Pro. Sh.		F-333	1475	Kinoow waxing & grading	90	30
27.	M/s. M.G. Agro Food Industries Pro. Sh. Jawahar Lal Gera	0154-2460355	F-334	1474	Kinoow waxing & grading	50	50
28.	M/s. J.D. Aneja Pvt. Ltd. Pro. Sh. Naresh Aneja	94140-93388	E-335, E-336	12120	Oil & Cake	50	10
29.	M/s. Raj Product Pro. Sh. Akash	94145-0162	G1-337	1000	Sarbat	15	5
30.	M/s. Shiv Ayurvedic Pharmacy Pro. Sh. Pawan Kumar Soni	98112-76931	G1-337 (A)	936	Allovera products	10	10
31.	M/s. Bhagwati Agro Flour Mill Pro. Sh. Shayam Sunder	84143-18264	G1-337 (B)	938	Atta	15	9
32.	M/s. Rajfed Pro. Sh.	0154-2640783	E-338, 339, 340	14621	Warehouse	-	10
33.	M/s. Kanda Edible Oil Pvt. Ltd. Director Sh. Jyoti Kanda	94140-94165	E-341	4416	Cotton Seeds Oil & Cake	100	20
34.	M/s. Nafed Pro. Sh. Bal Kishan Yadav	0154-2472416	C-370	10000	Warehouse	100	10
35.	M/s. Sh. G.R.G. Oil Mills Pro. Sh. Satish	0154-2441406	C-371, C-372, C-373, C-374,	21000	Mustard Oil	50	25
36.	M/s. Khandelia Udyog Pvt. Ltd. Director. Sh. Bahal	99501-78811	C-375	6480	Mustard Oil & Cake	100	10
37.	M/s. Mohan Industries Pvt. Ltd Director Sh. Naresh Middha	0154-2494526	C-376 C-376 (A)	8120	Tin Containers	100	15
38.	M/s. Tayal Industries. Pro. Sh. Ram Niwas Gupta	94601-02889	H1-383	500	Papad & Badi	10	5
39.	M/s. Janki Food Product	0154-2494983	H-384 & H-385	1000	Tutte Fruity Soas, Cherry Jam Jelly	10	5

40.	M/s. Goswami Ice Industries Pro. Sh. Mahaveer Prasad	94140-90199	H1-386	500	Ice	10	5
41.	M/s. Goswami Ice Industries Pro. Sh. Mahaveer Prasad	94140-90199	H1-387	500	Ice	29.47	15
42.	M/s. Jain Seeds Pro. Sh. Mukesh Jain	98112-39065	H1-388	500	Flour Mill	29.47	10
43.	M/s. K. S Chilling Centre Pro. Sh. Kanuj Kumar	94144-82435	H1-389	500	Ice	10	5
44.	M/s. M.D.R. Foods & Beverage Partner Smt. Madhu Sharma	94145-13260	H1-390 & H1-391	1000	Mineral Water	26.65	5
45.	M/s. Ujjawal Polymers Pro. Smt. Sugndha. Rati	98181-22270	H1-392	470	Bottles	10	8
46.	M/s. Ganpati Centers Pro. Sh. Sulbh Rati		H1-393	500	Containers	10	5
47.	M/s. Ganpati Food Provision Pro. Smt. Ranu Aggarwal	92125-99910	H1-394	500	Sugar Candy	10	4
48.	M/s. Sharma Enterprises Partners sh. Naman Arora	97833-66527	H1-395	500	Cream & Gihee	10	3
49.	M/s. Neel Kanth Ind. Pro. Sh. Anil Kumar		H1-396	500	Mineral Water	50	8
50.	M/s. N.B. Agro Foods Pro. Sh. Banshidhar	94140-93747	G1-397	931	Grain Grading	28.33	5
51.	M/s. Nyati Industries Pro. Sh. Nyati Dixit		G1-398	931	Chips & Bhujia	15	4
52.	M/s. Shiv Shaki Udyog Pro. Sh. Bhagat Goyal	09216242734	G1-399	931	Cotton Seed	22	3
53.	M/s. Balaji Agri Trade Pvt. Ltd. Director Sh. Manoj Kumar Gupta		G1-400	930	Grain Grading	49	10

Source: Rajasthan State Industrial Development & Investment Corporation Ltd. (RIICO)



Regional manager
RIICO Ltd., Sriganganagar

Attachment 2.6.3
List of Units at Jodhpur Agro Food Park

Attachment 2.6.3: List of Units at Jhodpur Agro Food Park (original)

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Agro Food Park, Boranada (Jodhpur)

List of Units functioning, products mfg. and investment made in each of them

S.N	Name of Party	Plot No.	Present Status	Product	Approximate Investment (In Lacs)
1	2	3	4	5	6
1	M/s. Shree Goipram Goyal Ware House Pvt. Ltd.	E-8-9, & G-234 to 36	Production	Guar Gum Powder	750
2	M/s Shree Ram Udyog	E1-10C,E1-11	Production	Guar Gum Powder	220
3	M/s K.C. Industries	E1-12 & 13	Production	Guar Gum Powder & Korma	225
4	M/s M.M. Industries	E1-14	Production	Guar Gum Powder	150
5	M/s M.M. Enterprises	E1-15	Production	Guar Gum Powder	125
6	M/s Shree Ram Collides	E1-16,17	Production	Guar Gum Powder	300
7	M/s Shree Ram Enterprises,	E1-18	Production	Guar Gum Powder, Split	150
8	M/s Shree Ram Agro Products	E1-19	Production	All kind of pulses	125
9	M/s Shree Agro Industries,	E1-20	Production	Guar Gum Split & Powder	180
10	M/s Durve Food Products,	G1-21	Production	Mfg. of Namken	25
11	M/s Shree Ram Food Products	G1-22	Production	Guar Gum Churi & Korma	60
12	M/s Satyam Enterprises,	G1-23,24	Production	Guar Gum Churi & Korma	700
13	M/s D.J.Industries	G1-25	Production	Guar Gum Churi & Korma	50
14	M/s Shankar Ind.	G1-26	Production	Decoting Ground Nut	30
15	M/s Balaji Agro Industries,	G1-27-28	Production	Decoting & Grinding Ground Nut,	30
16	M/s Bhawani Agro Industries,	G1-29	Production	Decoting Ground Nut seed	25
17	M/s Ramdeo Agro Products	G1-29A	Production	Guar Gum Split & Powder	120
18	M/s Mahesh Industries,	F-30	Production	Guar Gum Powder	150
19	M/s Dhoot Industries,	F-31	Production	Guar Gum Powder	150
20	M/s Anish Enterprises,	F-32-33	Production	Grinding & Sortin gof Grains, Guar Gum & Powder	70
21	M/s Manish Agro Industries,	F-34	Production	Guar Gum Powder	125
22	M/s Rajasthan Gum Pvt. Ltd.,	F-35, 36,37	Production	Cleaning of Grain and Gwar Gum	500
23	M/s Adeshwar Agro Tech (P) Ltd.,	G-38	Production	Cattle Feeds	35
24	M/s Haresh Oversease Pvt. Ltd.,	G-39 to 41, G1-57 to 60	Production	Guar Gum Powder	700
25	M/s Madhu Agro Spacialities,	G-42	Production	Spices & Grinding ,	30
26	M/s Arihant Agro Indutries,	G1-43	Production	Spices/ Process of Sonamukhi	25
27	M/s Mahaveer Harble Industries,	G-44	Production	Herble product	25
28	M/s Mahendra Herble Ind.,	G-45	Production	Sona Mukhi Grinding	35
29	M/s Vishnu Udyog	G-47	Production	Cleaning of Wheat	45
30	M/s Laxmi Suraj Indutries,	G-48	Production	Grinding spices & patato chips	40
31	M/s Jagshanti Food	G-49	Production	Mfg. of Vegitable Chips & Wafers (Patote)	50
32	M/s Raj Tech Agro Plantation Pvt. Ltd.,	G-49A	Production	Ware House	80
33	M/s Mahalaxmi Food Products,	G1-50	Production	Masala & Food Products	35
34	M/s Vinayak Enterprises,	G-51	Production	Shorting of Grain & Gum	50
35	M/s Nutrisious Agro Foods,	G-52	Production	Guar Gum Powder	115
36	M/s Mutha & Birla Enterprises	G1-53, 54	Production	Grinding of Spices	50
37	M/s Krishna confectonery,	G1-55	Production	Confectionery Items,	35

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38	M/s Marwar Food Products	G-62	Production	Spices & Grinding,	45
39	M/s Tulsi Food Products	G-63	Production	Grinding & Spices,	40
40	M/s J.D. Industries	G-64	Production	Guar Gum Korma Churi	70
41	M/s Jainson Corporation INC	G-65	Production	Guar Gum Powder by grinder	210
42	M/s Jainson Agro Chem Industries	G-66 to 68	Production	Guar Gum Split	175
43	M/s Mahadev Agro Industries	G1-69	Production	Grinding & Processing of spices	65
44	M/s Shiv Shankar Food	G1-70	Production	Grinding & Processing of spices	50
45	M/s M.P. Agro Industries	G1-71	Production	Grinding & Processing of spices	45
46	M/s Marwar Food Products	G-72	Production	Grinding & Processing of spices	25
47	M/s Muskaan Agro Ind.	G-73	Production	Grinding & Processing of spices	25
48	M/s Monika Enterprises	G-74	Production	Grinding & Processing of spices	25
49	M/s Amar Agro Foods	G1-75	Production	Grain Grinding	35
50	M/s Rajeshwari Agro Enterprises	G1-76	Production	Mfg. Guargum Powder	120
51	M/s Nirmal Enterprises	G1-77	Production	Dry Vegetables	40
52	M/s Radha Industries	H1-78	Production	Cattle Feed, Edible Oil, spices	40
53	M/s Shankar Food Product	H1-79	Production	Toffee Work	25
54	M/s Khetswar Essential Oil Udyog	H1-80	Production	Essential Oil	25
55	M/s Gangur Food Herbs	H1-81	Production	Mehandi Powder Papad Badi	25
56	M/s Arvind Food Industries	H1-82	Production	Grinding of spcies	15
57	M/s P.G. Food Products	H-83	Production	Grinding of Spices	25
58	M/s Baan Mata Agro Industries	H1-85	Production	Gralic Powder	25
59	M/s Neha Food Products	H1-86	Production	Custured Powder	25
60	M/s Adeshwar Industries	H1-87	Production	Spices Grinding	35
61	M/s Deepsikha International	H-88	Production	Spices & Grinding ,	40
62	M/s Sita Sales. Corporation	H-89	Production	Processing of Aam Papar	30
63	M/s B.L.K. Laboritries	H-90	Production	Confectionery Items,	35
64	M/s Meera Foods	H-91	Production	Fruit Pulp,	35
65	M/s Meera Herbs Pvt. Ltd.	H-92	Production	Ayurvedic Confectiony,	25
66	M/s Sardar Spices	H-93	Production	Grinding of Spices,	35
67	M/s Lakhani Industries,	H-94	Production	Grinding of Spices,	35
68	M/s Gogar Industries	H-95	Production	Cleaning of Grains	20
69	M/s Jansons India Industries	H-96	Production	Guar Gum Powder	45
70	M/s Ramesh Indsutries	H-97	Production	Grinding of grain & Spices,	35
71	M/s K.D. Food Products	G1-98	Production	Namkeen & Roasted Namkeen	35
72	M/s Paras Food Products	G1-99	Production	Besan & Aatta	45
73	M/s Pawan Putra Food Products	G1-100	Production	Namkin	35
74	M/s J.K. Food Products	G1-101	Production	Toffee	25
75	M/s Rishab Enterprises	G1-102	Production	Dhania & Grinding of Spices	25
76	M/s Archana Agro Tech	G1-103	Production	Grinding of spices	25
77	M/s Madhukar Agro Industries	G1-104	Production	Grinding of pulser	35
78	M/s Shreya Industries	G1-105	Production	Supari Mfg	25
79	M/s Suncity Agro Food Industries	G1-106	Production	Masroom process products	35

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80	M/s Hitesh Industries	G1-107	Production	Guar Gum Churi Korma	40
81	M/s Vadera International	G1-108	Production	Paking of Tea	20
82	M/s Natic Agro Industries	G-110	Production	Mfg. Cleaing , Grinding and Processing of spices & food grains	50
83	M/s Shyam Industries	G-111	Production	Mfg. of spices	35
84	M/s Bhawani Industries	G-112	Production	Mfg. Guar Gum & spilt Churi	125
85	M/s Bharat Sheed Company	G-113-114	Production	Seeds Proccessing works	70
86	M/s Pankaj Confcictionery	G-115 to 117	Production	All type of confectionery Items	70
87	M/s Shri Impex	G-118-119	Production	Guar Gum Spilt processing of grains	70
88	M/s Arihant Industries	G1-120	Production	Grading & Grinding of all kinds of Grain & Spices	70
89	M/s Ganpati Udyog	G1-121	Production	Confectionery Items,	50
90	M/s Tanot Rai Agro Industries	G1-122	Production	Detlydration of vegetables, Fruits, Onion, Flakes Garlic, Etc.,	50
91	M/s Tanot Rai Agro Industries	G1-123	Production	Detlydration of vegetables, Fruits, Onion, Flakes Garlic, Etc.	35
92	M/s L.D. Agro Industries	G1-124	Production	Cleaing of Grain Grinding	50
93	M/s Arihant Agro Industries	G1-125	Production	Mfg of spices, Grinding & Grading of Grain & spices	45
94	M/s Madhu Agro Industries	G1-126	Production	Mfg. of Grinding & Grading of Grain & spices	55
95	M/s Madhu Agro Industries	G1-127	Production	Mfg. of Grinding & Grading of Grain & spices	65
96	M/s Jai Laxmi Agro Tech	G1-128	Production	Processing of cleaing of garlic	75
97	M/s Jagdamba Agro Industries	G1-129	Production	Grinding & Processing of spices	50
98	M/s Jagdamba Agro Industries	G1-130	Production	Grinding & Processing of spices	35
99	M/s Shiv Shakti Rollor Flour Mills	G1-131	Production	Maida Suji, Ata Bran	40
100	M/s Suman Enterprises	G1-132	Production	Processing of Grain	40
101	M/s J.P. Industries	G-133	Production	Cleaing of Grain	55
102	M/s Mahesh Enterprises	G-134	Production	Grinding of grain	65
103	M/s Niku Sortex	G-135	Production	Griding & Shorting of spices	60
104	M/s J.P. Industries	G-136	Production	Processing of Teera & Grain	50
105	M/s Sagar Industries	G-137	Production	Grinding of spices	55
106	M/s Dig Internation	G-138	Production	Grinding of spices	55
107	M/s Dig Internation	G-139	Production	Grinding of Grain	60
108	M/s Marwar International	G-140	Production	Grinding of Grain	60
109	M/s Laxmi Sweet Products	G-141	Production	Grinding of spices & Grain	65
110	M/s Subbam Eddible Pvt. Ltd.,	F-142 to 145	Production	Besan Dal	200
111	M/s Dinesh Agro	F-146	Production	Gradin of Wheat	70
112	M/s Navkar Industries	F-147	Production	Mfg. of Guar Gum Churi & Korma	125
113	M/s Shree Nath Industries	F-148	Production	Mfg. of Guar Gum Churi & Korma	125
114	M/s Hariesh Industries	F-149	Production	Cattle Feed	80
115	M/s Dindayal Colloids Pvt. Ltd.,	F-150 to 153	Production	Mfg. of Guar Gum	350

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116	M/s R.K.Indutries	E-154	Production	Wheat Grinding	70
117	M/s Gulecha Industies	E-154A	Production	Grainding of Grain & Oil	70
118	M/s Anil Industies	E-155	Production	Mfg. of Grinding of spcies	75
119	M/s Malu Industies	E-155A	Production	Grinding of spcies	65
120	M/s Mutha Enterprises	E-156	Production	Guar Gum Powder	125
121	M/s Daga Enterprises	E-157	Production	Guar Gum Claining	60
122	M/s P.C. Industies	E-157A	Production	Claning Grain of Wheat	55
123	M/s Hira Internationl	F-159	Production	Mfg. of salt	45
124	M/s Shanti Agro & Food Products	F-160	Production	Grinding of wheat	45
125	M/s Maheshwari Spices & Food Products	F-161-162	Production	Grinding of spcies	45
126	M/s Vijay Industies	F-163-164	Production	Grain & spcies	50
127	M/s Navkar Enterprises	F-166	Production	Cleaning of Guar Gum	80
128	M/s Navkar Enterprises	E-167	Production	Cleaing of Guar Gum	90
129	M/s Jagdish Industies	F-168	Production	Grinding of spcies	45
130	M/s Anjana Industies	F-169	Production	Mong Dall	45
131	M/s Raja Ram Industies	F-170	Production	Graind of spcies & Grain	45
132	M/s Ram Agro Foods Ind.	F-171	Production	Guar Gum Processing	55
133	M/s Sunil Agro Industies	F-172	Production	Mfg. of Grinding & spcies & split	75
134	M/s Mohan Industies	F-173	Production	Grinding of Spices	70
135	M/s Vijay Deep Ind.	F-174	Production	Grain Cleaning	65
136	M/s Balaji Industies	F-175	Production	Cleaing of Dhania	50
137	M/s Om Agro Products	F-176	Production	Mfg. of Guar Gum Powder	95
138	M/s Krishna Industies	F-177	Production	Atta	35
139	M/s Raj Industies	F-178	Production	Cleaning of powder grain	55
140	M/s Maheshwar Impex	F-179	Production	Edile & Non Edible Oil	65
141	M/s V.G. Products	E-180-181	Production	Grain Griding	55
142	M/s Sancheti International	E-183	Production	Mfg of Mouthfresheners Sweat Supari	75
143	M/s Gitika Enterprises	E-185	Production	Cleaning & grinding plant	80
144	M/s Raj Polymers & Chemcial	E-188-189	Production	Guar Gum Powder	300
145	M/s Satyam Enterprises,	D-190-191	Production	Guar Gum split powder churi korma	300
146	M/s Vijay Food Products	D-192-193	Production	Guar Gum Grinding	250
147	M/s Chopra Streep Limited	D-194-195	Production	Guar Gum Split & Powder	275
148	M/s Rajasthan Gum Pvt. Ltd.,	D-196	Production	Guar Gum Split & Powder & cleaning of grain	135
149	M/s Soni Industies	G-197-198	Production	Guar gum	155
150	M/s Pooja Agro	G1-199	Production	Processing & grinding of spices	140
151	M/s Ramdeo Agro Ind.	G1-199A	Production	Atta daliya & weat	90
152	M/s Agarwal Agro Industies	G1-200A	Production	Wheat Flour	60
153	M/s Laxmi Narayan Gum Pvt. Limited	G-200	Production	Guar Gum Powder	95
154	M/s Umma Industies	G1-202	Production	Cleaing of wheat & grain	75
155	M/s Hari Om Industies	G1-203	Production	Senna leave	55
156	M/s Parsavnath Agro Industies	G1-206	Production	Guar Gum	95
157	M/s Kartikey Foods	G1-207-208	Production	process of spices	60
158	M/s Sheelas Food Products	G1-209A	Production	Guar Gum Split	75
159	M/s H.R.Industies	G1-210-210A	Production	Guar Gum Powder	150
160	M/s Soni Agro Industies	G1-211-212	Production	Guar Gum Powder	115
161	M/s E.T.S. Agro Pvt. Ltd.,	G1-215-216-217	Production	Guar Gum Powder & Spilt	250
162	M/s Anil Enterprises	G1-220	Production	Guar Gum Powder	95
163	M/s Nokha Agro Services	F-237,238, 243, 244	Production	Cleaning of Grain	200

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164	M/s Rajasthan Gum Pvt. Ltd.	F-239 to 242	Production	Guar Gum split & Powder	300
165	M/s Uma Laxmi Organic Pvt. Ltd.,	F-245 to 249, 255	Production	Organic Products	500
166	M/s Maehswari Industries	F-250	Production	Guar Gum	150
167	M/s Pankaj Food Products	F-251	Production	Processing & Cleaing of Pulses & Grains	105
168	M/s Vishnu Prakash R. Punglia	F-252	Production	Agro Based Product	125
169	M/s Goyal Industries	F-253	Production	Guar Gum Powder	125
170	M/s Badal Industries	G1-258	Production	Guar Gum Split, Cattle Feed	75
171	M/s Durga Agro Food Ind.	G-259	Production	All Type of spices	80
172	M/s Arishta Enterprise,	G-260	Production	Cleaning Grading of Food Grains	150
173	M/s Caremoli(India) Pvt. Ltd	E-261-262	Production	Guar Gum Powder	500
174	M/s Kapil Agro Industries	E-264-265	Production	Agro Based Product	350
175	M/s Raj Ganga Agro Products	E1-268-269	Production	Cattle Feeds	190
176	M/s Sunita Hydrocoilooides Pvt. Ltd.,	F-282-288	Production	Guar Gum Powder	5500
177	M/s Maa Vakal Refineries Pvt. Ltd.	F-289-290	Production	Edible Oil & Refind	170
178	M/s Naman Enterprises,	F-291	Production	Mfg of Guar Gum Powder	105
179	M/s Naman Agroils Pvt. Ltd	F-292	Production	Edible Oil & Non Edible Oil	95
180	M/s Subham Industries	F-296	Production	Guar Gum Churi	50
181	M/s Abhishek Industries	F-297	Production	Guar Gum Powder	75
182	M/s Kasat Udyog	F-300	Production	Guar Gum Powder	50
183	M/s Suncity Gum International	E1-278	Production	Mfg. of Guar Gum Powder	150
184	M/s Rajasthan Gum Pvt Ltd.	SP-6	Production	Mfg. of Guar Gum Powder	3800
				Total	27455

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Agro Food Park, Boranada (Jodhpur)

List of Units under construction, products to be mfg. and proposed investment to be made in each of them

S.N	Name of Party	Plot No.	Present Status	Product	Approx. Proposed Investment (Rs in Lacs)
1	2	3	4	5	6
1	M/s Vikas Graineries Ltd.,	E-1, 2, G-222 to 225	Construction	Guar Gum Product	1200
2	M/s. Continent Impex Pvt. Ltd.	E-3-4 & G-226 to 28	Construction	Guar Gum	1000
3	M/s Shri Ganesh Agro Food Industries,	G-46	Construction	Agro Based Product	50
4	M/s Mamta Lohiya	G1-56	Construction	Grinding of spices	70
5	M/s A.D. Enterprises	E-182	Construction	Grinding of spices	75
6	M/s Jodhpur Agro Food Pvt. Ltd.	E-184	Construction	Supari	75
7	M/s Mahehswar Agro Food Ind.	E-186	Construction	Guar Gum Powder	150
8	M/s Rahul Agro Industries	E-187	Construction	Guar Gum Split & Powder	350
9	M/s Maa Kripa Agro Products	G1-213-214	Construction	Guar Gum	220
10	M/s Shree Ram Hydrocollads	E1-266-267	Construction	Guar Gum Powder	700
11	M/s Shree Nath Agro Industries	E-270-271	Construction	Cattle Feed Grading Cleaning	175
12	M/s Vijay Laxmi Internationl	E-272-273	Construction	Guar Gum Powder	450
13	M/s. Surendra Bhandari	E-6-7, G-231 to 23	Construction	Guar Gum Split & Powder	1000
14	M/s Rifat Food Corporation	E-153A	Construction	Tomato Sauces	70
15	M/s Caremoli(India) Pvt. Ltd	E-263	Construction	Guar Gum	2000
16	M/s Sambhav Agro Industries	F-295	Construction	Guar Gum Powder	250
17	M/s Shri Ram Natural Polymers Pvt. Ltd.,	G1-218-219, 219A	Construction	Guar Gum Powder & Spilt	550
18	M/s Nutrix India Pvt. Ltd.,	E1-274 to 277, 280, 281	Construction	Masala	1500
19	M/s Balaji Udyog	G1-71A	Vacant	Grinding & Processing of spices	50
20	M/s J.S.International	G1-109	Vacant	Guar Gum Churi & Korma	50

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1	M/s R.G.Foods	F-165	Vacant	Grinding of wheat	60
22	M/s Anand Agro	G1-201	Vacant	Grinding & grading of spcies & grain	25
23	M/s Sheha Confectionery	G1-221	Vacant	Confectionery	30
24	M/s Santi Paluse	F-254A	Vacant	Pulses	35
25	M/s Tribal Medicinals	G-256-257	Vacant	Herble Medicians	150
26	M/s Kaushalya Enterprises	F-293	Vacant	Agro Based Product	125
27	M/s Kansara Foods	F-298, 299	Vacant	Spices & Food Products	250
28	M/s Maheshwari Gum Industries	F-300A	Vacant	Mfg of Guar Gum Powder	250
29	M/s Quality Foods Products	F-301	Vacant	Mfg. of Spices	150
30	M/s R.S.Gum & Chemeicals	E1-279	Vacant	Gum Products	100
31	M/s Koshilya Enterprises	F-294	Vacant	Agro Based Product	120
				Total	11280

(ANIL KHANDELWAL)
Regional Manager
RIICO Ltd., Boranada

Source: Rajasthan State Industrial Development & Investment Corporation Ltd. (RIICO)

Attachment 2.6.4
List of Public Markets

Attachment 2.6.4: List of Public Markets (original)

District-wise Number of Krishi Upaz Mandies and Name of main Commodity List Arrivals in Mandi

DISTRICT	KUMS NAME	CLASS	ARRIVALS OF MAJOR CROPS
1 AJMER	1 AJMER(GRAIN)	B	Wheat.Maize, Bajra,Gram
	2 AJMER(F & V)	C	Onion, Banana, Mango
	3 BEAWAR	C	Moong, Jowar, Maize,wool,Gram,Mustard
	4 BIJAYNAGAR	B	Moong, Cotton, Urad, Guar, Mustard,gram.Wheat
	5 KEKRI	B	Mustard, Moong, Urad, Zeera,Gram, Jowar,Wheat,Shauff
	6 MADANGANJ	C	Moong, Zeera, Jowar,Bajra,Gram
2 JAIPUR	7 CHAKSU	C	Mustard, Groundnut, Bajra,Gram
	8 CHOMU	SA	Barley, Groundnut, Mustard, Bajra.
	9 JAIPUR (F & V)	SA	Tomato, Onion, Cabage, Pea, Carrot, Colliflower, Chilli,Potato
	10 JAIPUR (GRAIN)	SA	Bajra, Groundnut, Wheat, Mustard, Barley.Gram.Chilli
	11 KISHANGARH RENWAL	C	Mustard, Bajra, Barley, Guar, Chola,Gram
	12 KOTHPUTLI	C	Mustard, Bajra, Barley.
3 DAUSA	13 BANDIKUI	C	Bajra, Mustard,Wheat, Gram
	14 DAUSA	B	Bajra, Mustard, Gram, Barley, Wheat
	15 LALSOT	B	Groundnut, Mustard, Wheat.
	16 MAHUA MANDAWAR	C	Mustard, Barja, Wheat
	17 MANDAWARY	D	Wheat, Gram, Mustard
4 SIKAR	18 FATEHPUR	C	Bajra, Guar,Chola, Moth.
	19 NEEMKATHANA	D	Bajra, Mustard.
	20 SIKAR	A	Bajra, Barley, Gram, Mustard, Groundnut,
	21 SRIMADHOPUR	A	Bajra,Barley, G.nut, Gram, Mustard
5 JHUNJHUNU	22 CHIRAWA	D	Bajra, Mustard
	23 JHUNJHUNU	C	Bajra, Mustard, Barley, Chola.
	24 NAWALGARH	C	Bajra, Mustard, Barley.
	25 SURAJGARH	D	Bajra, Barley, Mustard
6 ALWAR	26 ALWAR	SA	Mustard, Wheat, Gram, Bajra, Arhar, Barley,
	27 KHAIRTHAL	SA	Mustard, Wheat, Guar, Bajra, Barley.cotton
	28 KHERLI	A	Mustard, Wheat, Bajra, Barley
	29 BARODAMEV	C	Mustard, Wheat, Bajra
7 BHARATPUR	30 BAYANA	B	Mustard, Wheat, Bajra, Guar
	31 BHARATPUR	SA	Mustard, Wheat, Bajra
	32 DEEG	C	Mustard, Wheat, Bajra
	33 KAMA	C	Mustard, Wheat, Bajra
	34 NADWAI	C	Mustard, Wheat, Bajra
	35 NAGAR	B	Mustard, Wheat, Bajra
8 DHOLPUR	36 DHOLPUR	B	Mustard, Bajra, Ghee
9 SAWAI MADHOPUR	37 GANGAPUR CITY	A	Mustard, Wheat, Gram, Bajra, Til
	38 S.MADHOPUR	A	Mustard, Wheat, Gram, Bajra, .Guava
10 KARAUJI	39 HINDOUN	B	Wheat, Bajra, Mustard,Gram
11 BIKANER	40 BIKANER (FV)	A	Onion, Tometo, Kachari
	41 BIKANER (GRAIN)	SA	Groundnut, Gram, Guar, Moth, wheat,Mustard
	42 KHAJUWALA	C	Mustard, Guar, Gram,Wheat
	43 LUNAKARNSAR	C	Guar, Moth,Groundnut
	44 NOKHA	B	Moth, Gram, Guar,Groundnut
	45 SRI DUNGARGARH	D	Gram, Groundnut

District-wise Number of Krishi Upaz Mandies and Name of main Commodity List Arrivals in Mandi

DISTRICT	KUMS NAME	CLASS	ARRIVALS OF MAJOR CROPS	
12 CHURU	46 CHURU	D	Bajra, Chola	
	47 RATANGARH	C	Barley, Moth, Guar	
	48 SADULPUR	C	Bajra, Guar, Gram, Moth	
	49 SARDAR SHAHAR	D	Moth, Guar, Groundnut	
	50 SUJANGARH	C	Gram, Moth, Bajra, Groundnut	
13 SRIGANGANAGA	51 SADUL SHAHAR	A	Wheat, Mustard, Cotton, Guar, Barley	
	52 SURATGARH	B	Wheat, Mustard, Cotton, Guar, Barley	
	53 ANOOPGARH	A	Wheat, Mustard, Cotton, Gram, Guar	
	54 GAJSINGHPUR	B	Wheat, Mustard, Cotton, Gram, Guar.	
	55 GHARSANA	B	Wheat, Mustard, Cotton, Gram, Guar.	
	56 JAITSAR	C	Wheat, Mustard, Cotton, Guar.	
	57 KESRISINGHPUR	C	Wheat, Mustard, Cotton, Barley, Guar.	
	58 PADAMPUR	A	Wheat, Mustard, Cotton, Barley, Guar.	
	59 RAISINGHNAGAR	A	Wheat, Mustard, Cotton, Gram, Guar.	
	60 RAWLA	C	Wheat, Mustard, Cotton, Guar.	
	61 RIDHMALSAR	D	Wheat, Mustard, Cotton, Guar.	
	62 SRIGANGANAGAR(GR.)	SA	Wheat, Mustard, Cotton, Gram, Guar,	
	63 SRIGANGANAGAR(F&V)	B	Kinnu, Wood, Carrot, etc	
	64 SRI KARANPUR	B	Wheat, Mustard, Cotton, Gram, Guar.	
	65 SRIVIJAYNAGAR	A	Wheat, Mustard, Cotton, Gram, Guar.	
14 HANUMANGARH	66 BHADRA	D	Wheat, , Guar	
	67 GOLUWALA	B	Mustard, Wheat, Barley, Cotton, Guar, Gram	
	68 HANUMANGARH	SA	Paddy, Mustard, Wheat, Cotton, Guar, Arandi,	
	69 NOHAR	C	Guar, Moth, Mustard, Wheat, Gram, Arandi, Groundnut	
	70 PILIBANGA	A	Mustard, Wheat, Cotton, Paddy, Guar	
	71 RAWATSAR	A	Wheat, Mustard, Cotton, Guar	
	72 SANGRIA	A	Wheat, Mustard, Cotton, Guar	
	15 JODHPUR	73 BILARA	D	Cotton, Mustard, Bajra.
		74 JODHPUR(GRAIN)	SA	Bajra, Moong, Mustard, Zeera, Guar, Chilli, Groundnut
		75 JODHPUR(F&V)	A	Onion, Kachri, Potato
76 PIPAR CITY		D	Bajra, Chilli, Moth, Cotton .	
77 PHALODI		D	Mustard, Cumin, Groundnut, Arandi	
16 JAISALMER	78 JAISALMER	C	Groundnut , Gram, Guar, Mustard, , Isabgole	
17 JALORE	79 BHINMAAL	C	Mustard, Zeera, Moong	
	80 JALORE	D	Mustard, Zeera, Wheat	
	81 SANCHOR	D	Mustard, Zeera, Bajra	
	82 RANIWARA	D	Mustard, Zeera, moong	
	18 BARMER	83 BALOTRA	D	Guar, Bajra, Moong, Moth.
84 BARMER		A	Bajra, , Moth, Zeera, Guar, Moong	
19 NAGAU	85 DEEDWANA	C	Bajra, Moth	
	86 DEGANA	C	Bajra, Guar, Moth, Moong.	
	87 KUCHAMAN CITY	C	Bajra, Moong, Mustard, Onion.	
	88 MERTA CITY	A	Mustard, Moong, Zeera, Gram, isbgole	
	89 NAGAU	A	Mustard, Moong, Zeera, Guar, Moth, Isabgole.	
20 PALI	90 JAITARAN	D	Moong, Guar, Jeera	
	91 PALI	C	Mustard, Moong, Wheat	
	92 RANI	D	Mustard, Guar, Gram, Moong	
	93 SOJAT ROAD	A	Mehandi, Guar, Mustard, sonamukhi	
	94 SUMERPUR	A	Mustard, Moong, Gram, Cotton, Guar, Arandi,	
	21 SIROHI	95 ABU ROAD	D	Arandi, Mustard, Tomato, Wheat
22 KOTA	96 ITAWA	A	Wheat, Mustard, Soyabeen, Dhaniya.	
	97 KOTA	SA	Wheat, Mustard, Soyabeen, Dhaniya, Paddy, Gram, Til, Urad	
	98 KOTA (F&v)	A	potato, orange, Garlic, etc	
	99 RAMGANJ MANDI	SA	Wheat, Mustard, Soyabeen, Urad, Dhaniya.	
23 BARAN	100 ATRU	C	Mustard, Soyabeen, Wheat, Dhaniya, maize.	
	101 BARAN	SA	Mustard, Soyabeen, Wheat, Dhaniya.	
	102 Anta	C	Mustard, Soyabeen, Wheat, Dhaniya.	

District-wise Number of Krishi Upaz Mandies and Name of main Commodity List Arrivals in Mandi

DISTRICT	KUMS NAME	CLASS	ARRIVALS OF MAJOR CROPS
	103 CHABRA	A	Mustard, Wheat, Maize, Dhaniya, Soyabeen, Garlic.
24 BUNDI	104 BUNDI	SA	Mustard, Wheat, Paddy, Maize, Soyabeen, Dhaniya,Urad
	105 KESHORAI PATAN	C	Mustard, Wheat, Dhaniya,Soyabeen
	106 SUMERGANJ	D	Mustard, Wheat.
	107 DEIE	C	Mustard, Wheat.
25 JHALAWAR	108 BHAWANI MANDI	SA	Mustard, Wheat, Soyabeen, Orange, Maize, Dhaniya,Masoor
	109 IKLERA	C	Mustard, Wheat, Dhaniya
	110 CHOUMAHLA	A	Gram, Soyabeen, Mustared
	111 JHALRAPATAN	A	Soyabeen, Dhaniya, Mustard,
	112 KHANPUR	C	Soyabeen, Dhaniya, Mustard,
26 TONK	113 DEOLI	C	Mustard, Wheat, Barley, Maize,bajra.
	114 MALPURA	B	Mustard, bajra, Moong, Gram,Wheat,
	115 NIWAI	A	Mustard, Groundnut, Bajra,wheat,Saunf
	116 TONK	C	Mustard, Wheat, Bajra,
	117 UNIYARA	D	Mustard, Wheat,urad
27 BANSWARA	118 BANSWARA	C	Cotton, Wheat, Maize.
28 DUNGARPUR	119 DUNGARPUR	D	Maize, Gram, Urad, Wheat.
29 UDAIPUR	120 FATEH NAGAR	C	Maize, G.nut, Mustard, Wheat.
	121 UDAIPUR	A	Maize, Mustard, Gram, Wheat, Urad.
	122 UDAIPUR (F&V)	C	Ratalu, Urabi, Ginger, etc.
30 BHILWARA	123 BHILWARA	A	Maize, Mustard, Jowar,wheat,urad,chilly, Barley
	124 GANGAPUR	C	Maize,Jower,cotton
	125 MANDAL GARH	D	Maize, Wheat,Mustared
	126 BIJOLIA	D	Maize,Soyabeen,Wheat
31 CHITTORGARH	127 BARISADRI	D	Wheat, Maize, Soyabeen,Mustared
	128 BEGU	D	Wheat, Maize, Soyabeen,Mustared
	129 CHITTORGARH	C	Wheat, Maize, Soyabeen
	130 KAPASAN	D	Wheat, Mustard, Maize
	131 NIMBAHERA	B	Wheat, Maize, Soyabeen, Mustard,Ajwan,
32 PRATAPGARH	132 PRATAPGARH	A	Wheat, Maize,Soyabeen,Masoor,Ajwan, Gram,Mustared
33 RAJSAMAND	133 RAJSAMAND	C	Wheat, Maize, Jowar.

*Source: Rajasthan Agricultural Statistics at a Glance for the Year 2013-2014
(Commissionerate of Agriculture, Rajasthan, Jaipur (Statistical Cell))*

Attachment 2.6.5
General Market Information
(Example of Jaipur Market:
Fruits & Vegetables)

General Market Information (Example of Jaipur Market: Fruits & Vegetables)

GENERAL INFORMATION			
Mandi Name :	JAIPUR (FV)		
Full Postal Address :	JAIPUR		
City :	Jaipur		
Email :	-		
Telephone No. with STD Code :	-		
Year of establishment :	1966		
Population Served :	2500		
Geographical area served by Market (No. of Villages etc.) :	250		
ADMINISTRATION			
Regulated/Unregulated :	Regulated		
Year of Regulation :	1975		
Name of the Market Legislation :	Raj.Agri.Produce Market Act 1961		
Whether Elected/Nominated/Superseded APMC :	Elected		
Name of Chairman/Administrator :	SMT.RUKMA BALA SOYAL		
Address of Chairman/Administrator :	MANDI KHACIKAN MOHALLA CHAR SAWAZA JAIPUR		
Telephone No. of Chairman/Administrator :	9829924049		
Name of Secretary :	ASHOK KUMAR GARG		
Address of Secretary :	SECRETARY KUMS(FV) JAIPUR		
Telephone No. of Secretary :	9887322000		
Name of Officer-in-Charge of Market Information :	ASHOK KUMAR GARG		
Address of Officer-in-Charge of Market Information :	SECRETARY KUMS(FV) JAIPUR		
Telephone No. of Officer-in-Charge of Market Information :	9887322000		
If Unregulated, Name of Owner and Management :			
Details of Staff :		Supervisory	Administrative
	Permanent	4	58
	Temporary	1	2
Market Holidays :	Sunday		
Market Hours :	10		
RAIL/ROAD CONNECTIVITY			
Name of the nearest railway station:	Sanganer		
Distance of the railway station from the market(in Kms):	6		
Name of the Nearest National /State Highway:	Ajmer Road		
MARKET AREA			
Notified area of Market Committee:			
Subyard (If any) and It's exact location:	4		
Farthest place in the Hinterland:	Muhana		
Nearest place in the Hinterland:	Muhana		
Commodity Wise Processing Units in the Market area:	3		
Number of Cold Storages available:	4		
Capacity of Cold Storages available:	5000 MT		
Number of Commodities notified under regulation:			
Average daily dispatches to outside markets during the season:	Total		
Average daily dispatches to outside markets during the peak period:	60%		
Names of traditional markets(important) to which produce is sent:			

Source: Department of Agricultural Marketing Website (as of June 2016)

Attachment 2.6.6
Maximum and Minimum Prices of
Agricultural Produces in Rajasthan

Attachment 2.6.6

Maximum and Minimum Prices of Agricultural Produce in Rajasthan

No.	Commodity	Modal Price (Rs./Quintal)	Max. Price (Rs./Quintal)	Min. Price (Rs./Quintal)	Market
1	Raddish	600	600	600	Sri GANGANAGAR (FV)
2	Pumpkin	800	800	800	Sri GANGANAGAR (FV)
3	Pumpkin	800	900	700	AJMER (F V)
4	Onion Green	800	1,000	600	JODHPUR (F V)
5	sugar beet	900	1,000	800	BIKANER (F V W)
6	Saal	950	1,000	900	UDAIPUR (GRAIN)
7	Kharbuja(Musk Melon)	1,100	1,200	800	AJMER (F V)
8	Musk Melon	1,200	1,400	1,000	BIKANER (F V W)
9	Water Melon	1,200	1,400	1,000	JODHPUR (F V)
10	Spinach	1,350	1,500	1,200	JALOR
11	Carrot	1,500	1,500	1,500	Sri GANGANAGAR (FV)
12	Papaya (Raw)	1,500	1,500	1,500	Sri GANGANAGAR (FV)
13	Peas(Dry)	1,500	1,500	1,500	Sri GANGANAGAR (FV)
14	Papaya (Raw)	1,500	1,700	1,600	Kota (F V)
15	Onion	1,500	2,100	900	M. KISHANGARH
16	Banana	1,600	1,700	1,500	BIKANER (F V W)
17	Banana	1,600	1,800	1,400	CHITTORGARH
18	POTATO	1,600	1,800	1,500	CHITTORGARH
19	Mahua	1,620	1,630	1,615	UDAIPUR (GRAIN)
20	Ratan Joat(Alkanet Root)	1,740	1,750	1,730	UDAIPUR (GRAIN)
21	Barley	1,775	1,820	1,760	MALPURA
22	All Flower	1,800	2,000	1,500	JODHPUR (F V)
23	Gram Raw(Chholia)	2,000	2,500	1,500	JODHPUR (F V)
24	Mint(Pudina)	2,200	2,400	2,000	BIKANER (F V W)
25	Round gourd	2,200	2,500	1,800	CHITTORGARH
26	Dacha	2,250	2,250	2,250	KAMA
27	Paddy(Dhan)	2,300	2,380	1,800	PILIBANGA
28	Kanji	2,385	2,400	2,380	UDAIPUR (GRAIN)
29	Green Peas	2,450	2,450	2,450	KOTA (GRAIN)
30	Tinda	2,500	2,500	2,500	Sri GANGANAGAR (FV)
31	Bitter gourd	2,500	3,000	2,000	UDAIPUR (FV)
32	Cucumber (Kheera/kakdi)	2,500	3,000	2,000	CHITTORGARH
33	Groundnut pods (raw)	2,500	3,000	2,000	CHITTORGARH
34	Bhindi(Lady Finger)	2,800	3,000	2,500	CHITTORGARH
35	Colacasia	2,800	3,000	2,500	CHITTORGARH
36	Bajra(Pearl Millet)	2,900	2,900	2,900	KOTA (GRAIN)
37	Arndi	2,979	2,979	2,979	RANI
38	Rose(Loose)	3,000	3,500	2,500	JODHPUR (F V)
39	Gur(Jaggery)	3,150	3,175	3,125	AABU ROAD
40	Brinjal	3,200	3,500	3,000	CHITTORGARH
41	Cabbage	3,200	3,500	3,000	CHITTORGARH
42	Lime	3,500	4,000	2,000	AJMER (F V)
43	Bottle gourd	3,500	4,000	3,000	CHITTORGARH
44	Chilly Capsicum	3,500	4,500	3,000	CHITTORGARH
45	Maize	3,570	3,570	3,570	ANTAH
46	Wheat	3,625	1,850	1,775	JODHPUR (GRAIN)
47	Soyabean	3,895	4,018	3,561	JHALRAPATAN
48	Methi Seeds	3,950	3,950	3,950	MERTA CITY
49	sugar	3,975	3,975	3,975	PALI

No.	Commodity	Modal Price (Rs./Quintal)	Max. Price (Rs./Quintal)	Min. Price (Rs./Quintal)	Market
50	Tomato	4,000	4,000	4,000	PALI
51	Tomato	4,000	4,025	3,975	AABU ROAD
52	Amla	4,000	4,100	4,000	UDAIPUR (GRAIN)
53	Cluster beans	4,000	5,000	3,000	JODHPUR (F V)
54	Tomato	4,000	5,000	3,000	JODHPUR (F V)
55	Fuhadh	4,110	4,175	4,050	UDAIPUR (GRAIN)
56	Cauliflower	4,200	4,500	4,000	CHITTORGARH
57	Mustard	4,391	4,470	3,985	LALSOT
58	Wool	4,400	5,000	3,800	KEKRI
59	Ginger	5,000	5,200	4,800	BIKANER (F V W)
60	Methi	5,000	5,200	4,800	UDAIPUR (GRAIN)
61	Lemon	5,000	6,000	3,500	CHITTORGARH
62	Mehndi	5,000	6,750	2,250	SOJAT ROAD
63	Jowar(Sorgham)	5,016	5,016	2,700	RAMGANJMANDI
64	Chaula	5,200	5,500	5,000	UDAIPUR (GRAIN)
65	Cowpea (Lobia)(Asparagus)	5,360	5,360	5,360	KUCHAMAN CITY
66	American Cotton (Norma)	5,371	5,371	5,371	BIJAY NAGAR
67	Groundnut	5,500	6,000	4,800	NIMBAHERA
68	Green ginger	5,500	6,000	5,000	CHITTORGARH
69	Moath Dal	5,826	5,826	5,826	NOHAR
70	Grapes	5,900	5,900	5,900	Sri GANGANAGAR (FV)
71	Mango	6,000	8,000	3,000	CHITTORGARH
72	Gwar	6,193	6,386	6,000	DAUSA
73	Plum	6,200	7,000	4,600	AJMER (F V)
74	Kabuli Chana(Chickpeas-White)	6,685	6,685	6,685	GHARSANA
75	Corriander	6,750	7,500	6,000	IKLERA
76	Bengal Grams(Gram)	6,940	6,940	6,940	NOHAR
77	Litchi	7,000	7,200	6,800	BIKANER (F V W)
78	aniseed	7,100	7,200	6,700	LALSOT
79	Taramira	7,160	7,190	7,140	CHOMU
80	Green Grams (Moong)	7,200	7,200	4,000	Sri GANGANAGAR(Grain)
81	Arhar (Tur)	7,200	7,350	7,000	ALWAR
82	Garlic	7,350	7,600	7,100	JALOR
83	Linseed	7,450	7,600	7,300	PRATAPGARH
84	Jamun	8,000	10,000	7,000	JODHPUR (F V)
85	Lentil(Masur)	8,400	9,000	8,250	UDAIPUR (GRAIN)
86	Til	8,400	9,000	8,250	UDAIPUR (GRAIN)
87	Mousambi	8,600	9,100	8,100	JALOR
88	Pomegranate	9,000	9,200	8,800	BIKANER (F V W)
89	Isbgol	11,000	11,500	8,400	BHINMAL
90	Squash(Chappal Kadoo)	11,000	12,000	10,000	JALOR
91	Chili Red	11,000	14,000	8,000	JODHPUR (GRAIN)
92	Chilly	11,000	14,000	8,000	JODHPUR (GRAIN)
93	Pine Apple	11,500	12,000	11,000	JALOR
94	Black Grams (Urd Beans)	11,891	11,891	11,891	JHALRAPATAN
95	Ashwgn dh	12,010	18,001	8,501	RAMGANJMANDI
96	Apple	13,000	16,000	11,000	CHITTORGARH
97	Corriander seed	13,300	13,300	13,300	BIKANER (GRAIN)
98	Cummin Seed(Jeera)	15,650	15,650	15,650	BHINMAL
99	Cummin Seed(Jeera)	15,650	16,590	13,900	MERTA CITY
100	Ajwain	17,650	17,650	17,650	FATEHNAGAR

Source: Department of Agricultural Marketing Website (Last updated: 19/06/2016)

Attachment 2.6.7
Current Situation of Food Processing
Industry and Distribution Industry

Current Situation of Food Processing Industry and Distribution Industry

I. Food Processing Industry

1. Size of the Industry

State-wise estimated number of factories and enterprises in the food processing industries indicate that Rajasthan accounts for around 2~4% share of the Indian food processing industries (Table 1 and Table 2). The information is also supported by another study showing that Rajasthan accounts for 3% share in the state-wise number of organized food processing units as one of the major food processing states¹.

Table 1: State-wise Estimated Number of Factories in the Food Processing Industries (registered)

Rank	State	No. of Factories	Share (%)
1	Andhra Pradesh	5,735	15.4
2	Tamil Nadu	5,161	13.9
3	Telangana	3,716	10.0
~	~	~	~
13	Odisha	931	2.5
14	Rajasthan	795	2.1
15	Madhya Pradesh	738	2.0
~	~	~	~
33	Andaman & Nicobar Islands	6	0.0
Total		37,175	100.0

Source: Prepared by JICA Survey Team based on Annual Survey of Industries, 2012-13 (Ministry of Statistics and Programme Implementation)

Table 2: State-wise Estimated Number of Enterprises in the Food Processing Industries (un-registered)

Rank	State	Manufacture of Food products	Manufacture of Beverages	Total	Share (%)
1	Uttar Pradesh	347,059	2,892	349,951	15.6
2	Maharashtra	221,119	1,322	222,441	9.9
3	Andhra Pradesh	188,420	22,577	210,997	9.4
~	~	~	~	~	~
9	Madhya Pradesh	101,266	1,707	102,973	4.6
10	Rajasthan	98,090	845	98,935	4.4
11	Karnataka	95,140	652	95,792	4.3
~	~	~	~	~	~
35	Sikkim	34	15	49	0.0
Total		2,030,286	210,909	2,241,195	100.0

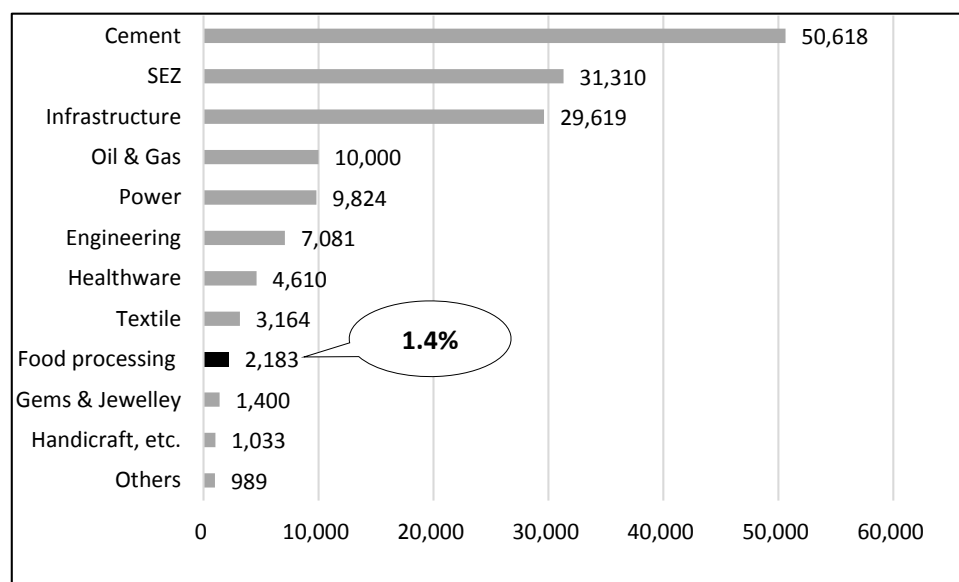
Source: National Sample Survey 67th Round (July 2010- June 2011) on Unincorporated Non-agricultural Enterprises (Excluding Construction) in India

However, as Ministry of Food Processing Industries (MoFPI) presents, units under operation in Rajasthan are mostly in the small- and micro-scale sectors while only about 1% of total units are in the medium- and large-scale sectors².

¹ Food Processing Industry in India: S&T Capability, Skills and Employment Opportunities, 2013

² Investors' Portal of MoFPI (Website)

From the view of investment, as seen in the investments through Resurgent Rajasthan³, the share of the food processing industry is currently small, accounting for only 1.4% in all the state's industries (Figure below). As for investment from Japanese-affiliated companies, only 2 companies are engaged in food-related industries out of 169 companies investing in Rajasthan as of October 2015⁴.



Source: Prepared by JICA Study Team based on Mapping of Human Resources and Skills for Rajasthan – 2015 (published in 2008)

Figure: Investments through Resurgent Rajasthan (INR Crore)

As for the government projects in the food processing industry, there are Agri Export Zones, Mega Food Parks, and Agro Food Parks as mentioned in Section 2.6.2 of the Main Report. In addition, there are 4 Cold Chain Projects under the Scheme for Cold Chain, Value Addition and Preservation Infrastructure by MoFPI (Table 9 in Page 10). The one in Alwar has been already completed and started commercial operations.

2. Potential for the Industry

MoFPI lists up the activities having potential in the food processing sector of Rajasthan, considering the availability of raw materials crops in the state and adjoining areas (Table 3).

Table 3: Potential Areas for Agro and Food Processing in Rajasthan

Crops	Processed Products that may be derived
Wheat	Noodles, Flours (fortified), biscuits & bakery, breakfast cereals & mixes
Maize	Flour, corn flakes, corn meal, corn oil, starch and its derivatives (like glucose, starch), ethanol, alcohol, poultry feed etc.
Pulses	Ingredient to various main stream processing, snacks

³ Resurgent Rajasthan is the state's investors' summit conducted under the responsibility of Bureau of Investment Promotion

⁴ Yakult Danone India Private Limited in Jaipur and NAGOMI CONSULTING Pvt. Ltd. in Neemrana (JETRO 2016)

Crops	Processed Products that may be derived
Oil seeds	Refined oil, cattle feed
Guar / Guar Gum	Multiple uses including as lubricants in industrial applications
Potato	Chips, flakes, powder, fries, starch, etc.
Cauliflower, Okra, Carrot, Chilly	Fresh cut, frozen and assorted products
Peas and Beans	Fresh and frozen products
Tomato	Puree, juice, concentrate, ketchup, sauce etc.
Guava	Juice, concentrate, fruit drinks, frozen halves, candies
Citrus, <i>Aonla</i> , <i>Ber</i>	Juice, candy, powder
Mango	Pickle, <i>aam papad</i> , chutney, candy, dried mango powder etc.
Garlic, Chilly, Cumin, Fennel, Fenugreek	Whole packaging, powder and ingredient to various main stream processing
Raw Milk	Butter, crème, <i>ghee</i> , cottage cheese, flavoured milk, spreads, milk powder, ice-cream, curd, buttermilk

Source: Investors' Portal of MoFPI (website)

Especially, Government of Rajasthan sees the state has vast potential for future expansion of the agro and food processing industry considering its agricultural productivity as below⁵.

- Largest producer of mustard, guar seed and moth beans,
- Largest producer of spices such as fenugreek, coriander, cumin and fennel,
- Second largest producer of gram and total oil seeds,
- Third largest producer of soya bean and fourth largest producer of ground nut,
- Fourth largest producer of food grains in India (Contributing about 20.45% in the state's GDP),
- Fourth largest producer of wheat and largest producer of coarse grains,
- Largest population of cattle, sheep and camels (Contributing 12% of milk, 35% of goat meat & 40% of wool to the country's production)

By contrast, fruits/vegetables processing seems to have lower potential. According to the Project Manager Agent of Rajasthan State Agricultural Marketing Board, 90~95% of fruits/vegetables are habitually consumed fresh in Rajasthan and there is only 5~10% of fruits/vegetables surplus due to low production. As a result, only 1~2% of fruits/vegetables are currently processed at the industrial level. For example, Rajasthan produces large quantities of *aonla* (Indian gooseberry) but the domestic demand for processed *aonla* is low. The fruit is thus processed and exported to other states by large-scale processors. As well, small-scale fruits/vegetables processing and marketing are not very common in Rajasthan. KVKs offer training courses on primary fruits/vegetables processing to rural women only for home consumption or village-level marketing. Selling prices are rather unreasonable and processors can hardly recover the profit. This is because equipment/facilities are not accessible to them, techniques for processing/packaging/branding are not sufficient for higher level marketing, and women are not involved in higher level marketing traditionally.

⁵ Resurgent Rajasthan Website (<http://resurgent.rajasthan.gov.in/focus-sectors/agro-food-processing>)

3. Private Processing Companies

Resurgent Rajasthan mentions that major players in the food processing industry of Rajasthan are represented by AWB, Cargill, Field Fresh Foods (Del Monte), ITC, and Reliance. In the case of middle-/small-scale companies, various processors in Jaipur and some other cities are listed up in indiamart's website. It seems there are many processors for spices, grain/pulses, dairy products, ayurvedic food supplements (e.g. aloe juice), and less for fruits/vegetables (canned, dehydrated, juice). In the box below, an example of a large-scale enterprise dealing with soya bean is introduced.

Case of Shiv Edibles Ltd.

Overview

Shiv Edibles Ltd., mainly producing edible oil from soybean and mustard seeds, etc., started its operation in Kota Agro Food Park in 2005. Processing capacity of its plant is, holding 280 staff, 30,000t /month to process 2.8% of soybean produced in the country (2015). The plant is operated throughout the year (soybean: October – November, mustard: April - September).

Procurement of Raw Materials Crops

The company purchases soybean and mustard seeds at public markets in Kota and nearby areas with no direct purchase from farmers. 80% of its products is sold during October and December while 20% is sold during January and March. To reflect on prices, purchasers assess quality of raw materials crops by touching, chewing and also using their own lab equipment.

Processing and Marketing

The company sells processed oil (soybean oil: Rs.70-71/kg, mustard oil: Rs.80-85/kg) within 200km (Kota, Jaipur, Sawai Madhopur, etc.), through wholesalers in large cities or retailers in towns.

Byproducts (soybean cake, mustard seed cake) are transported to other plants directly or through traders/brokers to produce feed or soya bajhi (soya meat).

They started producing soy lecithin a few years ago to export to EU through Cargill, etc. In 2015, 700t of soya lecithin was exported at Rs.100/kg. For future options, they are interested in tofu processing. Soy milk is not so popular as it used be, but might trigger a boom again sometime.

(based on an interview to Director of Shiv Edibles Ltd.)

Example of Soya Lecithin (cited from Shiv group's website)

Shiv Edibles Pvt. Ltd's food grade liquid Soya Lecithin (Water Insoluble) is made from Non-GMO Indian soya beans. It is manufactured in controlled environment without any external contamination from ASPL's own de-gummed Soya oil to keep the traceability and superior quality required by our customers. Our Lecithin has been processed to keep it anti-freezing at lower temperature to reduce microbial contamination to the minimum. Soya Lecithin is a naturally occurring group of phospholipids found in nearly every living cell it consists of three types of phospholipids; phosphatidylcholine (PC), phosphatidylethanolamine (PE) and phosphatidylinositol (PI). It is used as an emulsifier or stabilizer in manufacturing variety of food products, cosmetics, pharmaceuticals, health care and animal feeds, among various other applications.



Health Benefits:

- Good for methyl metabolism, cholinergic neurotransmission, transmembrane signalling, and lipid-cholesterol transport.
- Helpful for liver function, reproduction and fetal development and physical and athletic performance.
- Useful for pharmaceutical and cosmetic applications and various industrial uses such as paints, textiles, lubricants and waxes.

II. Distribution Industry

The general channel of food distribution in India includes exporters (in the case of produce to export), wholesalers, distributors, transporters, large-size retailers and local retailers. However, the channel does not function systematically or effectively as a system to control and operate commodity distribution is lacking in terms of both hardware aspect (warehouses, cold chains, etc.) and software aspect (inventory control, delivery management system, etc.)⁶.

There is no specific data to assess current condition (efficiency and functionality) of distribution industry in Rajasthan, but it could be assumed that the State is probably not excluded from all other states in India facing the issue pointed above. The details of Rajasthan's distribution industry are described below.

1. Logistics

Rajasthan currently has 33 public warehouses managed by Central Warehousing Corporation (CWC)⁷ and 91 public warehouses managed by State Warehousing Corporation (SWC)⁸ both at the district level, and 886 warehouses funded by National Bank for Agriculture and Rural Development (NABARD) at the village level (Table 4). According to SWC's website, their warehouses are located mainly at public markets' yards and some at sub-yards.

Table 4: Number of Warehouses in Rajasthan

Managed by	Managed at	Number
Central Warehousing Corporation (CWC)	District level	33
State Warehousing Corporation (SWC)	District level	91
NABARD support	Village level	886

Source: Farmers' Portal Website (Ministry of Agriculture and Farmers Welfare, GoI_2015) for the data of CWC and NABARD, SWC's website for the data of SWC's warehouses (updated in January, 2016)

Both CWC's and SWC's warehouses are located in every district as listed up in Table 5 and Table 6, respectively. Average capacity of a warehouse is around 12,000 MT for both CWC and SWC cases, and average percentage of SWC warehouses utilisation is 65% on the capacity basis (including reservation). According to officers of CWC and SWC, warehouse users are mainly private companies, government companies (Food Corporation of India, a public grain distributors, is presumably included) and wholesalers dealing with food grains as well as farmers.

⁶ JETRO (2012)

⁷ CWC is "a premier Warehousing Agency in India, established during 1957 providing *logistics support to the agricultural sector*, and one of the biggest public warehouse operators in the country offering logistics services to a diverse group of clients". "CWC is operating 465 warehouses across the country with a storage capacity of 11.59 million tonnes providing warehousing services for a wide range of products ranging from *agricultural produce* to sophisticated industrial products. Warehousing activities of CWC include *food grain warehouses*, industrial warehousing, custom bonded warehouses, container freight stations, inland clearance depots and air cargo complexes" (cited from CWC's website).

⁸ "The Rajasthan State Warehousing Corporation has two shareholders, the Government of Rajasthan and the Central Warehousing Corporation. SWC may run warehouses in the state for the storage of *agricultural produce*, seeds, manures, fertilizers, agricultural implements and notified commodities" (cited from SWC's website).

Table 5: Warehouses Managed by CWC in Rajasthan

No.	Warehouse	Project Description (Location)	Capacity (MT)
1	BHIWADI	C/o Jaquar & Company Pvt. Ltd., SP-496, RIICO Inld Area, Bhiwadi - 301019	4,356
2	ALWAR	A-315, NSC, Oppt. ED, Paryware Pvt. Ltd. Co. Alwar	3,574
3	BARAN	Spl. No. 01 ,RIICO Inld Area, Baran Road, Baran	5,000
4	BHARATPUR	Plot No. G-162 to 165 & F-166 to 171, Brij Ind. Area, Behind Nafed Plant, Phase-II, Hathni Road, Bharatpur	9,674
5	BIKANER	Behind Sabzi Mandi, Pugal Road, Unit-I, Bikaner	25,400
6	BIKANER-II	Opposite Govt. Engineering College, Karni Industrial Area, Ph.II Bikaner-334004	5,000
7	SRIGANGANGR-I	Near Power House Sriganganaga-335001	25,200
8	SRIGANGANGR-II	Udyog Vihar Plot No. E-194 to202 Sriganganaga-335001	10,000
9	KESARISINGHPUR	C/o ARDC Godown,Mizewali Road,Kesrisinghpur Distt.Srigangar	10,176
10	HANUMANGARH TOWN	C/o FCI, Opp. Railway Station, Hanumangarh Town	13,262
11	HANUMANGARH-I	Sector - 8, New Mandi, Hanumangarh Junction, Hanumangarh	21,200
12	HANUMANGARH-II	RIICO Phase-II , Opposite RIICO, Water Works, Hanumangarh	15,000
13	TIBBI	10, GGR, Hanumangarh Road, Tibbi, Distt. Hanumangarh	1,000
14	SITAPURA-I	Plot No.SPL-1296,EPIP Sitapura, Ind. Area, Jaipur-302002	14,870
15	SITAPURA-II	Plot No.SP-1,RIICO Industrial Area,Sitapura, Jaipur	11,729
16	KOTPUTLI	Near Cement Factory,Vill.-Ramsinghpura Gopalpura Road,Kotputll, Distt. Jaipur.	5,000
17	JHUNJHUNU	Plot No. SP-287 RIICO Industrial Area,	5,000
18	SURAJGARH	Bhuana Road, Surajgarh-333029	2,868
19	KOTA I	Ind. Area DCM Road, Nr New Grain Market Kota-324007	36,830
20	KOTA II	Indraprasth md. Area, Road,No. 1, Near Daknia Railway Station Kota-324005	49,300
21	KOTA III	Plot No. SP-1, Kuber Ind. Area, Ranpur, Kota III	25,000
22	RAMGANJ MANDI	Khairabad Road, Ramganj Mandil Distt.-Kota	9,893
23	NAGAUR	Nr. All India Radio Basni Road, Nagaur- 341001	7,401
24	PARABATSAR	C/o ARDC Godown, Near Old Rly. Station.Parbatsar, Distt. Nagaur	28,093
25	SIKAR	Jagmalpura, Via-Katrathal, Post-Bhadwasi ,Sikar-33200 1	5,000
26	SRIMADHOPUR	Hanspur Road, Srimadhpor-332715	20,600
27	DEOLI	C/o Juptier Metal Pvt. Ltd., NH—12, Deoli Distt : Tonk 01434 239249	5,000
28	UDAIPUR-I		5,000
29	FATEHNAGAR	MOR Mills Product, Plot No. H-49 Road No.2, RIICO Inld Area, Fatehnagar-313205	3,106
30	Central Warehouse	Opposite Krishna Dharma Kanta, Udaipur By Pass. Beawar, Distt. Ajmer	14,849
31	Certral Warehouse	Katori Wala Tibara, Near Water Works, Tizara Road, Alwar	8,133
32	Central Warehouse	Village MOR ,Kushalgarh Distt.Banswara.	3,400
33	Central Warehous	Plot No.G-162 to 165,F-166 to 171, Behind NAFED Plant, Phase-II, Brij Industrial Area, Hahteni Road, Bharatpur-321301	9,674
Total			419,588
Average			12,715

Source: Farmers' Portal Website (Ministry of Agriculture and Farmers Welfare, GoI_2015)

Table 6: Warehouses Managed by SWC in Rajasthan

No.	District	Number	Capacity (MT)	% utilisation
1	Ajmer	4	-	49
2	Alwar	2	-	106
3	Banswara	1	-	52
4	Baran	5	-	62
5	Barmer	2	-	75
6	Bharatpur	3	-	98
7	Bhilwara	3	-	86
8	Bikaner	3	-	55
9	Bundi	4	-	92
10	Chittorgarh	3	-	102
11	Churu	2	-	0
12	Dausa	0	-	68
13	Dholpur	4	-	122
14	Dungarpur	1	-	10
15	Hanumangarh	1	-	94
16	Jaipur	7	-	51
17	Jaisalmer	3	-	87
18	Jalore	2	-	77
19	Jhalawar	3	-	41
20	Junjhunu	3	-	0
21	Jodhpur	0	-	77
22	Karauli	4	-	93
23	Kota	2	-	60
24	Nagaur	3	-	86
25	Pali	2	-	32
26	Pratapgarh	3	-	41
27	Rajasmad	1	-	13
28	Sawaimadhapur	1	-	88
29	Sikar	2	-	64
30	Sirohi	1	-	25
31	Sri Ganganagar	1	-	98
32	Tonk	13	-	53
33	Udaipur	3	-	86
Total		91	1,100,440	-
Average		-	12,093	65

Source: SWC website

2. Private Distribution System

According to a private vegetable supplier in Delhi NCR, some suppliers deliver fruits/vegetables to customers through courier services (parcel delivery companies). However, there are also problems of information leak or poor storage condition of vegetables during transportation. Therefore, it is probably more common among suppliers in Delhi NCR to deliver fruits/vegetables by their own vehicle (personal communication - July 2016). There are also some private courier services operating in large cities in Rajasthan as an Internet search tells, but delivery of fresh food items through such services is probably not so common in Rajasthan, either, also in a nod to the situation in Delhi NCR above.

An example of a private vegetable supplier based in Delhi NCR is described in the box below⁹.

⁹ For the detailed list of more suppliers, refer to “Supplemental information 4” of “Attachment 5.5.4: Activity Plan: Brand building for high-value added agriculture produce”.

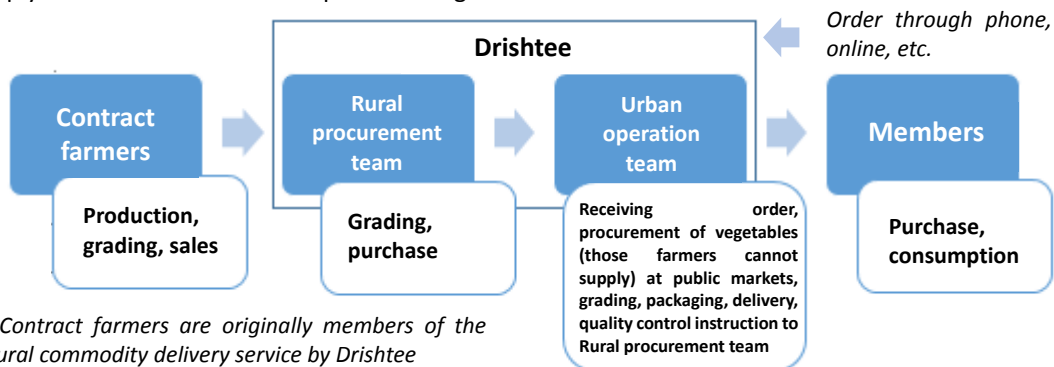
“Food Basket” by Drishtee

Drishtee Development & Communication Ltd., recognized as a social enterprise based in Delhi NCR, started its operation in 2000. Since then, Drishtee has supplied daily commodities to rural areas as one of their activities, and recently started “Food Basket”, an agricultural produce delivery service.

Overview of Food Basket

Drishtee delivers fruits/vegetables procured at villages within its commodity supply chain and delivery them to urban individual consumers. Currently, 60 farmers and 200 families in Uttara Pradesh are targeted, which could be hopefully increased in the future through marketing. At the very beginning of the activity, members were only 10-15 families. Through low-cost step-by-step advertising (discount for members who introduce new members, putting posters in apartments or offices, word-mouth advertising, etc.), now the number has been increased to 200 families.

Supply chain of Food Basket is explained in Figure below.



Delivery is done everyday except Sundays and holidays. Quality is controlled under the Urban operation team, which is also responsible for quality control instruction to the Rural procurement team. Contract farmers are not trained directly by Drishtee but they understand quality standards required by the Rural procurement team (size, appearance). When supply from farmers cannot meet demand from members, the Urban operation team needs to procure extra vegetables at public markets to make up for the lack of supply by farmers. The team checks retail prices of Mother Dairy’s commodities everyday so that their selling prices will not exceed government ones (Mother Dairy = corporation established by National Dairy Development Board, which produces and sell dairy products and other agricultural produce).

Issues and Future

Contents of “Food basket” is being improved through trial and error. At present, the Urban operation team arranges custom-made baskets, but they intend to sell ready-made ones in the future. Moreover, they hope to supply vegetables only from their contract farmers without depending on public markets. Addition of grain, food legume, dairy products to food basket is also under consideration.

As for packaging, recycle bags are used for longer-contract customers. Environmental-friendly materials could be used to wrap individual vegetables instead of currently used plastic materials.



Although Drishtee promotes freshness and safety of their produce, no clear standards exist to convey them to consumers/customers. At present, they try to increase customers’ recognition by recommending them to visit production sites, etc., or by providing places for exchange opinions. There customers have told, at least, their sensuous impression that “the produce has good tastes and appearance”.

(based on an interview to Co-founder of Drishtee)

3. Cold Chain

According to the Associated Chambers of Commerce of India (ASSOCHAM), the market size of Indian cold chain industry is expected to increase from INR 200,000 crore in 2013 to INR 515,000 Crore in 2017. On the other hand, JETRO points out that 40% of fruits/vegetables is discarded every year in India before getting in a distribution chain, causing annual loss of INR 440,000 crore. This is mainly because of India's harsh natural environment and undeveloped system of logistics (2012).

The Indian cold chain industry is mostly composed of small-scale logistic companies and delivery companies operated locally. There are also some large-size companies with nationwide distribution network, including Coldex and Gati Kause based in Delhi, Kelvin and Snowman in Mumbai, Transafe in Hyderabad, all of which own hundreds of reefer vans and manage cold storages. Their large-size customers include international food chains such as Starbucks, KFC, MacDonald's' and Domino Pizza (JETRO 2012).

In the case of Rajasthan, as mentioned in Page 4, some large-scale private companies are operating in the food processing industry probably using their own cold storages. Besides, Shiv group, the one mentioned in Page 4, is listed up as one of the cold chain projects financially assisted by Ministry of Food Processing Industries (Table 9). As they mention "Our Lecithin has been processed to keep it anti-freezing at lower temperature to reduce microbial contamination to the minimum"¹⁰, its products require lower temperature for storage.

Rajasthan's government cold chain projects are indicated below (Table 7~10).

(a) Cold Chain Projects in Rajasthan

Table 7: Cold Storage Projects Sanctioned under the National Schemes

Scheme	Plan/Period	No. of Projects	Financial assistance (Rs. in Lakh)	Capacity (MT)
National Horticulture Mission	11 th Plan: 2007 – 2012	20	1,121.24	89,267
	12 th Plan: 2013 – 2015	4	280.15	13,525
	Total	24	1,401.39	102,792
National Horticulture Board	11 th Plan: 2007 – 2012	-	251.9	33,200
	12 th Plan: 2013 – 2015	-	820.3	46,400
	Total	-	1,072.2	79,600
Ministry of Food Processing Industries	11 th Plan: 2007 – 2012	-	705	80
	12 th Plan: 2013 – 2015	-	0	0
	Total	-	705	80

Source: Report of the Task Force on Cold Chain Projects (MoFPI)

¹⁰ Shiv Group's website (<http://shivgroupindustries.com/portfolio/soya-lecithin/>)

Table 8: Other Cold Chain Components Sanctioned under National Horticulture Mission Scheme

Plan/Period	Reefer van		Cold room etc.		Ripening chamber	
	No. of projects	Financial assistance (Rs. in Lakh)	No. of projects	Financial assistance (Rs. in Lakh)	No. of projects	Financial assistance (Rs. in Lakh)
11 th Plan: 2007 – 2012	9	46	1	0.24	6	123.8
12 th Plan: 2013 – 2015	7	60	-	-	8	274.6
Total	16	106	1	0.24	14	398.4

Source: Report of the Task Force on Cold Chain Projects (MoFPI)

Under the Scheme for Cold Chain, Value Addition and Preservation Infrastructure, MoFPI has approved 4 cold chain projects targeting private companies in the state. Out of these 4 approved projects, the project in Alwar has been already completed and started commercial operations.

Table 9: Cold Chain Projects Financially Assisted by Ministry of Food Processing Industries

Project (Company)		District	Sector	Project cost (Rs. In Lakh)	Approved amount of grant-in-aid (Rs. In lakh)	Status of implementation (as of Sept. 2014)
1	Sarawagie Fresh	Jaipur	Dairy	2,104.00	674.18	Withdrawn
2	Shiv Health Foods LLP	Kota	Dairy	3,300.00	810.70	75% completion on the project
3	Shree Shubham Logistics Ltd.	Kota	Fruits & Vegetables	2,847.00	1,000.00	25% progress
4	Jhunsons Chemicals Pvt. Ltd.	Alwar	Irradiation	1,773.00	705.96	Achieved completion and commercial production started

Source: Report of the Task Force on Cold Chain Projects (MoFPI)

Small Farmers' Agri-business Consortium (SFAC) supports cold storage projects under Venture Capital Assistance (Table 10).

Table 10: Cold Storage Projects Financially Assisted by Venture Capital Assistance (SFAC)

Company		District	Capacity
1	M/s. Hariyali Agrotech Pvt. Ltd.	Jaipur	Grading: 3,650MT Packing: 3,650MT Sorting & washing: 3,650MT
2	M/s. Agrasen Sheet Grah Pvt. Ltd.	Dholpur	56,188 Qtls.
3	M/s Pratap Cold Storage P. Ltd.	Dholpur	Fruits & Vegetables
4	M/s Maa Kaila Devi Cold Storage	Dholpur	Irradiation
5	M/s Shri Gajanand Sheetgrah P. Ltd.	Dholpur	-
6	M/s C B Cold Storage Private Ltd.	Jaipur	-

Source: Report of the Task Force on Cold Chain Projects (MoFPI)

(b) Cold Storages in Rajasthan

Currently, there are 6,300 cold storage facilities with 3 crore MT capacity in total in whole India¹¹. In the case of Rajasthan, among 110 cold storages registered up to 2015 (1.7% of total cold storages in India), most of them are private ones (100) and there are 9 cooperatives storages and only one public storage¹². Most of them are for multipurpose (Table 11). About 30% of cold storages is concentrated in Jaipur as of 2009 (Table 12). According to Farmers' Portal Website¹³, average capacity of a cold storage is about 700MT, ranging from 1MT to 25,000MT.

Table 11: Number of Cold Storage in Rajasthan (commodity-wise)

Commodities	Number
Potato	19
Fruits & vegetables	1
Meat & fish	0
Milk & milk products	8
Multipurpose	79
Others	4
Total	110

Prepared by JICA Survey Team based on agmarknet Website (Ministry of Agriculture and Farmers Welfare, GoI_2015)

Table 12: Number of Cold Storage in Rajasthan (district-wise)

Districts		Private	Cooperatives	Public	Total
1	Ajmer	1	1	0	2
2	Alwar	2	1	0	3
3	Barmer	1	0	0	1
4	Bharatpur	14	0	0	14
5	Bikaner	6	2	0	8
6	Bundi	1	0	0	1
7	Jaipur	30	2	1	33
8	Dholpur	1	0	0	1
9	Jhalawar	2	0	0	2
10	Jodhpur	10	1	0	11
11	Kota	4	1	0	5
12	Pali	2	0	0	2
13	Sri Ganganagar	5	0	0	5
14	Udaipur	2	1	1	4
	Total	81	9	2	92

Prepared by JICA Survey Team based on agmarknet Website (Ministry of Agriculture and Farmers Welfare, GoI_2009)

¹¹ JETRO (2014)

¹² agmarknet Website (Ministry of Agriculture and Farmers Welfare, GoI_2015)

¹³ Ministry of Agriculture and Farmers Welfare, GoI_2015

Attachment 2.7.1
Result of Household Survey on
Gender Related Issues

Attachment 2.7.1 Result of Household Survey on Gender Related Issues

1. Background of the Survey

The survey was conducted in the beginning of may 2016 for 10 each household in Hanumangarh and Sawai Madhopur District. There is no WUA in Sawai Madhopur while Hanumangarh has WUA and well managed irrigation system. the interviewer asked same questions to husband and wife as a couple, but in few cases they are family members because of unavailability.

2. Basic Information on Informant

2.1. Age range

	20~	30~	40~	50~	60~	70~	Total
Male	1	2	<u>6</u>	<u>6</u>	4	1	20
Female	0	<u>7</u>	6	6	1	0	20

2.2. Involvement in Agriculture

	Full time	Part time	Total
Male	10	10	20
Female	15	5	20

2.3. Education

	Illiterate	Just literate	Class 2	Class 5	Class 8	Class 10	Total
Male	<u>8</u>	2	0	3	1	6	20
Female	8	<u>9</u>	1	1	1	0	20

2.4. Land Ownership and Inheritance

	Land ownership		Reasons how owned the land		Who will succeed the land	
	Yes	No	Inherited	Bought	Son	Others
Male	20	0	20	0	18	2-Family
Female	2	18	0	2	1	1- Husband

2.5. Experience to Attend Community Meeting

Sawai Madhopur				
	Yes	No	Which meeting	Reason why not attend
Male	9	1	Gram Panchayat	No interest
Female	0	10		No time-1

Hanumangarh				
	Yes	No	Which meeting	Reason why not attend
Male	10	0	WUA	
Female	0	10		No need-2, Not allowed-3

3. Major Findings

3.1. Roles and Responsibility on Farm Work

In most cases, answers of male and female are consistent: there are few gaps in female's roles and responsibilities at median answer. In land preparation (cleaning), Watering and Post-harvest (packing), male thinks female support them occasionally, but female thinks that they support male every time. On the other hand, female thinks they support post-harvest (cleaning) occasionally while male judged female support them every time.

3.2. Roles and Responsibility on House and Social Work

Compare to farm work, male tends to think they involved in house work more than female thinks such as washing clothes, caring for children and elders, and caring for goat and cattle. On the other hand, female thinks they involved in caring for goat more than male thinks.

3.3. Daily Schedule

1) Farming Season

Although 15 female informants out of 20 answered as full time farmer, daily schedule shows that 9 female informants of Hanumangarh out of 10 don't go to their field during farming season. Since Hanumangarh and Ganganagar farmers have a large field, it is possible that wife of land owner is not always a farmer.

Time	Male	Female	
		Involving in farm work (11 women)	Not involving in farm work (9 in Hanumangarh)
5:00	Wake up, Brush, Toilet	Wake up, Tea , Fodder to Cattle	Wake up, Brush, Toilet, Milking

Time	Male	Female	
		Involving in farm work (11 women)	Not involving in farm work (9 in Hanumangarh)
6:00	Tea, Caring of Cattle, Bathing	Milking , Butter Churn	Milking, Having Tea, Butter churn
7:00		Cleaning house, Cooking food	Cleaning house, Caring of Cattle
8:00	Have a meal, Go to the field	Cooking food, Bathing	Cooking food
9:00	Work in the field (Have a meal around 12:00 – 13:00)	Go to the field		Cooking food, Bathing
10:00			Bathing, Washing
11:00			Have a meal
12:00			Take a break
13:00			
14:00			Take a break, Caring of cattle
15:00			
16:00			Back to home, Caring for Cattle	Caring of cattle
17:00	Bring Food for Cattle, Fodder cutting, Back to	Milking, Caring for Cattle, Tea	Tea, Feeding cattle
18:00	home, Caring cattle, Tea, Bathing	Caring for Cattle, Cooking food	Caring of cattle, Milking, Cooking food
19:00	House work, Chat with neighbors, Visit local friends	Cooking food	Cooking food
20:00		Dinner, wash dishes	
21:00	Have dinner, Sleep	Sleep	Dinner, wash dishes, Sleep

2) Off-season

Time	Male	Female
5:00	Wake up, Brush, Toilet, Tea	Wake up, Brush, Toilet, Milking, Tea
6:00	Tea, Take care of Cattle, House work	Milking, Tea, Butter churn, Cooking food
7:00	Caring of Cattle, House work, Visit at	Cleaning house, Caring of Cattle, Caring

Time	Male	Female
	Field, Visit in the village, Meeting with the neighbors,	children, Cooking food
8:00		Cooking food, Caring of Cattle, Fodder to cattle
9:00	Bathing, Washing, Gossip and Chat with neighbors	
10:00		Cooking food, Caring of Cattle, Bathing, Washing
11:00	House work, Have lunch	
12:00	Take a break	Have lunch, Chat with neighbors, Busy with family members
13:00		Take a break, Chat with neighbors, Busy with family members
14:00		
15:00		Take a break, Caring for cattle
16:00	Tea, Caring for cattle, Go to the field, Go to the village	Take a break, Caring for cattle, Milking, Cleaning of house
17:00	Caring for cattle	Caring for cattle, Feeding cattle, Tea, Cooking food
18:00	Caring for cattle, House work, Chat with neighbors	Caring for Cattle, Milking, Cooking Food,
19:00	Chat with neighbors	Cooking food
20:00	House work	Cooking food, Dinner, Wash dishes
21:00	Dinner	Watching TV, Sleep
22:00	Sleep	

3.4. Access and Control

As same as result of roles and responsibilities mentioned above, answers of male and female are consistent in most cases. While male has access to all most all the properties, female has access on farm land, house, goat and cattle. Regarding control, the result shows all properties are controlled by male. There are gaps on access goat and cattle that male thinks they have more access than female thinks.

3.5. Gender Training

There is no one attended gender training before.

3.6. Access to Agricultural Services

There is no one received agriculture services, but 2 male out of 20 have an experience to use marketing information. One of them answered that he got information from TV.

4. Collected Data

4.1. Roles and Responsibility on Farm Work

0:Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do

		Male		Female	
		Answered by male	Answered by female	Answered by male	Answered by female
Land preparation (cleaning)	0	0	1	4	3
	1	0	0	6	3
	2	1	1	7	9
	3	19	18	3	5
Land preparation (Plowing by tractor)	0	0	0	15	16
	1	0	0	5	3
	2	0	0	0	1
	3	20	20	0	0
Fertilizer application	0	0	0	19	15
	1	0	0	1	5
	2	0	0	0	0
	3	20	20	0	0
Seed sowing by machine	0	0	0	20	18
	1	0	0	0	2
	2	0	0	0	0
	3	20	20	0	0
Transplanting	0	8	10	5	10
	1	2	0	0	0
	2	7	5	0	0
	3	3	5	15	10
Watering	0	0	0	4	3
	1	0	1	8	0
	2	1	1	7	13
	3	19	18	1	4
Weeding by hand	0	1	5	0	0
	1	6	5	0	0
	2	10	5	0	0
	3	3	5	20	20

		Male		Female	
		Answered by male	Answered by female	Answered by male	Answered by female
Spraying	0	0	0	17	18
	1	0	0	0	1
	2	1	0	2	1
	3	19	20	1	0
Harvesting by hand	0	0	0	0	0
	1	4	10	0	0
	2	10	7	1	0
	3	6	3	19	20
Post-harvest (drying)	0	0	0	3	1
	1	0	0	2	5
	2	1	0	10	14
	3	19	20	4	0
Post-harvest (packing)	0	0	0	2	3
	1	0	0	10	7
	2	0	0	5	9
	3	20	20	3	1
Post-harvest (cleaning)	0	0	1	4	3
	1	3	0	5	9
	2	1	0	6	6
	3	16	19	5	2
Transportation (field to house)	0	0	0	10	14
	1	0	0	9	6
	2	0	0	0	0
	3	20	20	1	0
Transportation (house to market)	0	0	0	20	20
	1	0	0	0	0
	2	0	0	0	0
	3	20	20	0	0
Sales	0	0	0	20	20
	1	0	0	0	0
	2	0	0	0	0

		Male		Female	
		Answered by male	Answered by female	Answered by male	Answered by female
	3	20	20	0	0

4.2. Roles and Responsibility on House and Social Work

0:Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do

		Male		Female	
		Answered by male	Answered by female	Answered by male	Answered by female
Cooking	0	16	20	0	0
	1	4	0	0	0
	2	0	0	0	0
	3	0	0	20	20
Cleaning	0	18	20	0	0
	1	2	0	0	0
	2	0	0	0	0
	3	0	0	20	20
Fetching water	0	19	20	0	0
	1	1	0	0	0
	2	0	0	0	0
	3	0	0	20	20
Fetching firewood	0	14	18	0	0
	1	3	0	0	0
	2	3	2	0	0
	3	0	0	20	20
Washing clothes	0	7	18	0	0
	1	5	0	0	0
	2	4	2	0	1
	3	4	0	20	19
Caring for children (if you have)	0	1	11	0	0
	1	10	7	0	0
	2	8	2	0	0
	3	1	0	20	20

		Male		Female	
		Answered by male	Answered by female	Answered by male	Answered by female
Caring for elder (if you have)	0	0	3	0	0
	1	1	8	3	0
	2	10	9	2	0
	3	9	0	15	20
Caring for sick (if you have)	0	0	1	0	0
	1	2	2	6	4
	2	0	1	11	12
	3	18	16	3	4
Caring for goat (if you have)	0	2	7	2	2
	1	4	3	3	4
	2	2	3	7	3
	3	12	7	8	11
Caring for cattle (if you have)	0	0	4	0	0
	1	8	6	0	0
	2	2	2	5	4
	3	10	8	15	16
Maintenance of house	0	1	6	0	0
	1	3	4	4	1
	2	7	4	1	1
	3	9	6	15	18
Networking with neighbors	0	0	1	3	0
	1	0	3	14	14
	2	0	0	2	1
	3	20	16	1	5
Attending community meeting	0	0	0	15	19
	1	0	0	4	0
	2	0	0	1	1
	3	20	20	0	0

4.3. Access and Control

0: Not at all, 1: Only sometimes, 2: Often, 3: Mainly

		Access				Control			
		Male		Female		Male		Female	
		By male	By female	By male	By female	by male	by female	by male	y female
Farm land	0	0	0	1	1	0	0	17	20
	1	4	5	3	0	0	0	2	0
	2	3	4	5	7	0	0	0	0
	3	13	11	11	12	20	20	1	0
House	0	1	3	0	0	0	0	15	18
	1	9	10	1	0	0	0	2	2
	2	4	3	0	1	0	0	2	0
	3	6	3	19	19	20	20	1	0
Farming tools	0	0	0	4	2	0	0	17	19
	1	0	0	7	12	0	0	2	1
	2	2	1	5	5	0	0	1	0
	3	18	19	4	1	20	20	0	0
Agri. machineries	0	0	0	17	17	0	0	18	18
	1	0	0	2	3	0	0	2	1
	2	0	0	1	0	0	0	0	1
	3	20	20	0	0	20	20	0	0
Farm input (seed, fertilizer, etc.)	0	0	0	19	19	0	0	18	20
	1	0	0	0	1	0	0	2	0
	2	0	0	1	0	0	0	0	0
	3	20	20	0	0	20	20	0	0
Cattle	0	2	4	0	0	0	0	13	18
	1	6	6	2	2	3	0	1	2
	2	3	6	2	2	0	0	3	0
	3	9	4	16	16	17	20	3	0
Goat	0	1	7	1	3	1	2	12	18
	1	8	6	1	0	0	0	1	2
	2	0	2	5	3	0	0	7	0
	3	11	5	13	14	19	18	0	0
Farm	0	0	0	0	5	0	0	13	19

		Access				Control			
		Male		Female		Male		Female	
		By male	By female	By male	By female	by male	by female	by male	y female
products	1	0	0	12	11	0	0	6	1
	2	0	1	8	3	0	0	1	0
	3	20	19	0	1	20	20	0	0
House expenditure	0	0	0	5	8	0	0	12	14
	1	0	0	4	1	0	0	2	2
	2	1	2	8	9	0	0	6	4
	3	19	18	3	2	20	20	0	0
School fee	0	0	0	16	17	0	0	17	19
	1	0	0	2	3	0	0	3	1
	2	0	0	1	0	0	0	0	0
	3	20	20	1	0	20	20	0	0
Cash/income	0	0	0	16	18	0	0	16	19
	1	0	0	2	1	0	0	3	0
	2	0	0	1	1	0	0	0	1
	3	20	20	1	0	19	20	0	0

4.4. Gender Training

Have you ever received any training in gender?

	Yes	No	Total
Male	0	20	20
Female	0	20	20

4.5. Access to Agricultural Services

- 1) Have you ever get any agricultural extension services?
- 2) Experience on using market information and means to get information

	Agri. services		Marketing Information		
	Yes	No	Yes	No	Means
Male	0	20	2	18	TV-1, No answer-1
Female	0	20	0	20	

Chapter 3
Attachment

Attachment 3.1.1
Outline of RAJAMIIP

Attachment 3.1.1 Outline of RAJAMIIP

Rajasthan Minor Irrigation Improvement Project (RAJAMIIP) was designed based on the state's experience in implementing World Bank assisted projects viz. 'Dam Safety Project' and 'Rajasthan Water Sector Restructuring project' (RWSRP). The developmental objectives of RAJAMIIP were to increase the agricultural productivity in the state of Rajasthan with low rainfall and enhancing agriculture income and alleviating the poverty of farmer's community by rehabilitating existing minor irrigation infrastructure, by adopting modern water management techniques and agriculture practices with active participation of beneficiaries.

RAJAMIIP had been designed to: -

- improve the livelihood of farmers by increasing the reliability and the quantity of irrigation water during the Rabi-season (wet season) and by increasing the cultivation of high value cash crops,
- save valuable water by introduction of modern cultivation and irrigation methods and by the cultivation of crops of low water demand,
- foster the formation of Water User Associations (WUAs) as a precondition for application of the Participatory Irrigation Management Act and the capacity building of WUA-functionaries to manage and administer the association as well as the infrastructure entrusted to them,
- reduce poverty of landless farmers by establishment of self-help groups (SHG) e.g. the introduction of micro-financing, cottage industries and other skill development, and
- reduce malaria in villages located near to surface water storage reservoirs by the introduction of fish species feeding on mosquito larvae.

The intervention comprises 5 major components:

- Civil works, to physically rehabilitate and improve existing irrigation infrastructure;
- Agricultural Extension, to introduce appropriate cultivation and irrigation methods and crops of low water demand but high market value;
- Capacity Building and Training to develop skills and knowledge of water users/farmers to manage and administer Water User Associations (WUAs), the future care takers of the irrigation infrastructure;
- Health precautions, to reduce the cases of waterborne diseases, mainly malaria by introduction of fish species eating mosquito larvae; and
- Pro Poor measures, to improve the livelihood of landless farmers by forming self-help groups, introducing micro-finance and other skill development programs.

RAJAMIIP was taken up with the assistance of JICA with an estimated cost as 6,122.9 million INR (JICA share as 4,814.5 million INR). The overall expenditure till the end of the project in July 2015 was 4,684.3 million INR, 76.5% of the budget (JICA share as 3,039.10 million INR, 63.1%).

The achievements under RAJAMIIP include: -

- After rehabilitation of the irrigation schemes water reached up to tail of the canal system;
- Formation and fostering of 393 WUAs had been done. Capacity building through extensive training at Irrigation Management & Training Institute (IMTI) and through NGO was carried out.
- Deployment of NGO was introduced in the state for the first time under the project. The NGO assisted in capacity building of the WUAs, formation of SHGs, meetings of Technical Supporting Groups (TSGs) etc.
- Although water courses are entirely an affair of the cultivators, in terms of construction, operation and maintenance, it is a known fact that most of the losses in irrigated agriculture occur within the tertiary system, i.e. in water courses and on irrigated fields. For that purpose GoR in agreement with JICA provided "corpus funds" to WUAs for financing improvements and rehabilitation of water courses. Initial length of 50 m of water courses was lined.

- The distribution system of all the 353 sub-projects have been handed over to WUAs
- 212 training courses were organized at IMTI Kota with 6,203 numbers of participants from WRD/ AD and WUAs
- 517 km of pipe lines were laid, sprinkler systems were installed on 252 ha and drip-systems on 166 ha. Although the introduction of micro irrigation system was meager, it is expected that innovative farmers will have a catalyst effect on fellow farmers and that the adoption of water saving irrigation methods will experience a boost.
- For sustainability of the WUAs, a sum of 2.00 *Lakh* (200 thousand) INR was provided to each WUA as corpus fund. The interest (fluctuated around 7.5 - 8.5%) accrued from the corpus fund is to be utilized by WUAs for O&M of the system. In addition to corpus fund, WUA office buildings dully furnished were also provided under the project.
- Technical Support Group (TSG) was conceptualized in the RAJAMIIP to provide technical guidance to the farmers/ Water User Group to enhance the agricultural productivity by efficient use of water resources, combined with advice on appropriate agricultural production methods, product handling and marketing. TSG was formed at three levels, at State, District and at WUA level.
- Agriculture extension component extending services including farmers training, WUA farmers training, on farm demonstrations on i) crop diversification, ii) integrated nutrient management and iii) integrated pest management, improved irrigation techniques such as sprinkler irrigation, drip irrigation and irrigation pipelines and improved farm implements.
- Construction of 21 numbers of hatcheries (8 mother hatcheries and 13 small hatcheries) for *Gambusia* fish to contain Malaria in the vicinity of sub project. This was on pilot basis only.
- Civil works component – the main component of the project, was designed for:(a) rehabilitation, renovation and up-gradation of tanks and distribution system of minor irrigation schemes selected through screening and appraisal based on criteria specified in Minutes of Discussion (MOD), and (b) related investigation and design work.
- Second stage screening of 647 sub-projects resulted in 393 sub-projects (CCA of 153,785ha) eligible which were proposed for formation of water user associations including capacity building and for participatory design and implementation of rehabilitation and improvement of irrigation infrastructure. Of the 393 sub-projects selected after second stage screening, 40 sub-projects did not qualify for physical rehabilitation of irrigation infrastructure and received only capacity building support under soft component. 353 sub-projects were identified to receive the full package of support, i.e. physical improvements as well as soft components such as capacity building and agricultural extension.

Attachment 3.2.1
Lessons Learnt in RAJIAMIIP

Attachment 3.2.1 Lessons Learnt in RAJAMIIP

1 Lesson Learnt in Irrigation Rehabilitation

The Minutes of Discussions (MOD) signed on 24 November 2004 with JICA contemplated completion of various activities involved under civil works component by December 2012. However there were several delays in appointment of the Engineering & Management Consultant, and NGO, all the activities under civil work component were delayed. Table 1 depicts the actual completion of various activities in comparison to the schedule contemplated.

Table 1 List of Actual Completion of Various Activities

S. No	Description	Period as per MOD		Actual	
		From	To	From	To
1	Selection of Management & Engineering Consultant	Jan-05	Oct-05	Jan-07	Mar-08
2	Data collection for Second screening	Nov-05	Sep-06	May-08	Sep-08
3	Second screening	Feb-06	Mar-07	May-08	Jan-09
4	Establishment of SID Standard	Feb-06	May-06	Aug-08	Dec-08
5	Execution of SID	Jun-06	Jan-08	May-07	Dec-11
6	Appraisal of sub-projects	Oct-06	Jan-08	Nov-08	Jan-12
7	Tender & contract	Nov-06	Dec-08	Jun-09	14-Jun
8	Main civil works	Jun-07	Dec-11	Oct-09	Jun-15

Source: JICA Survey Team

1.1 Survey, Investigation and Design Works

Survey, Investigation and Design (SID) work was awarded to different agencies for 309 sub-projects. SID works for remaining sub-projects were done by WRD itself. During SID work, WUAs were associated in diagnosing the deficiencies in the system. Similarly participatory approach was adopted during implementation of the rehabilitation works involving WUAs. To promote active involvement of the legally empowered WUAs, the rehabilitation of the water courses with a community contribution @15 % of the estimated cost under 222 sub-projects were completed.

Participatory irrigation management concept has been implemented in the project with encouraging results. Duly elected WUAs are in place and have taken over operation and management of system in some sub-project areas. However, certain lessons have been learnt which should be addressed and considered for the new project of similar nature.

- i) SID works were designed to have active participation of WUAs, joint walk through survey to facilitate diagnostic analysis of the sub-project. However, due to initial delay in formation of WUAs, the involvement of WUAs was limited and only a section of beneficiaries were consulted.
- ii) It was planned for the first time to carry out SID works through the agency of SID contractors (local consultants). There were limited numbers of SID contractor having expertise in water sector. Due to which, there had been abnormal delay in finalization of SID contracts. Eight contractors were awarded contracts for SID works of 309 sub-projects under 42 packages to be completed in 3 months. In the worst case only a contractor had 119 sub-projects to be completed in the 3 months. Even the selected SID contractors were not having sufficient resources and expertise to execute such type of works. This procedure was instrumental in not only delay in finalization of the DPRs of sub-projects and subsequent commencement of rehabilitation works. It is recommended that SID works should be carried out in stage-wise schedule with realistic work volumes under supervision of WRD staff.

- iii) WRD is already equipped with suitable contract management system including general / technical specifications, conditions of the contracts, qualification criteria, registration of the contractors under different category. Finance department has delegated powers to approve contracts. The prevailing system could not be successfully implemented under RAJAMIIP due to modality of tendering under packages comprising of several sub-projects under one sub-division. This procedure developed caucus of contractors who manipulated to grab most of the contracts at very low prices up to 40 % below the estimated cost. This un-healthy practice of price dumping adversely affected: (i) quality of works executed, (ii) non-execution of essential but costlier component of work, (iii) delay in completion of works, (iv) rescinding of bulk of contracts and incomplete finalization of works due to failures on the part of the contractors, (v) cropping up of contractual disputes, and (vi) lack of proper contract management at divisional level.

It is recommended that (i) contracts of SID work should be awarded in consideration of capacity of the contractor, (ii) strict adherence to qualification criteria to avoid price dumping and awarding of contracts to competent contractors having required resources of manpower and equipments, and (iii) ensure competent contract management by strict compliance of the contract conditions during implementation of the contract.

1.2 Quality of Construction Works

The ultimate health of a constructed project during its operational phase depends largely on the quality achieved during its construction. The determined and co-operative pursuit of quality by the owner, the contractor, and the project design, supervision & quality control teams can surely produce a successful project. The team members, acting with skill, integrity, and responsibility, can surely fulfil contract commitments faithfully and competently. Thereby, producing the desired quality in the execution of works. Besides reviewing the physical and financial implementation progress in general, the E & M Consultant mainly focused on the review of the construction procedures being adopted on the execution of various works and the adequacy of quality control measures, conforming to technical specifications, being implemented towards achievement of acceptable construction quality. Several quality control and quality assurances associated deficiencies were noticed during field visit to the rehabilitation / modernization works, which required improvement. The rehabilitation works in 353 sub-projects constituted a huge job network involving almost all types of civil work. During project implementation, various quality control and quality assurances associated deficiencies related to (i) execution of works below specifications, (ii) major deviation from the approved design and drawings, (iii) deficient curing of concrete and masonry work, (iv) inadequate arrangements for watering and compaction of soils being laid for strengthening of embankments, and (v) inadequacy of quality control measures, conforming to technical specifications, were observed.

In RAJAMIIP final report, it is recommended, thereby, that in view of the immensity, complexity, and wide spread-out of the works proposed to be rehabilitated, and to ensure that these works are executed to good construction quality standards duly conforming to technical specifications; “third party quality control and quality assurance consultancy supervision” would be introduced.

1.3 Delay of Procurement for Evaluation and Monitoring Consultant

Engineering and Management (E & M) Consultant plays a major roll for construction management in selection of sub-project, appraisal of DPR of the sub-project, preparation of pre-qualification bid document, evaluation of bids, supervision of construction activity and quality assurance management, contract administration and monitoring. Under RAJAMIIP, selection and appointment consultant was delayed abnormally. This delay resulted in delayed implementation of rehabilitation works.

It is recommended that E & M consultant should be appointed in the initial period of planning of the project implementation.

2 Lesson Learnt in WUA Support

2.1 Delay of NGO Involvement

Farmer's participation in rehabilitation works can provide significant scope for building up sense of ownership and acquire experience for future maintenance work to be carried out by WUAs autonomously after transfer of management. The Minutes of Understandings (MOU) was signed between WUA and WRD for participatory rehabilitation of work at the commencement of the sub-project. Under RAJAMIIP WUAs had to participate: (i) joint walk through survey (ii) WUA's approval on plan and design and (iii) joint supervision on the construction. However during project implementation, the formation of WUAs as well as appointment of NGO was delayed, which resulted in lack of involvement at all stages of the rehabilitation.

Majority of farmers in all the systems are duly sensitized about importance of PIM, yet in absence of any resource facilitator for managing the institutions or coordinating authority, it cannot be said that system will function properly. The WUA functionaries would need intensive follow up and guidance, for at least one year to be watched and assisted after the system is formally handed over. Involvement of WUAs is to build up a sense of ownership, acquires expertise in water management and their sustainability with the project intervention.

It is recommended that WUAs should be formed before commencement of the planning for rehabilitation work and NGO should be appointed well in advance to provide support to WUAs and may be continued for at least one year after completion of the project for follow up.

2.2 Other Lessons in WUA Support

WUAs have been established under RAJAMIIP with the basic purpose of management, regulation, distribution, maintenance of irrigation under its jurisdiction to develop sense of ownership among the farmers. Participatory irrigation management (PIM) concept has been implemented in the project with encouraging results. Duly elected WUAs (400 in numbers) are in place and have taken over the operation and management of distributaries and minors of the canal system in the project area. Under RAJAMIIP, WUAs have been provided with well furnished offices. IMTI Kota was the nodal agency to impart training to WUA members. Additionally NGO also imparted capacity building training to WUAs. NGO organized meetings with WUAs on (i) orientation of members for sharing status of project as well as action plan, (ii) record keeping, (iii) pre & post cropping season and practice on water tariff collection, (iv) rehabilitation of water courses, (v) soil testing, (vi) transfer of management to WUAs for O & M, (vii) general body meeting, and (viii) W-TSG meeting. The training was organized at IMTI Kota as well as in the field (mainly by NGO).

Main learning from RAJAMIIP are as follows:

- WUAs are located in 26 districts and it is difficult for them to get full benefit from training at IMTI Kota which is located in one corner of the state. Efforts should be made to arrange /provide to large numbers of members /farmers training in field at different places to suit local requirement possibly by mobile training unit.
- NGO should also be provided extensive training at IMTI Kota before their field placement.
- WUAs should be formed on a wider range of activity rather confined to irrigated agriculture only. WUAs could become instrumental for marketing of inputs and products.
- For specialized job of water distribution, regulation & recording and realization of water tariff, and financial management, water masters should be provided to each WUA. The water masters can be trained for water management and computer at IMTI Kota.
- There is no obvious way of monitoring the future performance of WUAs for its long-term sustainability. WUAs lose their enthusiasm and lack resources to operate and maintain their systems and have not been suitably equipped to develop the required resources on their own. Substantial support and assistance is needed for some time to come to alleviate this risk.

3 Lessons Learnt in Farming Support

3.1 Basic objective of RAJAMIIP

The basic objective of RAJAMIIP was to increase the agricultural productivity by improving water management and modern agricultural practices thereby enhancing agricultural income and alleviating the poverty.

Agriculture extension component was a major activity that was coordinated and implemented by DoA. Financial provisions were insufficient in comparison to aspect of farming in the state.

Activities under agriculture extension component of the project were:

- i) improve water management and agriculture practices, thereby enhancing income from agriculture and eventually alleviating poverty,
- ii) improve water management through water saving and efficient management for increasing production per unit area, per unit time and per unit water,
- iii) train WUA members and farmers to generate awareness for efficient use of irrigation water and bridge the existing yield gap through adoption of improved technologies,
- iv) increase the overall system productivity by improving soil health through farm mechanization and efficient cropping system,
- v) promote crop diversification, INM and IPM through crop demonstrations,
- vi) increase farm income by initiating measures to minimize water requirement, cost of cultivation of crop through farm mechanization and use of water wise crops,
- vii) promote 'water wise crops' for water saving, and
- viii) promote organic farming, which is a holistic management system promoting and improving health of agro-system.

3.2 Poor Performance of Agricultural Support Services

(1) DoA and Lined Departments

Agricultural support services have been provided to the farmers by DoA through extension support network. Agriculture support service were provided by department of agriculture (377 trainings for agriculture officers & 40,000 trainings for farmers, 110 exposure visits-cum-training programs for TSGs and farmers, 7,851 on-farm demonstration on crop cultivation and water management). The WUA farmers trainings were conducted in various topics based on the need of the area and farmers. These achievements were based on the efforts of NGO staffs and understanding of some field staffs of DoA. However, most of beneficiaries were limited number of big farmers who had good connection to field staff. Poor farmers could not access to the information of training by DoA.

In RAJAMIIP, there were not enough provision of budget to DoA and lined departments. Therefore, they could not be motivated to support WUA of this project.

(2) Technical Support Group (TSG)

Within this project, Technical Support Group (TSG) consisting of lined departments was established for farmer's training. Annually one state level workshop for RAJAMIIP was organized by State Institute of Agriculture Management, Durgapura, Jaipur to train DoA officers.

However, meetings of Technical Support Group (TSG) at WUA level and district level were not conducted regularly. Only once or twice a year, the meeting of this level was conducted. The attendance of various lined departments (irrigation, medical, cooperative and animal husbandry) is poor. Even most of farmers did not recognize the existence of TSG.

Though TSG is an ideal extension service, there was no collaboration among lined departments. To motivate them, project should have provided some incentives to DoA and lined departments.

(3) Sprinklers and Drip Irrigation

233 sprinklers and 16 drip irrigation systems were provided under the project for demonstration purpose. Provision of pressurized methods of irrigation proved useful for the farmers for enhancing water use efficiency. However concept of water saving was not acquired by farmers fully. As a result,

some farmers expanded the irrigated area, but they did not care about more use of water than requirement.

For optimal use of irrigation water, water saving concept should have been promoted to upstream farmers to share excessive water to downstream farmers.

3.3 Land Utilization

The performance of land utilization was much better in the sub-project area in comparison to the control area where cropping intensity was only 135 % as against 157 % in the area where there has been project intervention under the project. In most of the areas of the project, the cropping intensity has increasing trend which clearly indicate a positive impact of the project interventions on the land and water resource utilization. A trend of shifting of area to use of water wise crops was observed in sub-projects having limited water availability for irrigation. To optimize the land use by water wise crops, upstream farmers need to save water so that both farmers could get benefit from the project. Both upstream and downstream farmers need to aware concept of water saving for optimal land use.

3.4 Use of Fertilizer

In some cases, awareness had developed among the farmers for judicious use of fertilizers based on soil test. Some farmers who have got soil test are now following integrated nutrient management and proper crop-rotation system instead of mono-cropping. Farmers had followed the improved technologies for crop production which resulted in increase in crop production. However the number who has soil health card is limited.

4 Lesson Learnt in Capacity Development / Human Resource Development

4.1 IMTI Training

The faculty of IMTI Kota comprises of departmental officers of Water Resource Department (WRD) and Department of Agriculture (DoA) and is posted for short duration. Most of the officers are not exposed to the principles of imparting knowledge about subject matters are not professional trainers. Curricula taught in IMTI are of general nature, which does not fulfil the requirement of institutional and technical and water management techniques. This type of training is not only ineffective but at time even counterproductive by imparting subject contrary to the curricula, goal and objective of the project. It is need of the time that IMTI should adopt latest techniques in agriculture, water management and irrigation practices and should employ/ hire professional trainers.

4.2 Community Organizers

In the RAJAMIIP, each Community Organizer (CO) was assigned 15 to 17 sub projects and that were too scattered in or across districts with large distances. Contacting 15 to 17 WUAs twice a month was a big task and because of this over burden the quality suffered. Therefore it is suggested that one CO should have only 5 to 7 sub projects, depending on the size of the irrigation project. In case of large and medium irrigation project one can think of only one project with one CO. This will ensure better capacity building of water users

4.3 Flexible Training Schedule

The capacity building/training, e.g. WUAs representative training, etc., have to be taken up in phases, which is always linked with completion of identified physical activities. It is imperative that the actual completion of the planned physical activities is often delayed on account of seasonality, administrative delays, procedures related to tendering and procurement, etc. Therefore, there has to be flexibility built in the activity plan to achieve the parameters of the desired capacity building and make the project a success.

5 Lesson Learnt in Administration and Management

Establishment of Well-organised Executing Body

According to objective of RAJAMIIP, role of WRD, DoH, and DoA is very significant but it has been experienced that there is lack of coordination which adversely affect the tempo of successful implementation of the project. Establishment of close relation among the line departments is required.

In RAJAMIIP there were 2 main executive bodies, such as Steering Committee and PMU. No more than 8 Steering Committee Meetings of RAJAMIIP were held during project implementation period for 10 years, which cannot realise and maintain good relations among the line departments.

A Project Management Unit (PMU) was charged with the tasks of (i) overall project coordination, (ii) procurement management, and (iii) financial management, incl. checking of accounts and preparation of disbursement requests to JICA etc. However Sub-PMUs offices at WRD Zonal Offices as contemplated in the project had not been formed. The missing Sub-PMUs at zonal level were tried to be compensated by frequent meetings at zonal and divisional level and by involving the Superintending Engineers (as nodal officers) at circle level. The staff positions under PMU were not always fully occupied. Similarly at field level the availability of staff was too meager especially in the lower positions of Assistant/ Junior Engineers WRD-officers were generally insufficient in comparison to quantum of field work. This state of under-staffing has adverse impact on implementation of the project. The training events offered for WRD Officers at IMTI in adult skill enhancement in the use of PC and in word processing was not fully realized.

The establishment of three tiered Technical Support Groups (TSG) headed by DoA has been promoted by RAJAMIIP to create a forum enabling farmers to receive technical and agricultural information for water saving cultivation and increase in farm income through integrated advice by GoR agencies concerned.

However following issues of concern need to be addressed:

- Steering committee needs to be further strengthened and bi- monthly meetings need to be held for effective monitoring, review of progress and to redress the issues pertaining to project implementation.
- Regular review meetings at PMU level with all the line department and stack-holders should ensured.
- Only dedicated and experienced officers should be placed in PMU, Sub-PMU and at field level during project period and should have continuity.
- Field staff is generally overburdened with other activities and government programs due to which effective concentration on project activity and sense of ownership is lacking. This phenomenon is largely responsible for the substantial delays and lack of coordination in project execution. It would be suitable to have exclusive and selected staff for project implementation.
- Strengthening of infrastructure viz. computers and photo copiers' internet etc. is required.
- To ensure effective supervision and Quality Assurance Management (QAM) inspection vehicles with sufficient provision for POL should invariably be provided to PMU and field staff.
- The project involves implementation by various line departments; the proper coordination between these departments needs to be ensured.
- Financial management should be effective encompassing timely approvals, budget provisions, credit limit etc.
- Establishment of well-equipped M&E system to monitor project progress and assessment of impact is essentially required with dedicated staff.
- For sustainability of resources already built up, it is essential that water tariff should be revised regularly so as to meet the O & M cost. Pending the revision of water charges the state government should also supplement for O&M of canal system through various scheme.

Attachment 3.2.2
Lessons Learnt from World Bank Assisted
'Rajasthan Water Sector Restructuring
Project' (RWSRP)

Attachment 3.2.2 Lessons Learnt from World Bank Assisted ‘Rajasthan Water Sector Restructuring Project’ (RWSRP)

Throughout the project there was a marked reluctance to employ consultants, which resulted in delays, and in some cases failure, to obtain responsive bids for technically sophisticated contracts. Employment of specialist consultants can be essential for procurement of very technical contracts, such as for management information system (MIS), and supervisory control and data acquisition (SCADA). Ideally, project management consultants, assisting the PMU throughout the project, would provide these consultants.

- It is important to include water users/beneficiaries in the design and implementation of irrigation rehabilitation works to strengthen a feeling of ownership and impart skills in system management and conflict resolution. Training WUAs requires substantial long-term effort, much more than the limited training that was provided under the project. Under the RFMIS Act 2000, officials of WUAs are elected for five years so that education in the needs of their positions must be available when new untrained officials are elected. It is essential to have continuing provision for training WUA officials and WRD engineers.
- The sustainability of rehabilitated irrigation schemes depends on adequate needs-based budgetary support for O&M of the systems. The project failed to increase water charges and achieve the recovery of the full cost of O&M. The political difficulty of increasing charges makes it likely that pursuing these goals in the future would result in similar outcomes unless the Bank insists that water charges are increased before any future project went to the Board. A project that aims to encourage difficult political decisions by having a large construction component as an incentive needs to be strictly supervised so that, if the Bank really wants to achieve its objective, it suspends finance for the construction components to ensure that the non-construction components, such as increasing water charges and funding O&M, make satisfactory progress. As it is, the project spent about Rs 10,000/ha on rehabilitation of irrigation systems but now is spending a very small proportion (about 15%) of the required amount (assumed to average INR 569/ha/year) on O&M.
- Dam Safety should not be neglected. There is often a marked reluctance by senior engineers to accept that the original design parameters of dams that have operated for many decades may no longer be appropriate. Every dam should have a regular review of its safety by an independent dam specialist and the resulting recommendations must be implemented.
- An agriculture component in an irrigation project should be better integrated with demonstrations focusing on improved water use efficiency and targeted at WUAs and farmers.

Chapter 4
Attachment

Attachment 4.1
Data Base for Sample DPRs

Attachment 4.1 Data Base for Sample DPRs

DPRSN	Dist SN	District	Name of Project	Category	Major works											Total	1.4 * General	1.5 * General	1.6 * General	1.7 * General	2.1.1 * Location	2.1.2 * Location	2.2.1 * Location	2.2.2 * Location								
					Dam				Canal																Cost as per Name of scheme	Period of construction	Last Rehabilitation	Scale of rehabilitation	District	District	Tehsil/Taluka	Tehsil/Taluka
					Earthen dam & Spill way	Rehabilitation & New lining	Concrete	Stone masonry	Earth work	Gate work	Concrete	Stone masonry	Earth work	Gate work	Structures and outlets																	
DPR001	01	Ganganagar	Rehabilitation of Kamji Dity and its system	Medium	NA	Rehabilitation & New lining						427	811	228	0	5	1,516	1,700	Kamji Dity			#REF!	#REF!	0106	#REF!							
DPR002	01	Ganganagar	Rehabilitation of HH. Dity from RD 0 to 35.845	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	380	32	75	0		505	597				#REF!	#REF!	0102	#REF!							
DPR003	01	Ganganagar	Rehabilitation of LNP Dity and its system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	265	33	76	0	9	395	462				#REF!	#REF!	0102	#REF!							
DPR004	01	Ganganagar	Rehabilitation of PS Dity and its system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	227	29	85	0	15	366	377				#REF!	#REF!	0105	#REF!							
DPR005	01	Ganganagar	Rehabilitation of Sameja Dity and its system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	21	157	63	0	0	248	289				#REF!	#REF!	0105	#REF!							
DPR006	01	Ganganagar	Rehabilitation of Farm Minor from RD 26.135 to 40.545	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	115	19	31	0	0	170	197				#REF!	#REF!	0102	#REF!							
DPR007	01	Ganganagar	Rehabilitation of PP minor from RD 0 to 13.323	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	115	12	27	0	0	160	181	Gang Canal project			#REF!	#REF!	0102	#REF!							
DPR008	02	Hanumangarh	Rehabilitation of Karnsingh Distributory from Km 0 to 33.320. of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,141	310	1,455	109	1,157	4,297	5,595				#REF!	#REF!	0202	#REF!							
DPR009	02	Hanumangarh	Rehabilitation of Suratgh Distributory from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,532	329	926	0	549	3,436	4,992				#REF!	#REF!	0202	#REF!							
DPR010	02	Hanumangarh	Rehabilitation of PBN Distributory from Km 0 to 34.217 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	2,156	0	1,025	0	609	3,904	5,228				#REF!	#REF!	0202	#REF!							
DPR011	02	Hanumangarh	Rehabilitation of of fitehpura Distributory from Km 0 to 14.463, Chandarwali (CDR-4, CDR-4I) distributory 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,215	0	852	0	418	2,560	3,082	Bhakra Canal Project			#REF!	#REF!	0202	#REF!							
DPR012	02	Hanumangarh	Rehabilitation of Suratgh Distributory from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26, KSR Mr. Km. 0 to 4.85 (SGM) Sandarugh Mr. km. 0 to 13.65 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,056	0	506	0	644	2,273	2,737				#REF!	#REF!	0202	#REF!							
DPR013	02	Hanumangarh	Rehabilitation of Baswali Mr. Minor from Km 0 to 12.68 & Bhagar (BGS) Mr. Km 0 to 11.0 Distributory from Km 0 to 14.463 , Chandarwali (CDR-4, CDR-4I) distributory 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	978	0	723	0	498	2,265	2,728				#REF!	#REF!	0202	#REF!							
DPR014	02	Hanumangarh	Rehabilitation of Kshupura (KSP) Distributory from Km 0 to 20.787 & Siwala distributory 0.00 to 10.050 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,151	0	694	0	447	2,361	2,842				#REF!	#REF!	0202	#REF!							
DPR015	02	Hanumangarh	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	1,047	0	408	0	563	2,078	2,492	Bhakra Canal Project			#REF!	#REF!	0202	#REF!							
DPR016	02	Hanumangarh	Rehabilitation of PBN Distributory from Km 34.217 to 54.949 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	812	0	829	0	278	1,977	2,553	Bhakra canal project			#REF!	#REF!	0202	#REF!							
DPR017	02	Hanumangarh	Rehabilitation of Bhagagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Subalshah Sub Mr. Km 0 to 2.26 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	619	0	379	0	517	1,561	1,881	Bhakra canal project			#REF!	#REF!	0202	#REF!							
DPR018	02	Hanumangarh	Rehabilitation of of Sabana Distributory from Km 0 to 17.777 & Nagrana distributory 0.00 to 6.614 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	940	0	256	0	262	1,501	1,807				#REF!	#REF!	0202	#REF!							
DPR019	02	Hanumangarh	Rehabilitation of of Manakar Distributory from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	731	0	248	0	471	1,494	1,799				#REF!	#REF!	0202	#REF!							
DPR046	02	Hanumangarh	Rehabilitation of Hanumangarh Distributory from km 0 to 20.269 (Tail) of Bhakra canal system	Minor	NA	Rehabilitation & New lining	-	-	-	-	-	915	0	353	0	590	1,914	2,285	Rehabilitation of Hanumangarh Distributory from km 0 to 20.269 (Tail) of Bhakra canal			#REF!	#REF!	0202	#REF!							
DPR020	06	Alwar	Rehabilitation of Mansarovar Irrigation Project	Minor	Earthen dam & Spill way	Rehabilitation & New lining	1	17	54	2	46	74	13	0	18	228	239	Mansarovar Irrigation Project			#REF!	#REF!	0402	#REF!								
DPR021	07	Bharatpur	Rehabilitation of Bhanatpur Feeder System	Feeder	NA	Rehabilitation & New lining						3,480	4	402	0	0	3,963	4,465				#REF!	#REF!	0704	#REF!							
DPR022	07	Bharatpur	Renovation of pai distributory (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						415	1,583	263	0	68	2,375	2,800				#REF!	#REF!		#REF!							
DPR023	07	Bharatpur	Rehabilitation of Bundh Baretha Medium Irrigation Project	Medium	Earthen dam & Spill way	Rehabilitation & New lining						554	90	102	0	44	804	1,230				#REF!	#REF!		#REF!							
DPR024	07	Bharatpur	Renovation of Hatteen Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						200	610	105	0	4	938	1,130				#REF!	#REF!		#REF!							
DPR025	07	Bharatpur	Renovation of Namera Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						81	352	45	0	4	491	594				#REF!	#REF!		#REF!							
DPR026	07	Bharatpur	Renovation of Kanwadi Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						77	301	31	0	1	418	504	Kanwadi Minor (Gurgaon Main Canal)			#REF!	#REF!	0702	#REF!							
DPR027	07	Bharatpur	Renovation of Gaouri Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						29	139	27	0	1	200	242	Kanwadi Minor (Gurgaon Main Canal)			#REF!	#REF!	0702	#REF!							
DPR028	07	Bharatpur	Renovation of Kirawta Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						33	133	18	0	2	189	228	Kirawta Minor (Gurgaon Main Canal)			#REF!	#REF!	0702	#REF!							
DPR029	07	Bharatpur	Renovation of Nagla Zalm Singh Minor (Gurgaon Main Canal)	Minor	NA	Rehabilitation & New lining						28	120	30	1	2	184	223	Nagla Zalm Sing minor (Gurgaon main canal)			#REF!	#REF!	0702	#REF!							
DPR030	09	Karauli	Rehabilitation of Canal System of Kalisil Dam	Medium	Earthen dam & Spill way	Rehabilitation & New lining	117	49	0	0	625	0	140	14	204	1,172	1,329	Kalisil Medium Irrigation Project			#REF!	#REF!	0906	#REF!								
DPR031	10	Sawai Madhopur	Rehabilitation of Dheed Irrigation Project	Medium	Earthen dam & Spill way	Rehabilitation & New lining	62	108	2	1,930	138	755	15	140	3,212	3,836	Dheed Irrigation Project			#REF!	#REF!	1003	#REF!									
DPR032	10	Sawai Madhopur	Rehabilitation of Sarwal Irrigation Project	Medium	Earthen dam & Spill way	Rehabilitation & New lining	22	48	85	0	826	9	312	0	25	1,354	1,572	Sarwal Irrigation Project			#REF!	#REF!	1006	#REF!								
DPR033	10	Sawai Madhopur	Rehabilitation of Baniyawala Irrigation Project	Minor	Earthen dam & Spill way	Rehabilitation & New lining	6	3	61	0	29	0	6	8	6	123	150	Baniyawala Irrigation Project			#REF!	#REF!	1001	#REF!								
DPR034	11	Dausa	Rehabilitation of Simbholi Minor Irrigation Project	Minor	Dum Body	Rehabilitation & New lining	4	23	5	0	66	15	77	5	5	204	247	Rehabilitation of Simbholi Minor Irrigation Project			#REF!	#REF!	1105	#REF!								
DPR035	13	Sikar	Rehabilitation of Hardas ka bass Band II Irrigation Project	Minor	Earthen dam & Spill way	Rehabilitation & New lining	15	55	63	0	4	5	7	1	0	153	193	Hardas ka bass Band II Irrigation Project			#REF!	#REF!	1305	#REF!								

2.3	2.4	2.5	2.6	2.7.1	2.7.2	2.7.3	2.8.1	2.8.2	2.8.3	2.9	3.1	3.2.1	3.2.2	3.3.1	3.3.2	3.4.1	3.4.2	3.5.1	3.5.2	3.5.3	3.5.4	3.5.5	3.5.6	3.5.7	3.5.8	4.1.1	4.1.2	4.1.3	4.2.1	
Location	Location	Location	Location	Location	Location	Location	Location	Location	Location	Location	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Socio-Economic	Hydrological data	Hydrological data	Hydrological data	Hydrological data	
River	Tributary	Location of Dam/diversion structure	Name of River Basin	Longitude	Longitude	Longitude	Latitude	Latitude	Latitude	Coordination	General	Benefit District	Benefit District	Income	Income	Land holdings	Land holdings	Population benefited	Population benefited	Population benefited	Population benefited	Population benefited	Population benefited	Population benefited	Population benefited	Hydrological data at dam site	Hydrological data at dam site	Hydrological data at dam site	Rainfall	
DPRSN	Text	Text	Text	Basin	Degree	Minutes	Seconds	Degree	Minutes	Seconds	Text	Text	Text	Lacs INR	Lacs INR	ha	ha	nos	nos	nos	nos	nos	nos	nos	nos	km2	km2	km2	mm	
DPR001	Sutlej	BLANK	Harike Barrage near Amritsar sahib		76	26	0	31	24	24	39 31.41083N 76.43333E	Source of livelihood for 2 lac Household, 5 lac population for irrigation and 15 lac population for drinking water	01	#REF!	BLANK	2.3	20000	20000	35000	35000	8000	8000	8000	8000	NA	NO ITEM	NO ITEM	550		
DPR002	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Sri Ganganagar	Sri Ganganagar	Blank	2.3 N.A.	35000	5000	5000	Uncleared	1000	Uncleared	1500	Uncleared	N.A.	N.A.	N.A.	550		
DPR003	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Sri Ganganagar	Sri Ganganagar	Blank	2.3 N.A.	5000	12500	12000	Uncleared	1000	Uncleared	1500	Uncleared	N.A.	N.A.	N.A.	550		
DPR004	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Sri Ganganagar	Sri Ganganagar	Blank	2.3 N.A.	5000	12500	12000	Uncleared	1000	Uncleared	1500	Uncleared	N.A.	N.A.	N.A.	550		
DPR005	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Sri Ganganagar	Sri Ganganagar	Blank	2.3 Uncleared	5000	12500	12000	Uncleared	1000	Uncleared	1500	Uncleared	N.A.	N.A.	N.A.	550		
DPR006	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Sri Ganganagar	Sri Ganganagar	Blank	2.3 Uncleared	5000	35000	5000	Uncleared	1000	Uncleared	1500	Uncleared	N.A.	N.A.	N.A.	550		
DPR007	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		01	#REF!	0.5	2.3	NO ITEM	35000	NO ITEM	5000	NO ITEM	1000	NO ITEM	1500	NO ITEM	NA	NA	NA	550	
DPR008	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR009	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR010	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR011	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		02	#REF!	2.3	NO ITEM	5000	NO ITEM	5000	NO ITEM	5000	NO ITEM	5000	NO ITEM	5000	NO ITEM	NA	NA	NA	550
DPR012	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR013	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR014	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh & Sri Ganganagar	Hanumangadh & Sri Ganganagar	Blank	2.3	2.3	50000	Blank	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	N.A.	N.A.	550	
DPR015	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		02	#REF!	2.3	50000										NA	NA	NA	550	
DPR016	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		02	#REF!	2.3	50000										NA	NA	NA	550	
DPR017	Sutlej		Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		02	#REF!	2.3	50000										NA	NA	NA	550	
DPR018	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh and Sri Ganganagar	Hanumangadh and Sri Ganganagar	Blank	2.3	2.3	50000	50000	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	Uncleared	Uncleared	550	
DPR019	Sutlej		Harike Barrage near Amritsar Sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		Hanumangadh and Sri Ganganagar	Hanumangadh and Sri Ganganagar	Blank	2.3	2.3	50000	50000	Blank	Blank	Blank	Blank	Blank	Blank	N.A.	Uncleared	Uncleared	550	
DPR046	Sutlej	Sutlej	Harike Barrage near Amritsar sahib	Sutlej	76	26	0	31	24	24	39 31.41083N 76.43333E		02	#REF!	BLANK	BLANK	2.3	BLANK	50000	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	NA	NA	NA	550
DPR020	Bhigani Nalla	Tehalla		Banganga	76	54	0	76	54	0	76.90000N 0.00000E		06	#REF!	BLANK	NOT CLEAR	1700	1700	-	-	1200	1200	500	500	9320	NO ITEM	NO ITEM	1073		
DPR021	Yamuna	N.A.		Yamuna River Basin	77	29	29	27	23	15	27.38750N 77.49139E		Bharatpur	Bharatpur	Blank	1.2	1.2	100000	100000	30000	30000	15000	15000	30000	30000	181.3	Uncleared	Uncleared	822	
DPR022											0.00000N 0.00000E		#REF!																	
DPR023											0.00000N 0.00000E		#REF!																	
DPR024											0.00000N 0.00000E		#REF!																	
DPR025											0.00000N 0.00000E		#REF!																	
DPR026	Yamuna	Gunga Basin	Al Okhla		NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	#VALUE!		07	#REF!	BLANK	1-3	7000	7000	1000	1000	-	-	1500	3500	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	1130		
DPR027	Yamuna	Gunga Basin	Al Okhla		NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	#VALUE!		07	#REF!	1-3	3500	7500	500	1200	-	-	1600	3600	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	1130			
DPR028	Yamuna	Gunga Basin	Al Okhla		NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	#VALUE!		07	#REF!	1-3	3000	5000	500	1000	-	-	2500	4000	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	1130			
DPR029	Yamuna	Gunga Basin	Al Okhla		NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	#VALUE!		07	#REF!	1-3	2000	6000	300	900	-	-	1200	3500	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	Canal is based on Yamuna water, no dam is in the	1130			
DPR030	Kalsi Banas	Chambal	Near village Sapotra	Chambal	76	46	0	26	16	15	26.27083N 76.76667E		09	#REF!	BLANK	BLANK	BLANK	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	331.52	331.52		1519	
DPR031	Dheel	Banas	Near village Tapur		76	7	0	26	13	0	26.21667N 76.11667E		10	#REF!	1.93	1.4	72000	72000	9000	9000	45000	45000	18000	18000	688.93	NO ITEM	NO ITEM	1271		
DPR032	Gambhir	Chambal	Near village Surwal Tehsil Sawai Madhpur	Gambhir Banas	76	20	30	26	4	30	26.07500N 76.34167E		10	#REF!	BLANK	2-4	1-1.5	28000	55000	8000	16000	16000	32000	4000	7000	NOT CLEAR	NOT CLEAR	NOT CLEAR	1214.09	
DPR033	Jeevad	Banas	Near village Udai Kalan	Banas	76	30	44	26	33	5	26.55139N 76.51222E		10	#REF!	0.03	0.04	1-2	1-2	1625	1625	190	190	10	10	1425	1425	15.54		1224	
DPR034	Local Nalla		Near village Simboli	Chambal	76	25	0	26	32	10	26.53611N 76.41667E		11	#REF!	BLANK	BLANK	NOT CLEAR	NOT CLEAR	2408	2408	388	388	1682	1682	338	338	23.04	23.04		1128
DPR035	Local Nalla		Near village Hardas Ka Bass	Sabi	75	46	15	27	31	15	27.52083N 75.7083E		13	#REF!	BLANK	BLANK	BLANK	BLANK	8	8	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	43.25	BLANK	BLANK	1033

	4.2.2	4.2.3	4.2.4	4.2.5	4.2.6	4.2.7	4.2.8	4.2.9	4.2.10	4.4.1	4.4.2	4.4.3	4.4.4	4.4.5	4.4.6	4.4.7	4.4.8	4.4.9	4.4.10	4.5.1	4.5.2	5.1.1	5.1.2	5.2.1	
	Hydrological data	Hydrological data	Hydrological data	Hydrologic al data	Hydrologic al data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Hydrological data	Water Utilization	Water Utilization	Water Utilization	
	Rainfall	Rainfall	Rainfall	Rainfall	Rainfall	Rainfall	Rainfall	Rainfall	Rainfall	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Annual runoff	Design Flood	Design Flood	Reservation of upstream use	Reservation of upstream use	Reservation of downstream use
	Revised Max. annual	Original min. annual	Revised min. annual	Original mean annual	Revised mean annual	Original 75% dependable annual rainfall	Original 75% dependable annual rainfall	Revised 50% dependable annual rainfall	Revised 50% dependable annual rainfall	Original mean annual	Revised mean annual	Original Max. annual	Revised Max. annual	Original min. annual	Revised min. annual	Original 75% dependable annual runoff	Revised 75% dependable annual runoff	Original 50% dependable annual runoff	Revised 50% dependable annual runoff	Original	Proposed	Present	Proposed	Present	
DPRSN	mm	mm	mm	mm	mm	mm	mm	mm	mm	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	Million m3	m3/s	m3/s	Million m3	Million m3	Million m3
DPR001	NA		80 NA	250 NA	200	200				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NOT CLEAR	NA	NA	NA	NA
DPR002	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	849	N.A.	N.A.	N.A.	N.A.	N.A.
DPR003	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	849	N.A.	N.A.	N.A.	N.A.	N.A.
DPR004	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	849	N.A.	N.A.	N.A.	N.A.	N.A.
DPR005	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	849	N.A.	N.A.	N.A.	N.A.	N.A.
DPR006	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	849	N.A.	N.A.	N.A.	N.A.	N.A.
DPR007	NO ITEM		80 NO ITEM	250 NO ITEM	200 NO ITEM	200	NO ITEM	NO ITEM	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NA	NA	NA
DPR008	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	N.A.	N.A.	N.A.	N.A.
DPR009	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	N.A.	N.A.	N.A.	N.A.
DPR010	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	N.A.	N.A.	N.A.	N.A.
DPR011	550		80	250	250	200	NO ITEM	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
DPR012	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	Uncleared	N.A.	N.A.	N.A.
DPR013	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	Uncleared	N.A.	N.A.	N.A.
DPR014	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	Uncleared	N.A.	N.A.	N.A.
DPR015	NO ITEM		80 NO ITEM	250 NO ITEM	200 NO ITEM	200	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM
DPR016	NO ITEM		80 NO ITEM	250 NO ITEM	200 NO ITEM	200	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM
DPR017	NO ITEM		80 NO ITEM	250 NO ITEM	200 NO ITEM	200	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM
DPR018	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	1216.9 N.A.	N.A.	N.A.	N.A.
DPR019	N.A.		80 N.A.	250 N.A.	200 N.A.	200	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared		1216.9	1216.9 N.A.	N.A.	N.A.	N.A.
DPR046	BLANK		80 BLANK	250 BLANK	200 BLANK	200	NO ITEM	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK
DPR020	1073	165	165	621.2	621.2	414.13	NO ITEM	NO ITEM		13.37	13.37	39.8	39.8	0.25	0.25	425	425	NO ITEM	NO ITEM		425	425	0	0	0
DPR021	822	408	408	674	674	652	Uncleared	Uncleared		0	0	0	0	0	0	0	0	Uncleared	Uncleared	Not Required	Not Required	Not Required	0	0	0
DPR022																									
DPR023																									
DPR024																									
DPR025																									
DPR026	1130	415	415	558	558	Not required	Not required			Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	BLANK	BLANK	BLANK	BLANK
DPR027	1130	415	415	558	558	Not required	Not required			Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	BLANK	BLANK	BLANK	BLANK
DPR028	1130	415	415	558	558	Not required	Not required			Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	BLANK	BLANK	BLANK	BLANK
DPR029	1130	415	415	558	558	Not required	Not required			Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	Not required	BLANK	BLANK	BLANK	BLANK
DPR030	1519	346	346	932.5	932.5	541	NO ITEM	NO ITEM		44.349	44.349	229.309	229.309	9.033	9.033	23.01	23.01	NO ITEM	NO ITEM		1218	1218	4.45	4.45	37.25
DPR031	1271	80	80	503	503	460	NO ITEM	NO ITEM		102.72	102.72	424.93	424.93	0.23	0.23	11.67	11.67	NO ITEM	NO ITEM	BLANK	BLANK	BLANK	0	0	27.73
DPR032	1214.09	248	248	731	731	32.27	NO ITEM	NO ITEM		77.23	77.23	154.46	154.46	0	0	32.27	32.27	50.33	50.33		682.03	682.03	0.42	0.42	22.46
DPR033	1224	174	174	613.42	613.42	425	NO ITEM	NO ITEM		1.4	1.4	6.62	6.62	0.04	0.04	0.974	0.974	NO ITEM	NO ITEM		302.06	302.06	0	0	0.974
DPR034	1128	368	368	729	729	547	NO ITEM	NO ITEM		1.3	1.3	2.55	2.55	0.05	BLANK	BLANK	0.22	NO ITEM	NO ITEM		183.76	183.76	0.15	0.15	BLANK
DPR035	1033	172	DPR035	563	563	422	NO ITEM	NO ITEM		0.94	BLANK	1.53	1.53	0.35	0.35	NO ITEM	NO ITEM	1.53	1.53		228.43	228.43	1.53	1.53	1.35

	7.3.3	7.3.4	7.3.5	7.3.6	7.4.1	7.4.2	7.4.3	7.4.4	7.4.5	7.4.6	7.4.7	7.4.8	7.4.9	8.1.1	8.1.2	8.1.3	8.1.4	8.1.5	8.1.6	8.2.1	8.2.2	8.2.3	8.2.4	8.2.5	8.2.6	8.3.1	8.3.2		
Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Reservoir data	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	Canal to be furnished	
Water spread area at	Water spread area at	Water spread area at	Water spread area at	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Water Quality	Length canal	Length canal	Length canal	Length canal	Length canal	Length canal	Length canal	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	Full supply level at canal head	
DPRSN	Original Full reservoir level	Proposed Full reservoir level	Original Maximum water level	Proposed Maximum water level	Reserver Physical	Canal Physical	River Physical	Reserver Chemical	Canal Chemical	River Chemical	Reserver Bacteriological	Canal Bacteriological	River Bacteriological	Existing Main	Proposed Main	Existing Main 2	Proposed Main 2	Existing Branch lining	Proposed Branch lining	Canal 1 Existing	Canal 1 Proposed	Canal 2 Existing	Canal 2 Proposed	Canal 3 Existing	Canal 3 Proposed	Canal 1 Existing	Canal 1 Proposed		
	km2	km2	km2	km2	Text	Text	Text	Text	Text	Text	Text	Text	Text	km	km	km	km	km	km	m	m	m	m	m	m	m	m/s	m/s	
DPR001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.14	19.14					168.72	168.72							7.7	7.7
DPR002	N.A.	N.A.	N.A.	N.A.	O.K.	O.K.	O.K.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	36.42	N.A.	u	u	u	u	172.07	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	3.32	N.A.
DPR003	N.A.	N.A.	N.A.	N.A.	O.K.	O.K.	O.K.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	62.48	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	178.63	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	6.34	N.A.
DPR004	N.A.	N.A.	N.A.	N.A.	O.K.	O.K.	O.K.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	9.68	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	170.58	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	2.07	N.A.
DPR005	N.A.	N.A.	N.A.	N.A.	O.K.	O.K.	O.K.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.31	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	169.11	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	4.62	N.A.
DPR006	N.A.	N.A.	N.A.	N.A.	O.K.	O.K.	O.K.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	12.36	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	177.79	N.A.	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	1.05	N.A.
DPR007	NA	NA	NA	NA	Good	Good	Good	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	36.42	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	172.07	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	3.32	NO ITEM
DPR008	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	33.32	33.32	Uncleared	Uncleared	Uncleared	Uncleared	191.675	191.675	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	8.787	8.787
DPR009	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	45.72	45.72	Uncleared	Uncleared	Uncleared	Uncleared	184.91	184.91	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	3.9647	3.9647
DPR010	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	34.217	34.217	Uncleared	Uncleared	Uncleared	Uncleared	181.263	181.263	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	6.1702	6.1702
DPR011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.915	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	191.62	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	1.2173	NO ITEM
DPR012	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	39	39	Uncleared	Uncleared	Uncleared	Uncleared	184.51	184.51	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	3.9647	3.9647
DPR013	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	23.78	23.78	Uncleared	Uncleared	Uncleared	Uncleared	181.85	181.85	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	1.3829	1.3829
DPR014	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	30.837	30.837	Uncleared	Uncleared	Uncleared	Uncleared	189.342	189.342	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	1.4321	1.4321
DPR015	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.51	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	190.75	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	0.7622	NO ITEM
DPR016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.732	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	181.563	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	6.1702	NO ITEM
DPR017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.46	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	187.5	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	1.1539	NO ITEM
DPR018	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	24.391	24.391	Uncleared	Uncleared	Uncleared	Uncleared	193.015	193.015	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	1.572	1.572
DPR019	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	21.367	21.367	Uncleared	Uncleared	Uncleared	Uncleared	191.31	191.31	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	1.5914	1.5914
DPR046																													
DPR020	BLANK	BLANK	BLANK	BLANK	Potable	Potable	Potable	Cl200	Cl200	Cl200	NA	NA	NA	4.37	4.37	0.04	0.04	0.66	0.66	351.6	351.6	351.8	351.8	344.6	344.6	0.5333	0.5333		
DPR021	0	0	0	0	0	0	0	0	0	0	0	0	0	23.35	23.35	Uncleared	Uncleared	Uncleared	Uncleared	181.98	181.98	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	Uncleared	8.5	8.5
DPR022																													
DPR023																													
DPR024																													
DPR025																													
DPR026	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	5.12	5.12					186.12	186.12							NOT CLEAR	NOT CLEAR
DPR027	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	2.13	2.13					186.69	186.69							0.16	0.16
DPR028	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	2.29	2.29					186.69	186.69							0.26488	0.26488
DPR029	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	2.29	2.29					186.69	186.69							0.123	0.123
DPR030	9.3687	9.3687	10.3	10.3	Good	Good	Good	Good	Good	Good	Good	Good	Good	17.55	17.55					241.37	241.37							3.6242	3.6242
DPR031	1813	1813	-	-	Good	Good	Good	Good	Good	Good	Good	Good	Good	43.63	43.63					252.39	252.39							4.996	3.928
DPR032	95.48	108.5	109.28	124.182	Good	Good	-	-	-	-	-	-	-	17.5	20.33					143.85	143.85							3.4439	3.4439
DPR033	0.5	0.5	0.76	0.76	Good	Good	-	-	-	-	-	-	-	4.65	4.65					30.95	30.95							0.1183	0.1183
DPR034	1.02	1.02	1.2	1.2	Good	Good	Good	Good	Good	Good	Good	Good	Good	7.65	7.65					26.41	26.41							0.4645	0.4645
DPR035	0.6125	0.6125	0.7325	0.7325	No contramtion	No contramtion	No contramtion	No contramtion	No contramtion	No contramtion	No contramtion	No contramtion	No contramtion	3.12	3.12					94.52	94.52							0.2809	0.2809

DPRSN	8.3	8.3	8.3	8.3	8.4	8.4	8.5	8.5	8.6	8.6	8.6	8.6	8.6	8.6	8.7	8.7	9	10.1	10.2	11.1	11.2	11.2	11.3	11.3	11.4	12.1	12.1		
	Canal to be furnished Full supply discharge at canal head	Canal to be furnished Full supply discharge at canal head	Canal to be furnished Full supply discharge at canal head	Canal to be furnished Full supply discharge at canal head	Canal to be furnished Length of complete distribution system upto minors	Canal to be furnished Length of complete distribution system upto minors	Canal to be furnished Villages served	Canal to be furnished Villages served	Canal to be furnished Areas	Canal to be furnished Areas	Canal to be furnished Areas	Canal to be furnished Areas	Canal to be furnished Areas	Canal to be furnished Areas	Canal to be furnished Intensity of Irrigation	Canal to be furnished Intensity of Irrigation	Power	Cropping pattern Is attached?	Cropping pattern Is approved by DOA?	Benefits Food grains	Benefits Food grains	Benefits	Benefits	Benefits	Benefits	Benefits	Revenue		
	Canal 2 Existing	Canal 2 Proposed	Canal 3 Existing	Canal 3 Proposed	Existing	Proposed	Existing	Proposed	Existing GCA	Proposed GCA	Existing CCA	Proposed CCA	Existing AI	Proposed AI	Existing	Proposed					Existing	Proposed	Existing	Proposed	Existing	Existing	Proposed		
m ³ /s	m ³ /s	m ³ /s	m ³ /s	m ³ /s	km	km	Nos	Nos	ha	ha	ha	ha	ha	ha	% of CCA	% of CCA	text	Yes/No	Yes/No	INR	INR	INR	INR	INR	INR	INR	INR	INR	
DPR001					1343.29	1343.29	1222	1222	425000	425000	314000	314000	365000	365000	79	79	NA												
DPR002	Uncleared	Uncleared	Uncleared	Uncleared	1343.29	N.A.		1152	N.A.	425000	N.A.	314000	na	365000	N.A.	79	N.A.	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR003	Uncleared	Uncleared	Uncleared	Uncleared	1343.29	N.A.		1222	N.A.	425000	N.A.	314000	N.A.	365000	N.A.	79	N.A.	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR004	Uncleared	Uncleared	Uncleared	Uncleared	1343.29	N.A.		1222	N.A.	425000	N.A.	314000	N.A.	364000	N.A.	79	N.A.	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR005	Uncleared	Uncleared	Uncleared	Uncleared	1343.29	N.A.		1222	N.A.	425000	N.A.	314000	N.A.	365000	N.A.	79	N.A.	N.A.	Yes	Uncleared	Blank	N.A.			Blank	N.A.	N.A.	With WUA's	
DPR006	Uncleared	Uncleared	Uncleared	Uncleared	1343.29	N.A.		1222	N.A.	425000	N.A.	314000	N.A.	365000	N.A.	79	N.A.	N.A.	Yes	Uncleared	Blank	N.A.			Blank	N.A.	N.A.	With WUA's	
DPR007	NO ITEM	NO ITEM	NO ITEM	NO ITEM	1343.29	NO ITEM		1152		425000	NO ITEM	314000	NO ITEM	365000	NO ITEM	79	NO ITEM	NA	Yes	No	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	NOT CLEAR
DPR008	Uncleared	Uncleared	Uncleared	Uncleared	33.32		33.32	Blank	Blank	11123.07	11123.07	9269.23	9269.23	3893.07	3893.07	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR009	Uncleared	Uncleared	Uncleared	Uncleared	45.72		45.72	Blank	Blank	10257	10257	8547.36	8547.36	3846.41	3846.41	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR010	Uncleared	Uncleared	Uncleared	Uncleared	34.217		34.217	Blank	Blank	11332	11332	9443.32	9443.32	3966.19	3966.19	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR011	NO ITEM	NO ITEM	NO ITEM	NO ITEM	34.915	NO ITEM		BLANK	NO ITEM	10204	NO ITEM	8503.31	NO ITEM	3571.39	NO ITEM	79	NO ITEM	NA	Yes	No	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	NOT CLEAR
DPR012	Uncleared	Uncleared	Uncleared	Uncleared	39		39	Blank	Blank	10213.12	10213.12	8510.94	8510.94	3574.59	3574.59	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR013	Uncleared	Uncleared	Uncleared	Uncleared	23.78		23.78	Blank	Blank	11335	11335	9445.74	9445.74	3967.21	3967.21	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR014	Uncleared	Uncleared	Uncleared	Uncleared	30.837		30.837	Blank	Blank	9877.63	9877.63	8231.36	8231.36	3457.17	3457.17	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR015	NO ITEM	NO ITEM	NO ITEM	NO ITEM	31.51	NO ITEM		BLANK	NO ITEM	11887.74	NO ITEM	9906.45	NO ITEM	4160.71	NO ITEM	79	NO ITEM	NA	Yes	NO	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	NOT CLEAR
DPR016	NO ITEM	NO ITEM	NO ITEM	NO ITEM	20.732	NO ITEM		BLANK	NO ITEM	7630	NO ITEM	6358.21	NO ITEM	2670.45	NO ITEM	79	NO ITEM	NA	Yes	NO	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	NOT CLEAR
DPR017	NO ITEM	NO ITEM	NO ITEM	NO ITEM	19.46	NO ITEM		BLANK	NO ITEM	5481.76	NO ITEM	4568.14	NO ITEM	1918.62	NO ITEM	79	NO ITEM	NA	Yes	NO	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	NOT CLEAR
DPR018	Uncleared	Uncleared	Uncleared	Uncleared	24.391		24.391	Blank	Uncleared	8261.53	8261.53	6884.61	6884.61	2891.54	2891.54	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR019	Uncleared	Uncleared	Uncleared	Uncleared	21.367		21.367	Blank	Uncleared	8261.53	8261.53	6884.61	6884.61	2891.54	2891.54	79	79	N.A.	Yes	Uncleared	Blank	Blank			Blank	Blank	Blank	Blank	With WUA's
DPR046																													
DPR020	0.0079	0.0079	0.0274	0.0274	5.07		5.07	6	6	867.56	867.56	843	843	773.67	773.67	58.12	91.77	BLANK	Yes	No	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	0
DPR021	Uncleared	Uncleared	Uncleared	Uncleared	Main Canal U.P. Reach 14.00 Km Main Canal Raj. Reach 9.35 Km. Bharatpur Distributory 13.00 Km Sijola Minor 9.9 Km Tammer Minor 3.5 Km	Main Canal U.P. Reach 14.00 Km Main Canal Raj. Reach 9.35 Km. Bharatpur Distributory 13.00 Km Sijola Minor 9.9 Km Tammer Minor 3.5 Km	33	37	10400	10400	7278	7278	7186	11136	94.6	153	N.A.	Yes	Uncleared	131577528	Due to lining of Canal which has been included in this estimate will increase the Crop. Production	Blank	Blank	Blank	Blank	Blank	Blank	Blank	5.5734
DPR022																													
DPR023																													
DPR024																													
DPR025																													
DPR026	NOT CLEAR	NOT CLEAR			5.12		5.12	3	3	567	567	510	510	357	357	30	70	BLANK	Yes	No	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	0.13
DPR027					2.13		2.13	2	2	441	441	419	419	252	461	40	70	BLANK	Yes	No	7894000							0.22	
DPR028					2.29		2.29	2	2	1176	1176	338	338	187	187	30	70	BLANK	Yes	No	5650000							0.02	
DPR029					2.29		2.29	2	2	436	436	414	414	248	414	40	70	BLANK	Yes	No	7434000							0.2	
DPR030					58.45		58.45	30	30	5073.68	5073.68	4903.17	4903.17	NOT CLEAR	4389	NOT CLEAR	89.53	NA	Yes	No	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	1.75
DPR031					91.17		91.17	32	BLANK	6640	6640	5943	5943	2132.33	2132.33	35.88	90	NA	Yes	No	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	5.94
DPR032					37.5		43.22	20	22	5373.2	5808.41	4847.71	5280.37	3304	4224.3	68.15	80	NA	Yes	No	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	0.57
DPR033					4.65		4.65	1	1	365.41	365.41	346.96	346.96	173.48	248.51	50	82	NA	Yes	No	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	0.04
DPR034					7.65		7.65	9	9	604.6	604.6	581.91	581.91	NOT CLEAR	399.5	60	68.65	NA	Yes	No	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR035					3.12		3.12	7	7	246.15	246.15	240.75	240.75	192.6	192.6	80	80	Only Irrigation project	Yes	No	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	T

12.1.2	12.1.2	12.2.2	12.3.1	12.3.2	12.4.1	12.4.2	12.5.1	12.5.2	12.6.1	12.6.2	12.7.1	12.7.2	12.8.1	12.8.2	12.9.1	12.9.2	13.1.1	13.1.2	13.1.2	13.1.3	13.1.4	13.1.5	13.2.1	13.2.2	13.3.1	14	15	16				
Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Cost	Cost	Cost	Cost	Cost	Cost	Cost	Cost	Benefit cost	Internal rate of	Financial				
Irrigation	Domestic Water Supply	Domestic Water Supply	Industrial Water Supply	Industrial Water Supply	Power	Power	Others	Others	Others	Others	Revenue from irrigation cess other than water rates	Revenue from irrigation cess other than water rates	Recovery of betterment levy	Recovery of betterment levy	Other source of revenue	Other source of revenue	Estimated cost of modernization works	Estimated cost of modernization works	Estimated cost of modernization works	Estimated cost of modernization works	Estimated cost of modernization works	Estimated cost of modernization works	Cost of completed works	Cost of completed works	Annual cost							
Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Irrigation	Domestic Water Supply	Industrial Water Supply	Power	Others	Original	depreciated	depreciated								
DPRSN	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos INR / year	Laos	Laos	Laos	Laos	Laos INR	Laos INR	Laos INR	Numerical	%	INR						
DPR001																																
DPR002	N.A.	By P.H.E.D.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	505	0	0	0	0	0	0	0	0	0	0	0			
DPR003	N.A.	By P.H.E.D.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	398	0	0	0	0	0	0	0	0	0	0	0			
DPR004	N.A.	By P.H.E.D.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	366	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR005	N.A.	By P.H.E.D.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	248.14	0	0	0	0	0	0	0	0	0	0	0			
DPR006	N.A.	By P.H.E.D.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	170	Blank	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.			
DPR007	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	5.05	-	-	-	-	-	-	0 NA	NA	NA	NA	NA			
DPR008	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	473	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank				
DPR009	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	4465	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR010	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	4434	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR011	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	3082	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	NA	NA	NA	NA	NA			
DPR012	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	2737	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR013	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	2728	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR014	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	Nil	Nil	2681	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR015	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	2492	0 NO ITEM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
DPR016	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	2246	0 NO ITEM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
DPR017	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	1882	0 NO ITEM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
DPR018	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1807	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR019	With WU/a's	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1798	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank			
DPR046																																
DPR020	0.3904	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	239.16	0	0	0	0	0	0	50	49	40.96046	2.38	NOT CLEAR	NOT CLEAR		
DPR021	9.6071	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4465	0	0	0	0	0	0	0	N.A.	N.A.	Blank	3.889	25.9	Blank	
DPR022																																
DPR023																																
DPR024																																
DPR025																																
DPR026	0.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	503.56	0	0	0	0	0	0	0	0	57.19	2.4	3090	140.04		
DPR027	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	241.64	0	0	0	0	0	0	0	0	28.05	2.81	3610	78.60	Laos	
DPR028	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	228.29	0	0	0	0	0	0	0	0	25.58	2.21	1350	30.92	Laos	
DPR029	0.34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223.18	0	0	0	0	0	0	0	0	26	2.86	3890	73.63	Laos	
DPR030	NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	25	NO ITEM	Fishery	NO ITEM	0	0	0	0	0	0	0	1328.95	0	0	0	0	0	0	0	0	BLANK	BLANK	BLANK	2980	BLANK	
DPR031	5.94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193	3835.88	0	0	0	0	0	0	0	3835.88	BLANK	1.52	2058	BLANK	
DPR032	NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0	0	0	0	0	0	0	0	BLANK	0	0	0	0	0	0	1571.96	NO ITEM	151.28	1.7	2299	BLANK	
DPR033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150.06	0	0	0	0	0	0	0	150.06	NO ITEM	BLANK	2.1	2146		
DPR034	BLANK	0	0	0	0	0	0	1.5	NO ITEM	Fishery	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	NOT CLEAR	0	0	0	0	0	0	0	0	BLANK	2.1	2115			
DPR035	NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	0 NO ITEM	NOT CLEAR	0	0	0	0	0	0	0	0	BLANK	BLANK	BLANK	2.4	BLANK	BLANK

DPR036	19	Sirahi	Rehabilitation of West Banas Irrigation Project	Major works										1.4	1.5	1.6	1.7	2.1.1	2.1.2	2.2.1	2.2.2	
				Medium	Earthen dam & Spill wa	Rehabilitation & New	0	18	117	0	266	272	214									4	126	1,528	1,716	West Banas Dam & Canal
DPR037	20	Pali	Rehabilitation of Hemawas Irrigation Project	Medium	Earthen dam & Spill wa	Rehabilitation & New	538	372	1,984	61	225	2	102	0	331	3,286	5,266	Hemawas Irrigation Project	#REF!	#REF!	2005	#REF!
DPR038	20	Pali	Rehabilitation of Phulad Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New										458	527	Phulad Minor Irrigation Project	#REF!	#REF!	2006	#REF!
DPR039	20	Pali	Rehabilitation of Anliya Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	33	72	14	1	0	0	0	0	0	123	127	Anliya Minor Irrigation Project	#REF!	#REF!	2009	#REF!
DPR040	20	Pali	Rehabilitation of Duntwana Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	1	9	40	0	8	25	8	1	0	94	94	Anliya Dam Minor Irrigation Project	#REF!	#REF!	2009	#REF!
DPR041	21	Ajmer	Rehabilitation of Bada Sagar Sawar Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	13	42	71	5	3	5	0	0	0	142	155	Bankey Sagar Sawar Irrigation Project	#REF!	#REF!	2108	#REF!
DPR042	21	Ajmer	Rehabilitation of Bada Talab Aloli	Minor	Earthen dam & Spill wa	Rehabilitation & New	9	17	49	1	2	8	2	0	0	89	98	Bada Talab Aloli Irrigation Project	#REF!	#REF!	2109	#REF!
DPR043	22	Tonk	Rehabilitation of Galvama Medium Irrigation Project	Medium	Earthen dam & Spill wa	Rehabilitation & New	34	166	275	2	186	4	111	0	3	797	980		#REF!	#REF!		#REF!
DPR044	22	Tonk	Rehabilitation of Ramsagar Garwar Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	15	39	72	1	48	25	14	0	52	270	285	Ramsagar Garwar Irrigation Project	#REF!	#REF!		#REF!
DPR045-1	23	Bundi	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	Medium	Earthen dam & Spill wa	Rehabilitation & New	888	2	167	0	341	495	23	3	10	2,206	2,285	Abhaypura Dam Irrigation project	#REF!	#REF!	2305	#REF!
DPR045-2	23	Bundi	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	Medium	Earthen dam & Spill wa	Rehabilitation & New	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Included in DPR045-1	Bimlat Medium Irrigation project	#REF!	#REF!	2305	#REF!
DPR047	23	Bundi	Rehabilitation of Burdha Medium Irrigation project	Medium	NA	Rehabilitation & New	0	0	0	0	399	453	143	1	1	1,016	1,093	Burdha Medium Irrigation project	#REF!	#REF!	2305	#REF!
DPR048	23	Bundi	Rehabilitation of Gurjania Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	9	0	35	2	18	55	17	0	21	160	167	Rehabilitation of Anpurna Irrigation Project	#REF!	#REF!	2301	#REF!
DPR049	23	Bundi	Rehabilitation of Ampurna Irrigation Project	Minor	Spill way	Rehabilitation & New	10	8	0	1	19	48	1	0	0	90	94	Ampurna Irrigation Project	#REF!	#REF!	2302	#REF!
DPR050	23	Bundi	Rehabilitation of Kamari Ka Naka	Minor	Dam Body	Rehabilitation & New	0	0	12	0	29	13	17	0	3	76	80	Kamari Ka Naka	#REF!	#REF!	2301	#REF!
DPR051	24	Bhalwara	Renovation of Sareni Medium Irrigation Project	Medium	Dam Body	Rehabilitation & New	0	25	48	0	1,171	1,380	104	1	22	2,808	3,569	Sareni Dam and Canal under ERM	#REF!	#REF!	2402	#REF!
DPR052	24	Bhalwara	Renovation of Kothari Medium Irrigation Project	Medium	Earthen dam & Spill wa	Rehabilitation & New	45	58	81	0	73	155	18	1	4	444	547		#REF!	#REF!	2409	#REF!
DPR053	24	Bhalwara	Rehabilitation of Shakkargarh Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	62	5	21	0	60	89	11	0	0	253	304	Shakkargarh Minor Irrigation Project	#REF!	#REF!	2409	#REF!
DPR054	24	Bhalwara	Rehabilitation of Sankha Undi Minor Irrigation Project	Minor	Dam Body	Rehabilitation & New	38	102	32	2	6	56	3	0	7	251	303	Sankha Undi Minor Irrigation Project	#REF!	#REF!	2409	#REF!
DPR055	24	Bhalwara	Rehabilitation of Jalija Minor	Minor	Dam Body	Rehabilitation & New	0	0	67	0	27	47	1	0	3	149	176	Jalija Minor Irrigation Project	#REF!	#REF!	2404	#REF!
DPR056	24	Bhalwara	Rehabilitation of Dantri Koken Minor Irrigation Project	Minor	NA	Rehabilitation & New	0	0	0	0	50	111	2	0	0	164	197		#REF!	#REF!	2411	#REF!
DPR057	26	Udaipur	Rehabilitation of Sagwana Ki Pal Irrigation Project	Minor	Dam Body	New lining	0	5	0	0	242	89	8	0	8	360	414	Sagwana Ki Pal Irrigation Project	#REF!	#REF!	2699	#REF!
DPR058	26	Udaipur	Rehabilitation of Udaigar Medium Irrigation Project	Medium	Earthen dam & Spill wa	Rehabilitation & New	480	124	677	100	1,459	2,974	127	0	134	6,198	7,281		#REF!	#REF!	2605	#REF!
DPR059	26	Udaipur	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	Minor	Spill way	Rehabilitation & New	54	2	62	0	518	247	33	14	21	970	1,294		#REF!	#REF!	2699	#REF!
DPR060	26	Udaipur	Rehabilitation of Seti Pick up Weir canals system	Minor	Spill way	Rehabilitation & New	22	2	2	1	97	173	58	0	16	379	443		#REF!	#REF!	2603	#REF!
DPR061	26	Udaipur	Rehabilitation of Phula Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New									13	291	348	Phula Minor Irrigation Project	#REF!	#REF!	2605	#REF!
DPR062	26	Udaipur	Rehabilitation of Dandia Minor Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	1	31	41	0	55	63	3	0	13	212	245		#REF!	#REF!	2601	#REF!
DPR063	29	Chittaurgarh	Rehabilitation of Dorai Irrigation Project	Minor	Dam Body	Rehabilitation & New	8	15	77	0	124	134	38	0	14	419	486		#REF!	#REF!	2903	#REF!
DPR064	29	Chittaurgarh	Rehabilitation of Somi Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	112	11	31	1	64	79	2	0	0	306	407		#REF!	#REF!	2901	#REF!
DPR065	29	Chittaurgarh	Rehabilitation of Umarcha Irrigation Project	Minor	Dam Body	Rehabilitation & New	0	19	104	0	45	45	0	0	0	214	242	Umarcha Irrigation Project	#REF!	#REF!	2903	#REF!
DPR066	29	Chittaurgarh	Rehabilitation of Nahargarh Irrigation Project	Minor	Dam Body	Rehabilitation & New	7	1	91	0	23	39	4	0	0	168	196		#REF!	#REF!	2903	#REF!
DPR067	29	Chittaurgarh	Rehabilitation of Bhanwar Pipra Irrigation Project	Minor	Earthen dam & Spill wa	Rehabilitation & New	5	23	6	0	19	76	4	0	6	142	169	Bhanwar Pipra Irrigation Project	#REF!	#REF!	2903	#REF!
DPR073	30	Kota	Sawan Bhadon Medium Irrigation Project	Medium														Sawan Bhadon Medium Irrigation Project	NOT CLEAN	NOT CLEAN	9999	#REF!
DPR068	31	Baran	Rehabilitation of Parwan Medium Irrigation Project	Medium	Spill way	Rehabilitation & New	105	0	1	0	454	31	315	3	109	1,049	1,359		#REF!	#REF!	3104	#REF!
DPR069	31	Baran	Rehabilitation of Bilas Medium Irrigation project	Medium	Earthen dam & Spill wa	Rehabilitation & New	6	26	18	0	400	103	163	1	0	738	995	Bilas Medium Irrigation project	#REF!	#REF!	3105	#REF!
DPR070	31	Baran	Rehabilitation of Ganshgang Lift Irrigation Scheme	Medium	NA	Rehabilitation & New	0	0	0	0	461	36	171	0	0	789	938	Ganshgang Lift Irrigation	#REF!	#REF!	3101	#REF!
DPR071	32	Jhalawar	Rehabilitation of Bhimsgar Medium Irrigation Project	Medium	NA	Rehabilitation & New	0	0	0	0	1,751	270	2,847	5	1,093	6,084	6,505	Bhimsgar Medium Irrigation Project	#REF!	#REF!	3201	#REF!
DPR072	32	Jhalawar	Rehabilitation of Borda Minor Irrigation Project	Minor	Dam Body	Rehabilitation & New	0	0	70	3	66	58	38	0	0	239	239		#REF!	#REF!	3202	#REF!

2.3	2.4	2.5	2.6	2.7.1	2.7.2	2.7.3	2.8.1	2.8.2	2.8.3	2.9	3.1	3.2.1	3.2.2	#REF!	3.3.1	3.3.2	3.4.1	3.4.2	3.5.1	3.5.2	3.5.3	3.5.4	3.5.5	3.5.6	3.5.7	3.5.8	4.1.1	4.1.2	4.1.3	4.2.1	635		
DPR036	West Banas	Near Dhamri village, Swarupgnj Town		72	57		24	41		24.68333N 73.95000E		19		#REF!	0.75-2.50				9288		9288	1096	1096	3677	3677	2274	2274	507.64	414.4	93.24			
DPR037	Sumer	Hemaswas	Sumer	73	20		24	44		24.73333N 73.33333E		20		#REF!	BLANK	<-2	NO ITEM	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	907 NO ITEM	NO ITEM		825.5		
DPR038	Phulad	Phulad		73	49	0	25	37		0.25.61667N 73.81667E		20		#REF!	BLANK	>2		BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	BLANK	4869.2 NO ITEM	NO ITEM		1080			
DPR039	Local Nallah ITEM	Near Anliya village	Bilar	73	7	48	24	49	41	24.82806N 73.13000E		20		#REF!	BLANK	NOT CLEAR	NOT CLEAR	2075				2075	856	856	120	120	535	535 NOT CLEAR	NOT CLEAR	NOT CLEAR			
DPR040	Local Nallah ITEM	Near Dantiwada village	Nala	73	20	0	25	14		0.25.23333N 73.33333E		20		#REF!	BLANK	NOT CLEAR	NOT CLEAR					5556	2205	2205	151	151	3200	3200	3106	3106	1205		
DPR041	Local Nallah	Near Sarwar	Banas	75	16	30	26	6	45	26.11250N 75.27500E		21		#REF!	BLANK	BLANK		BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	15.54			843		
DPR042	Local Nallah	Near village Aloli	Banas	75	18		75	8	30	75.14167N 75.30000E		21		#REF!	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	BLANK	7.77			1069		
DPR043										0.00000N 0.00000E				#REF!																			
DPR044										0.00000N 0.00000E				#REF!																			
DPR045-1	Bhimlat	Mez 26 km away from Bundi	Chambal	75	27	0	25	18		0.25.30000N 75.45000E		23		#REF!	0	0 NOT CLEAR	NOT CLEAR											126.89	25.89	101	1034		
DPR045-2	Bhimlat	Mez 36 km away from Bundi	Chambal	74	25	30	25	18		0.25.30000N 74.42500E		23		#REF!	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK			BLANK	BLANK	BLANK	BLANK	BLANK	101 BLANK	BLANK		800		
DPR047	Taler	Chambal At a distance of 10 km south-west of Talera Town	Talera Chambal	75	41	45	25	14	40	25.24444N 75.69583E		23		#REF!	NOT CLEAR	NOT CLEAR	NOT CLEAR	20728 BLANK					4261 BLANK	6680 BLANK	1174 BLANK		334.13	261.61	NO ITEM		877		
DPR048	Owan	Mej Near village Owan	Owan Chambal	75	21	15	25	26	30	25.44167N 75.35417E		23		#REF!	BLANK	450000 NOT CLEAR	NOT CLEAR					2900 BLANK	696 BLANK	174 BLANK		1015	31.74	NO ITEM	NO ITEM	BLANK			
DPR049	Natural nallah ITEM	Near village Jajwar	Jajwar	75	43	44	25	44	15	25.73750N 75.27889E		23		#REF!	31.33668	42.55663 NOT CLEAR	NOT CLEAR	1700				1700	612	612	510	510	425	425	5.3			1096	
DPR050	Local nallah	Mej Near village ngarh	Me Chambal	75	16	45	25	25		0.25.41667N 75.27917E		23		#REF!	BLANK	24 NOT CLEAR	NOT CLEAR	BLANK				764 BLANK	229.2 BLANK	496.6 BLANK		38.2	2.56			BLANK			
DPR051	Mans	Banas BLANK		74	35	14	24	41	52	24.69778N 74.58722E		24		#REF!	BLANK	2.3		5036				5036	1412	1412	907	907	0	0	565	369	196	858	
DPR052	Kothari River	Near Nandni village	Kothari/Banas River Sub Basin	74	59	46	25	19		1.25.31694N 74.99611E		Bhalwara	Bhalwara		Blank	Blank	Blank	2486				2486	697	697	540	540	0	0	2176	325	1851	1568	
DPR053	Local Nallah	Near Sakargarh village	Chambal	74	29	0	25	25		0.25.41667N 74.48333E		24		#REF!	BLANK	BLANK	BLANK	594				594	305	305	300	300	-	74.24	12.9	61.43	1007		
DPR054	Local Nallah	Near Sakargarh Undi village	Banas	74	59	0	25	23		0.25.38333N 74.98333E		24		#REF!	BLANK	BLANK	BLANK	352				352	150	150	50	50	-	3.84	0	3.84	916		
DPR055	Local Nallah	Near Banera village	Banas	74	42	0	25	40		0.25.66667N 74.70000E		24		#REF!	BLANK	BLANK	BLANK	428				428	100	100	30	30	-	105.8	41.26	64.54	1179		
DPR056	Local Nallah	Near Danti Village	Banas River Sub Basin	75	10	6	25	9	20	25.15566N 75.16833E		Bhalwara	Bhalwara		Blank	Blank	Blank	934				934	94	94	78	78	0	0	36.28	36.28	0	1250	
DPR057	Mahi (Som)	Near village Sagwara	Mahi (Som)	73	32	30	24	12	30	24.20833N 73.54167E		26		#REF!	BLANK	BLANK	BLANK	2772				2772 BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	47.91	44.03	NO ITEM	1179		
DPR058	Banas	Near village Somi	Local Nallah/ Banas River sub Basin	73	49	30	24	34	41	24.57806N 73.82500E		Udaipur	Udaipur		Low Income	0.25-2	0.25-2	19000				19000	9500	9500	19000	19000	57000	57000	47400		987		
DPR059	Som / Mahi	Diversion Structure	Som / Mahi	73	46	0	23	57		0.23.95000N 73.76667E		Udaipur and Dungarpur	Udaipur and Dungarpur		Blank	Blank	Blank	1183				1183	Blank	Blank	Blank	Blank	59	59	1864.62	714.77		0	
DPR060	Sahamati(Sci sub Basin)	Near village Rohini	Local Nallah/ Banas River sub Basin	73	15	36	24	33	11	24.55306N 73.26000E		Udaipur	Udaipur		Low Income	0.25-2	0.25-2	402				402	201	201	402	402	1206	1206	16750		1499		
DPR061	Som	Mahi Village Phila, G.P. Phila, P.S. Kurabad		74	4	31.8	24	22	20.5	24.37236N 74.07500E				NO ITEM	NO ITEM	NO ITEM	381				381	BLANK	BLANK	152	152	140	140	1409	NO ITEM	NO ITEM		888	
DPR062	Banas	Near village Dhunda	Local Nallah/ Banas River sub Basin	74	10	0	24	38	50	24.64722N 74.16667E		Udaipur	Udaipur		Low Income	0.25-2	0.25-2	220				220	Blank	Blank	Blank	Blank	Blank	Blank	14245			1071	
DPR063	Brahamani River	Near Dorai Village	Brahamani/ Chambal River Sub Basin	75	58	30	24	56	30	24.94167N 75.97500E		Chittorgarh	Chittorgarh		Blank	0.25-3	0.25-3	8400				8400	1890	1890	1230	1230	4500	4500	68.6	68.6	0	843	
DPR064	Local Nallah	Near village Somi	Local Nallah/ Banas River Sub Basin	74	21	2	25	58		0.25.96667N 74.35056E		Chittorgarh	Chittorgarh		Blank	0.25-2	0.25-2	508				508	190	190	105	1230	165	165	116.55	52.45	64.1	Blank	
DPR065	Brahamani	Chambal Near Umarcha village		75	6	30	24	54	30	24.90833N 75.10833E		29		#REF!	BLANK	0.25-3		229				229	17	17	119	119	93	93	31	31	0	843	
DPR066	Brahamani River	Near Nahargarh village	Brahamani/ Chambal River Sub Basin	75	22	20	25	2	20	25.03889N 75.37222E		Chittorgarh	Chittorgarh		Blank	0.25-3	0.25-3	225				225	17	17	119	119	89	89	7.12	7.12	0	1463	
DPR067	Brahamani	Chambal Near Dhamancha village	Brahamani/ Chambal River sub basin	75	3	33	24	54		0.24.90000N 75.05917E		29		#REF!	BLANK	BLANK	0.25-3	0.25-3	2500			2500	180	180	1225	1230	1095	1095	15	0	15	843	
DPR073	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	#VALUE!	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR068	Parwan	Near village Shergarh	Parwan River	73	20	0	22	30		0.22.50000N 73.33333E		Banas	Banas		Blank	NOT CLEAR	NOT CLEAR	0				72751	0	9850	0	8539	0	0	8294.4	Uncleared	Uncleared		0
DPR069	Bilas	5km away from Bhanwargarh village at Bilas river	Chambal	76	49	46	25	2	48	25.04667N 76.82944E		31		#REF!	BLANK	BLANK	BLANK	BLANK					BLANK	BLANK	BLANK	BLANK	BLANK	233	233	0	1712		
DPR070	Chambal RMC	Pump house at 104.5km	Chambal RMC	76	26	56.3	25	17	55	25.29861N 76.44897E		31		#REF!	NO ITEM	NO ITEM	40200					40200	13400	13400	16200	16200	9200	9200	NA	NA	NA		1712
DPR071	Ujar	Chambal Near village Mori Bhimsagar		76	21	0	24	33		0.24.55000N 76.35000E		32		#REF!	BLANK	NOT CLEAR		56914				66914	9675.38	13382.8	8537.1	11375.38	22765.6	28103.88	335	NO ITEM	NO ITEM	1750.5	
DPR072	Local Nallah of Tolkhara Tributary of Kalsindh River	Near vilage Tolkhara	Local Nallah Tolkhara / Chambal Basin	76	10	9	24	26	18	24.43833N 76.16917E		Jhalawar	Jhalawar		Blank	NOT CLEAR	NOT CLEAR	2500				2500	16000	16000	14000	14000	50000	50000	13.15	Sqm	Uncleared	Uncleared	1897.2

DPR036	4.2.2	4.2.3	4.2.4	4.2.5	4.2.6	4.2.7	4.2.8	4.2.9	4.2.10	4.4.1	4.4.2	4.4.3	4.4.4	4.4.5	4.4.6	4.4.7	4.4.8	4.4.9	4.4.10	4.5.1	4.5.2	5.1.1	5.1.2	5.2.1	0.93		
DPR037	NO ITEM	635	185.8	529.86	NO ITEM	407.5	NO ITEM	NO ITEM	NO ITEM	49.44	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	36.05	NO ITEM	NO ITEM	NO ITEM	NO ITEM	1480.613	NO ITEM	NO ITEM	NO ITEM	NO ITEM	
DPR038	BLANK	106	BLANK	555	BLANK	BLANK	BLANK			2.89	BLANK	3.72	BLANK	0.37	BLANK		2.56	BLANK	NO ITEM	NO ITEM		383.83	383.83	BLANK	BLANK	BLANK	
DPR039	2111	219	219	704.27	704.27	487.15	487.15	NO ITEM	NO ITEM	1.39	1.39	4.26	4.26	0.28	0.28	NO ITEM	NO ITEM	1.29	1.29			90.7	90.7	0.1	0.1	0	
DPR040	1205	174	174	564.96	564.96	423	423	NO ITEM	NO ITEM	3.69	3.69	5.73	5.73	2	2	NO ITEM	NO ITEM	3.63	3.63			143.3	143.3	0	0	0	
DPR041	843	206	206	533.5	533.5			547	547	1.033	1.033	2.902	2.902	0.064	0.064			1.726	1.726			84.96	84.96	0	0	0	
DPR042	1069	153	153	504.29	504.29	NO ITEM	NO ITEM	443	443	0.437	0.437	2.47	2.47	0.013346	0.013346	NO ITEM	NO ITEM	0.31361	0.31361			55.85	55.85	0	0	0	
DPR043																											
DPR044																											
DPR045-1	1034	145	145	565	565	788	788	NO ITEM	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK		523.55	523.55	0	0	0	
DPR045-2	800	145	145	531	531	BLANK	BLANK	NO ITEM	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK		795.45	795.45	0	0	0	
DPR047	BLANK	405	BLANK	615.35	BLANK	555	BLANK	NO ITEM	NO ITEM	37.74	BLANK	99.48	BLANK	8.31	BLANK		23.65	BLANK	NO ITEM	NO ITEM		1245.2	BLANK	0	BLANK	0	
DPR048	990	BLANK	254	BLANK	629.26	NO ITEM	NO ITEM	BLANK	BLANK	672	BLANK	4.05	BLANK	11.61	BLANK	0.35	NO ITEM	NO ITEM	BLANK	BLANK	4.73	BLANK		336.81	BLANK	-	BLANK
DPR049	913.6	337	257	675	583	NO ITEM	NO ITEM	672	606	0.8	0.628	2.37	1.587	0.133	0.6	NO ITEM	NO ITEM	0.789	0.619			87.6	87.6	0	0	0	
DPR050	998	BLANK	254	BLANK	629.26	BLANK	NO ITEM	NO ITEM	672	BLANK	0.327	BLANK	0.933	BLANK	0.0265	NO ITEM	NO ITEM	BLANK	BLANK	0.386	BLANK		67.97	BLANK	-	BLANK	
DPR051	858	241	241	492	492	367	367			28.77	28.77	75.76	75.76	2.69	2.69		9.52	9.52	21.55	21.55		1604.57	1604.57	0	0	0	
DPR052	1568	301	301	609	609	519	519	Uncleared	Uncleared	26.65	26.65	373.82	373.82	6.92	6.92		32.31	32.31	38.27	38.27		2280.81	2280.81	Nil	Nil	Nil	
DPR053	1007	301	301	669	669	450	450	NO ITEM	NO ITEM	2.26	2.26	3.81	3.81	0.13	0.13		0.95	0.95	3.81	3.81		543.36	543.36	0	0	0	
DPR054	916	301	301	700.9	700.9	505.45	505.45	NO ITEM	NO ITEM	1.52	1.52	2.16	2.16	1.22	1.22		0.69	0.69	1.73	1.73		35.19	35.19	0	0	0	
DPR055	1179	225	225	616.6	616.6	447.91	447.91	NO ITEM	NO ITEM	11.01	11.01	21.54	21.54	0.54	0.54		0.54	0.54	2.5	2.5		597.08	597.08	0	0	0	
DPR056	1250	338	338	794	794	519	519	Uncleared	Uncleared	4.74	4.74	21.59	21.59	0.934	0.934		2.91	2.91	4.74	4.74		251.26	251.26	Nil	Nil	Nil	
DPR057	1179	383	383	735.5	735.5	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK		BLANK	BLANK	0	0	0
DPR058	987	293	293	678	678	499	499	Uncleared	Uncleared	Blank	Blank	217.29	217.29	0.399	0.399	Assured by Diversion	Assured by Diversion	6.25	6.24			1420	1420	0	0	0	
DPR059	1691	0	288	760	764	Blank	Blank	Uncleared	Uncleared	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Uncleared	Uncleared	Blank		Blank	Blank	0	0	0	
DPR060	1499	152	152	749.2	749.2	508	508	Uncleared	Uncleared	3.02	3.02	11.74	11.74	1.5	1.5		0.99	0.99	2.44	2.44		252.4	252.4	0	0	0	
DPR061	888	263	263	609.875	609.875	449	449			1.36	1.36	NO ITEM	NO ITEM	NO ITEM	NO ITEM		0.768	0.768	1.738	1.738	NOT CLEAR		NOT CLEAR	0	0	NO ITEM	
DPR062	1071	531	531	728.2	728.2	546	546	Uncleared	Uncleared	Blank	Blank	Blank	Blank	Blank	Blank		Blank	Blank	Blank	Blank		915	915	1131	0	0	0
DPR063	843	231	231	805	805	668.65	668.65	uncleared	uncleared	20.11	20.11	87.32	87.32	0.56	0.56		10.1	10.1	15.45	15.45		482.6	482.6	Nil	Nil	Nil	
DPR064	Blank	277	277	560.8	560.8	473.85	473.85	uncleared	uncleared	4.64	4.64	12.26	12.26	0.62	0.62		2.85	2.85	4.6	4.6		526	526	Nil	Nil	Nil	
DPR065	843	1463	1463	335	335	923	923			3.24	3.24	17.14	17.14	0.08	0.08		1.98	1.98	3.24	3.24		401	401	0	0	NO ITEM	
DPR066	1463	335	335	857	857	923	923	Uncleared	Uncleared	1.53	1.53	4	4	0.08	0.08		1.14	1.14	1.57	1.57		133	133	Nil	Nil	Nil	
DPR067	843	231	231	805	805	668.65	668.65	BLANK	BLANK	2.18	2.18	3.33	3.33	0.08	0.08		1.98	1.98	3.24	3.24		323.4	323.4	0	0	0	
DPR073	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR
DPR068	1399.35	0	392.825	0	805	0	825	Uncleared	Uncleared	0	241.8	0	891	0	29.52		0	132.2	Uncleared	Uncleared		0	14448	0	Nil	0	
DPR069	NO ITEM	500	NO ITEM	929	NO ITEM	NO CLEAR	NO ITEM	NO ITEM	NO ITEM	41.25	NO ITEM	103.33	NO ITEM	18.02	NO ITEM		27.05	NO ITEM	NO ITEM	NO ITEM		1812	NO ITEM		0	NO ITEM	0
DPR070	BLANK	500	BLANK	929	BLANK	929	BLANK	NO ITEM	NO ITEM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
DPR071	1750.5	900	900	267	267	873	873			135.4	135.4	419.1	419.1	8.6	8.6		56.62	56.62	NO ITEM	NO ITEM		1924.4	1924.4	-	-	-	
DPR072	1897.2	476.6	476.6	931.92	931.92	741	741	Uncleared	Uncleared	3.9	3.9	12.77	12.77	0.64	0.64		2.16	2.16	Uncleared	Uncleared		145.01	145.01	242.68	0	0	0

	7.3.3	7.3.4	7.3.5	7.3.6	7.4.1	7.4.2	7.4.3	7.4.4	7.4.5	7.4.6	7.4.7	7.4.8	7.4.9	8.1.1	8.1.2	8.1.3	8.1.4	8.1.5	8.1.6	8.2.1	8.2.2	8.2.3	8.2.4	8.2.5	8.2.6	8.3.1	8.3.2	3.2	
DPR036	BLANK	BLANK	BLANK	BLANK	Good and clear	Good and clear	Good and clear	free from chemicals	free from chemicals	free from chemicals	free from biological, contamination	free from biological, contamination	free from biological, contamination	38.64	34.74	34.74	21.64	21.64		1.2	1.2	0.9	0.9				3.2		
DPR037	BLANK	BLANK	BLANK	BLANK	Good & Clear	Good & Clear	Good & Clear	Free from chemical	Free from chemical	Free from chemical	Free from biological, contamination	Free from biological, contamination	Free from biological, contamination	5.19	5.19					233.97	233.97						0.63	0.63	
DPR038	0.75	0.75	0.8	0.8	Good	Good	Good	Good	Good	Good	Good	Good	Good	2.25	2.25												0.34	0.34	
DPR039	1.2	1.2	1.5	1.5	Good	Good	Good	Good	Good	Good	BLANK	BLANK	BLANK	6.4	6.4					0.85	0.85					NO ITEM	NO ITEM		
DPR040	2.925	2.925	3.9	3.9	Clear	Clear	Clear	Potable	Potable	Potable	Potable	Potable	Potable	4.5	4.5					96.8	96.8					0.157	0.157		
DPR041	0.91	0.91	1.22	1.22	Clean	Clean	Clean	Potable	Potable	Potable	Potable	Potable	Potable	4.4	4.4					98.52	98.52					0.0564	0.0564		
DPR042																													
DPR043																													
DPR044																													
DPR045-1	0.21	0.21	1.84	1.84	BLANK	BLANK	BLANK	No contamination	No contamination	No contamination	No contamination	No contamination	No contamination	8.41	8.41	2.38	2.38				310.13	310.13	314.75	314.75			2.79	2.79	
DPR045-2	2.65	2.65	BLANK	BLANK	Good	Good	Good	Good	Good	Good	Good	Good	Good	NOT CLEAR	NOT CLEAR						BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	
DPR047	4.54	BLANK	NA	BLANK	Good	Good	-	-	-	-	-	-	-	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	4.95	BLANK	21	BLANK	5.4	BLANK	0.6	BLANK		
DPR048	BLANK	0.385	BLANK	0.615	Good	Good	-	-	-	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	2.31	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	97.6	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	0.176	
DPR049	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	Good	Good	Good	Good	Good	Good	Good	Good	Good	3.3	3.3						303.06	303.06					0.895	0.895	
DPR050	BLANK	0.1032	BLANK	0.615	Good	Good	-	-	-	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	1.2	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	94.4	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	0.017	
DPR051	27.545	27.545	33.054	33.054	Good	Good	Good	Good	Good	Good	Good	Good	Good	37.9	37.9	37.9	37.9	NA	NA		1.2	1.2				4.76	4.76		
DPR052	10.43	10.43	12.516	12.516	Good	Good	Good	Good	Good	Good	Good	Good	Good	21.975	21.975	Uncleared	Uncleared	Uncleared	Uncleared		1.2	1.2	Uncleared	Uncleared	Uncleared	Uncleared	1.36	1.36	
DPR053	0.074	0.074	0.0888	0.0888	Good	Good	Good	Good	Good	Good	Good	Good	Good	5.49	5.49						0.6	0.6					0.119	0.119	
DPR054	0.45	0.45	0.54	0.54	Good	Good	Good	Good	Good	Good	Good	Good	Good	5.36	5.36						0.45	0.45					0.119	0.119	
DPR055	2.98	2.98	3.576	3.576	Good	Good	Good	Good	Good	Good	Good	Good	Good	3.64	3.64						0.8	0.8					0.318	0.318	
DPR056	Blank	Blank	Blank	Blank	Good	Good	Good	Good	Good	Good	Good	Good	Good	11.31	11.31	Uncleared	Uncleared	Uncleared	Uncleared		0.9	0.9	Uncleared	Uncleared	Uncleared	Uncleared	0.675	0.675	
DPR057	BLANK	BLANK	0.06	0.06	Potable	Potable	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	9.21	9.21						0.85	0.85					0.3392	0.3392	
DPR058	7.7	7.7	Blank	Blank	Good	Good	Good	Good	Good	Good	Good	Good	Good	27	27	12.6	13.6	Uncleared	Uncleared		1.05	1.05	0.6	0.6	Uncleared	Uncleared	2.347	2.347	
DPR059	Blank	Blank	Blank	Blank	Portable	Portable	Portable	Blank	Blank	Blank	Blank	Blank	Blank	7.68	7.68	Uncleared	Uncleared	Uncleared	Uncleared		0.6	0.6	Uncleared	Uncleared	Uncleared	Uncleared	Blank	Blank	
DPR060	4.5	4.5	Blank	Blank	Good	Good	Good	Good	Good	Good	Good	Good	Good	12.48	12.48	Uncleared	Uncleared	Uncleared	Uncleared		0.7	0.7	Uncleared	Uncleared	Uncleared	Uncleared	0.375	0.375	
DPR061	0.35	0.35	0.35	0.35	Good	Good	Good	Good	Good	Good	Good	Good	Good	2.7	2.7	2.7	2.7	0.75	0.75	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR
DPR062	0.88	0.88	1.2	1.2	Good	Good	Good	Good	Good	Good	Good	Good	Good	3.75	3.75	Uncleared	Uncleared	Uncleared	Uncleared		0.6	0.6	Uncleared	Uncleared	Uncleared	Uncleared	0.47	0.47	
DPR063	8.49	8.49	11.5	11.5	Good	Good	Good	Good	Good	Good	Good	Good	Good	11.67	11.67	Uncleared	Uncleared	Uncleared	Uncleared		0.75	0.75	Uncleared	Uncleared	Uncleared	Uncleared	0.67	0.67	
DPR064	0.15	0.15	0.2	0.2	Good	Good	Good	Good	Good	Good	Good	Good	Good	4.62	4.62	Uncleared	Uncleared	Uncleared	Uncleared		0.65	0.65	Uncleared	Uncleared	Uncleared	Uncleared	0.224	0.224	
DPR065	48	48	59	59	Good	Good	Good	Good	Good	Good	Good	Good	Good	6.1	6.1	6.1	6.1	incl. main	incl. main		0.4	0.4					0.23	0.23	
DPR066	47	47	59.5	59.5	Good	Good	Good	Good	Good	Good	Good	Good	Good	4.05	4.05	Uncleared	Uncleared	Uncleared	Uncleared		0.4	0.4	Uncleared	Uncleared	Uncleared	Uncleared	0.22	0.22	
DPR067	45.15	45.15	50.75	50.75	Good	Good	Good	Good	Good	Good	Good	Good	Good	5.42	5.42						0.75	0.75					0.35	0.35	
DPR073	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR
DPR068	0 N.A.	0 N.A.	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	0	0	10.76	Uncleared	Uncleared	Uncleared	Uncleared	Blank	Blank	Uncleared	Uncleared	Uncleared	Uncleared	0	5.38	
DPR069	6.11	NO ITEM	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	26.04	26.04	22.53					331.7	NO ITEM					2.916	NO ITEM	
DPR070	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.62	23.62						1.22						3.03		
DPR071	15	15	15	15	Good	Good	Good	p87.90 TDS 450 PPM	p87.90 TDS 450 PPM	BLANK	BLANK	BLANK	BLANK	16.36	16.36	29.26	29.26	60.3	60.3		1.1	1.1	1.8	1.8	0.9	0.9	5.24	5.24	
DPR072	0.9225	0.9225	1.3851	1.3851	Portable	Portable	Portable	Portable	Portable	Portable	Portable	Portable	Portable	3.96	3.96	Uncleared	Uncleared	Uncleared	Uncleared		0.58	0.58	Uncleared	Uncleared	Uncleared	Uncleared	0.47	0.47	

DPR036	8.3.3	8.3.4	8.3.5	8.3.6	8.4.1	8.4.2	8.5.1	8.5.2	8.6.1	8.6.2	8.6.3	8.6.4	8.6.5	8.6.6	8.7.1	8.7.2	9	10.1	10.2	11.1.1	11.2	11.3.1	11.3.2	12.1.1	
DPR036		1	1			74.24	74.24	36	36	7952	7952	9848	9848	7153	7153	50	90	NA	Yes	No	BLANK	BLANK	BLANK	BLANK	
DPR037								17	17	9115	9115	8704	8704	6093	6093	70	70	NA	No	No	BLANK	BLANK	BLANK	BLANK	
DPR038						5.19	5.19	7	7	854.33	854.33	787.79	787.79	484.25	484.25	61.47	61.47	NA	Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR039					NA	NA		2	2	606.07	679.9	357.89	357.89	248.18	322.01	70	90	NA	Yes	No	BLANK	BLANK	BLANK	BLANK	1
DPR040					NA	NA		4	4	1206.07	1206.07	806.48	806.48	499.6	725.83	70	90	NA	Yes	No	BLANK	BLANK	BLANK	BLANK	1.2
DPR041						4.5	4.5	1	1	352.22	352.22	327.81	327.81	262	327.81	80	100		0	NA	No	4224703	BLANK	BLANK	0.29174
DPR042						4.4	4.4	1	1	155	155	145	145	107.6	145	74	100		0	Yes	No	2438295.47			0.1037
DPR043																									
DPR044																									
DPR045-1		0.52	0.52			42.3	42.3	15	15	3632	3632	3402	3402	2586	2586	76	76	NO ITEM	Yes	No	NOT CLEAR	NOT CLEAR	BLANK	BLANK	0
DPR045-2	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK		15	15	3632	3632	3402	3402	2586	2586	76	76	NO ITEM	No	No	NOT CLEAR	NOT CLEAR	BLANK	BLANK	0
DPR047	1.95	BLANK	0.75	BLANK	NOT CLEAR	NOT CLEAR		23	23	5016.6	BLANK	4274.87	BLANK	4274.87	BLANK	100	BLANK		0	Yes	No	183000000	NO ITEM	NO ITEM	4.93
DPR048	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	-	BLANK	1	BLANK	130.63	BLANK	124.38	BLANK	124.38	BLANK	100			Yes	NO	NO ITEM		0.75	0.18	0.18
DPR049						3.3	3.3	1	1	157.83	157.83	142.05	142.05	86	125.5	60.54	88.35		0	Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	0.10177
DPR050	NO ITEM	NO ITEM	NO ITEM	NO ITEM	BLANK	-	BLANK	1	BLANK	82.4	BLANK	57.6	BLANK	52.4	BLANK	91			Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR051						85.45	85.45	NA	NA	14170	14170	9717	9717	6298.59	6644	61.64	65.02	NA			NA	NA	NA	NA	8.3271
DPR052	Uncleared	Uncleared	Uncleared	Uncleared		34.48	34.48	Uncleared	Uncleared	6120	6120	4362	4362	2875.5	3053.5	65.92	70	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	3.651525
DPR053						5.5	5.5	NO ITEM	NO ITEM	NA	NA	828.83	828.83	375	565	45.24	68.17	NA	Yes	No	NA	NA	NA	NA	0.45
DPR054						5.5	5.5	NO ITEM	NO ITEM	NA	NA	398	398	133	239.56	33.62	60.19	NA	Yes	No	NA	NA	NA	NA	0.21
DPR055						7.84	7.84	NO ITEM	NO ITEM	552	552	480	480	302.89	367.6	63.1	76.58	NA	Yes	No	NA	NA	NA	NA	0.35
DPR056	Uncleared	Uncleared	Uncleared	Uncleared		11.31	11.31	Uncleared	Uncleared	1066.4	1066.4	947	947	533	622	56.28	65.68	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.6772
DPR057						10.95	10.95	5	5	303	303	242	358	242	358	80	118		Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR058	0.796	0.769	Uncleared	Uncleared		42.54	42.54	15	15	Blank	Blank	5110	5110	2956	2957	57.847	57.867	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.68745
DPR059	Uncleared	Uncleared	Uncleared	Uncleared		0.74	0.74	19	19	1139	1139	968.85	968.85	512.35	872	52.88	90		0	Yes	Uncleared	Blank	Blank	Blank	Blank
DPR060	Uncleared	Uncleared	Uncleared	Uncleared		22	22	3	3	547.82	547.82	390.43	390.43	351.39	351.39	90	90	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.39
DPR061	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR		3	3	689	689	316	316	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR062	Uncleared	Uncleared	Uncleared	Uncleared		10.95	10.95	3	3	410.76	410.76	389	389	312	312	80.001	80.206	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.68745
DPR063	Uncleared	Uncleared	Uncleared	Uncleared		21.8	21.8	Uncleared	Uncleared	1857	1857	1571.44	1571.44	707.72	864.3	45.04	55	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	1.05005
DPR064	Uncleared	Uncleared	Uncleared	Uncleared		6.36	6.36	Uncleared	Uncleared	740.15	740.15	444.98	444.98	267	400.48	60	90	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.3217
DPR065						6.1	6.1	NO ITEM	NO ITEM	295	295	253	253	47.8	144.5	18.89	57.1	NA	Yes	No	NA	NA	NA	NA	1.05005
DPR066	Uncleared	Uncleared	Uncleared	Uncleared		4.05	4.05	Uncleared	Uncleared	295	295	226.72	226.72	67.9	139.3	27.56	14.44	N.A.	Yes	Uncleared	N.A.	N.A.	N.A.	N.A.	0.2288
DPR067						5.42	5.42			423.2	423.2	391.5	391.5	167	261.5	34.9	66.8	NA	Yes	No	NA	NA	NA	NA	1.05005
DPR073	NOT CLEAR	NOT CLEAR			NOT CLEAR	NOT CLEAR		NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR068	Uncleared	Uncleared	Uncleared	Uncleared		0	76.12	0	44	0	7550	0	7464	0	0	0	0		0	Yes	Uncleared	Blank	Blank	Blank	0.01359
DPR069						48.57	NO ITEM	17	NO ITEM	6390	NO ITEM	5830	NO ITEM	4046	NO ITEM	69	NO ITEM	NA	Yes	No	-	-	-	-	11.32
DPR070						25.44		26	-	6960		6960		5233.51	5623.85	75.19	81.24		0	Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	160.2779
DPR071	1.95	1.95				110	110	51	51	10512	10512	9986	9986	7239.85	7239.85	72.5	85	BLANK	Yes	No	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	
DPR072	Uncleared	Uncleared	Uncleared	Uncleared		3.96	3.96	5	5	486.04	486.04	414.01	414.01	298.09	372.61	72	90	Blank	Yes	Uncleared	Blank	Blank	Blank	Blank	Enclosed

	12.1.2	12.2.1	12.2.2	12.3.1	12.3.2	12.4.1	12.4.2	12.5.1	12.5.2	12.6.1	12.6.2	12.7.1	12.7.2	12.8.1	12.8.2	12.9.1	12.9.2	13.1.1	13.1.2	13.1.3	13.1.4	13.1.5	13.2.1	13.2.2	13.3.1	14	15	16		
DPR036	25	BLANK	BLANK	BLANK	3.7	BLANK	BLANK	0	BLANK	32	BLANK	Fishery	0	0	0	0	0	1715.75	0	0	0	0	0	BLANK	1715.75	NOT CLEAR-	NOT CLEAR-	BLANK		
DPR037	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	5265.87	BLANK	BLANK	BLANK	0			
DPR038	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	BLANK	465	1.57	BLANK	BLANK		
DPR039	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126.69	0	0	0	0	126.69	BLANK	3.09	NA	NO ITEM			
DPR040	1.4	0	0	0	0	0	0	0	0	0	NO ITEM	NO ITEM	1.2	1.4	0	0	0	0	0	0	0	0	0	0	0	7.04	NA	NA		
DPR041	NO ITEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	155.38	0	0	0	0	155.38	BLANK	12.89896	2.23	1730	NOT CLEAR		
DPR042	0.15406	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98.3	NO ITEM	0	NO ITEM	0	NO ITEM	98.3	7.6544	1.98	1630	25 Years	
DPR043																													0	
DPR044																													0	
DPR045-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2285	NA	NA	NA	NA	2285	-	311.02805	1.71	860	44798		
DPR045-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2285	NA	NA	NA	NA	2285	-	311.02805	1.71	860	BLANK		
DPR047	BLANK	-	BLANK	-	BLANK	-	BLANK	25	BLANK	-	BLANK	-	BLANK	-	BLANK	-	BLANK	BLANK	-	-	-	-	BLANK	BLANK	102.48996	1.744	NOT CLEAR	9.96		
DPR048	BLANK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166.83	-	-	-	-	-	47.66	NO ITEM	17.59702	1.657	20	0.151	
DPR049	0.15317	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	0	0	0	0	94	NO ITEM	7.02458	1.71	1720	1202854		
DPR050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80.32	-	-	-	-	-	14.46	NO ITEM	0.776684	1.73	17	0.299	
DPR051	8.3271	0.12	0.12	0	0	0	0	4	4.5	Fisheries	Fisheries	0	0	0	0	0	0	3509	0	0	0	0	0	0	0	0	1.52	0		
DPR052	3.651525	0	0	0	0	0	0	2.5	2.5	Uncleared	Uncleared	0	0	0	0	0	0	552	0	0	0	0	0	0	0	Blank	1.68	25.2	Blank	
DPR053	0.7	0	0	0	0	0	0	10	10	Fisheries	Fisheries	-	-	-	-	-	-	304	-	-	-	-	-	-	Blank	2.1	1380	-		
DPR054	0.31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	302.5	-	-	-	-	-	-	Blank	1.84	1030	-		
DPR055	0.54	0	0	0	0	0	0	11	20	Fisheries	Fisheries	-	-	-	-	-	-	176.3	-	-	-	-	-	-	Blank	1.98	1160	-		
DPR056	0.78925	0	0	0	0	0	0	0	0	Unclear	Unclear	0	0	0	0	0	0	196.76	0	0	0	0	0	0	0	0	2.13	12.3	0	
DPR057	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DPR058	0.80745	0	0	0	0	0	0	2	2	Uncleared	Uncleared	0	0	0	0	0	0	7281.42	0	0	0	0	0	7281.42	7281.42	Blank	0.00071238	16.8		
DPR059	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	Blank	0	0	0	0	0	0	1293.56	0	0	0	0	0	Blank	Blank	Blank	1.5	10.5		
DPR060	0.39001	0	0	0	0	0	0	2	2	Uncleared	Uncleared	0	0	0	0	0	0	443.26	0	0	0	0	0	443.26	443.26	Blank	0.0007338	34	Blank	
DPR061	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR
DPR062	0.80745	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	245.3	0	0	0	0	0	245.3	245.3	Blank	0.00071991	12.1	Blank	
DPR063	1.05005	0.2	0.2	0	0	0	0	2	2	Uncleared	Uncleared	0	0	0	0	0	0	485.9	0	0	0	0	0	485.9	485.9	Uncleared	1.62	21.5	N.A.	
DPR064	0.3217	0	0	0	0	0	0	2	2	Uncleared	Uncleared	0	0	0	0	0	0	407.2	0	0	0	0	0	407.2	407.2	Uncleared	2.38	17.8	N.A.	
DPR065	1.05005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242.02	0	0	0	0	0	242.02	242.02	Blank	1.52	2180	NA	
DPR066	0.2288	0	0	0	0	0	0	0	0	Uncleared	Uncleared	0	0	0	0	0	0	196.06	0	0	0	0	0	196.06	196.06	Blank	1.58	18.3	N.A.	
DPR067	1.05005	0	0	0	0	0	0	2	2	Fisheries	Fisheries	-	-	-	-	-	-	168.68	-	-	-	-	-	168.68	168.68	Blank	2.01	2740	NA	
DPR073	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR
DPR068	0.01359	Nil	Nil	Nil	Nil	Nil	Nil	Blank	Blank	Uncleared	Uncleared	0	0	0	0	0	0	1359	0	0	0	0	0	Blank	Blank	171.18	0	0	0	
DPR069	NO ITEM	-	NO ITEM	-	NO ITEM	-	NO ITEM	6.92	NO ITEM	NOT CLEAR	NOT CLEAR	NA	NA	NA	NA	NA	NA	995	NA	NA	NA	NA	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	NO ITEM	
DPR070	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	1.86	3410	NO ITEM	
DPR071	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	NOT CLEAR	1.64	NOT CLEAR	NOT CLEAR
DPR072	Enclosed	Enclosed	Enclosed	0	0	0	0	0	0	Uncleared	Uncleared	Blank	Blank	Blank	Blank	Blank	Blank	238.82	0	0	0	0	0	Blank	Blank	238.82477	1.82	11.9	Blank	

Attachment 4.2
Comments on Selected Sample DPRs of
Sub-projects Proposed under RWSLIP

Attachment 4.2: Comments on Selected Sample DPRs of Sub-projects Proposed under RWSLIP

WRD formulated sample DPRs for 73 sub-projects which are proposed under RWSLIP. After preliminary screening, JICA survey team has shortlisted 29 sub-projects (list at annexure – 1) for critical examination. Out of these, 10 are medium, 7 minor and 12 sub-projects pertain to north zone. Comments on most DPRs were communicated to concerned field officers for compliance.

During technical scrutiny of selected DPRs, it has been observed that the documents have not been formulated in proper manner and important data / details are not based on proper investigation and appears to be arbitrary. It is a fundamental requirement that the deficiencies based on diagnostic analysis are to be assessed with the co-operation of beneficiaries (Walk through survey with beneficiaries). Accordingly, dam and canals are to be re-designed after considering all factors and based on provisions contained under Indian Standards so that the dam and other structures as well as canal network can perform efficiently after rehabilitation.

It has been observed that the concept of SID has not been followed sincerely as per set guidelines. There is no input of deficiencies expressed by the farmers who have experienced the real problems in regulation and running of canal system. Moreover the basic survey about submergence and command has not been done without which it is difficult to estimate the actual capacity of the reservoir and details of available command area. As dams are very old, the capacity must have reduced due to siltation/ sedimentation coupled with deforestation. Similarly the command must have been reduced due to urbanization, industrialation and use of land for other social purposes. There are large numbers of un-authorized outlets which have to be assessed under walk through surveys and accordingly revised chak planning is also required.

Selected DPRs do not contain above parameters / designs based on actual surveys, and cannot be considered suitable for proposing under this project. It is suggested that the DPRs may be re-examined and be rectified. However the important issues are listed below: -

Important Issues

1. The DPR should be prepared in conformity with the model DPR prepared by the JICA survey team.
2. The DPRs for the sub-projects pertaining to north zone contain general description of the Bhakra/Gang canal system as a whole. The details of the part of Bhakra/ Gang system proposed under specific sub-project are totally missing from the DPR except under cost estimation part.
3. Hydrology of the project should be reviewed based on actual performance of the sub-project and Peak flood discharge should be worked out based on unit hydrograph method. It has been noted that in some of cases although PMF based on unit hydrograph has been worked out and attached with the DPR, but adequacy of surplussing capacity to accommodate the designed PMF of sub-project has not been established.
4. The availability of water and performance pertaining to canal systems of north zone, Mahi, Gurgoan canal, Bhartpur Feeder and Chambal, should be considered based on actual supplies during last 25 years as compared to designed requirements of the individual sub-project. Actual irrigation intensity achieved should invariably be incorporated in DPR which would indicate the actual dependability of the system proposed under rehabilitation.
5. As per DPRs for sub-projects pertaining to North zone, the actual intensity of irrigation has been observed as more than the designed as well as now proposed intensity as indicated below in table -1.

Table – 1

Particulars	Gang canal System			Bhakra canal system		
	% of CCA during			% of CCA during		
	Kharif	Rabi	Total	Kharif	Rabi	Total
Planned Originally	24	36	60	25	37	62
Actual achieved	37	48	85	39	50	89
Proposed	35	44	79	35	44	79
Reduction in comparison to actually achieved	2	4	6	4	6	10
Cropping pattern adopted in table 6.1 & 6.2 of EIRR for pre rehabilitation	60	60	120	NA	NA	NA
Cropping pattern adopted in table 6.1 & 6.2 of EIRR for post rehabilitation	79	79	158	NA	NA	NA

If with the present deteriorated condition of canal system, the 85 % intensity of irrigation has already been achieved, then why rehabilitation and modernization works is required in order to achieve irrigation intensity of 79 % only. Moreover these figures are for the project as a whole. Actual achievements in the command area under specific sub-project should have been indicated based on data of actual cropping pattern during last 25 years.

6. While working out BC ratio, intensity of irrigation during the pre rehabilitation period has been adopted as per original designed intensity whereas it should be based on actually achieved intensity of irrigation in order to assess the real benefits after rehabilitation works.
7. There is anomaly the figures of irrigated area adopted for BC ratio calculations and mentioned at other places in DPR.
8. Micro irrigation in part of the command area particularly in tail portion should be encouraged and incorporated in the project report.
9. Crop water requirement has been worked out based on 'New Penman Montheit method' which should have been used for accessing the water requirement of subproject and for fixing capacity of canal system. Contrary to this, the canal capacity has been worked out based on conventional duty in case of sub-projects under WRD zones and in case of Gang and Bhakra systems the canal duty has been adopted as per prevailing practices which needs to reviewed and corrected.
10. ICA should be worked out on the basis of crop water requirement and availability of dependable yield/ supplies.
11. Cropping pattern should be revised in consultation with DoA and BC ratio should be certified by DoA.
12. Walk through survey should be carried out with WUAs / beneficiaries for correct diagnosis of the deficiencies of the system. The proposed rehabilitation works should be discussed with WUA and its consent is required. While discussing with WUAs, special care needs to be taken to ensure that position of outlets is such that the beneficiaries can irrigate their land without any problem. Otherwise, problem of cutting banks and putting cross bunds would again crop up.
13. Submergence survey should be carried out to assess the extent of silting and present capacity (dead / live/ gross) of the reservoir. Capacity curve should be attached.
14. Command area survey should be carried out in order to revise the chak planning, location of outlets and correct assessment of the command area thereby revision of the canal L- Section and cross-sections along with draw off statement.
15. Sajra sheet of the command area should be attached indicating location of chaks, outlets, contours, GCA, CCA and un-command area.

16. Detailed surveys should be carried out for canal system to assess the present condition of the system including the identification of the locations of seepage, expansive soils, identification of structures to be repaired and or other allied problems.
17. The local BM should be connected with the GTS Bench Mark.
18. Chak wise list of beneficiaries indicating name of beneficiaries, village covered and area under command should be attached. Details should have specific mention regarding SC /ST and women beneficiaries.
19. Population benefitted should be indicated and should be based on census 2011
20. Canal design calculations and draw off statement should be attached from head to tail of the system.
21. Design and detailed drawings for structures on canal requiring major repair should be attached which should form basis of estimate.
22. The estimates should be prepared at current rates and no escalation is to be added since separate provision for escalation is being taken under the RWSLIP.
23. There is ban from the government for lining of canal. Instead of lining the whole length of the canal, provision for lining of only venerable reaches should be taken after approval from the competent authority.
24. There must be consistency in the data provided at various sections of DPR.
25. Soil survey is being conducted by DoA/ Watershed Department. Local offices of DoA/ Watershed Department should be contacted to obtain the latest soil survey report for the area.
26. Free Board in the canal should be kept as per provisions of BIS 10430.
27. Provision should be taken for construction of cattle ghats and bathing ghats at suitable places on the canal.
28. L-sections of canal should also contain existing / proposed parameters.
29. Report indicates that efficiency of the existing system has been assessed but no details have been attached, which should now be attached.
30. The top width of dam should be kept as 6.0 m in case of large dams.
31. The stability of earthen dam and spillway portion should be checked as per guidelines of BIS codes.
32. The waste weir should be checked for its adequacy of discharging capacity and its stability.
33. Provision should be taken for construction of WUA office buildings along with furniture, if already not constructed.
34. Provision for buildings other than WUA office building should not be incorporated in the DPR.
35. Provision should be taken in the estimate for removal of unauthorized outlets from the canal system with due consultation with WUAs/ beneficiaries.
36. The demand for drinking water supply and industrial use is continuously increasing; as such a provision for use of part of the storage should be reserved for the drinking water supply and industrial use.
37. The rehabilitation works on sub-projects are proposed to be completed in shorter spans varying from 1 to 3 years. However, construction program should be formulated based on availability of working period keeping in view monsoon season, availability of water in the reservoir, and canal running periods.
38. Provision should be taken for chute drains and longitudinal drains on downstream slope of the embankment.
39. A tree chart for canal system should be attached indicating the lined and unlined channels, lining done under RWSRP, and /or other projects and now proposed under RWSLIP.
40. Analysis of Rate should be attached.
41. Inventory of existing and proposed cross-drainage works, VRBs, DRBs, outlets should be attached.
42. Provision should be taken for lining of water courses in initial length of 15 to 20 m.
43. All data should be in SI unit.

44. The dam and canal cross-sections should be dimensioned, leveled and complete cross-sections indicating existing and proposed works at regular interval should be attached.
45. Existing and proposed downstream protection works should be indicated in the relevant drawings.
46. Measuring device and tail cluster should be considered and marked on the drawing, if necessary.
47. Block level plan of the surplusage area indicating contours, layout of EDA (existing and proposed) and appurtenances works should be attached.
48. Thickness of CC lining should be taken as per provisions contained in BIS 3873.
49. As far as possible mechanized lining should be adopted for better results and durability considerations.
50. Location of VRBs and other structures to be repaired should be indicated and estimate should be based on detailed drawing.
51. Regulators and cross regulators/ un-gated dividers should be provided at distributor / minor off-take points and estimates should be based on detailed design and drawings.
52. Provision for prorate; capacity building etc. should not be included in the DPR.
53. While preparing the DPRs, provisions should be based on recommendations by consultants (study on planning of water resources in Rajasthan – by Tahal, bench marking report by WAPCOS, or any other similar study reports).
54. There is anomaly in the figures of catchment area, interceptions of catchment area provided in DPR and Tahal report. The catchment area of the project should be reassessed in view of interceptions after construction of project.
55. Since pitching exists on the upstream slope of the dam, it would be better to lay earthen lamina on downstream slopes only. For proper bond between existing earthen dam and newly added soil, provision for step cutting should be incorporated in the estimate.
56. In case of canal reaches having swelling soils, provision for CNS treatment should be taken as per provisions contained in BIS code 9451-1994. To avoid slipping and rain cuts during the rainy season, it is advisable to provide CNS right up to the ground level. In deep cuts CNS material should be provided not only behind the lining of the canal but also above the canal prism, all along the excavated surface, so as to prevent large scale heaving above the canal level. The CNS material above the canal prism may be of lesser thickness, say 15 to 20 cm, However, full/design thickness behind the lining should be continued at least 100 cm above the top level of the lining (illustrative arrangement shown in Fig. 1).

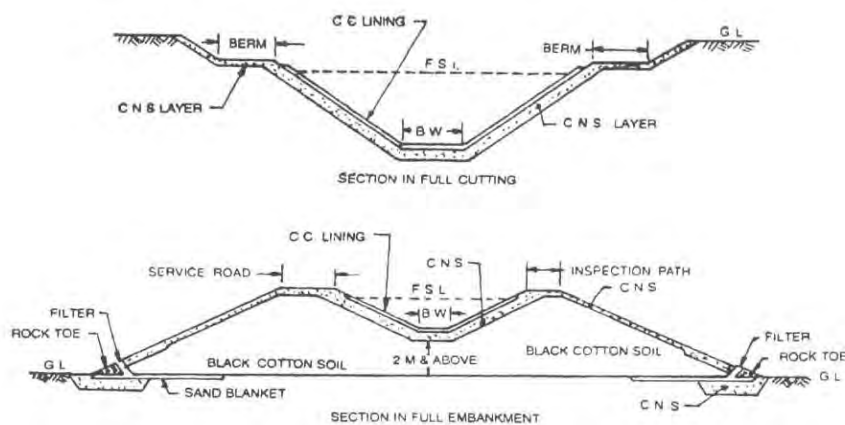


FIG. 1

57. DPR reveals that most of part of existing lined canal is proposed to be replaced by new lining. This may be reviewed.

58. Similar is the status of removal of existing pitching and replacement by new pitching.
59. Information regarding Environment and social impact should be provided with DPR in formats attached in model DPR.
60. Index map, existing layout plan of head work and appurtenances with super imposed proposed changes should be attached.
61. The checklist attached with DPRs does not contain relevant information and references.

Annexure – 1

Selected Sample DPRs

S. No	Name of sub-project	CCA covered in ha	Estimated cost as per DPR (INR in Lac)
A	Medium Irrigation Projects		
1	Rehabilitation of Canal System of Kalisil Dam	4,903	1,329
2	Rehabilitation of Dheel Irrigation Project	5,943	3,836
3	Rehabilitation of West Banas Irrigation Project	7,952	1,716
4	Rehabilitation of Galvania Medium Irrigation Project	2,257	980
5	Rehabilitation of Abhayapura Bimlat Medium Irrigation project	3,402	2,285
6	Rehabilitation of Burdha Medium Irrigation project	4,274	1,093
7	Renovation of Kothari Medium Irrigation Project	4,362	547
8	Rehabilitation of Parwan Medium Irrigation Project	7,464	1,359
9	Rehabilitation of Bilas Medium Irrigation project	5,863	995
10	Rehabilitation of Bhimsagar Medium Irrigation Project	9,986	6,505
11	Rehabilitation of Karniji Disty and its system	9,058	1,700
12	Rehabilitation of H.H. Disty from RD 0 to 35.845	5,494	597
13	Rehabilitation of LNP Disty and its system	2,673	462
14	Rehabilitation of PS Disty and its system	9,834	377
15	Rehabilitation of Sameja Disty and its system	5,521	289
16	Rehabilitation of Farm Minor from RD 26.135 to 40.545	4,301	197
17	Rehabilitation of PBN Distributory from Km 0 to 34.217 of Bhakra canal system	9,443	5,228
18	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	9,906	2,492
19	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	4,568	1,881
20	Rehabilitation of Sabuna Distributory from Km 0 to 17.777 & Nagrana distributory 0.00 to 6.614 of Bhakra canal system	6,524	1,807
21	Rehabilitation of Manaksar Distributory from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	7,050	1,798
22	Rehabilitation of Hanumangarh Distributory from km 0 to 20.269 (Tail) of Bhakra canal system	8,616	2,285
B	Minor Irrigation projects		
23	Rehabilitation of Mansarovar Irrigation Project	843	239
24	Rehabilitation of Phulad Minor Irrigation Project	787	527
25	Rehabilitation of Damti Kokra Minor Irrigation Project	947	197
26	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	969	1,294
27	Rehabilitation of Sei Pick up Weir canal system	390	443
28	Rehabilitation of Somi Irrigation Project	445	407
29	Rehabilitation of Borda Minor Irrigation Project	414	239

144,192

43,103

Attachment 4.3

Model DPR

Attachment 4.4

*Simple Guideline for
Preparation of DPR*

Attachment 4.5

Simple Check List for Review of DPR

**Water Resource Department (WRD),
The State of Rajasthan, Republic of India**

**DETAILED PROJECT REPORT
ON
REHABILITATION OF WEST BANAS IRRIGATION
SUB-PROJECT**

Volume-1:REPORT

August 2016

**Rajasthan Water Sector Livelihood Improvement Project (RWSLIP)
Sub-PMU 3 for Udaipur and Jodhpur Zones**

Preamble

- (1) This Detailed Project Report was jointly prepared by WRD and JICA survey team in accordance with the scope of the works for preparatory survey on Rajasthan Water Sector Livelihood Improvement Project in India.
- (2) This Detailed Project Report was prepared based on the available data and information provided from WRD as of 10 June 2016.
- (3) This Detailed Project Report has not been the “Final” one due to the following constraints:
 - i) Walk-through survey among WRD staff, DoA staff, DoH staff, WCD staff, WUA members, Women Wing members, the consultant and NGO staff has not been conducted yet.
 - ii) No description and consideration for specific activities under RWSLIP such as “introduction of WUA constructive facilities” and “support for women friendly activities”.
 - iii) Difficulties of finalization of re-design of irrigation canal system due to lack of survey data especially of command area survey.
 - iv) Lack of considerable number of drawings especially for structures and gates.
 - v) Insufficient studies and cooperation with DoA and WUA for agricultural / farming aspects especially of preparation of updated cropping pattern.
 - vi) Insufficient consideration for environmental and social aspects
- (4) This Detailed Project Report, therefore, should be finalized before proceeding to next step, i.e. preparation of technical estimate.
- (5) For revision and finalization of this Detailed Project Report, the following guidelines / manuals and “Notes for Preparation of DPR under RWSLIP” as shown below.

Guidelines/Manuals and Notes for Preparation of Detailed Project Report

(1) General

The following guidelines and manuals are available for reference of preparation of DPRs:

- i) Manual for SID Works for Rehabilitation of Minor Irrigation Schemes prepared under RAJAMIIP, and
- ii) Guidelines for Preparation of Detailed Project Reports of Modernisation of Irrigation Projects issued by Central Water Commission.

Basically, DPR should be prepared in accordance with the above guidelines and manuals though especially for Manual for SID Works for Rehabilitation of Minor Irrigation Schemes prepared under RAJAMIIP, the consultant for RWSLIP should review and update to be suitable for RWSLIP.

In addition to the above guidelines and manuals, the following specific aspects should be noted for preparation of DPRs under RWSLIP.

(2) Notes for Preparation of Detailed Project Report under RWSLIP

Component 1: Participatory Irrigation Rehabilitation Works of RWSLIP consists of the following four sub-components:

- i) Sub-component 1-1: Rehabilitation of irrigation facilities
- ii) Sub-component 1-2: Promotion of micro irrigation system
- iii) Sub-component 1-3: Introduction of WUA constructive facilities
- iv) Sub-component 1-4: Support for women friendly activities

General work flow of Component-1: Participatory Irrigation Rehabilitation Works consisting the above four sub-components is shown in the figure in next page.

Among the activities shown in the Figure P.1, the following aspects are deeply concerned for preparation of DPR:

- i) Orientation and selection of facilities for WUA constructive facilities
- ii) Orientation for support for women friendly activities
- iii) Walk-through survey
- iv) Preparation of Command Area Micro Plan (CAMP) for soft component
- v) Preparation of Detailed Project Report (DPR)

(a) Orientation and selection of facilities for WUA constructive facilities

After selection of candidate irrigation sub-projects by PMU and before walk-through survey, sub-PMU will organize orientation for WUA members regarding Sub-component 1-3: introduction of WUA constructive facilities. Main agenda of orientation will be as follows:

Table P.1 Orientation for Introduction of WUA Constructive Facilities

Trainer	Trainee	Contents
Sub-PMU (district level) / Consultant	Sub-PMU staff (field level) NGO staff (field level) WUA members	<ul style="list-style-type: none"> - Basic concept of introduction of WUA constructive facilities under RWSLIP (improvement of ownership, income generation activities) - Project support and conditions for application (no compensation for required land and O&M activities) - Sample of facilities and benefit expected from each facility - Discussions for selection of type of the facilities

Source: JICA Survey Team

For gender mainstreaming in WUA activities, views and opinions from members of women wing should be fully considered and reflected for the above selection of type of the facilities.

It is noted that for the irrigation sub-projects rehabilitated under RAJAMIIP or RWSRP, WUA office building has been already constructed and no WUA constructive facilities will be provided unless otherwise approved by PMU.

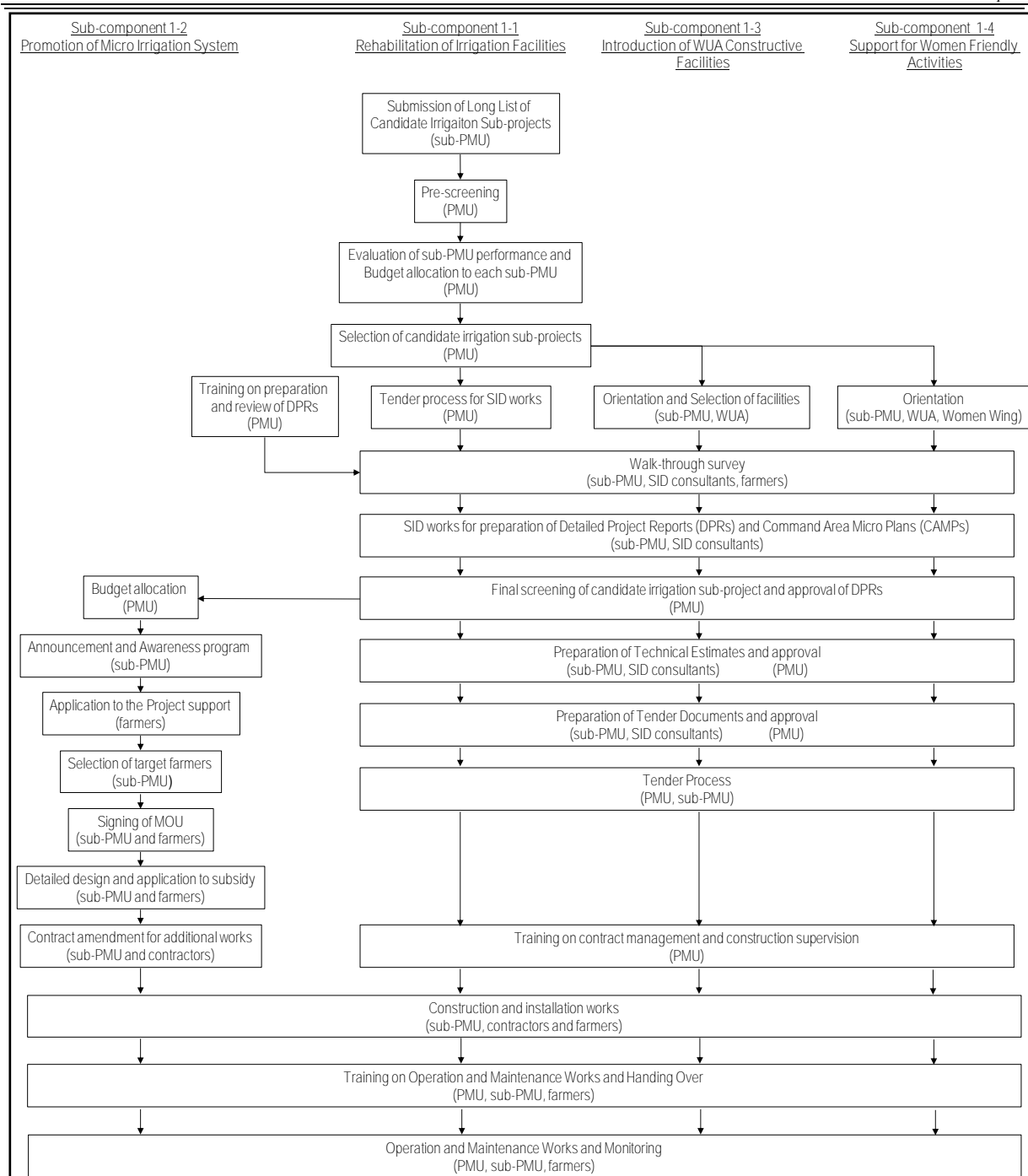


Figure P.1 General Work Flow of Participatory Irrigation Rehabilitation Works

(b) Orientation for Women Wing and Representatives of WUA

After selection of candidate irrigation sub-projects by PMU and before walk-through survey, sub-PMU will organize orientation for members of women wing and representatives of WUA regarding sub-component 1-4: support for women friendly activities. Main agenda of orientation will be as follows:

Table P.2 Orientation for Support for Women Friendly Activities

Trainer	Trainee	Contents
Sub-PMU (district level) / Consultant	Sub-PMU staff (field level) NGO staff (field level) WUA members	<ul style="list-style-type: none"> - Objective and target goal of women friendly activities (trigger for active movement of women wings in WUA, reduction of workload and increase of income generation) - Project support and conditions for application (no compensation for

		<p>required land, acknowledgement of representative of WUA and responsible for O&M activities)</p> <ul style="list-style-type: none"> - Sample of facilities and trees and benefit expected from each facility and tree - Discussions for selection of type of the facilities and trees
--	--	---

Source: JICA Survey Team

(c) Walk-through survey

Walk-through survey to confirm the current condition of the irrigation facilities and possible countermeasures should be conducted among sub-PMU officers, WUA members including women wing, SID consultant, the consultant and NGOs.

During the walk-through survey, the following aspects should be also confirmed:

WUA constructive facility

Walk-through survey to confirm and determine the location and details such as size and specifications of the proposed facility selected in orientation should be conducted among sub-PMU officers, WUA members including women wing, SID consultant, the consultant and NGOs.

Women friendly facilities and trees

Walk-through survey to confirm and determine the location and details such as size and specifications of the proposed facility selected in orientation should be conducted among sub-PMU officers, members of women wing, representatives of WUA, SID consultant, the consultant and NGOs.

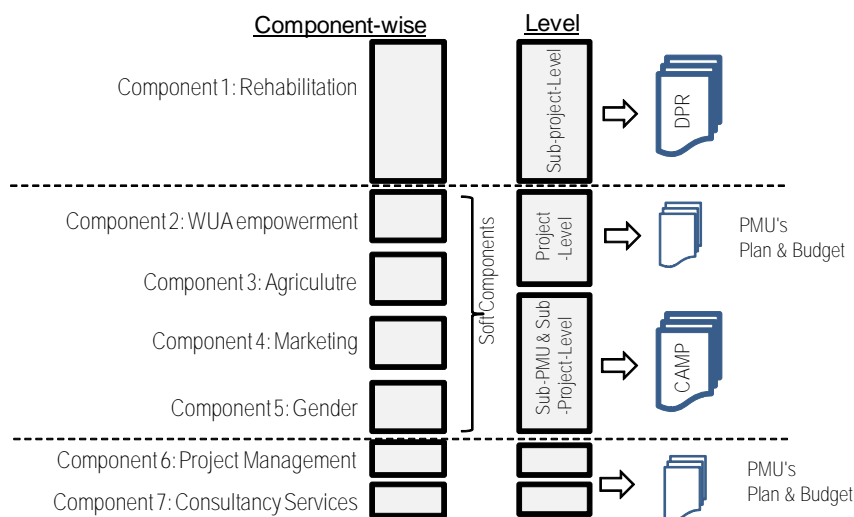
(d) Preparation of Command Area Micro Plan (CAMP) report for the soft components

CAMP report will be formulated and describe the proposed “soft component” activities in the Sub-PMU. CAMP shall cover the project activities at the Sub-PMU-Level and the Sub-Project Level.

CAMP report should include following contents:

- List of specific activities and its cost by the Sub-Project-Level
- List of specific activities and its cost by the Sub-PMU-Level
- Implementation schedule
- Implementation structure

To facilitate understanding, the schematic image of those demarcation, category and the plans which should be in DPR and CAMP, is depicted in the following figure precisely.



Source: JICA Survey Team

Figure P.2 Demarcation of Activities

An construction cost for a single sub-project for component-1, i.e. Participatory Irrigation Rehabilitation Works, should be estimated and obtained in DPR through the SID works. In the same manner, activity cost for the soft components, i.e. Component-2, 3, 4, and 5, should be estimated in CAMP.

CAMP will be prepared in parallel with DPR and summary of CAMP should be incorporated into a part of DPR to facilitate the understanding of soft component activities at field level officers.

(e) Special notes for preparation of DPR

1) Construction planning

Considering the lessons learnt from RAJAMIIP especially of delay of the construction works, the following aspects should be clearly described in Detailed Project Reports under RWSLIP:

a) Packaging of the contract for construction works

Basic concept of packaging of the contract for construction works under RWSLIP is as follows:

- Minimum amount for one contract package: INR 30 mil.
- Basic amount for one contract package: INR 50 mil. ~ 100 mil.
- Maximum amount of one contract package: INR 200 mil.

In case size of one irrigation sub-project is smaller than the above minimum amount, merging of sub-project with another sub-project is recommended to attract the maximum participation from capable contractors and reduction of administrative burden of contract management. Meanwhile, in case size of one irrigation sub-project is larger than the above maximum amount, dividing of such sub-project into several contract packages is recommended to avoid unrealistic construction plan

b) Construction schedule

Taking into consideration the flow chart in Figure P.1, the construction schedule should be prepared for monitoring of pre-construction and construction works.

c) Organizational structure for construction works

Organizational structure for construction works should be clearly described including WRD, the consultant and the contractor.

d) Construction management and supervision

In principle, “Guideline for Construction management and Supervision under RWSLIP” issued by PMU will be applied to overall construction management and supervision including process of each activity, progress control, quality control and safety control. For proper construction management and supervision, the following regular and special construction meetings will be organized by relevant responsible sub-PMU staff under the Sub-project:

Table P.3 Regular and Special Construction Meetings

Name	Frequency	Chairman	Member	Main agenda
Sub-PMU coordination committee	monthly	Superintending engineer	- Executive engineers - Consultant - Contractor (with delay or problem)	- report to sub-PMU about progress, quality and safety issues - discussion and decision for important issues especially for delay of the works
Monthly construction meeting	monthly	Executive engineer	- Assistant engineers - Consultant - Contractor (project manager level)	- progress, quality and safety of the works - decisions for required actions such as show cause meeting, warning letter, variation order, extension of time, contract amendment, etc.
Weekly construction meeting	weekly	Assistant engineer	- Junior engineers - Contractor (site manager level)	- progress, quality and safety of the works - discussion for required actions such as show cause meeting, warning letter, variation order, extension of time, contract amendment, etc.
Special meeting	as required	Superintending engineer	- Executive engineers - Consultant - Contractor (project manager level)	- specific issues for discussion (delay of the works, low quality of the works, etc.)

2) Environmental and social consideration

Screening and categorization based on JICA guideline for environmental and social consideration should be before preparation of DPR.

Based on the result of screening and categorization, required actions should be studied and taken by WRD and the results and monitoring plan should be clearly described in DPR, if any.

(f) Authentication / Verification (Minutes of Sub-PMU Coordination Committee)

All the contents of DPR should be confirmed in sub-PMU coordination committee and acknowledged by the representatives of the relevant agencies. Such acknowledgement should be confirmed as Minutes of Sub-PMU Coordination Committee and incorporated into a part of DPR.

Authentication / Verification (Minutes of Sub-PMU Coordination Committee)

Date: xxxxxxxxxx
Venue: xxxxxxxxxx

In sub-PMU coordination committee on xxxxxx, contents of Detailed Project Report (DPR) prepared by SID consultant of xxxxxxxx were discussed and confirmed among all the concerned agencies as follows:

WRD:

1. All the survey, investigation, design, cost estimate, construction planning and economic evaluation were made in conformity to the applicable guidelines, Indian Standards, badic schedule of rate, etc. established by Central Water Commission (CWC), Rajasthan Water Resources Department and PMU of RWSLIP, and
2. WRD staff of sub-PMU will make necessary effort for approval of this DPR.

DoA and DoH:

1. Present cropping pattern, i.e. without rehabilitation, was prepared in conformity to the actual site conditions,
2. Cropping pattern, calendar and crop water requirement after rehabilitation were prepared and calculated in conformity to final irrigation plan including canal maintenance period, latest soil survey result, climatic conditions, farmers views and opinions and command area micro plan (CAMP) of soft components for RWSLIP, and
3. Crop budget and income were estimated based on latest data and information available in DoA and DoH.

WCD:

1. Women friendly facilities and trees were planned in conformity to women wing's view and opinions and command area micro plan (CAMP) of soft components for RWSLIP.

WUA:

1. Planning and design in DPR were made based on walk-through survey dated on xxxx and WUA has no objection.

Women Wing:

1. Planning and design especially for women friendly facilities and trees in DPR were made based on walk-through survey dated on xxxx and women wing has no objection.

The parties hereto mutually agreed and signed this Minutes of Sub-Coordination Committee.

Water Resources Department

Department of Agriculture

Department of Horticulture

Superintending Engineer
Sub-PMU xxxxxxxx

Deputy Director

Deputy Director

Department of Women and Child
Development

Water User's Association

Women Wing

Deputy Director

President

Leader

Detailed Project Report

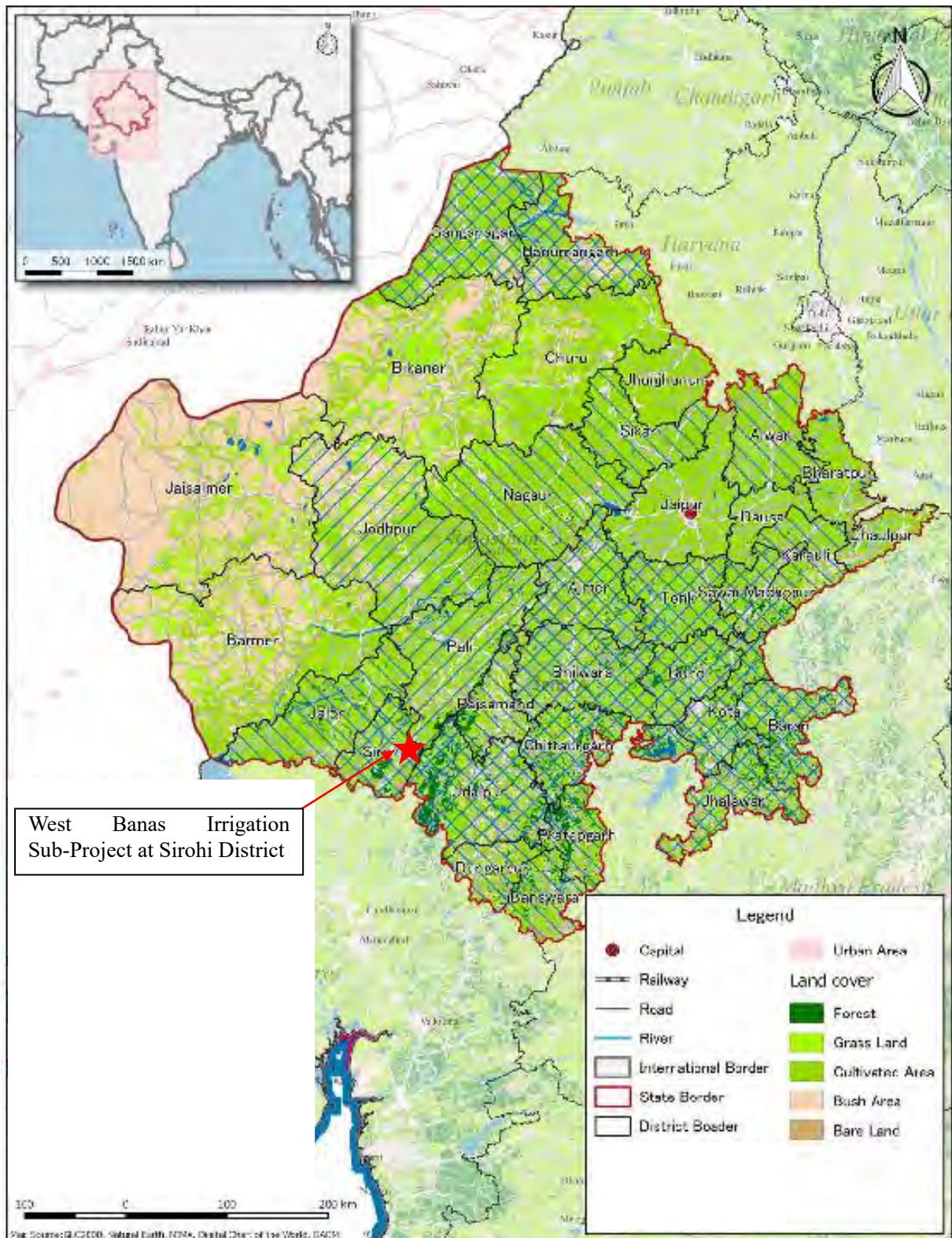
Rehabilitation of West Banas Irrigation Sub-project

List of Volumes

VOLUME-1 REPORT

VOLUME-2 COST ESTIMATES

VOLUME-3 DRAWINGS



Location Map of the Sub-project



West Banas Dam (repair of dam body and filter toe, provision of quarry spalls, etc.)



Main Canal (to be rehabilitated)



Aqueduct (flume to be replaced)



Fall with VRB (to be rehabilitated)



Outlet (to be rehabilitated)

Photographs of the Sub-project Area

Executive Summary

Key Features for Application to Project Support under RWSLIP

Name of sub-project: Rehabilitation of West Banas Irrigation Sub-project

Location of sub-project: Sirohi District, Pindwara/Aburoad Tehsil

No.	Descriptions	Unit	Existing	Proposed	Refer to
1	Gross command area (GCA)	ha	9,848	9,848	Section-2
2	Culturable command area (CCA)	ha	7,952	7,952	Chapter 5
3	Annual irrigation (AI)	ha	2,704	6,203	Chapter 4
4	Intensity of irrigation (% of CCA)	%	34	78	Chapter 4
5	Year of construction	year	1963	-	-
6	Rehabilitation records (RWSRP and/or RAJAMIIP)	-	RWSRP	-	-
7	Free catchment area	km ²	414.40	414.40	Chapter 2
8	50% dependable annual rainfall	mm	No data	783.00	Chapter 2
9	50% dependable annual runoff	MCM	No data	26.04	Chapter 2
10	Annual irrigation demand (including all losses)	MCM	36.22	21.00	Chapter 4
11	Other demand	MCM	No data	1.41	Chapter 4
12	Dependability	%	No data	50	Chapter 4
13	Live storage of reservoir	MCM	36.22	35.80	Chapter 3
14	Elevation of top of dam	m	337.04	337.04	Chapter 3
15	Design discharge of head of canal (left main canal)	m ³ /s	No data	xxx	Chapter 5
16	Design discharge of head of canal (right main canal)	m ³ /s	No data	xxx	Chapter 5
17	Major crop (Wheat)	ha	954	1,352	Chapter 4
18	Major crop (Mustard)	ha	795	1,988	Chapter 4
19	Major crop (Barley)	ha	398	0	Chapter 4
20	Major crop (Gram)	ha	398	1,511	Chapter 4
21	Major crop (Others)	ha	159	1,352	Chapter 4
22	Estimated cost (Total)	INR mil.	-	xxx	Volume 2
23	Estimated cost (Rehabilitation of dam)	INR mil.	-	xxx	Volume 2
24	Estimated cost (Rehabilitation of canal and structures)	INR mil.	-	xxx	Volume 2
25	Estimated cost (Others)	INR mil.	-	xxx	Volume 2
26	Economic Internal Rate of Return (EIRR)	%	-	xxx	Chapter 9

Remarks:

- i) For environmental and social aspects: see Chapter 8 of main report,
- ii) For WUA, agriculture and farming aspects, food processing and marketing aspects: see Command Area Micro Plan (CAMP) for soft components.

Summary of Result of Walk-through Survey

1. For rehabilitation of irrigation facilities

Date: XXXXXXXXXX

Participants: XXXXXXXXXX

No.	Location	Findings	Countermeasure
1	Dam body	Heavy jungle	To be removed
2	Dam body	Insufficient top width and damaged slope at downstream	To be remedied
3	Dam body	Seepage at xxxxx and top parapet wall is damaged	To be remedied
4	Dam Spillway	Downstream wall at settling basin is damaged	To be repaired
5	Intake (Dam)	Seepage due to damaged wall and gates	To be repaired
6	Canal	Canal lining for main canals is damaged at many locations	To be repaired
7	Canal	Canal passing abadi area is closed due to wastage	To be covered
8	Canal	No lining for some reaches of minor canals	To be lined
9	Structures	Damages for VRB, Aqueduct, Siphon and Falls	To be repaired
10	Structures	Many unauthorized outlets	To be removed
11	Structures	Lack of washing steps and foot paths	To be constructed

2. For WUA constructive facilities

Date: XXXXXXXXXX

Participants: XXXXXXXXXX

Date of orientation: XXXXXXXXXX

Type of facilities: XXXXXXXXXX

Location of facilities: XXXXXXXXXXXX

Findings and remarks: XX

3. For women friendly facilities

Date: XXXXXXXXXX

Participants: XXXXXXXXXX

Date of orientation: XXXXXXXXXX

No.	Location	Type of Proposed Facility	Remarks

4. For women friendly trees

Date: XXXXXXXXXX

Participants: XXXXXXXXXX

Date of orientation: XXXXXXXXXX

No.	Location	Type of Proposed Tree	Remarks

Summary of Proposed Project Activities under RWSLIP

No.	Description (Proposed Activity)	Quantity	Estimated Cost (INR thousand)	Drawing or Document Number
1	Rehabilitation of West Banas Dam			
1.1	Dam body and intake structure	4 km	xxx	
(1)	Clearing of bush and trees	4 km	xxx	xxx
(2)	Rehabilitation of dam embankment (widening of top of dam, 6 m)	4 km	xxx	xxx
(3)	Repair of riprap	xxx km	xxx	xxx
(4)	Provision of quarry spalls on top of dam body	4 km	xxx	xxx
(5)	Sod facing for downstream slope	xxx km	xxx	xxx
(6)	Repair of intake structure (wall and sluice gates)	2 nos.	xxx	xxx
1.2	Spillway (rehabilitation of downstream walls at settling basin)	1 nos.	xxx	xxx
1.3	Provision of filter toe	3.4 km	xxx	xxx
	<u>Sub-total 1</u>		<u>xxx</u>	
2	Rehabilitation of Irrigation Canal System (Right Main Canal)			
2.1	Rehabilitation of existing canal lining	5.45 km	xxx	xxx
2.2	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	xxx
(2)	Construction of washing steps	xx nos.	xxx	xxx
(3)	Rehabilitation of aqueduct	15 nos.	xxx	xxx
(4)	Rehabilitation of siphon	2 nos.	xxx	xxx
(5)	Rehabilitation of falls	23 nos.	xxx	xxx
(6)	Rehabilitation of VRBs	15 nos.	xxx	xxx
(7)	Replacement of outlets	xx nos.	xxx	xxx
	<u>Sub-total 2</u>		<u>xxx</u>	
3	Rehabilitation of Irrigation Canal System (Left Main Canal)			
3.1	Rehabilitation of existing canal lining	4.32 km	xxx	xxx
3.2	Provision of new canal lining	3.45 km	xxx	xxx
3.3	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	xxx
(2)	Construction of washing steps	xx nos.	xxx	xxx
(3)	Rehabilitation of aqueduct	2 nos.	xxx	xxx
(4)	Rehabilitation of siphon	8 nos.	xxx	xxx
(5)	Rehabilitation of falls	5 nos.	xxx	xxx
(6)	Rehabilitation of VRBs	2 nos.	xxx	xxx
(7)	Replacement of outlets	xx nos.	xxx	xxx
	<u>Sub-total 3</u>			
4	Rehabilitation of Irrigation Canal System (Minor Canals)	5 nos.		
4.1	Rehabilitation of existing canal lining	5.92 km	xxx	xxx
4.2	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	xxx
(2)	Construction of washing steps	xx nos.	xxx	xxx
(3)	Rehabilitation of siphon	9 nos.	xxx	xxx
(4)	Rehabilitation of falls	24 nos.	xxx	xxx
(5)	Rehabilitation of VRBs	6 nos.	xxx	xxx
(6)	Replacement of outlets	xx nos.	xxx	xxx
	<u>Sub-total 4</u>		<u>xxx</u>	
5	Promotion of Micro Irrigation System (target area to be developed)			
5.1	Construction and installation of community based sprinkler system	398 ha	19.8	xxx
5.2	Construction and installation of individual farmer based drip system	40 ha	3.3	xxx
	<u>Sub-total 5</u>		<u>23.0</u>	xxx
6	Construction of WUA Constructive Facilities			
6.1	Construction of xxxxxxxx at xxxxxxxx	xx nos.	xxx	xxx

	<u>Sub-total 6</u>		<u>xxx</u>	
7	Support for Gender Mainstreaming Activities			
7.1	Construction of xxxxxx at xxxxxx	xx nos.	xxx	xxx
7.2	Construction of xxxxxx at xxxxxx	xx nos.	xxx	xxx
7.3	Planting of xxxxxx at xxxxxx	xxx km	xxx	xxx
7.4	Planting of xxxxxx at xxxxxx	xxx km	xxx	xxx
	<u>Sub-total 7</u>		<u>xxx</u>	
<u>Total (1 - 7)</u>			<u>xxx</u>	

Procurement Plan, Implementation Schedule and Organizational Structure

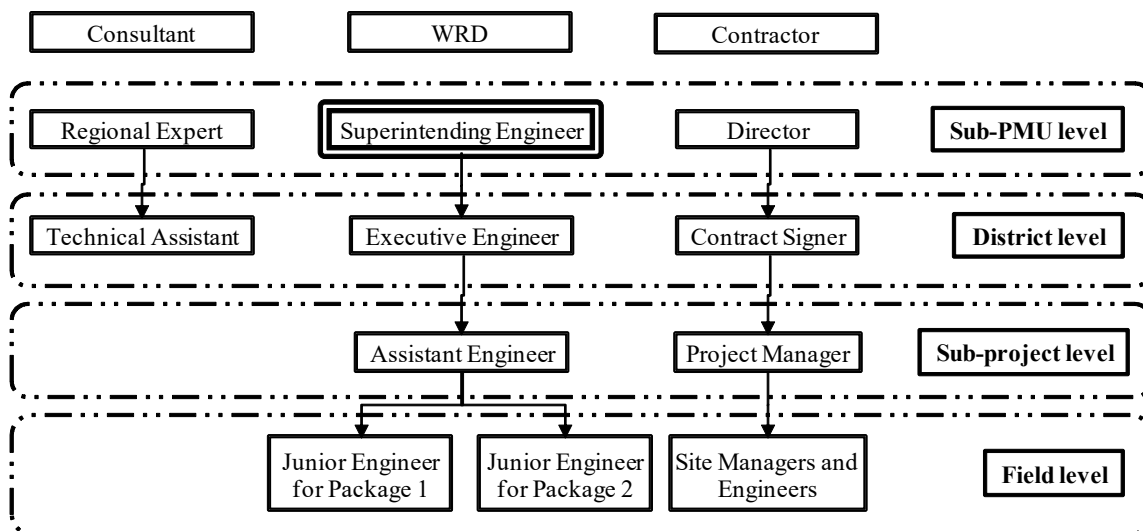
Procurement Plan:

No.	Name of Package	Procurement	Estimated Cost (INR mil.)
1.	Package 1: Rehabilitation of West Banas Dam and Left Main Canal with Related Structures including Minor Canals	LCB	XXXXXXXXXXXXXX
2.	Package 2: Rehabilitation of Right Mani Canal with Related Structures including Minor Canals	LCB	XXXXXXXXXXXXXX

Implementation Schedule for Construction Works

Description	2016		2017		2018		2019		2020		2021		2022	
	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1 Pre-construction	[Gantt chart showing activities from 2016 Q3 to 2022 Q4]													
(1) Detailed survey and review of DPR	[Gantt chart activity]													
(2) Procurement of SID consultant	[Gantt chart activity]													
(3) Walk-through survey and finalization of DPR by SID consultant	[Gantt chart activity]													
(4) Preparation of CAMPs by SID consultant	[Gantt chart activity]													
(5) Review of DPR by PMU	[Gantt chart activity]													
(6) MOU with WUA for commitment and agreement	[Gantt chart activity]													
(7) Final screening and official approval of DPR	[Gantt chart activity]													
(8) Preparation and approval of technical estimate	[Gantt chart activity]													
(9) Preparation and approval of bidding document	[Gantt chart activity]													
(10) Bidding process	[Gantt chart activity]													
(11) Preparatory works for micro irrigation system	[Gantt chart activity]													
(12) Contract award and signing of the contract	[Gantt chart activity]													
2 Construction Works	[Gantt chart showing construction activities for Package-1 and Package-2]													
(1) Package-1	[Gantt chart activity]													
Rehabilitation of West Banas Dam	[Gantt chart activity]													
Clearing of bush and trees	[Gantt chart activity]													
Rehabilitation of dam embankment	[Gantt chart activity]													
Provision of filter toes	[Gantt chart activity]													
Provision of quarry spalls	[Gantt chart activity]													
Repair of parapet walls	[Gantt chart activity]													
Rehabilitation of left main canal and related structures	[Gantt chart activity]													
Rehabilitation of canal lining	[Gantt chart activity]													
Rehabilitation of related structures	[Gantt chart activity]													
(2) Package-2	[Gantt chart activity]													
Rehabilitation of right main canal and related structures	[Gantt chart activity]													
Rehabilitation of canal lining	[Gantt chart activity]													
Rehabilitation of related structures	[Gantt chart activity]													
3 Defect Liability Period	[Gantt chart activity]													

Organizational Structure for Construction Works



Check List for RWSLIP (to be filled by PMU for review)

S. No.	Check Item	Remarks	Refer to
1.	All the required data for final screening such as EIRR, Dependability, Screening result of environmental and social consideration, MOU with WUA and CAMP are adequately studied and concluded in DPR?		
2.	Orientations for WUA facilities and women friendly activities were made and results are described in DPR?		
3.	Walk-through survey was conducted among WRD, DoA, DoH, WCD, WUA, WW, consultant and NGO and signed results are attached to DPR?		
4.	CAMP was prepared and summary of CAMP is attached to DPR?		
5.	Packaging of the contract for construction works was made reasonably and realistically?		
6.	Construction schedule was prepared reasonably and realistically considering pre-construction works (around one year) and maximum construction period (two years)?		
7.	Regular and special meeting for construction supervision and management was planned properly?		
8.	Screening for Environmental and Social Consideration before preparation of DPR was made and attached to DPR?		
9.	JICA category for environmental and social consideration?	A, B, C or NO	
10.	In case of Categories A, B or C, adequate measures has been taken or described in DPR?		
11.	Authentication / Verification (Minutes of Sub-PMU Coordination Committee) signed by representatives of relevant agencies is attached to DPR?		
12.	All the data and information required in model DPR are clearly described in DPR?		

Other Key Documents for the Proposed Activities

- Att.1 Check list for environmental and social consideration (Screening for Environmental and Social Consideration before preparation of DPR)

- Att.2 Summary of CAMP for soft components

Att.1

Screening for Environmental and Social Consideration before preparation of DPR

Name of the Sub-project:
Location:
Name and signature of the Screening Officer:
Date of Screening:

S. No	Key areas of screening	Yes/ No	Recommended Action	If yes, JICA category
1	Forests/ Tree Cover outside the forest			
1.1	Will there be any repair and maintenance work of dam and/or canal in recorded forest areas of the state?	xxx	If yes, then WRD has to obtain necessary permission from the State Forest Department.	Category B
1.2	Will there be any tree felling from the recorded forest area?	xxx	If yes, then WRD has to obtain necessary permission from the State Forest Department before felling of trees.	Category B
1.3	Will there be any tree felling from the Revenue Land and/ or private land?	xxx	If yes, necessary permission to be obtained from Revenue as well as Forest Department before felling of trees.	Category C
2	Protected Areas (National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves)			
2.1	Is there a Protected Area within 10 km of the dam and/ or canal to be rehabilitated?	xxx	If yes, then WRD has to inform the State Forest Department about the activities to be carried out and take up the work as per the advice of the Forest Department.	Category C
2.2	Will there be any rehabilitation work in the Eco Sensitive Zones declared by the Forest Department (the Forest Department is in the process of declaring Eco Sensitive Zones for each Protected Area)?	xxx	If yes, then WRD has to inform the State Forest Department about the activities to be carried out and take up the work as per the advice of the Forest Department. Rain water harvesting is a permissible activity in Eco Sensitive Zones. In some sites there may huge construction work using machineries. It is better to consult the Forest Department before carrying out the rehabilitation work.	Category B
2.3	Does the work involve wildlife habitat areas (WL corridors, migratory birds, breeding ground etc.) outside the Protected Areas?	xxx	If yes, then the rehabilitation activities have to be carried out in consultation with the Forest Department of the State and adequate safeguards are to be incorporated into the DPR along with monitoring protocols.	Category B
3	Catchment of the irrigation system/project			
3.1	Is there any assessment of catchment area done?	xxx	If yes, what prescribed actions are to be included in the DPR. If no, WRD may carry out a rapid assessment of the catchment area and prescribe actions for catchment treatment in the DPR (afforestation, soil and moisture conservation, proper drainage etc.). If the catchment area includes recorded forest area then catchment treatment plan has to be planed and implemented through the Forest Department.	No category
4	Green belt/ Tree cover/ Landscaping			
4.1	Is there land available for plantations/ developing green belt?	xxx	If yes, required activities may be included in the DPR along with budget.	No category
4.2	Are the farmers/WUA members willing to take up tree plantation on their farmland/ farm bunds?	xxx	If yes, some activities for tree planting with farmers' participation may be included in the DPR along with budget.	No category
5.	Dam			

S. No	Key areas of screening	Yes/ No	Recommended Action	If yes, JICA category
5.1	Does the rehabilitation work involve a dam of 10 meters high or more?	xxx	If yes, Dam Safety Plan along with emergency response action to be prepared and included in DPR.	Category C
6.	Use of Chemical Fertiliser and Pesticides			
6.1	Is there any assessment made on the use of chemical fertilizers and pesticides? Will agriculture intensification lead to increased use of chemical fertilizers and pesticides?	xxx	If yes, kindly provide quantum of use of different chemical fertilizers and pesticides (crop and season wise). Please include concrete action for a) mitigation measures, b) alternatives to the use of chemical fertilizers and pesticides.	Category C
7	Water use conflicts			
7.1	Are there any conflicts in the community/ target area on the water use?	xxx	If yes, the context has to be properly analysed and actions for addressing these conflicts need to be included in the DPR.	Category C
7.2	Will there be any significant problem in the water use and fisheries in the downstream areas?	xxx	If yes, then possible action to address the problem may be included in DPR.	Category B
7.3	Does the rehabilitation work cause risk of floods and damage to downstream resources?	xxx	If yes, then actions for flood management and drainage may be included in the DPR.	Category B
8	Pollution			
8.1	Will the rehabilitation work create water, air, noise pollution and soil/ land degradation?	xxx	If yes, then extent of pollution along with appropriate mitigation measures needs to be included in DPR.	If seriously, Category B. If not serious, C
9	Indigenous People/ Tribal, Women			
9.1	Are there tribal communities living near the irrigation structure?	xxx	If yes, detailed information shall be provided in the DPR on their demography, habitation, distance from the dam and canal, landholding and benefits from irrigation structure/ system etc..	No category
9.2	Does the rehabilitation work involve land acquisition, involuntary resettlement or construction on private land?	xxx	If yes, necessary environment clearance has to be obtained or the Sub Project will not be included the Project.	Category A
9.3	Does the rehabilitation of irrigation structure and canal involve eviction of people from the encroached land or release of land under encroachment?	xxx	If yes, then details of encroachment area and persons to be identified and necessary action permitted under the law, shall be included in the DPR. In case of tribal and other vulnerable communities, some mitigation measures shall be included in the Tribal Development Plan.	Category A
9.4	Will the rehabilitation of irrigation system and agriculture intensification works have any adverse impact on tribal communities?	xxx	If it has adverse impact, basically this sub-project should not be implemented.	Category A
9.5	Will the rehabilitation of irrigation system and agriculture intensification works have any adverse impact on women?	xxx	If yes, then women development plan shall be prepared and included in the DPR. Efforts shall be made to proactively engage women in implementation of different project activities.	Category B
10	Heritage/ Cultural/ Religious			
10.1	Will the work under the Sub Project cause damage/ adverse impact to/on places of religious, historical and cultural importance?	xxx	If yes, then such action may be avoided in DPR and precautionary measures shall be included in the DPR.	Category B

Final Evaluation (Please put a circle at those categories)	Category A	Category B	Category C
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Note: If the sub-project is located in environmental sensitive areas, then environmental management plan and environmental monitoring plan need to be prepared.

If rehabilitation of the sub-project will cause significant environment pollution (air, noise, dust, water, waste etc.), then environmental management plan and environmental monitoring plan need to be prepared.

If rehabilitation of the sub-project will negatively affect the tribal people, then tribal development plan needs to be prepared.

Att.2

Summary of Command Area Micro Plan (CAMP) for Soft Components

(Please attach summary of command area micro plan (CAMP) for Sub-PMU 3: Udaipur and Jodhpur Zones)

Detailed Project Report

Rehabilitation of West Banas Irrigation Sub-project

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ABBREVIATIONS

ACE	Additional Chief Engineer
AE	Assistant Engineer
AD	Agriculture Department
ADP	Agriculture Development Project
CADD	Command Area Development Department
CCA	Cultivable Command Area
CE	Chief Engineer
DoA	Department of Agriculture
DOIT	Department of Information Technology
DPR	Detailed project Report
EE	Executive Engineer
EMP	Environment Management Plan
EIA	Environment Impact Assessment
EIRR	Economic Internal Rate of Return
GoR	Government of Rajasthan
HRD	Human Resource Development
IGNP	Indira Gandhi Nahar Project
IMTI	Irrigation Management Training Institute
IT	Information Technology
JE	Junior Engineer
JICA	Japan International Cooperation Agency
MIS	Management Information System
NGO	Non Government Agency
ODA	Official Development Assistance
OFD	On Farm Development
O&M	Operation & Management
PHED	Public Health Engineering Department
PMU	Project Management Unit
PIM	Participatory Irrigation Management
RAJAMIIP	Rajasthan Water Sector Livelihood Improvement Project
RFPMS	The Rajasthan Farmers' Participation in Management of Irrigation Systems Act, 2000
RWSLIP	Rajasthan Water sector Livelihood Improvement Project
SE	Superintending Engineer
SC	Schedule Caste
ST	Schedule Tribe
TC	Territorial Committee
TSG	Technical Support Group
WRD	Water Resources Department
WUA	Water Users Association
WUO	Water Users Organization

MEASUREMENT UNITS

Length

mm	Millimeter(s)
cm	Centimeter (s)
m	Meter (s)
m	Meter (s)
km	Kilometer (s)

Area

cm ²	Square Centimeter (s)
m ²	Square Meter (s)
km ²	Square Kilometers (1,000,000 m ²)
ha	Hectare (s) (10,000 m ²)
acre	Acre (s) (4,046.8 m ² or 0.40468 ha)

Currency

US\$	US Dollar(s)
Yen	Japanese Yen
INR	Indian Rupee (₹)

Volume

cm ³	Cubic centimeter (s)
m ³	Cubic meter (s)
L	Liter(s)(1000cm ³)
MCM	Million Cubic Meter (s)

Weight

g	Gram (s)
kg	Kilogram (s) (1000g)
ton	Metric tonne (s) (1,000Kg)

Time

sec	Second (s)
min	Minutes (60 sec)
hr	Hours (60 min)

Indian Numbering

Lac	Hundred Thousand
Crore	Ten Million (10,000,000) Or 100 Lac

Section-1

SECTION-1 CHECK LIST

S. No.	Check Item	Remarks	Refer to
1.	Was the original project given investment clearance by planning commission?	The project was completed in the year 1963 and investment clearance was already given.	-
2.	Have the salient features of the project as at present, been indicated?	Salient features of sub-project (existing and proposed) are attached at Section-2.	Section-2
3.	Have the irrigation potential of the existing project as originally envisaged, potential created and utilized and reasons for variations been indicated?	<i>(Please describe based on the result of command area survey)</i>	Chapter 1, 4 and 5
4.	Has the culturable command area been actually assessed and compared with that at the time of planning of the project and shortfalls/excesses, if any, discussed?	<i>(Please describe based on the result of command area survey)</i>	Chapter 4 and 5
5.	Has the hydraulic survey of canal/distribution system been carried out?	<i>(Please finalize the report and drawings in Chapter 5 first)</i>	Chapter 5
6.	Have the deficiencies in the existing irrigation system been identified?	<i>(Please complete the walk-through survey, etc. and reports first)</i>	Chapter 1 and 5
7.	Has the need for rehabilitation been justified?	<i>(Please complete the walk-through survey, etc. and reports first)</i>	Chapter 1
8.	Have the hydrological studies been reviewed, compared with those made at the time of preparation of the original project if available and reasons for variations recorded in respect of:	Yes.	Chapter 2
9.	(i) rainfall		
	(ii) runoff		
	(iii) flood		
	(iv) sediment		
	(v) ground water		
	(vi) Evaporation		
	Has justification for the proposed cropping pattern been furnished?	<i>(Please finalize the report and annex with DoA, first)</i>	Chapter 4
10.	Have the cropping pattern & proper cropping calendar been devised with a view to maximize the production and canal closures for maintenance etc. ensured? Have these been concurred by the Agriculture Department?	<i>(Please finalize the report and annex with DoA, first)</i>	Chapter 4
11.	Are the areas and percentage of CCA that will be irrigated during Kharif, Rabi, two seasonal, hot weather and perennials been indicated and compared with cropping pattern as existing prior to taking of the project, originally envisaged and actually developed after completion of the project?	<i>(Please finalize the report and annex with DoA, first)</i>	Chapter 4
12.	Have the net benefits due to the project been estimated and concurred by the Agricultural Department?	<i>(Please finalize the report and annex with DoA, first)</i>	Chapter 9
13.	Have the year wise requirement of funds been indicated?	<i>(Please finalize the report and annex, first)</i>	Chapter 9
14.	Are the detailed cost estimates included in the report?	<i>(Please finalize the report and annex, first)</i>	Volume 2
15.	Has the benefit-cost ratio been worked out? Whether depreciated cost of completed works has been included in the calculations?	<i>(Please finalize the report and annex, first)</i>	Chapter 9
16.	Whether internal Rate of Return (IRR) has been worked out?	<i>(Please finalize the report and annex, first)</i>	Chapter 9

Section-2

SECTION-2 SALIENT FEATURES

S. No	Particulars	Unit	Planned/Existing	Proposed.
1.0	Name of the project		Rehabilitation of West Banas Irrigation Sub-project	
2.0	General data			
2.1	District (s)		Sirohi	
2.2	Tehsil (s)		Pindwara/ Aburoad	
2.3	River / Tributary		West Banas River	
2.4	Location of dam		Near Dhanari village, Tehsil Pindwara	
2.5	Name of basin		West Banas	
2.6	Longitude & Latitude (at dam site)		720 – 57' & 240 – 41'	
3.0	Socio- economic aspects			
3.1	District (s) benefited		Sirohi	Sirohi
3.2	Population benefited			
	Total	nos	xxx	51,320
	Scheduled cast	nos	xxx	6,790
	Scheduled Tribe	nos	xxx	20,670
	Other backward castes	nos	xxx	10,670
4.0	Hydrological data			
4.1	Catchment area at dam site			
	Gross catchment area	km ²	507.64	507.64
	Intercepted catchment area	km ²	93.24	93.24
	Free catchment area	km ²	414.40	414.40
4.2	Rainfall			
	Maximum annual rainfall	mm	xxx	1,588.00
	Minimum annual rainfall	mm	xxx	205.00
	Mean annual rainfall	mm	xxx	604.00
	50% dependable annual rainfall	mm	xxx	483.00
4.3	Annual runoff			
	Average annual runoff	MCM	43.00	27.66
	Maximum annual runoff	MCM	xxx	66.22
	Minimum annual runoff	MCM	xxx	4.10
	50% dependability annual runoff	MCM	xxx	26.04
4.4	Design flood	m ³ /s	1,481.00	1,433.00
5.0	Water utilization			
	Reservation for downstream use	MCM	-	-
	Utilization through the subproject	MCM	-	-
	Irrigation	MCM	36.22	21.01
	Drinking water & others	MCM	-	1.41
6.0	Reservoir data			
	a. Storage			
	i. Gross storage	MCM	39.05	37.53
	ii. Dead storage	MCM	2.83	1.73
	iii. Live Storage	MCM	36.22	35.80
	b. Elevation			

S. No	Particulars	Unit	Planned/Existing	Proposed.
	i. Top of dam (TBL)	el-m	337.04	337.04
	ii. Maximum water level (MWL)	el-m	335.54	335.54
	iii. Full reservoir level (FRL)	el-m	334.45	334.45
	v. Dead storage level (DSL)	el-m	327.13	327.13
	vi. River bed level (RBL)	el-m	319.80	320.11
	c. Water spread area at			
	i. Full reservoir level	km ²	8.40	7.25
	ii. Maximum water level	km ²	11.14	8.01
7.0	Canal system (Irrigation)			
	No. of villages served.	nos	36	36
	Gross command area (GCA)	ha	9,848	9,848
	Culturable command area (CCA)	ha	7,952	7,952
	Annual Irrigation (AI)	ha	2,704	6,203
	Intensity of Irrigation (% age of CCA)	%	34	78
	Dependability	%	xxx	50
7.1	Left Main Canal			
	Length of canal	km	22.32	22.32
	Length of lined canal	km	18.88	22.32
	Full supply level at canal head	m	327.73	327.73
	Full supply discharge at canal head	m ³ /sec	xxx	xxx
7.2	Right Main Canal			
	Length of canal	km	34.74	34.74
	Length of lined canal	km	34.63	34.63
	Full supply level at canal head	m	328.05	328.05
	Full supply discharge at canal head	m ³ /sec	xxx	xxx
7.3	Distribution System			
	Length of canal	km	17.76	17.76
	Length of lined canal	km	17.01	17.01
8.0	Estimated cost of rehabilitation works	INR mil.	-	xxx
9.0	Benefit Cost Ratio		-	xxx
10.0	Internal Rate of Return	%	-	xxx

Section-3

Chapter 1 Introduction

1.1 General Description of West Banas Irrigation Sub-project

1.1.1 Rajasthan Water Sector Livelihood Improvement Project (RWSLIP)

For the purpose of the increase and stabilization of agricultural production in Rajasthan state, the government of Rajasthan implemented Rajasthan Minor Irrigation Improvement Project (RMIIP) from 2005 to 2015 under Japan International Cooperation Agency (JICA) ODA Loan. In addition to rehabilitation of the irrigation facilities, the project enhanced and organized water users associations (WUAs) that are the main actor of operation and maintenance of the facilities rehabilitated under the project. In addition, farming support activities were implemented in collaboration with Department of Agriculture (DoA) and contributed to improvement of agricultural production. In order to disseminate these achievements to the other area, the Rajasthan WRD made a program of which the final objective is reduction of poverty through technical support to agricultural practice, enhancement of value added agriculture, and improvement of livelihood in addition to rehabilitation of existing irrigation facilities.

The Rajasthan WRD compiled such program as Rajasthan Water Sector Livelihood Improvement Project (hereafter referred to as the Project or RWSLIP). The Project consists of the following five components:

- i) Component 1: Participatory Irrigation Rehabilitation Works
- ii) Component 2: Fostering and Capacity Enhancement of Water Users Organizations
- iii) Component 3: Irrigated Agriculture Intensification and Diversification
- iv) Component 4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
- v) Component 5: Gender Mainstreaming in Agriculture and Water Sector

In Component 1, the following sub-components are further included:

- i) Sub-component 1-1: Rehabilitation of irrigation facilities
- ii) Sub-component 1-2: Promotion of micro irrigation system
- iii) Sub-component 1-3: Introduction of WUA constructive facilities
- iv) Sub-component 1-4: Support for women friendly activities

Rehabilitation of West Banas Irrigation Sub-project (hereafter referred to as the Sub-project) is one of the candidate irrigation sub-projects under the above Component 1 of RWSLIP and this detailed project report (DPR) was prepared and submitted to Project Management Unit (PMU) for final screening and sanction for implementation.

1.1.2 West Banas Irrigation Sub-project

West Banas Irrigation Sub-project was completed in year 1963 to supply the irrigation water to area with 7,952 ha of CCA covering 36 villages, as a medium scale irrigation scheme. West Banas Irrigation Sub-project consists of the following facilities:

(1) West Banas Dam

West Banas dam was constructed across the West Banas river and located in tehsil Pindwara/Abu Road, District Sirohi. The dam was planned with the free catchment area of 414.40 km², live storage capacity of 39.05 mm³. The dam comprises of 4,000 m long earthen embankment, 472 m long masonry / concrete spillway and 198 m long bye-wash (Bed-bar). Intake gates for left main canal and right main canal are located at RD 1230 m and RD 3410 m with sill levels as EL 327.13 m and EL 327.13 m, respectively.

(2) Canal System

Canal system consists of right main canal system and left main canal system and a part of canal system was rehabilitated under Rajasthan Water Sector Reform Project (RWSRP) funded by World Bank.

Total length of canal network is 74.82 km consisting of the following canal systems:

Table A 1.1 General Features of Canal System

S. No.	Name of Canal	Category	Total length of Canal (m)			Discharge at canal head (m ³ /sec)	CCA (ha)	No. of outlets
			Lined	Unlined	Total			
1	Right Main Canal	Main	34,633	107	34,740	3.26	4,221	118
2	Left Main Canal	Main	18,875	3,445	22,320	0.64	1,300	67
3	Fula Bai ka Khera Minor	Minor	2,340	-	2,340	0.26	532	8
4	Sangwara Minor	Minor	3,750	-	3,750	0.21	428	16
5	Achpura Minor	Minor	3,117	753	3,870	0.31	636	8
6	Mungthala Minor	Minor	4,890	-	4,890	0.26	524	11
7	Kyaria Minor	Minor	2,910	-	2,910	0.15	312	8
		Total	70,515	4,305	74,820		7,952	236

1.2 Salient Features of the Sub-project

Salient features of the sub-project are shown in Section-2.

1.3 Walk-through Survey and Preliminary Assessment

Walk through survey to confirm and identify the present performance of various components, irrigation potential and deficiencies was conducted. Considering the sub-component activities described in the above 1.1.1, the following government officers and farmers were invited for the walk-through survey:

- WRD Assistant Engineer and Junior Engineers in charge,
- DoA and DoH Assistant Directors in charge,
- WCD Assistant Director in charge,
- WUA members in the Sub-project, and
- Women Wing members in the Sub-project.

The result of walk-through survey is shown in Annex 1.1 and summary of walk-through survey result including additional preliminary assessment with available data and information is shown below.

1.3.1 Present Performance of Various Components

(1) West Banas Dam

West Banas Irrigation sub-project was commissioned in the year 1962-63 and the performance initially was satisfied. However, due to deferred maintenance, damages and defects were found in the various facilities such as slope of dam, width of top of dam body, filter toe, seepage, head outlet sluice and gates and spillway.

(2) Canal System

Due to poor maintenance works, the canals and related structures were damaged and downstream farmers are suffering from water shortage.

1.3.2 Irrigation Potential

Record of actual irrigated area under West Banas Irrigation Sub-project is shown below.

Table A 1.2 Record of Actual Irrigated Area

S. No	Year	Actual live storage at the end of monsoon season (mm ³)	Actual irrigated area (ha)
1	1962-63	19.124	92
2	1963-64	25.225	891
3	1964-65	34.824	2,038
4	1965-66	24.993	2,443
5	1966-67	32.892	2,493
6	1967-68	38.493	4,058

S. No	Year	Actual live storage at the end of monsoon season (mm ³)	Actual irrigated area (ha)
7	1968-69	39.054	3,326
8	1969-70	9.386	-
9	1970-71	39.054	3,666
10	1971-72	19.299	1,561
11	1972-73	15.285	698
12	1973-74	14.587	1,947
13	1974-75	11.200	1,354
15	1975-76	39.054	3,349
16	1976-77	39.054	3,415
17	1977-78	39.054	3,932
18	1978-79	39.054	3,916
19	1979-80	29.857	3,162
20	1980-81	25.69	2,033
21	1981-82	5.569	101
22	1982-83	18.775	1,668
23	1983-84	39.054	4,215
24	1984-85	25.225	2,270
25	1985-86	17.903	3,117
26	1986-87	22.438	900
27	1987-88	6.894	-
28	1988-89	28.245	2,838
29	1989-90	26.037	2,067
30	1990-91	39.054	4,332
31	1991-92	17.029	1,512
32	1992-93	39.054	4,457
33	1993-94	39.054	4,000
34	1994-95	39.054	2,718
35	1995-96	20.607	1,755
36	1996-97	13.714	300
37	1997-98	39.054	4,031
38	1998-99	15.023	2,161
39	1999-2000	8.296	-
40	2000-2001	18.166	-
41	2001-02	21.392	2,672
42	2002-03	9.749	-
43	2003-04	27.084	1,339
44	2004-05	10.596	-
45	2005-06	39.054	3,520
46	2006-07	39.054	3,322
47	2007-08	33.008	2,985
48	2008-09	7.571	-
49	2009 -10	14.413	Reserved for drinking
50	2010-11	34.237	4,081
51	2011-12	39.054	3,170
52	2012-13	39.054	2,827
53	2013-14	4.458	-
54	2014-15	4.101	-
55	2015-16	39.054	2,810

As shown in the above table, maximum irrigated area of 4,475 ha was recorded in 1992-93. Irrigated area gradually decreased and was 2,810 ha in 2015-16 despite the full water level in the reservoir.

1.3.3 Deficiencies in Existing Canal System

(1) Dam and Canal System

In addition to the above 1.3.1, the maximum irrigation intensity record during past 60 years was just only 56% and this figure shows that the canal system is not optimum and should be re-designed based on latest command area survey.

(2) WUA Activity

Although the WUA office building was constructed under RWSRP, such office has not been effectively utilized so far.

(3) Gender Mainstreaming

Canal maintenance and cleaning works were made mainly by women and caused a large workload on them. In addition, it was also found that some of the facilities deeply related to women's activities such as washing steps and foot bridges were constructed without any involvement of women living in the area in the past construction.

(4) Agronomical

Major problems in the Sub-project area are i) lack of coordination among government field officers and farmers to formulate the optimum project plan especially for cropping pattern, and ii) lack of motivation of DoA and DoH field officers to provide periodical training and information related to advanced or new agriculture techniques or information.

(5) Administrative

Major problems in the Sub-project area are i) lack of coordination among government field officers, ii) lack of motivation of government field officers to provide periodical training and information to farmers, iii) lack of number of government field officers and iv) lack of coordination between government officers and farmers.

(6) Legislative

Amount and collection rate of water fee is not sufficient to recover the required cost for proper operation and maintenance works for the Sub-project.

1.4 Justification/Need for Rehabilitation and Improvement

Based on the walk-through survey and preliminary assessment made in the above 1.3, the following rehabilitation and improvement works are urgently required to recover, improve and maximize the Sub-project function and benefits:

1.4.1 West Banas Dam and Canal System

As shown in 1.3.2, the latest irrigation intensity decreased up to 63% of the maximum intensity recorded in 1992-93. According to the preliminary assessment including walk-through survey, the following rehabilitation works should be made to recover and maximize the irrigation intensity and the structural strength of the facilities:

- i) Rehabilitation of dam body including jungle clearing, embankment, riprap, sod facing, filter toe and provision of quarry spalls,
- ii) Rehabilitation of settling basin at spillway of dam,
- iii) Rehabilitation of intake structure including sluice gates,
- iv) Rehabilitation of existing canal lining and construction of new canal lining,
- v) Rehabilitation of existing canal related structures,
- vi) Construction of measuring devices, and
- vii) Re-design of canal system and rehabilitation of outlets based on command area survey.

1.4.2 WUA Activities and Facilities

Since WUA office building has been already constructed under RWSRP, no WUA office building will be provided to WUAs of this Sub-project. Other activities for WUA are described in CAMP for soft component.

1.4.3 Gender Mainstreaming -Women Friendly Facilities and Trees-

For gender mainstreaming in canal system, through orientation and walk-through survey, the following facilities were selected by women wing members as women friendly facilities:

Type of Facility	Number	Location
XXXXXXXXXX	xxx	XXXXXXXXXX
XXXXXXXXXX	xxx	XXXXXXXXXX

In addition to the above facilities, through orientation and walk-through survey, the following trees were selected by women wing members as women friendly trees:

Type of Tree	Length (m)	Location
XXXXXXXXXX	xxx	XXXXXXXXXX
XXXXXXXXXX	xxx	XXXXXXXXXX

1.4.4 Agronomical -Cropping Pattern and Calendar-

Based on CAMP for soft component, proper cropping pattern and calendar should be prepared in full cooperation with DoA.

1.4.5 Operation and Maintenance -Collection of Water Tariff-

For proper operation and maintenance works, collection rate as well as amount of water tariff should be increased. Detailed program for capacity building of WUA is shown in CAMP for soft component.

1.4.6 Others -Soft Component Activities-

In case the Sub-project is selected for implementation under RWSLIP, the soft component activities under the following components can be expected and through those activities, it is expected to increase the farmers' income and improve the capacity of WUA in terms of operation and maintenance including water management:

- i) Component 2: Fostering and Capacity Enhancement of Water Users Organizations
- ii) Component 3: Irrigated Agriculture Intensification and Diversification
- iii) Component 4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
- iv) Component 5: Gender Mainstreaming in Agriculture and Water Sector

Detailed activities under the above Components are shown in Command Area Micro Plan (CAMP) for soft components and summary of CAMP is attached to Executive Summary of this report. All the concerned parties including WRD officers, line agencies officers, WUA members, NGOs and consultants should well understand the contents of CAMP and collaborate each other to maximize the expected benefit and income from the Sub-project.

1.5 Summary of Proposed Rehabilitation Works for the Sub-project

Based on the above 1.4, the following rehabilitation works are proposed for West Banas Irrigation System and detailed study and design for optimum design as well as further justification are described in the following chapters:

No.	Description (Proposed Activity)	Quantity	Estimated Cost (INR thousand)	Drawing or Document Number
1	Rehabilitation of West Banas Dam			
1.1	Dam body and intake structure	4 km	53.8	
(1)	Clearing of bush and trees	4 km	xxx	xxx
(2)	Rehabilitation of dam embankment (widening of top of dam, 6 m)	4 km	xxx	xxx
(3)	Repair of riprap	xxx km	xxx	xxx
(4)	Provision of quarry spalls on top of dam body	4 km	xxx	xxx
(5)	Sod facing for downstream slope	xxx km	xxx	xxx
(6)	Repair of intake structure (wall and sluice gates)	2 nos.	xxx	xxx
1.2	Spillway (rehabilitation of downstream walls at settling basin)	1 nos.	7.2	xxx
1.3	Provision of filter toe	3.4 km	15.9	xxx
	<u>Sub-total 1</u>		<u>76.9</u>	
2	Rehabilitation of Irrigation Canal System (Right Main Canal)			
2.1	Rehabilitation of existing canal lining	5.45 km	xxx	
2.2	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	
(2)	Construction of washing steps	xx nos.	xxx	
(3)	Rehabilitation of aqueduct	15 nos.	xxx	
(4)	Rehabilitation of siphon	2 nos.	xxx	
(5)	Rehabilitation of falls	23 nos.	xxx	
(6)	Rehabilitation of VRBs	15 nos.	xxx	
(7)	Replacement of outlets	xx nos.	xxx	
	<u>Sub-total 2</u>		<u>xxx</u>	
3	Rehabilitation of Irrigation Canal System (Left Main Canal)			
3.1	Rehabilitation of existing canal lining	4.32 km	xxx	
3.2	Provision of new canal lining	3.45 km	xxx	
3.3	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	
(2)	Construction of washing steps	xx nos.	xxx	
(3)	Rehabilitation of aqueduct	2 nos.	xxx	
(4)	Rehabilitation of siphon	8 nos.	xxx	
(5)	Rehabilitation of falls	5 nos.	xxx	
(6)	Rehabilitation of VRBs	2 nos.	xxx	
(7)	Replacement of outlets	xx nos.	xxx	
	<u>Sub-total 3</u>			
4	Rehabilitation of Irrigation Canal System (Minor Canals)	5 nos.		
4.1	Rehabilitation of existing canal lining	5.92 km	xxx	
4.2	Construction/rehabilitation of related structures			
(1)	Provision of measuring devices	xx nos.	xxx	
(2)	Construction of washing steps	xx nos.	xxx	
(3)	Rehabilitation of siphon	9 nos.	xxx	
(4)	Rehabilitation of falls	24 nos.	xxx	
(5)	Rehabilitation of VRBs	6 nos.	xxx	
(6)	Replacement of outlets	xx nos.	xxx	
	<u>Sub-total 4</u>		<u>xxx</u>	
5	Promotion of Micro Irrigation System (target area to be developed)			
5.1	Construction and installation of community based sprinkler system	398 ha	19.8	
5.2	Construction and installation of individual farmer based drip system	40 ha	3.3	
	<u>Sub-total 4</u>		<u>23.0</u>	
6	Construction of WUA Constructive Facilities			
6.1	Construction of xxxxxxxx at xxxxxxxx	xx nos.	xxx	
	<u>Sub-total 5</u>		<u>xxx</u>	

7	Support for Gender Mainstreaming Activities			
7.1	Construction of xxxxxx at xxxxxx	xx nos.	xxx	
7.2	Construction of xxxxxx at xxxxxx	xx nos.	xxx	
7.3	Planting of xxxxxx at xxxxxx	xxx km	xxx	
7.4	Planting of xxxxxx at xxxxxx	xxx km	xxx	
	<u>Sub-total 7</u>		<u>xxx</u>	
	<u>Total (1 - 7)</u>		<u>xxx</u>	

Chapter 2 Hydrology

2.1 Rainfall

Based on the rainfall data for last 40 years from Sirohi and Pindwara stations, average rainfall at the Sub-project area was calculated as shown in the following table:

Table 2.1 Observed rainfall data for 40 years

S. No.	Year	Rainfall at station(in mm)	
		Sirohi	Pindwara
1	1975	977.00	779.00
2	1976	1,126.00	650.00
3	1977	807.00	812.00
4	1978	724.00	670.00
5	1979	604.00	628.00
6	1980	436.00	561.00
7	1981	350.00	361.00
8	1982	366.00	619.00
9	1983	781.00	809.00
10	1984	425.00	582.00
11	1985	283.00	506.00
12	1986	294.00	483.00
13	1987	191.00	219.00
14	1988	333.00	545.00
15	1989	455.00	653.00
16	1990	1,415.00	1,351.00
17	1991	207.00	517.00
18	1992	932.00	1249.00
19	1993	542.00	613.00
20	1994	719.00	1,194.00
21	1995	523.00	545.00
22	1996	469.00	710.00
23	1997	835.00	962.00
24	1998	504.00	600.00
25	1999	342.00	338.00
26	2000	363.00	516.00
27	2001	571.00	531.00
28	2002	196.00	298.00
29	2003	760.00	745.00
30	2004	386.00	523.00
31	2005	818.00	1,161.00
32	2006	1,234.00	1,842.00
33	2007	636.00	1,012.00

S. No.	Year	Rainfall at station(in mm)	
		Sirohi	Pindwara
34	2008	298.00	317.00
35	2009	396.00	521.00
36	2010	801.00	930.00
37	2011	751.00	1,336.00
38	2012	783.00	681.00
39	2013	439.00	561.00
40	2014	446.00	492.00
<u>Average</u>		<u>587.95</u>	<u>710.55</u>
<u>Average</u>		<u>649.25</u>	

2.2 Runoff

Record of gauge reading and runoff for last 51 years observed at West Banas Dam is shown in the following table with dependability:

Table 2.2 Details of observed runoff and dependability
(Yield Calculation with inflow Data)

Gross catchment area: 507.64 km²

Gross storage: 39.05 m³

S. No.	Year	Gauge reading (m)	Yield (Mm ³)	Spilled over (Mm ³)	Total yield (Mm ³)	Yield in descending order (Mm ³)	Dependability %
1	2	3	4	5	6	7	8
1	1965	5.61	24.99	0.00	24.99	66.22	1.9
2	1966	6.65	32.89	0.00	32.89	60.19	3.8
3	1967	7.24	39.05	0.00	39.05	48.62	5.8
4	1968	8.25	39.05	0.00	39.05	48.62	7.7
5	1969	6.71	33.36	0.00	33.36	46.15	9.6
6	1970	7.53	39.05	2.11	41.16	43.83	11.5
7	1971	4.75	19.30	0.00	19.30	42.24	13.5
8	1972	4.05	15.29	0.00	15.29	41.16	15.4
9	1973	3.93	14.58	0.00	14.58	40.74	17.3
10	1974	3.20	11.20	0.00	11.20	39.89	19.2
11	1975	7.67	39.05	7.10	46.15	39.82	21.2
12	1976	7.42	39.05	0.45	39.50	39.78	23.1
13	1977	7.47	39.05	0.51	39.56	39.56	25.0
14	1978	7.39	39.05	0.27	39.32	39.50	26.9
15	1979	6.25	29.87	0.00	29.87	39.32	28.8
16	1980	5.70	25.69	0.00	25.69	39.21	30.8
17	1981	1.54	5.57	0.00	5.57	39.05	32.7
18	1982	4.66	18.77	0.00	18.77	39.05	34.6
19	1983	7.53	39.05	1.69	40.74	34.24	36.5
20	1984	5.64	25.23	0.00	25.23	33.36	38.5
21	1985	4.51	17.90	0.00	17.90	33.01	40.4
22	1986	5.27	22.44	0.00	22.44	32.89	42.3
23	1987	2.10	6.89	0.00	6.89	29.87	44.2
24	1988	6.04	28.25	0.00	28.25	28.25	46.2

S. No.	Year	Gauge reading (m)	Yield (Mm ³)	Spilled over (Mm ³)	Total yield (Mm ³)	Yield in descending order (Mm ³)	Dependability %
25	1989	5.75	26.04	0.00	26.04	27.08	48.1
26	1990	8.53	39.05	27.17	66.22	26.04	50.0
27	1991	4.36	17.03	0.00	17.03	25.69	51.9
28	1992	7.83	39.05	4.78	43.83	25.23	53.8
29	1993	7.44	39.05	0.73	39.78	24.99	55.8
30	1994	7.83	39.05	9.57	48.62	22.44	57.7
31	1995	4.98	20.61	0.00	20.61	21.39	59.6
32	1996	3.78	13.71	0.00	13.71	20.61	61.5
33	1997	7.38	39.05	0.77	39.82	19.30	63.5
34	1998	4.01	15.02	0.00	15.02	18.77	65.4
35	1999	2.47	8.30	0.00	8.30	18.17	67.3
36	2000	4.56	18.17	0.00	18.17	17.90	69.2
37	2001	5.12	21.39	0.00	21.39	17.03	71.2
38	2002	2.83	9.75	0.00	9.75	15.29	73.1
39	2003	5.88	27.08	0.00	27.08	15.02	75.0
40	2004	3.05	10.60	0.00	10.60	14.58	76.9
41	2005	8.14	39.05	9.57	48.62	14.41	78.8
42	2006	9.14	39.05	21.14	60.19	13.71	80.8
43	2007	6.66	33.01	0.00	33.01	11.20	82.7
44	2008	2.29	7.57	0.00	7.57	10.60	84.6
45	2009	3.9	14.41	0.00	14.41	9.75	86.5
46	2010	6.8	34.24	0.00	34.24	8.30	88.5
47	2011	7.83	39.05	3.19	42.24	7.57	90.4
48	2012	7.33	39.05	0.16	39.21	6.89	92.3
49	2013	1.07	4.46	0.00	4.46	5.57	94.2
50	2014	0.91	4.10	0.00	4.10	4.46	96.2
51	2015	7.53	39.05	0.84	39.89	4.10	98.1

50% dependability = 26.04 Mm³

75% dependability = 15.02 Mm³

2.3 Flood Discharge

Peak flood discharge was calculated based on the guidelines for “flood estimation report for Chambal sub-basin 1 (b)” issued by Central Water Commission. Peak flood discharge, thus calculated, is 1,432.34 m³/s and details are shown in Annex 2.1.

2.4 Sedimentation

No record of sedimentation is available for West Banas Dam. Base on the survey data of reservoir capacity, it was found that the dead and live capacity have decreased as follows:

Description	Original	Present Condition
Dead Storage	2.83	1.73
Live Storage	36.22	35.80

As shown in the above table, live storage capacity has decreased only 0.42 m³ during 51 years and it can be judged that the sedimentation volume may be negligible in West Banas Dam.

2.5 Evaporation

Mean or average evaporation rates at West Banas Dam site are summarized in the following table:

Table 2.3 Mean/Average Evaporation Rates at West Banas Dam

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
mm/day	2.1	2.8	5.6	8.0	11.0	8.2	4.6	3.7	3.2	4.0	2.8	2.1
mm	63.8	76.9	173.8	240.2	340.5	247.1	141.9	113.5	96.1	142.1	82.4	63.8

Base on the above table, total evaporation rate and losses from the middle of June, i.e. beginning of monsoon, to the middle of March, i.e. end of irrigation period, can be estimated as 991.0 mm and 3.59 Mm³, respectively.

Chapter 3 Rehabilitation of West Banas Dam

3.1 Design Criteria and Standards used for Survey and Design Works

XXXXXXXXXXXXXXXXXX.

(Please describe the design criteria and standards used for survey and design works)

3.2 General Features and Present Conditions of Existing West Banas Dam

General features and present conditions of existing West Banas Dam are summarized as follows:

Table 3.1 General Features and Present Conditions of Existing West Banas Dam

S. No	Reservoir Parameters	Unit	Existing	Proposed
1	Reservoir data			
a.	Elevation			
i.	Top level of dam (TBL)	El-m	337.04	337.04
ii.	Maximum water level (MWL)	El-m	335.54	335.54
iii.	Full reservoir level (FRL)	El-m	334.45	334.45
iv.	Dead storage level (DSL)	El-m	327.13	327.13
v.	River bed level (RBL)	El-m	319.80	320.11
vi.	Irrigation outlet level (IOL)	El-m	327.13	327.13
2	Main dam			
a.	Length			
i.	Earthen dam	m	4000	4000
ii.	Spillway (ogee shaped weir)	m	472	472
iii.	Bye-wash	m	198	198
b.	Top width of earthen	m	3	6
c.	U/S slope		1:3	1:3
d.	D/S slope		1:2	1:2.5
e.	Number & size of gates at Head Outlet Sluice		2 nos (RD 1230 and 3410) 1.5*1.5 m & 0.9*0.9 m	2 nos (RD 1230 and 3410) 1.5*1.5 m & 0.9*0.9 m
g.	Filter toe from/to	m	405 to 540 & 2580 to 2760	600 to 4000
h.	Pitching on U/S slope From/to	m	0 to 4000	0 to 4000

3.3 Detailed Survey Works on Existing West Banas Dam

XXXXXXXXXXXXXXXXXXXXXXXXXX.

(Please describe the details of survey works at dam site such as the followings including locations of bench marks, interval of sections, etc.)

3.3.1 Submergence Area Survey

Result of submergence area survey is shown in the Drawing no..... and capacity-area curve is prepared as shown in the Drawing no..... According to the result of submergence survey, present dead and live storage capacity was estimated as 1.73 Mm³ and 35.80 Mm³, respectively.

3.3.2 Long and Cross Section Survey for Dam Body

Long and cross section survey for dam body was made at every 100 m and result is shown in the Drawing no.....

3.3.3 Inventory Survey for Dam Facilities

(Please describe the details and results of inventory survey for dam facilities including Drawings)

3.4 Rehabilitation of Dam Body

3.4.1 Detailed Deficiencies in Dam Body

As shown in the result of long and cross section survey and inventory survey described in the above 3.3, the following deficiencies were found in dam body:

- i) Upstream and downstream slopes are totally covered by bushes and trees,
- ii) Top width and downstream slope of dam embankment are not conformed to the latest BIS code and erosions and damages were observed,
- iii) Riprap protection is damaged and not well functions,
- iv) Filter toe is choked and not functions, and
- v) Top of dam used as maintenance road is damaged

3.4.2 Proposed Rehabilitation Works for Dam Body

Mainly to secure the safety of dam, the following rehabilitation works are proposed for dam body and details are shown in the Drawings no..... to

- i) Clearing of bushes and trees at upstream and downstream of dam body (RD 0 – 4000),
- ii) Rehabilitation of dam body including widening of top width from 3.0 m to 6.0 m and change of slope gradient of downstream slope from 1:2 to 1:2.5 with drainage trench at every 60 m long for vertical and at every berm for horizontal (RD 0 – 4000),
- iii) Repair of riprap protection at upstream slope (RD 0 – 4000),
- iv) Repair of existing filter toe and provision of additional filter toe at downstream slope (RD 600 – 4000), and
- v) Provision of quarry spalls on top of dam used as inspection road (RD 0 – 4000).

The stability calculation after rehabilitation works was made and results are shown in Annex 3.1.

3.5 Rehabilitation of Head Outlet Sluice (Intake Structure)

3.5.1 Detailed Deficiencies in Head Outlet Sluice

According to the inventory survey shown in 3.3.3, the following deficiencies were found in head outlet sluice (intake structure) and details are shown in the Drawings no..... to

- i) Sluice gates both for left main canal and right main canal are deteriorated in terms of damage of sealing, spindle, etc. and cause considerable volume of seepage and water loss.

3.5.2 Proposed Rehabilitation Works for Head Outlet Sluice

In order to prevent seepage and water loss through damaged sluice gates, the following rehabilitation works are proposed for head outlet sluice (intake structure):

- i) Replacement of sluice gates both for left main canal and right main canal including gate leaf, guide frame, hoisting equipments, sealing compound, etc.

3.6 Rehabilitation of Spillway Structure

3.6.1 Detailed Deficiencies in Spillway Structure

According to the inventory survey shown in 3.3.3, spillway structure generally functions well and only the following minor deficiencies were observed at spillway structure:

- i) Damages of toe walls at settling basin.

3.6.2 Proposed Rehabilitation Works for Spillway Structure

For safety of spillway structure, the following rehabilitation works are proposed for spillway structure and details are shown in the Drawings no..... to

- i) Remedial works for toe walls at settling basin including protection with gabion mattress.

Chapter 4 Cropping Pattern and Irrigation Water Requirement

4.1 Present Cropping Pattern and Crop Calendar

Present cropping pattern is shown in the following table:

Table 4.1 Present Cropping Pattern

Crop with variety	Growing period		Percentage of CCA	ha
	Optimum sowing Date	Optimum maturity Date		
Rabi				
i) Wheat	1 st Nov	20 th March	12	954
ii) Musturd	15 th Oct	30 th January	10	795
iii) Barley	1 st Nov	20 th March	5	398
iv) Garm	10 th Nov	20 th January	5	398
v) Cumin	15 th Nov	20 th March	2	159
Total			<u>34</u>	<u>2,703</u>

4.2 Studies on Optimum Cropping Pattern

4.2.1 Collected and Available Data

XXXXXXXXXXXXXXXXXXXXX.

(Please describe the collected and available data such as original soil survey data, land use map, climatic data, etc.)

4.2.2 Additional Survey and Study during Preparation of DPR

XXXXXXXXXXXXXXXXXXXXX.

(Please describe additional survey and study results such as soil survey data, land use map, available technical support and information such as new seeds and varieties, fertilizers, pesticides, latest data of crop wise water requirement, updated field application efficiency, parasites, farmer's intension to introduction of new crops and/or new agriculture techniques, etc.)

4.3 Other Water Requirement from West Banas Dam

Other than the irrigation purpose, 1.44 Mm³ is required for industrial purpose.

4.4 Available Water for Irrigation Requirement in West Banas Dam

According to the 2.2, 2.4 and 4.3, available water for irrigation requirement in West Banas Dam can be estimated as 21.01 Mm³ with 50% dependability.

26.04 Mm³ (annual runoff with 50% dependability) – 3.59 Mm³ (evaporation loss) - 1.44 Mm³ (other requirement) = 21.01 Mm³

4.5 Updated Cropping Pattern after Rehabilitation Works

Based on the above considerations as well as CAMP for soft component, the updated cropping pattern after rehabilitation works was prepared as shown below:

Table 4.2 Updated Cropping Pattern

Crop with variety	Growing period		Percentage of CCA	ha
	Optimum sowing Date	Optimum maturity Date		
Rabi				
i) Wheat	1 st Nov	20 th March	17	1,352

ii) Musturd	15 th Oct	30 th January	25	1,988
iii) Barley	1 st Nov	20 th March	0	0
iv) Garm	10 th Nov	20 th January	19	1,511
v) Cumin	15 th Nov	20 th March	17	1,352
Total			78	6,203

Details and guidelines for preparation of updated cropping pattern and calendar in DPR are described in CAMP for soft component.

4.6 Estimation of Effective Rainfall (Fortnightly)

Effective rainfall for crop water requirement was not considered because the irrigation water supply is planned only in Rabi season and rainfall during Rabi season is negligible.

4.7 Assessment of Crop Water Requirement

Crop water requirement based on updated cropping pattern was calculated using CROPWAT. Total crop water requirement was calculated as 2,216 ha-m details are shown in Annex 4.1.

4.8 Irrigation Water Requirement

Irrigation water requirement at the head of the canal system was estimated based on the following water conveyance efficiencies:

Canal distribution system efficiency including Main, distributaries and minors	93.50%
Field application efficiency Water course conveyance efficiency	70.00%

Total irrigation water requirement at head of canal system based on the crop water requirement shown in 4.7 and the above conveyance efficiencies was calculated as 21.00 Mm³ (2,216 ha-m / 0.70 / 0.935 x 6,203 ha).

Based on available water for irrigation requirement in West Bans Dam as described in the above 4.4, the updated cropping pattern may be reasonable in respect of “water availability”. Meanwhile, as described in Section 1.3.3, the maximum irrigation intensity record during past 60 years was just only 56%, i.e. 4,453 ha, and the canal system should be re-designed based on latest command area survey to realize the above cropping pattern with intensity of irrigation of 78%, i.e. 6,203 ha.

4.9 Impact of Rehabilitation on Existing, On-going and Proposed Projects in the Basin

The rehabilitation works of the Sub-project will not include any works related to increase the capacity of dam reservoir and, therefore, will not cause any adverse impact to other projects in the basin.

Chapter 5 Rehabilitation of Canal System

5.1 Design Criteria and Standards used for Survey and Design Works

XXXXXXXXXXXXXXXXXX.

(Please describe the design criteria and standards used for survey and design works)

5.2 General Features and Present Conditions of Irrigation Canal System

General features and present conditions of existing West Banas Irrigation Canal System are summarized as follows:

Table 5.1 General Features of Irrigation Canal System

S. No.	Name of Canal	Category	Total length of Canal (m)			CCA (ha)	Design Discharge (m ³ /sec)
			Lined	Unlined	Total		
1	Right Main Canal	Main Canal	34,633	107	34,740	4,221	XXXXXXXXXXXXXX
2	Left main Canal	Main Canal	18,875	3,445	22,320	1,300	XXXXXXXXXXXXXX
3	Fula Bai ka Khera Minor	Minor	2,340	-	2,340	532	XXXXXXXXXXXXXX
4	Sangwara Minor	Minor	3,750	-	3,750	428	XXXXXXXXXXXXXX
5	Achpura Minor	Minor	3,117	753	3,870	636	XXXXXXXXXXXXXX
6	Mungthala Minor	Minor	4,890	-	4,890	524	XXXXXXXXXXXXXX
7	Kyaria Minor	Minor	2,910	-	2,910	312	XXXXXXXXXXXXXX
		Total	70,515	4,305	74,820	7,952	XXXXXXXXXXXXXX

5.3 Detailed Survey Works on Irrigation Canal System

XXXXXXXXXXXXXXXXXXXXXX.

(Please describe the details of survey works for canal system such as the followings including location of bench marks, interval of sections, etc.)

5.3.1 Long and Cross Sections Survey for Canals

Long and cross section survey for all the main canals and minor canals was made at the interval of every 50 m and results are shown in the Drawings no.....

5.3.2 Command Area Survey

Command area survey was made for the command area under all the main and minor canals and results are shown in the Drawings no.....

5.3.3 Inventory Survey for Canals and Canal Related Structures

Inventory survey for canals and canal related structures was made to check the detailed locations and conditions of the existing canals and canal related structures. Results of inventory survey for canals and canal related structures for all main and minor canals are shown in Annex 5.1.

5.4 Redesign of Canal System

As described in Sections 1.3.3 and 4.8, the maximum irrigation intensity record during past 60 years was just only 56%, i.e. 4,453 ha, and the canal system should be re-designed based on latest command area survey to realize the above cropping pattern with intensity of irrigation of 78%, i.e. 6,203 ha.

Based on the result of command area survey, cropping pattern and irrigation water requirement, the canal system including all main and minor canals was totally checked and re-designed as shown in the Drawings no..... and hydraulic profiles for all main and minor canals (Annex 5.2).

5.5 Rehabilitation of Irrigation Canals

5.5.1 Detailed Deficiencies in Irrigation Canals and Related Structures

As shown in the result of long and cross section survey and inventory survey described in the above 5.3, the following deficiencies were found in irrigation canal system in addition to the above 5.4:

- i) Canal system including alignment of irrigation canals, capacity of irrigation canals at each reach, locations of outlet structures, etc. should be reviewed and redesigned to maximize the irrigation efficiency and intensity,
- ii) Sediment and debris in the canal should be removed,
- iii) Existing canal linings are deteriorated in many reaches,
- iv) Existing earthen canals are seriously damaged and causes heavy workload for maintenance works and less irrigation efficiency,
- v) Existing canal related structures are deteriorated,
- vi) Existing unauthorized outlets should be removed, and
- vii) Required facilities for proper water management should be installed.

5.5.2 Proposed Rehabilitation Works for Irrigation Canals

Based on the above 5.4 and 5.5.1, proposed rehabilitation works for irrigation canals are summarized as follows and details are shown in the Drawings no.....:

- i) Rehabilitation of all main and minor canals in accordance with the alignments, dimensions and elevations designed and described in the layout plan, longitudinal profile and cross section drawings no..... with concrete lining as shown in the cross section drawings no.....
- ii) Rehabilitation of existing Aqueduct structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- iii) Rehabilitation of existing Siphon structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- iv) Rehabilitation of existing Bridge structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- v) Rehabilitation of existing Drop structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- vi) Rehabilitation of existing Outlet structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- vii) Construction of new structures as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....
- viii) Provision of measuring devices as listed in the Drawings no in accordance with the hydraulic and structure design shown in the Drawings no.....

The results of hydraulic calculations and hydraulic profiles for all canals after rehabilitation are shown in Annex 5.2 and Schematic Diagrams for Irrigation System, Structures and Water Level are shown in Drawings no....., respectively.

5.6 Introduction WUA Constructive Facilities

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

(Please take the following actions and describe the results with required drawings)

- *Orientation to the WUA members*
- *Walk-through survey with WUA members*
- *Facilities to be provided under RWSLIP with location and dimensions*
- *DRAWINGS*

5.7 Construction of Women Friendly Facilities and Trees

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

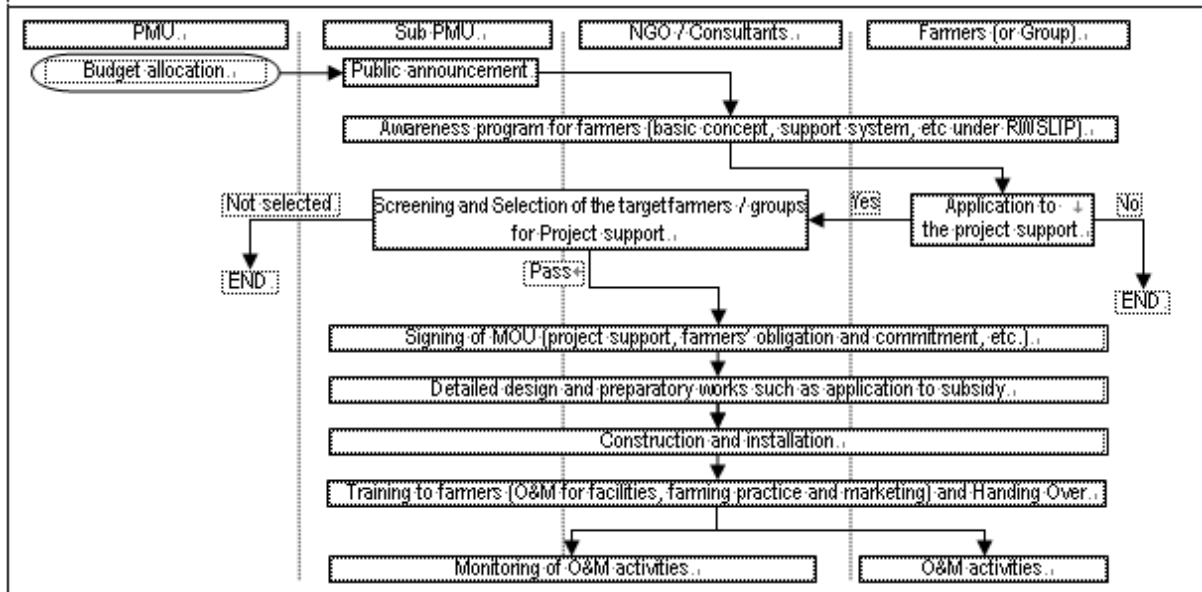
(Please take the following actions and describe the results with required drawings)

- *Orientation to the Women Wing members*

- *Walk-through survey with Women Wing members*
- *Facilities to be provided under RWSLIP with location and dimensions*
- *DRAWINGS*

5.8 Promotion of Micro Irrigation System

Micro irrigation system will be promoted in the Sub-project area with target area of 5% of total CCA. Details including target farmers will be decided after final screening of the Sub-project and allocation of budget by PMU based on the following flow chart:



Chapter 6 Operation and Maintenance Plan

6.1 Current Situation for Operation and Maintenance in the Sub-project

West Banas sub-project is more than 51 years old system. WRD is the owner of the sub-project, and undertake maintenance, regulation, management etc. But, due to financial crunch, no budget is allocated for even normal repair and maintenance. Condition of canal network is regularly deteriorated due to deferred maintenance. Farmers particularly at tail are most dissatisfied about the performance of the system. Water distributions committees exist and their meetings are convened before start of Rabi irrigation. It is experienced that the beneficiaries are losing confidence with government agency and rift between farmers and Engineers is widening due to lack of services for smooth regulation of the system.

6.2 Operation and Maintenance Plan after Rehabilitation

6.2.1 Participatory Irrigation Management

Farmers' participation in the irrigation management is the most important and key factor. Rajasthan WRD has already initiated to evolve a partnership between the state and farmers in relation to irrigated agriculture through an act namely "Rajasthan Farmers Participation in Management of Irrigation Systems" 2000 and Rajasthan Farmers Participation in Management of Irrigation Systems Rules (RFPMS Rules 2002) to provide effective role to farmers in the management and maintenance of irrigation systems. Role of farmers is of paramount importance and proposed to be extended top priority with a paradigm shift by transferring management authority of existing irrigation projects after their rehabilitation and capacity building of WUAs.

6.2.2 Strengthening of Capacity of WUA

Strengthening of capacity of WUA will be made through the activities under Component 2: Fostering and Capacity Enhancement of Water Users Organizations. For details, please see CAMP for soft component.

6.2.3 Fund for Operation and Maintenance

For proper and sustainable operation and maintenance works, collection of water fee is a key factor. Regarding the collection ratio, it is expected to improve through the activities under Component 2. In addition, it is strongly proposed to increase the amount of water fee up to INR 1,175 / ha as recommended by the 13th Finance Commission.

6.2.4 Guidelines and Manuals for Operation and Maintenance Works

Guidelines and manuals for operation and maintenance works will be prepared by the consultant for RWSLIP and distributed to the concerned agencies and WUA members. Operation and maintenance works should be made based on those guidelines and manuals and all WUA members and WRD field officers should well understand the contents.

PMU and the consultant will provide the following training program before handing over the facilities to WUA:

Table Training on Operation and Maintenance

Timing	Target Officer	Trainer	Contents
Completion of each irrigation sub-project	Sub-PMU staff WUA members	PMU staff/ consultant	O&M including water management based on guidelines and manuals to be prepared by the Consultant

Source: JICA survey team

Chapter 7 Construction Plan

7.1 Procurement Plan of the Construction Works

7.1.1 Basic Conditions for Procurement Plan under RWSLIP

Basic conditions for procurement plan under RWSLIP is as follows:

- Minimum amount for one contract package: INR 30 mil.
- Basic amount for one contract package: INR 50 mil. ~ 100 mil.
- Maximum amount of one contract package: INR 200 mil.

The construction period should be ranging from one year to two years in principle.

7.1.2 Packaging Plan

Considering the basic conditions shown in the above 7.1.1 and estimated cost of the Sub-project, the following packaging plan is prepared for implementation of the Sub-project:

Table A 7.1 Packaging of the Sub-project

Package	Description	Estimated Amount (INR)
Package 1	Civil Works for Rehabilitation of West Banas Dam and Right Main Canal System including Minor Canals	xxxxxxxxxxxxx
Package 2	Civil Works for Rehabilitation of Left Main Canal System including Minor Canals	xxxxxxxxxxxxx

7.2 Construction Schedule of the Sub-project

Considering the pre-construction works such as tender process, monsoon and water running period, the construction schedule was prepared as shown in the following figure:

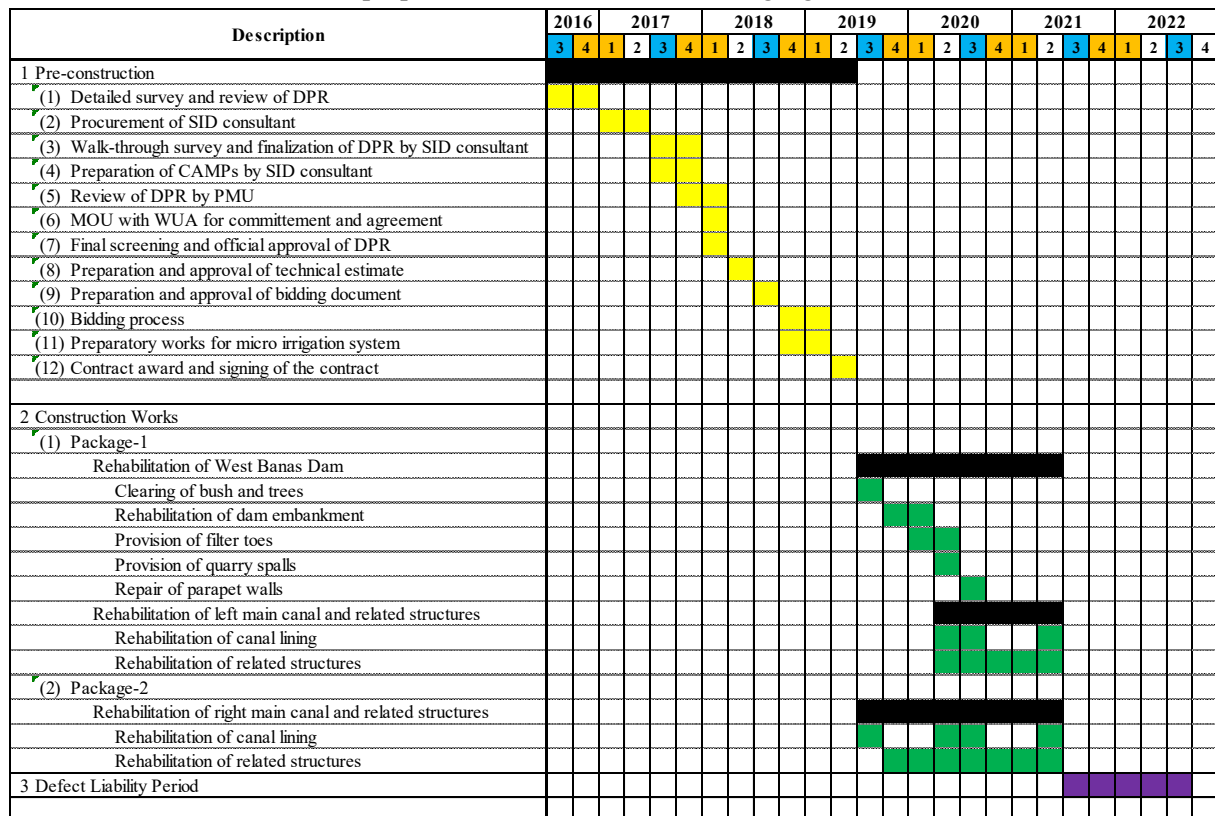


Figure A 7.1 Construction Schedule of Rehabilitation of West Banas Irrigation Sub-project

7.3 Organizational Structure for Construction Works

Organizational structure for construction works is shown in the following figure:

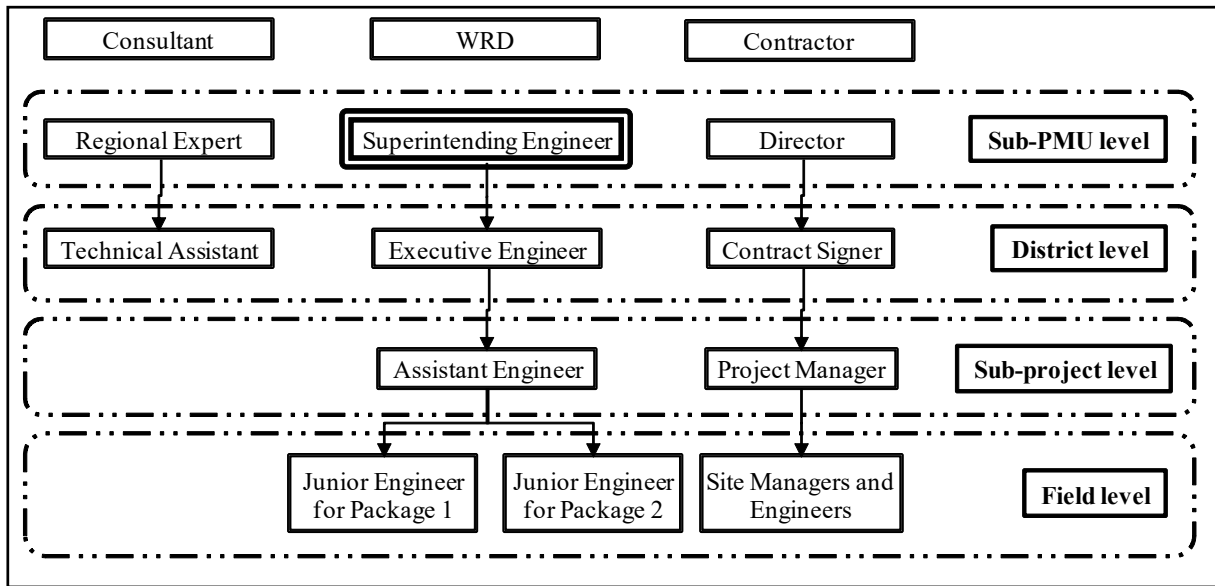


Figure A 7.2 Organizational Structure for Construction Works

7.4 Construction Management and Supervision

7.4.1 Guideline for Construction Management and Supervision under RWSLIP

Guideline for Construction Management and Supervision under RWSLIP issued by PMU will be applied to overall construction management and supervision including process of each activity, progress control, quality control and safety control.

7.4.2 Construction Meetings

The following regular and special construction meetings will be organized by relevant responsible sub-PMU staff under the Sub-project:

Table A 7.2 Regular and Special Construction Meetings

Name	Frequency	Chairman	Member	Main agenda
Sub-PMU coordination committee	monthly	Superintending engineer	- Executive engineers - Consultant - Contractor (with delay or problem)	- report to sub-PMU about progress, quality and safety issues - discussion and decision for important issues especially for delay of the works
Monthly construction meeting	monthly	Executive engineer	- Assistant engineers - Consultant - Contractor (project manager level)	- progress, quality and safety of the works - decisions for required actions such as show cause meeting, warning letter, variation order, extension of time, contract amendment, etc.
Weekly construction meeting	weekly	Assistant engineer	- Junior engineers - Contractor (site manager level)	- progress, quality and safety of the works - discussion for required actions such as show cause meeting, warning letter, variation order, extension of time, contract amendment, etc.
Special meeting	as required	Superintending engineer	- Executive engineers - Consultant - Contractor (project manager level)	- specific issues for discussion (delay of the works, low quality of the works, etc.)

Chapter 8 Environmental and Social Consideration

8.1 Screening for Environmental and Social Consideration before Preparation of DPR

Screening for environmental and social consideration was made before preparation of DPR. As shown in Attachment 1 of Executive Summary, *there will be no adverse impact on environmental and social issues by implementation of the Sub-project (Please check the result of screening and change the description, if required).*

8.2 Analysis and Monitoring of Impacts on Environmental and Social Issues

Based on the available data and information in this DPR as well as CAMP for soft components, the analysis of environmental impacts during the rehabilitation works was made as follows:

Table A 8.1 Environment Impacts during Rehabilitation Works and Measures

Sl.	Environmental features	Adverse impacts	Mitigation Measures	Cost in INR
1	Water quality	xxxxxxx	xxxxxxx	xxxxxxx
2	Noise and Air quality	xxxxxxx	xxxxxxx	xxxxxxx
3	Soil quality, soil contamination, earth excavation, burrow pits etc.	xxxxxxx	xxxxxxx	xxxxxxx
4	Felling of tree/ clearing of bushes, shrubs/ herbs	xxxxxxx	xxxxxxx	xxxxxxx
5	Wildlife including birds and their habitat	xxxxxxx	xxxxxxx	xxxxxxx
6	Domestic animals, grazing land/ pastures	xxxxxxx	xxxxxxx	xxxxxxx
7	Waste management	xxxxxxx	xxxxxxx	xxxxxxx
8	Any other	xxxxxxx	xxxxxxx	xxxxxxx

Based on the above analysis and also some key factors in other soft components activities, monitoring plan of environmental and social consideration was prepared as follows:

Table A 8.2 Monitoring of Environmental and Social Consideration

Sl.	Activities for monitoring	Monitoring parameter	Location	Methods of monitoring	Time frame	In Charge	Cost in INR
1	Efficiency and effectiveness of Irrigation Infrastructure	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
2	Water quality	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
3	Soil quality	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
4	Application of chemical fertilizers and pesticides	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
5	Disposal of agriculture wastes	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
6	Use of eco-friendly materials and practices in agriculture	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
7	Participation of women in Project activities	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
8	Participation of ST in Project activities	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
9	Conservation of traditional seeds/ landraces	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
10	Conservation of forest, plantations, trees in the Catchment area	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
11	Green belt development	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
12	Tree planting by farmers on their own land	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
13	Dam safety (in case of big dams)	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
14	Any other activities	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Chapter 9 Economic Evaluation

9.1 General

Economic evaluation was carried out to assess the economic viability of each sub-project of the Project from a viewpoint of national economy. In order to evaluate the Project, such indicators as the economic internal rate of return (EIRR), cost-benefit ratio (B/C) and net present value (B-C) was calculated by estimating the cash outflow (costs) and inflow (benefits) on annual basis over sub-project life with a certain discount rate. EIRR is a discount rate at which the present value of the in and out cash flows become equal. This rate shows the return to be expected from the Project as expressed in the following equation.

$$\sum_{t=0}^n C_t / (1+r)^t - \sum_{t=0}^n B_t / (1+r)^t = 0$$

Where,

C_t	:	Cost
B_t	:	Benefit
t	:	Year
n	:	Project life (year)
r	:	Discount rate (= EIRR)

9.2 Basic Assumptions

The above mentioned economic evaluation indicators are estimated with the following conditions and assumptions:

- i) **Project life:** Project life is assumed to be 30 years;
- ii) **Discount rate:** Discount rate of 12% is applied for calculation of B/C and B-C, which is the standard for appraisal of World Bank and Asian Development Bank;
- iii) **Traded outputs:** Maize, wheat and barley is treated as traded outputs (export goods). Economic prices of them are estimated based on f.o.b. (free on board) price calculated from trade statistics (excluding taxes and duties) derived from the "Export Import Data Bank, Department of Commerce" and expressed in 2016 constant price;
- iv) **Nontradable commodities:** Standard conversion factor (SCF) of 0.96 are applied for converting from financial prices of nontradable commodities to economic prices which was calculated based on trade statistics of India.;
- v) **Labour:** Shadow wage rate (SWR) for unskilled labour of 0.9 are applied for converting market wage rate to their economic prices;
- vi) **Economic Price:** All financial prices shall be converted to economic price by using the above mentioned prices and factors. Transfer payment (taxes and subsidies), land acquisition, compensation, price escalation and interest during construction are excluded for calculation of economic project cost/benefit.
- vii) **Economic Cost:** For calculation of the project economic cost, only incremental cost shall be counted. Sunk cost is not included in economic cost; and
- viii) **Economic Benefit:** For calculation of the project benefit, only tangible direct benefits of irrigation are counted and no indirect and intangible benefits are taken into account.

9.3 Project Cost

9.3.1 Cost estimate

The construction cost is estimated as shown in Volume-2 of Cost Estimates and as summarized in Table A 9.1, which was based on the latest available version of the BSR (2014).

An allowance of 5% for physical contingencies for any unforeseen work. The construction cost established was surcharged by the inflation in the construction sector for years 2015/2016 which was assumed as 6%. The cost of employment of the consultant and SID works was surcharged to the updated (2016) construction cost at a total of 6%, consisting of the following:

- SID contracts 1.5 %
- Consultant 4.5 %
- Total 6.0 %

Table A 9.1 Abstract of Cost for Rehabilitation of West Banas Irrigation Sub-project

No.	Description (Proposed Activity)	Estimated Cost (INR thousand)
1	Rehabilitation of West Banas Dam	
1.1	Dam body and intake structure	xxx
1.2	Spillway (rehabilitation of downstream walls at settling basin)	xxx
1.3	Provision of filter toe	xxx
	<u>Sub-total 1</u>	<u>xxx</u>
2	Rehabilitation of Irrigation Canal System (Right Main Canal)	
2.1	Rehabilitation of existing canal lining	xxx
2.2	Construction/rehabilitation of related structures	xxx
	<u>Sub-total 2</u>	<u>xxx</u>
3	Rehabilitation of Irrigation Canal System (Left Main Canal)	
3.1	Rehabilitation of existing canal lining	xxx
3.2	Provision of new canal lining	xxx
3.3	Construction/rehabilitation of related structures	xxx
	<u>Sub-total 3</u>	<u>xxx</u>
4	Rehabilitation of Irrigation Canal System (Minor Canals)	
4.1	Rehabilitation of existing canal lining	xxx
4.2	Construction/rehabilitation of related structures	xxx
	<u>Sub-total 4</u>	<u>xxx</u>
5	Promotion of Micro Irrigation System (target area to be developed)	
5.1	Construction and installation of community based sprinkler system	xxx
5.2	Construction and installation of individual farmer based drip system	xxx
	<u>Sub-total 5</u>	<u>xxx</u>
6	Construction of WUA Constructive Facilities	
6.1	Construction of xxxxxxxx at xxxxxxxx	xxx
	<u>Sub-total 6</u>	<u>xxx</u>
7	Support for Gender Mainstreaming Activities	
7.1	Construction of xxxxxxx at xxxxxxx	xxx
7.2	Construction of xxxxxxx at xxxxxxx	xxx
7.3	Planting of xxxxxxx at xxxxxxx	xxx
7.4	Planting of xxxxxxx at xxxxxxx	xxx
	<u>Sub-total 7</u>	<u>xxx</u>
<u>Total (1 - 7)</u>		<u>xxx</u>

9.3.2 Annual O&M Cost

For the economic evaluation, only incremental O&M cost is counted. Annual operation and maintenance (O&M) cost of the Project was estimated based on required O&M expenditure per ha recommended by the 13th Finance Commission and actual expenditure for O&M from both WUA and

GOR. Accordingly, annual O&M cost is assumed to be INR 1,175 per ha (financial price) and INR 1,128 per ha (economic price). Total annual O&M cost for the sub-project is INR 6,997 thousand.

9.3.3 Economic Capital Cost

Economic capital cost was calculated based on the financial capital cost by applying above mentioned conversion factors. Construction cost was divided into two parts, 1) construction materials/skilled labour cost and 2) unskilled labour cost. Different conversion factor was applied for 1) and 2). Prize escalation cost in the future was excluded for economic cost estimation. Economic capital costs to be considered are the following:

- Construction cost with physical contingencies (5% of construction cost) at 2016 price level converted to economic cost with SCF and SWR,
- Cost of SID works converted to economic cost with SCF, and
- Cost of consultancy (E&M, M&E) converted to economic cost with SCF.

9.4 Project Benefit

9.4.1 Cropping Pattern

The benefit from irrigation water supply of the Project is the increment of net production value of crops derived from increasing of cropping intensity and unit yield of cereals, pulses, oil seed and other crops comparing without and with project condition. Cropping pattern with and without rehabilitation is shown in Annex 9.1: Cropping Areas - with/without Rehabilitation.

9.4.2 Crop Budget

Economic Crop budget of major crops were prepared for estimation of irrigation benefit of the sub-project as shown in Annex 9.2: Cost of Inputs, Crop Yields and other Parameters. These crop budget are estimated based on the following assumptions:

- i) Crop budget are prepared for Kharif cereals (maize, sorgham and pearl millet), Kharif beans (Moong), Kharif oilseed (Sesame and groundnut), Kharif cotton, Rabi cereals (wheat and barley), rabi beans (gram), rabi oilseed (Mustard);
- ii) Crop budget of onion, which has the largest cultivation area among vegetable in Rajasthan typified other high value crops due to lack of reliable data of cost of cultivation;
- iii) Crop budget of the project also does not separate irrigated and un-irrigated condition (Average figure includes both irrigated and un-irrigated condition);
- iv) Crop budget are prepared based on the following sources,
 - Price: Average Price of 2009-14 five year data at price in 2016, Rajasthan Agricultural Statistics at a Glance 2013-14, published Nov. 2015, DoA, Rajasthan
 - Yield: Ave. 5 years data upto 2012-13, Rajasthan Agricultural Statistics at a Glance 2013-14, published Nov. 2015, DoA, Rajasthan
 - Cost of Cultivation: 2012-13 data, Estimates of Cost of Cultivation/Production & Related Data, Directorate of Economics & Statistics
- v) Prices of agro commodities are converted from wholesale price to farm gate price by deducting marketing cost;
- vi) All prices are expressed in 2016 constant prices by converting with consumer price index;
- vii) Material cost are estimated to have 20% of subsidy for seeds and/or fertilizers based on subsidy rate for seeds in Rajasthan. Material cost are also estimated to include 5.5% of Value Added Tax (VAT), which are deducted from material cost;
- viii) Figure of crop budget are converted to economic prices based on above mentioned assumptions and procedures;
- ix) Irrigation charge of cultivation cost are included in O&M cost and not included in production cost;

- x) Crop budget with above mentioned conversion are assumed as crop budget without project conditions;
- xi) Increase in production of 10% for wheat, barley & gram and 5% of maize, mustard & other crops are anticipated for the crop budget with condition due to availability of stable water supply by rehabilitation of irrigation facilities and agricultural extension activities by the Project. Increase of 5% of labour cost and material inputs are anticipated with condition due to more intensive use of irrigation water, introduction of recommended variety and increase of fertilizer inputs.

9.4.3 Net Project Benefit

In accordance with “without” and “with” cropping pattern in the project area and crop budget, annual project benefit is estimated. Economic benefit from irrigation development is estimated at Rs. x,xxx million per annum. Calculation result of net project benefit is shown in Annex 9.3: Value of Crop and Cost of various Inputs (Without-Rehabilitation) and Annex 9.4: Annual Net Receipt (Total Gross Margin).

9.5 Calculation of EIRR

EIRR is calculated from the cash flow table at xx.x% with INR x,xxx million of B-C and 1.xx of B/C, as summarized in Table 9.2. Cash flow table for calculation of EIRR and calculation of benefit cost ratio is shown in Annex 9.5: Cash Flow Schedule and EIRR and Annex 9.6: Calculation of Benefit Cost Ratio, respectively.

Table A 9.2 Economic Evaluation Results

Name of Sub-project	EIRR (%)	Net Present Value			B/C
		Benefit	Cost	B-C	
West Banas Irrigation Sub-project	xxxx	xxxxx	xxxx	xxxx	xxxx

Annexure

Annex 1.1 Walk-through Survey Report

Name of the Sub-project:

Date:

Participants (with signature for attendance):

Organization	Name of Participants	Signature
WRD		
DoA		
DoH		
WCD		
WUA		
Women Wing		
SID consultant		
The consultant		
NGO		

Findings through Walk-through Survey

1. Rehabilitation of Irrigation Facilities (Present Conditions and Constraints)

Location	Findings

2. Promotion of Micro Irrigation System (Intension of Farmers)

Location	Findings

Note: farmers' intension to install micro irrigation system including cultivated crops should be confirmed.

3. Introduction of WUA Facilities (WUA Activities)

Location	Findings

Note: location and detailed specifications of WUA facilities such as dimensions, etc. proposed and agreed in "ORIENTATION" should be checked.

4. Women Friendly Activities (Facilities and Trees) for Gender Mainstreaming

Location	Findings

Note: location and details of women friendly facilities and trees. proposed and agreed in "ORIENTATION" should be checked.

5. Agriculture, Agro-processing and Marketing Activities

Location	Findings

Note: should be checked based on CAMP for Sub-PMU 3: Udaipur and Jodhpur Zones

Confirmed and signed by

Assistant Engineer, WRD

Assistant Director, DoA

Assistant Director, DoH

Assistant Director, WCD

President, WUA

Leader, Women Wing

SID Consultant

The Consultant

NGO

Annex 2.1 Unit Hydrograph and Calculations for SPF/PMF

WEST BANAS IRRIGATION PROJECT, PINDWARA/ABUROAD,SIROHI

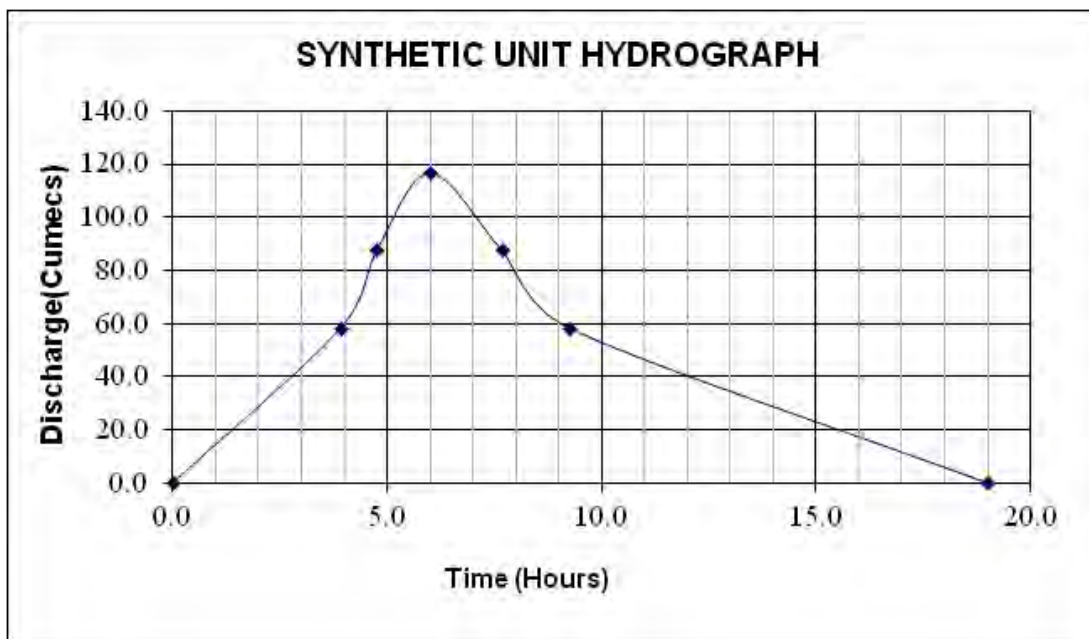
S.No.	Particulars	DETAILS	
1	Name Of Project	WEST BANAS IRRIGATION PROJECT	
2	Gauge -Discharge Site	WEST BANAS	
3	Latitude	24° 41' 30"	
4	Longitude	72° 57' 35"	
5	Tehsil	Pindwara,	
6	District	SIROHI	
7	Basin	West Banas	
8	Gross Catchment Area	515.00	Sq.Km.
9	Intercepted Catchment Area	98.00	Sq.Km.
10	Free Catchment Area	417.00	Sq.Km.
12	Catchment Area For Yield Calculation	417.00	Sq.Km.

WEST BANAS IRRIGATION PROJECT

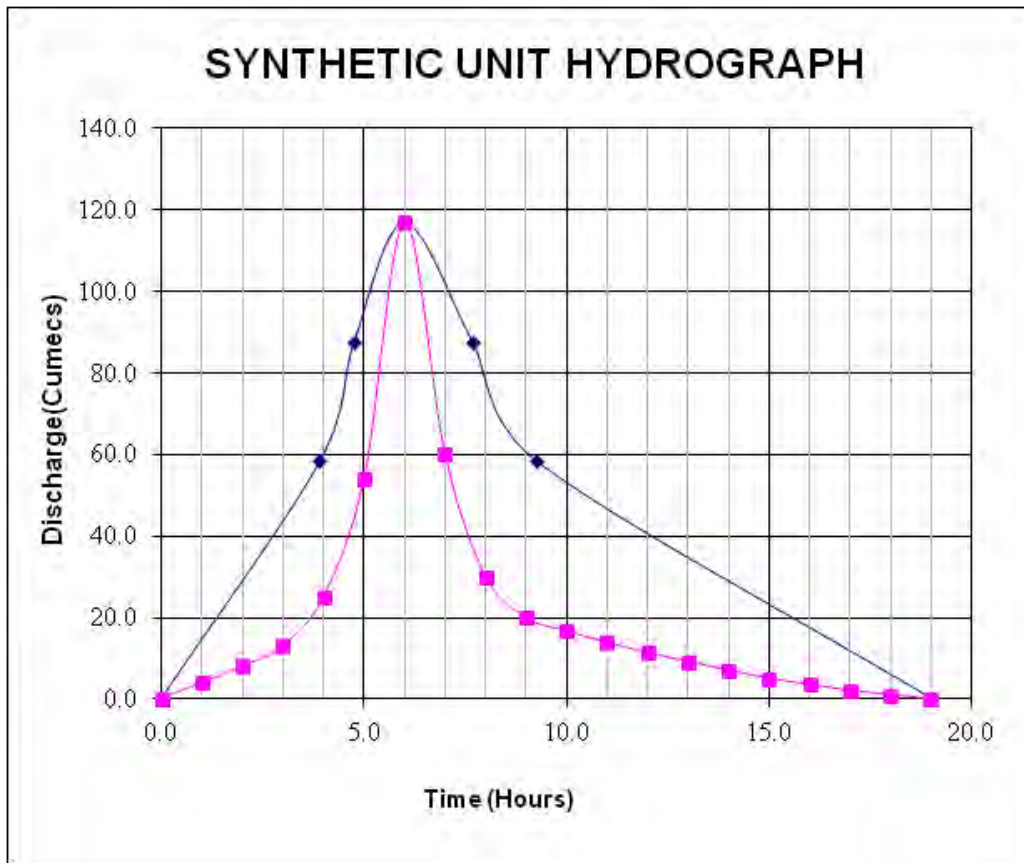
Computation of Equivalent Slope of stream

Latitude	24° 20' 30"		Longitude	75° 59' 35"		
S. No.	Distance from dam site	Reduced level of river bed	Length of each segment (Li)	Height above datum	(Di-1+Di)	Li(Di-1+Di)
	(km)	(m)	(km)	(m)	(m)	(m*km)
1	2	3	4	5	6	7
1	0.00	327.00	0.00	0.00	0.00	0.00
2	5.98	337	5.98	10.00	10.00	59.80
3	7.43	342	1.45	15.00	25.00	36.25
4	8.24	347	0.81	20.00	35.00	28.35
5	12.95	357	4.71	30.00	50.00	235.50
6	15.72	368	2.77	41.00	71.00	196.67
7	17.98	377	2.26	50.00	91.00	205.66
8	21.68	389	3.7	62.00	112.00	414.40
9	23.37	393	1.69	66.00	128	216.32
10	24.66	399	1.29	72.00	138	178.02
11	25.66	401	1	74.00	146	146.00
L²=	658.44					1716.97
Equivalent slope of stream =Sum Li(Di-1+Di)/L²				=	2.61	m/km

Derivation of 1-hr. Synthetic Unit Hydrograph (SUG):							
Computation of 1hr. U.G. parameters.							
For Chambal sub-zone : 1(a)							
1	Input data :-						
-	tr =	1	hr.				
	Area A =	414.00	Sq.km.				
	Length L =	12.95	km.				
	Eq.Slope S=	2.61	m/km.				
2	Computation of Physiographic parameters :-						
-				say		SUG Coordinates	
	t _p =	$0.339(L/S^{1/2})^{0.826} =$	1.892	5.50	hrs.	X	Y
	q _p =	$1.251(t_p)^{-0.610} =$	0.427		CUMECS/SQ KM	0	0
	W ₅₀ =	$2.215(q_p)^{-1.034} =$	5.33		hrs.	3.92	58.391
	W ₇₅ =	$1.191(q_p)^{-1.057} =$	2.92		hrs.	4.76	87.586
	W _{R50} =	$0.834(q_p)^{-1.077} =$	2.08		hrs.	6	116.781
	W _{R75} =	$0.502(q_p)^{-1.065} =$	1.24		hrs.	7.68	87.586
	T _b =	$6.662(t_p)^{0.613} =$	18.82	19	hrs.	9.25	58.391
	T _m =	$t_p + t_r/2 =$	6	6	hrs.	19	0
	Q _p =	$q_p \times A =$	116.781		Cumecs		
	T _D =	$1.1 \times t_p =$	6.05	7	hrs.		
3	Drawing of Synthetic Unitgraph						
-	With the help of estimated parameters unit graph is drawn.						
	The discharge ordinates of unit graph at t _i = t _r interval are summed up and multiplied by t _r = 1 and compared with the volume of 1cm Direct runoff depth over the catchment with the formula $Q_i * t_i = A*d/t_i*.36$.						
	Shape of unitgraph is adjusted to satisfy the formula.						
	<Q _i * t _i =	1089.474	Cumecs				



4 - <u>Adjusted Unit Graph :-</u>							
SUG Coordinates			Time in Hrs.	1-hr.SUG Ordinates			
X	Y						
			0	0			
	0	0	1	4			
	3.92	58.391	2	8			
	4.76	87.586	3	13.0			
	6	116.781	4	25			
	7.68	87.586	5	54.0			
	9.25	58.391	6	117			
	19	0	7	60			
			8	30			
			9	19.9			
			10	16.6			
			11	13.80			
			12	11.3			
			13	9.083			
			14	7			
			15	5			
			16	3.5			
			17	2			
			18	1			
			19	0			
			1089.474	400.183			



1- Time Distribution of SPS :		WEST BANAS IRRIGATION PROJECT			
Catchment Area(Gross)				414	Sq.Km.
SPS Value computed as per Table vol 1(a) =				36.00	cm
Clock Hour Correction@15%				1.15	
Therefore One day areal PMP value =1.15x36				41.40	cm
Rainfall during first 12 hrs. =				28.98	cm
Rainfall during second 12 hrs. =				12.42	cm
A. Rainfall distribtion for first 12 hrs. :-					
Hour	% of R.F.	1-hr storm	Rainfall	Loss rate	1-hr effec.
	distribution	Rainfall	increments		Rainfall
	co-eff.	cm	cm	cm/hr	cm
1	2	3	4	5	6
1	22.86	6.62	6.62	0.17	6.45
2	37.14	10.76	4.14	0.17	3.97
3	50.00	14.49	3.73	0.17	3.56
4	58.57	16.97	2.48	0.17	2.31
5	65.71	19.04	2.07	0.17	1.90
6	71.43	20.70	1.66	0.17	1.49
7	77.14	22.36	1.66	0.17	1.49
8	81.43	23.60	1.24	0.17	1.07
9	87.14	25.25	1.66	0.17	1.49
10	92.86	26.91	1.66	0.17	1.49
11	95.71	27.74	0.83	0.17	0.66
12	100.00	28.98	1.24	0.17	1.07
A. Rainfall distribution for Second 12 hrs. :-					
Hour	% of R.F.	1-hr storm	Rainfall	Loss rate	1-hr effec.
	distribution	Rainfall	increments		Rainfall
	co-eff.	cm	cm	cm/hr	cm
1	2	3	4	5	6
1	10.00	1.24	1.24	0.17	1.07
2	20.00	2.48	1.24	0.17	1.07
3	26.67	3.31	0.83	0.17	0.66
4	36.67	4.55	1.24	0.17	1.07
5	43.33	5.38	0.83	0.17	0.66
6	53.33	6.62	1.24	0.17	1.07
7	60.00	7.45	0.83	0.17	0.66
8	70.00	8.69	1.24	0.17	1.07
9	76.67	9.52	0.83	0.17	0.66
10	86.67	10.76	1.24	0.17	1.07
11	93.33	11.59	0.83	0.17	0.66
12	100.00	12.42	0.83	0.17	0.66

3-	Estimation of SPF :-	Table - 6			
	a) Computation of first peak value :				
	Time	UG ordin-	1-hr effec.	Direct run-off	
	(Hrs)	ates	RF in cms	cumecs	
	1	2	3	4	
	1	4.00	0.66	2.64	
	2	8.00	1.07	8.56	
	3	13.00	1.49	19.37	
	4	25.00	1.49	37.25	
	5	54.00	3.56	192.24	
	6	117.00	6.45	754.65	
	7	60.00	3.97	238.20	
	8	30.00	2.31	69.30	
	9	19.90	1.90	37.81	
	10	16.60	1.49	24.73	
	11	13.80	1.49	20.56	
	12	11.30	1.07	12.09	
			Direct runoff =	1417.41	cumecs
			Base flow =	14.93	cumecs
			First peak value =	1432.34	cumecs
	a) Computation of second peak value :				
	Time	UG ordin-	1-hr effec.	Direct run-off	
	(Hrs)	ates	RF in cms	cumecs	
	1	2	3	4	
	1	4.00	0.66	2.64	
	2	8.00	0.66	5.28	
	3	13.00	0.66	8.58	
	4	25.00	1.07	26.75	
	5	54.00	1.07	57.78	
	6	117.00	1.07	125.19	
	7	60.00	1.07	64.20	
	8	30.00	1.07	32.10	
	9	19.90	1.07	21.29	
	10	16.60	0.66	10.96	
	11	13.80	0.66	9.11	
	12	11.30	0.66	7.46	
			Direct runoff =	371.34	cumecs
			Base flow =	14.93	cumecs
			First peak value =	386.26	cumecs

Annex 3.1 Stability Calculations for Earthen Dam

WEST BANASIRRIGATION PROJECT									
UPSTREAM SLOPE STABILITY ANALYSIS									
(U/S)STEADY SEEPAGE AT (NSL) 1.					WITHOUT EARTHQUAKE				
POOL ELEVATION =						334.45	metres		
GROUND LEVEL =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						321.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						2.18			
SAFETY FACTOR TABLE									
S. NO.	X- CO-ORD	Y- CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTIO N	SIGMA SLIDING	F.O.S	
1	223.31	344.81	23.31	210.84	245.10	190.09	73.67	2.58	
2	225.31	344.81	23.31	212.17	247.29	212.92	90.23	2.36	
3	227.31	344.81	23.31	213.53	249.29	238.70	107.38	2.22	
4	229.31	344.81	23.31	214.92	251.29	267.13	122.74	2.18	
5	231.31	344.81	23.31	216.34	253.18	291.26	131.37	2.22	
6	231.31	346.81	25.31	215.84	254.29	307.01	135.55	2.26	
7	233.31	346.81	25.31	217.25	255.90	338.70	141.80	2.39	
8	229.31	346.81	25.31	214.46	252.65	282.24	128.04	2.20	
9	227.31	346.81	25.31	213.10	250.66	257.97	118.15	2.18	
10	225.31	346.81	25.31	211.77	248.66	229.89	101.34	2.27	
11	225.31	342.81	21.31	212.60	245.74	196.38	78.72	2.49	
12	227.31	342.81	21.31	214.00	247.82	219.78	95.71	2.30	
13	229.31	342.81	21.31	215.43	249.82	245.95	111.73	2.20	
14	231.31	342.81	21.31	216.88	251.82	268.46	120.73	2.22	

WEST BANASIRRIGATION PROJECT									
UPSTREAM SLOPE STABILITY ANALYSIS									
(U/S)STEAGE BELOW(NSL) 2					WITHOUT EARTHQUAKE				
POOL ELEVATION =						334.45	metres		
GROUND LEVEL =						321.5	metres		

ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.91			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	220.31	345.81	26.31	206.24	244.91	210.56	93.86	2.24	
2	222.31	345.81	26.31	207.56	247.12	229.28	107.74	2.13	
3	224.31	345.81	26.31	208.92	249.12	254.43	128.35	1.98	
4	226.31	345.81	26.31	210.30	251.12	276.92	141.46	1.96	
5	228.31	345.81	26.31	211.71	253.04	304.45	159.40	1.91	
6	230.31	345.81	26.31	213.14	254.72	328.84	167.12	1.97	
7	230.31	347.81	28.31	212.62	255.78	344.10	170.34	2.02	
8	232.31	347.81	28.31	214.05	257.38	365.15	171.19	2.13	
9	228.31	347.81	28.31	211.22	254.16	319.57	164.61	1.94	
10	226.31	347.81	28.31	209.84	252.49	297.78	154.07	1.93	
11	224.31	347.81	28.31	208.49	250.49	273.67	141.40	1.94	
12	224.31	343.81	24.31	209.38	247.66	233.61	114.54	2.04	
13	226.31	343.81	24.31	210.79	249.66	259.85	134.70	1.93	
14	228.31	343.81	24.31	212.23	251.66	281.75	146.35	1.93	
15	230.31	343.81	24.31	213.69	253.52	305.43	156.20	1.96	

<u>WEST BANAS IRRIGATION PROJECT</u>									
UPSTREAM SLOPE STABILITY ANALYSIS									
(U/S)STEAGE BELOW(NSL) 2					WITHOUT EARTHQUAKE				
POOL ELEVATION =						334.45	metres		
GROUND LEVEL =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.91			
<u>SAFETY FACTOR TABLE</u>									

S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S
1	220.31	345.81	26.31	206.24	244.91	210.56	93.86	2.24
2	222.31	345.81	26.31	207.56	247.12	229.28	107.74	2.13
3	224.31	345.81	26.31	208.92	249.12	254.43	128.35	1.98
4	226.31	345.81	26.31	210.30	251.12	276.92	141.46	1.96
5	228.31	345.81	26.31	211.71	253.04	304.45	159.40	1.91
6	230.31	345.81	26.31	213.14	254.72	328.84	167.12	1.97
7	230.31	347.81	28.31	212.62	255.78	344.10	170.34	2.02
8	232.31	347.81	28.31	214.05	257.38	365.15	171.19	2.13
9	228.31	347.81	28.31	211.22	254.16	319.57	164.61	1.94
10	226.31	347.81	28.31	209.84	252.49	297.78	154.07	1.93
11	224.31	347.81	28.31	208.49	250.49	273.67	141.40	1.94
12	224.31	343.81	24.31	209.38	247.66	233.61	114.54	2.04
13	226.31	343.81	24.31	210.79	249.66	259.85	134.70	1.93
14	228.31	343.81	24.31	212.23	251.66	281.75	146.35	1.93
15	230.31	343.81	24.31	213.69	253.52	305.43	156.20	1.96

<u>WEST BANASIRRIGATION PROJECT</u>									
UPSTREAM SLOPE STABILITY ANALYSIS			WITHOUT EARTHQUAKE						
U/S SUDDEN DRAW DN.AT(NSL) 3.									
POOL ELEVATION =					334.45		metres		
MAXIMUM DRAWDOWN LEVEL =					327.1		metres		
GROUND LEVEL =					321.5		metres		
ALL CIRCLES TOUCH AT ELEVATION =					321.5		metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =					0.00				
VERTICAL ACCELERATION COEFFICIENT =					0.00				
MINIMUM FACTOR OF SAFETY =					1.68				
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	223.31	344.81	23.31	210.84	245.10	190.09	110.87	1.71	
2	225.31	344.81	23.31	212.17	247.29	212.92	121.37	1.75	
3	221.31	344.81	23.31	209.55	242.79	170.43	100.29	1.70	
4	219.31	344.81	23.31	208.30	240.45	153.49	88.86	1.73	

5	219.31	346.81	25.31	208.00	241.94	163.70	96.51	1.70	
6	221.31	346.81	25.31	209.22	244.32	182.69	108.50	1.68	
7	223.31	346.81	25.31	210.48	246.66	204.75	119.71	1.71	
8	223.31	348.81	27.31	210.15	247.95	219.95	127.93	1.72	
9	225.31	348.81	27.31	211.41	249.95	247.35	136.85	1.81	
10	221.31	348.81	27.31	208.92	245.83	198.00	115.76	1.71	
11	219.31	348.81	27.31	207.73	243.41	175.63	103.53	1.70	
12	217.31	348.81	27.31	206.58	240.96	156.04	90.92	1.72	

<u>WEST BANAS IRRIGATION PROJECT</u>									
UPSTREAM SLOPE STABILITY ANALYSIS									
U/S SUDDEN DRAW DN.BELOW (NSL) 4				WITHOUT EARTHQUAKE					
POOL ELEVATION =						334.45	metres		
MAXIMUM DRAWDOWN LEVEL =						327.1	metres		
GROUND LEVEL =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.55			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	220.31	345.81	26.31	206.24	244.91	210.56	134.22	1.57	
2	222.31	345.81	26.31	207.56	247.12	229.28	148.24	1.55	
3	224.31	345.81	26.31	208.92	249.12	254.43	158.80	1.60	
4	224.31	347.81	28.31	208.49	250.49	273.67	168.75	1.62	
5	226.31	347.81	28.31	209.84	252.49	297.78	177.43	1.68	
6	222.31	347.81	28.31	207.17	248.49	246.01	158.82	1.55	
7	220.31	347.81	28.31	205.87	246.47	225.32	144.11	1.56	
8	220.31	343.81	24.31	206.63	243.31	194.79	125.01	1.56	
9	222.31	343.81	24.31	207.99	245.55	213.41	136.68	1.56	
10	218.31	343.81	24.31	205.31	241.04	179.75	112.96	1.59	

<u>WEST BANASIRRIGATION PROJECT</u>									
UPSTREAM SLOPE STABILITY ANALYSIS									
U/S SUDDEN DRAW DN.BELOW (NSL) 4			WITHOUT EARTHQUAKE						
POOL ELEVATION =						334.45	metres		
MAXIMUM DRAWDOWN LEVEL =						327.1	metres		
GROUND LEVEL =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.55			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	220.31	345.81	26.31	206.24	244.91	210.56	134.22	1.57	
2	222.31	345.81	26.31	207.56	247.12	229.28	148.24	1.55	
3	224.31	345.81	26.31	208.92	249.12	254.43	158.80	1.60	
4	224.31	347.81	28.31	208.49	250.49	273.67	168.75	1.62	
5	226.31	347.81	28.31	209.84	252.49	297.78	177.43	1.68	
6	222.31	347.81	28.31	207.17	248.49	246.01	158.82	1.55	
7	220.31	347.81	28.31	205.87	246.47	225.32	144.11	1.56	
8	220.31	343.81	24.31	206.63	243.31	194.79	125.01	1.56	
9	222.31	343.81	24.31	207.99	245.55	213.41	136.68	1.56	
10	218.31	343.81	24.31	205.31	241.04	179.75	112.96	1.59	

<u>WEST BANASIRRIGATION PROJECT</u>									
UPSTREAM SLOPE STABILITY ANALYSIS									
U/S SUDDEN DRAW DN.AT(NSL) 3.			COMBINED WITH EARTHQUAKE						
POOL ELEVATION =						334.45	metres		
MAXIMUM DRAWDOWN LEVEL =						327.1	metres		
GROUND LEVEL =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						321.50	metres		

ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.05			
VERTICAL ACCELERATION COEFFICIENT =						0.03			
MINIMUM FACTOR OF SAFETY =						1.37			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	223.31	344.81	23.31	210.84	245.10	178.54	128.60	1.39	
2	225.31	344.81	23.31	212.17	247.29	200.33	140.97	1.42	
3	221.31	344.81	23.31	209.55	242.79	159.95	116.18	1.38	
4	219.31	344.81	23.31	208.30	240.45	144.10	102.95	1.40	
5	219.31	346.81	25.31	208.00	241.94	153.61	111.56	1.38	
6	221.31	346.81	25.31	209.22	244.32	171.46	125.44	1.37	
7	223.31	346.81	25.31	210.48	246.66	192.38	138.59	1.39	
8	223.31	348.81	27.31	210.15	247.95	206.81	147.94	1.40	
9	225.31	348.81	27.31	211.41	249.95	233.17	158.91	1.47	
10	221.31	348.81	27.31	208.92	245.83	186.05	133.74	1.39	
11	219.31	348.81	27.31	207.73	243.41	164.87	119.55	1.38	
12	217.31	348.81	27.31	206.58	240.96	146.48	105.02	1.39	

<u>WEST BANASIRRIGATION PROJECT</u>									
DOWNSTREAM SLOPE STABILITY ANALYSIS									
(D/S)STEADY SEEPAGE AT (NSL) 5.									
WITHOUT EARTHQUAKE									
POOL ELEVATION =						334.45	metres		
TAIL WATER LEVEL =						320	metres		
GROUND ELEVATION =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						321.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.71			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	249.285	344.81	23.31	230.12	267.12	459.00	24.72	18.57	
2	251.285	344.81	23.31	231.76	268.51	458.98	48.09	9.54	

3	253.285	344.81	23.31	233.41	269.86	460.23	69.61	6.61	
4	255.285	344.81	23.31	235.08	271.18	451.52	90.41	4.99	
5	257.285	344.81	23.31	236.76	272.47	441.32	108.35	4.07	
6	259.285	344.81	23.31	238.47	273.71	423.60	124.56	3.40	
7	261.285	344.81	23.31	240.19	274.91	402.38	137.45	2.93	
8	263.285	344.81	23.31	241.93	276.07	376.83	147.02	2.56	
9	265.285	344.81	23.31	243.68	277.18	348.89	152.16	2.29	
10	267.285	344.81	23.31	245.45	278.24	318.72	152.12	2.10	
11	269.285	344.81	23.31	247.31	279.24	286.82	146.66	1.96	
12	271.285	344.81	23.31	249.31	280.18	253.71	136.87	1.85	
13	273.285	344.81	23.31	251.31	281.05	220.31	122.91	1.79	
14	275.285	344.81	23.31	253.46	281.83	186.70	104.73	1.78	
15	277.285	344.81	23.31	255.97	282.52	153.63	85.77	1.79	
16	277.285	346.81	25.31	254.31	282.59	168.62	95.51	1.77	
17	279.285	346.81	25.31	256.97	283.12	135.37	75.55	1.79	
18	275.285	346.81	25.31	251.94	281.93	203.21	115.73	1.76	
19	273.285	346.81	25.31	249.94	281.18	237.52	132.59	1.79	
20	273.285	348.81	27.31	248.64	281.30	254.28	140.87	1.81	
21	275.285	348.81	27.31	250.64	282.02	219.15	125.29	1.75	
22	277.285	348.81	27.31	252.65	282.65	184.15	105.65	1.74	
23	279.285	348.81	27.31	255.34	283.16	148.94	84.28	1.77	
24	279.285	350.81	29.31	253.71	283.19	163.07	93.43	1.75	
25	281.285	350.81	29.31	256.56	283.54	128.14	71.60	1.79	
26	277.285	350.81	29.31	251.41	282.70	199.01	115.34	1.73	
27	275.285	350.81	29.31	249.41	282.10	234.80	133.60	1.76	
28	275.285	352.81	31.31	248.24	282.17	250.08	140.83	1.78	
29	277.285	352.81	31.31	250.24	282.75	213.68	123.80	1.73	
30	279.285	352.81	31.31	252.24	283.21	177.44	102.97	1.72	
31	281.285	352.81	31.31	254.95	283.55	140.97	79.83	1.77	
32	281.285	354.81	33.31	253.34	283.55	154.37	88.50	1.74	
33	283.285	354.81	33.31	256.39	283.70	118.30	65.38	1.81	
34	279.285	354.81	33.31	251.11	283.24	191.24	111.69	1.71	
35	277.285	354.81	33.31	249.11	282.79	228.07	131.21	1.74	
36	277.285	356.81	35.31	248.03	282.83	242.16	137.77	1.76	
37	279.285	356.81	35.31	250.03	283.26	204.84	119.40	1.72	
38	281.285	356.81	35.31	252.03	283.56	167.73	97.42	1.72	

WEST BANAS IRRIGATION PROJECT

DOWNSTREAM SLOPE STABILITY ANALYSIS									
(D/S)STEADY SEEPAGE BELOW (NSL)6					WITHOUT EARTHQUAKE				
POOL ELEVATION =						334.45	metres		
TAIL WATER LEVEL =						320	metres		
GROUND ELEVATION =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.00			
VERTICAL ACCELERATION COEFFICIENT =						0.00			
MINIMUM FACTOR OF SAFETY =						1.50			

SAFETY FACTOR TABLE

S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S
1	251.785	345.81	26.31	229.76	271.01	428.16	65.50	6.54
2	253.785	345.81	26.31	231.41	272.36	434.67	90.41	4.81
3	255.785	345.81	26.31	233.08	273.67	426.98	113.75	3.75
4	257.785	345.81	26.31	234.76	274.96	420.45	134.99	3.11
5	259.785	345.81	26.31	236.45	276.20	418.31	152.64	2.74
6	261.785	345.81	26.31	238.17	277.42	403.70	168.38	2.40
7	263.785	345.81	26.31	239.89	278.59	384.47	180.65	2.13
8	265.785	345.81	26.31	241.63	279.72	367.89	189.23	1.94
9	267.785	345.81	26.31	243.39	280.81	343.24	193.24	1.78
10	269.785	345.81	26.31	245.16	281.85	321.44	192.17	1.67
11	271.785	345.81	26.31	246.98	282.84	292.83	185.15	1.58
12	273.785	345.81	26.31	248.98	283.77	267.65	173.70	1.54
13	275.785	345.81	26.31	250.98	284.64	236.15	157.68	1.50
14	277.785	345.81	26.31	253.06	285.44	205.62	136.86	1.50
15	277.785	347.81	28.31	251.60	285.54	224.26	149.16	1.50
16	279.785	347.81	28.31	253.87	286.22	192.77	126.36	1.53
17	275.785	347.81	28.31	249.60	284.78	252.54	168.50	1.50
18	273.785	347.81	28.31	247.60	283.94	284.52	183.44	1.55
19	273.785	343.81	24.31	250.44	283.58	246.71	162.33	1.52
20	275.785	343.81	24.31	252.44	284.49	219.41	144.95	1.51
21	277.785	343.81	24.31	254.77	285.32	189.72	124.31	1.53

WEST BANAS IRRIGATION PROJECT

DOWNSTREAM SLOPE STABILITY ANALYSIS									
(D/S)STEADY SEEPAGE AT (NSL) 5.					COMBINED WITH EARTHQUAKE				

POOL ELEVATION =						334.45	metres		
TAIL WATER LEVEL =						320	metres		
GROUND ELEVATION =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						321.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.05			
VERTICAL ACCELERATION COEFFICIENT =						0.03			
MINIMUM FACTOR OF SAFETY =						1.52			
<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	249.285	344.81	23.31	230.12	267.12	444.65	60.21	7.39	
2	251.285	344.81	23.31	231.76	268.51	444.11	82.32	5.39	
3	253.285	344.81	23.31	233.41	269.86	445.02	102.29	4.35	
4	255.285	344.81	23.31	235.08	271.18	436.06	121.39	3.59	
5	257.285	344.81	23.31	236.76	272.47	425.82	137.41	3.10	
6	259.285	344.81	23.31	238.47	273.71	408.18	151.56	2.69	
7	261.285	344.81	23.31	240.19	274.91	387.24	162.25	2.39	
8	263.285	344.81	23.31	241.93	276.07	362.14	169.52	2.14	
9	265.285	344.81	23.31	243.68	277.18	334.87	172.30	1.94	
10	267.285	344.81	23.31	245.45	278.24	305.60	169.88	1.80	
11	269.285	344.81	23.31	247.31	279.24	274.80	162.10	1.70	
12	271.285	344.81	23.31	249.31	280.18	242.96	150.04	1.62	
13	273.285	344.81	23.31	251.31	281.05	210.96	133.93	1.58	
14	275.285	344.81	23.31	253.46	281.83	178.87	113.74	1.57	
15	277.285	344.81	23.31	255.97	282.52	147.30	92.92	1.59	
16	277.285	346.81	25.31	254.31	282.59	161.60	103.40	1.56	
17	279.285	346.81	25.31	256.97	283.12	129.88	81.62	1.59	
18	275.285	346.81	25.31	251.94	281.93	194.59	125.60	1.55	
19	273.285	346.81	25.31	249.94	281.18	227.39	144.59	1.57	
20	273.285	348.81	27.31	248.64	281.30	243.42	153.88	1.58	
21	275.285	348.81	27.31	250.64	282.02	209.79	136.07	1.54	
22	277.285	348.81	27.31	252.65	282.65	176.41	114.33	1.54	
23	277.285	350.81	29.31	251.41	282.70	190.55	124.83	1.53	
24	279.285	350.81	29.31	253.71	283.19	156.31	100.87	1.55	
25	275.285	350.81	29.31	249.41	282.10	224.74	145.29	1.55	
26	275.285	352.81	31.31	248.24	282.17	239.36	153.45	1.56	
27	277.285	352.81	31.31	250.24	282.75	204.54	134.13	1.52	
28	279.285	352.81	31.31	252.24	283.21	170.00	111.15	1.53	
29	279.285	354.81	33.31	251.11	283.24	183.14	120.64	1.52	
30	281.285	354.81	33.31	253.34	283.55	148.03	95.36	1.55	
31	277.285	354.81	33.31	249.11	282.79	218.30	142.40	1.53	

32	277.285	356.81	35.31	248.03	282.83	231.79	149.81	1.55	
33	279.285	356.81	35.31	250.03	283.26	196.12	129.13	1.52	
34	281.285	356.81	35.31	252.03	283.56	160.76	104.98	1.53	

<u>WEST BANAS IRRIGATION PROJECT</u>									
<u>DOWNSTREAM SLOPE STABILITY ANALYSIS</u>									
(D/S)STEADY SEEPAGE BELOW (NSL)6				COMBINED WITH EARTHQUAKE					
POOL ELEVATION =						334.45	metres		
TAIL WATER LEVEL =						320	metres		
GROUND ELEVATION =						321.5	metres		
ALL CIRCLES TOUCH AT ELEVATION =						319.5	metres		
ACCELERATION COEFFICIENT									
HORIZONTAL ACCELERATION COEFFICIENT =						0.05			
VERTICAL ACCELERATION COEFFICIENT =						0.03			
MINIMUM FACTOR OF SAFETY =						1.31			

<u>SAFETY FACTOR TABLE</u>									
S.NO.	X-CO-ORD	Y-CO-ORD	RADIUS	INT.POINT X ₁	INT.POINT X ₂	SIGMA FRICTION	SIGMA SLIDING	F.O.S	
1	251.785	345.81	26.31	229.76	271.01	414.06	108.50	3.82	
2	253.785	345.81	26.31	231.41	272.36	419.80	131.69	3.19	
3	255.785	345.81	26.31	233.08	273.67	411.93	153.09	2.69	
4	257.785	345.81	26.31	234.76	274.96	405.27	172.20	2.35	
5	259.785	345.81	26.31	236.45	276.20	402.77	187.53	2.15	
6	261.785	345.81	26.31	238.17	277.42	388.30	200.84	1.93	
7	263.785	345.81	26.31	239.89	278.59	369.39	210.58	1.75	
8	265.785	345.81	26.31	241.63	279.72	352.89	216.53	1.63	
9	267.785	345.81	26.31	243.39	280.81	328.93	217.87	1.51	
10	269.785	345.81	26.31	245.16	281.85	307.70	214.14	1.44	
11	271.785	345.81	26.31	246.98	282.84	280.22	204.49	1.37	
12	273.785	345.81	26.31	248.98	283.77	256.04	190.49	1.34	
13	275.785	345.81	26.31	250.98	284.64	225.94	172.06	1.31	
14	277.785	345.81	26.31	253.06	285.44	196.91	149.00	1.32	
15	277.785	347.81	28.31	251.60	285.54	214.58	162.31	1.32	
16	279.785	347.81	28.31	253.87	286.22	184.67	137.32	1.34	
17	275.785	347.81	28.31	249.60	284.78	241.58	184.02	1.31	
18	273.785	347.81	28.31	247.60	283.94	272.19	201.48	1.35	
19	273.785	349.81	30.31	246.34	284.09	287.80	211.13	1.36	
20	275.785	349.81	30.31	248.30	284.90	260.36	194.63	1.34	
21	277.785	349.81	30.31	250.30	285.64	229.59	174.12	1.32	
22	279.785	349.81	30.31	252.30	286.29	201.47	150.06	1.34	

Annex 4.1 Crop Water Requirement

Monthly Values of ETo Using CROPWATER Programme Developed by FAO

Country: India, Station : Jodhpur, Altitude: 224 m above M.S.L., Latitude: 26.30° (North)

Longitude: 73.02° (East)

Month	Max. Temp. (°C)	Min. Temp. (°C)	Humidity (%)	Wind Speed (km/d)	Sunshine (Hours)	Solar Radiation (MJ/m ² /d)	ETo (mm/d)
January	25.1	10	46.0	67.2	8.8	15.6	2.42
February	28.1	12	39.0	81.6	9.4	18.5	3.39
March	33.6	17	29.0	93.6	9.4	21.2	4.73
April	38.7	22	27.0	120.0	10.3	24.6	6.45
May	41.5	27	36.0	199.2	10.4	25.6	8.44
June	39.8	27	50.0	218.4	9.7	24.6	7.93
July	35.7	23	65.0	194.4	6.8	20.2	5.87
August	33.4	25	69.0	151.2	7.0	19.9	5.08
September	35.5	24	59.0	103.2	9.3	21.7	5.19
October	36.4	21	42.0	52.8	9.4	19.4	3.81
November	31.7	15	38.0	48.0	9.3	16.6	2.64
December	27.7	11	43.0	48.0	8.9	14.9	2.11
Average	33.9	21	45.3	114.8	9.1	20.2	4.84

Assessment of Crop Water Requirement and Net Irrigation Value of Various Crops

Crops	Month	ETo in		Kc	CWR	Pre sowing Irrigation in mm	Effective Rainfall	NIR
		mm/Day	mm/Month					
Wheat	November	2.64	42.24	0.28	12	50	0	62
	December	2.11	65.41	0.63	41		0	41
	January	2.42	75.02	1.07	80		0	80
	February	3.39	94.92	1.06	101		0	101
	March	4.73	89.87	0.62	56		0	56
	Total				290				340
Barley	November	2.64	55.44	0.30	17	50	0	67
	December	2.11	65.41	0.68	44		0	44
	January	2.42	75.02	1.09	82		0	82
	February	3.39	94.92	0.89	84		0	84
	March	4.73	42.57	0.45	19		0	19
	Total				247				297
Mustard	October	3.81	60.96	0.23	14	50	6	58
	November	2.64	79.20	0.59	47		6	41
	December	2.11	65.41	1.06	69		0	69
	January	2.42	75.02	0.88	66		0	66
	February	3.39	23.73	0.51	12		0	12
	Total				208				246
Gram	October	3.81	41.91	0.13	5	50	0	55
	November	2.64	79.20	0.63	50		6	44
	December	2.11	65.41	1.09	71		0	71
	January	2.42	75.02	0.78	59		0	59
	February	3.39	40.68	0.43	17		0	17
	Total				203				246

Crops	Month	ETo in		Kc	CWR	Pre sowing Irrigation in mm	Effective Rainfall	NIR
		mm/Day	mm/Month					
Cumin	November	2.64	42.24	0.28	12	50	0	62
	December	2.11	65.41	0.67	44		0	44
	January	2.42	75.02	1.10	83		0	83
	February	3.39	94.92	1.01	96		0	96
	March	4.73	66.22	0.64	42		0	42
	Total						276		327

Monthly Requirement of Water at Field in mm

S.No	Month	Rabi											
		Wheat			Mustard			Cumin			Gram		
		CU	ER	NIR	CU	ER	NIR	CU	ER	NIR	CU	ER	NIR
1	October	-	-	-	58	0	58	-	-	-	55	-	55
2	November	62	-	62	41	0	41	62	-	62	44	0	44
3	December	41	-	41	69	-	69	44	-	44	71	-	71
4	January	80	-	80	66	-	66	83	-	83	59	-	59
5	February	101	-	101	12	-	12	96	-	96	17	-	17
6	March	56	-	56	-	-	-	42	-	42	-	-	-
	Total (Delta)	340	0	340	246	0	246	327	0	327	246	0	246

Effective Rainfall of 5 mm & below has not been considered.

CU -	Consumptive Use
ER -	Effective Rainfall
NIR -	Net Irrigation Requirement

Monthly Requirement of Water in ha-m

S. No.	Month	Rabi				Water in ha-m
		Wheat	Mustard	Cumin	Gram	
Area Percentage		17%	25%	17%	19%	78%
1	April	0	0	0	0	0
2	May	0	0	0	0	0
3	June	0	0	0	0	0
4	July	0	0	0	0	0
5	August	0	0	0	0	0
6	September	0	0	0	0	0
7	October	0	145	0	104.5	249.5
8	November	105.4	102.5	105.4	83.6	396.9
9	December	69.7	172.5	74.8	134.9	451.9
10	January	136	165	141.1	112.1	554.2
11	February	171.7	30	163.2	32.3	397.2
12	March	95.2	0	71.4	0	166.6
	Total					2216.3

Annex 5.1 Inventory Survey Results

Condition Assessment of Canals and Proposed Rehabilitation Works

Name of canal	Reach (RD m)		Existing cross-Section	Deficiencies observed	Proposed Remedial Measures
	From	To			
RMC	37	1006	Lined	Damaged lining	Repair of Lining
	51	54	Lined	Damaged lining	Repair of Lining
	54	59	Lined	Damaged lining	Repair of Lining
	61	67	Lined	Damaged lining	Repair of Lining
	83	88	Lined	Damaged lining	Repair of Lining
	182	201	Lined	Damaged lining	Repair of Lining
	362	363	Lined	Damaged lining	Repair of Lining
	412	415	Lined	Damaged lining	Repair of Lining
	417.5	434	Lined	Damaged lining	Repair of Lining
	440	450	Lined	Damaged lining	Repair of Lining
	456	460	Lined	Damaged lining	Repair of Lining
	471	477	Lined	Damaged lining	Repair of Lining
	478.5	481	Lined	Damaged lining	Repair of Lining
	482	483	Lined	Damaged lining	Repair of Lining
	486	488	Lined	Damaged lining	Repair of Lining
	490	497	Lined	Damaged lining	Repair of Lining
	501	508.6	Lined	Damaged lining	Repair of Lining
	522	534	Lined	Damaged lining	Repair of Lining
	537	545	Lined	Damaged lining	Repair of Lining
	634	647	Lined	Damaged lining	Repair of Lining
	988	1002	Lined	Damaged lining	Repair of Lining
	1004	1030	Lined	Damaged lining	Repair of Lining
	1036	1052	Lined	Damaged lining	Repair of Lining
LMC	2	7.5	Lined	Damaged lining	Repair of Lining
	8.5	11	Lined	Damaged lining	Repair of Lining
	15	40	Lined	Damaged lining	Repair of Lining
	41	55	Lined	Damaged lining	Repair of Lining
	90	94	Lined	Damaged lining	Repair of Lining

Name of canal	Reach (RD m)		Existing cross-Section	Deficiencies observed	Proposed Remedial Measures
	From	To			
	144	150	Lined	Damaged lining	Repair of Lining
	155	158	Lined	Damaged lining	Repair of Lining
	165	168.5	Lined	Damaged lining	Repair of Lining
	171	175	Lined	Damaged lining	Repair of Lining
	195	206	Lined	Damaged lining	Repair of Lining
	239	240	Lined	Damaged lining	Repair of Lining
	242	246	Lined	Damaged lining	Repair of Lining
	257	259	Lined	Damaged lining	Repair of Lining
	262	263	Lined	Damaged lining	Repair of Lining
	272	273.5	Lined	Damaged lining	Repair of Lining
	291	296.5	Lined	Damaged lining	Repair of Lining
	318	322	Lined	Damaged lining	Repair of Lining
	323	326	Lined	Damaged lining	Repair of Lining
	329	335	Lined	Damaged lining	Repair of Lining
	337	342	Lined	Damaged lining	Repair of Lining
	348	358	Lined	Damaged lining	Repair of Lining
	611	705	Lined	Damaged lining	Repair of Lining
Fulabai Khera Minor	105	115	Lined	Damaged lining	Repair of Lining
	360	365	Lined	Damaged lining	Repair of Lining
	615	620	Lined	Damaged lining	Repair of Lining
	635	642	Lined	Damaged lining	Repair of Lining
	750	755	Lined	Damaged lining	Repair of Lining
	815	840	Lined	Damaged lining	Repair of Lining
	1012	1024	Lined	Damaged lining	Repair of Lining
	1105	1124	Lined	Damaged lining	Repair of Lining
	1170	1200	Lined	Damaged lining	Repair of Lining
	1210	1220	Lined	Damaged lining	Repair of Lining
	1520	1700	Lined	Damaged lining	Repair of Lining
	2160	2163	Lined	Damaged lining	Repair of Lining
Sangwara	45	51	Lined	Damaged lining	Repair of Lining

Name of canal	Reach (RD m)		Existing cross-Section	Deficiencies observed	Proposed Remedial Measures
	From	To			
Minor					
	65	75	Lined	Damaged lining	Repair of Lining
	150	160	Lined	Damaged lining	Repair of Lining
	270	275	Lined	Damaged lining	Repair of Lining
	325	360	Lined	Damaged lining	Repair of Lining
	450	540	Lined	Damaged lining	Repair of Lining
	840	900	Lined	Damaged lining	Repair of Lining
	960	970	Lined	Damaged lining	Repair of Lining
	1020	1200	Lined	Damaged lining	Repair of Lining
	1290	1350	Lined	Damaged lining	Repair of Lining
	1390	1440	Lined	Damaged lining	Repair of Lining
	1590	1600	Lined	Damaged lining	Repair of Lining
	1700	1980	Lined	Damaged lining	Repair of Lining
	2010	2040	Lined	Damaged lining	Repair of Lining
	2100	2160	Lined	Damaged lining	Repair of Lining
	2250	2430	Lined	Damaged lining	Repair of Lining
	2980	2990	Lined	Damaged lining	Repair of Lining
	3045	3060	Lined	Damaged lining	Repair of Lining
	3090	3180	Lined	Damaged lining	Repair of Lining
	3390	3400	Lined	Damaged lining	Repair of Lining
Achpura Minor	0	540	Lined	Damaged lining	Repair of Lining
	600	630	Lined	Damaged lining	Repair of Lining
	645	675	Lined	Damaged lining	Repair of Lining
	780	790	Lined	Damaged lining	Repair of Lining
	840	860	Lined	Damaged lining	Repair of Lining
	920	930	Lined	Damaged lining	Repair of Lining
	960	1020	Lined	Damaged lining	Repair of Lining
	1110	1200	Lined	Damaged lining	Repair of Lining
	1245	1380	Lined	Damaged lining	Repair of Lining
	1440	1470	Lined	Damaged lining	Repair of Lining

Name of canal	Reach (RD m)		Existing cross-Section	Deficiencies observed	Proposed Remedial Measures
	From	To			
	1515	1635	Lined	Damaged lining	Repair of Lining
	1660	1680	Lined	Damaged lining	Repair of Lining
	1710	1830	Lined	Damaged lining	Repair of Lining
	1860	2010	Lined	Damaged lining	Repair of Lining
	2250	2430	Lined	Damaged lining	Repair of Lining
	2625	2870	Lined	Damaged lining	Repair of Lining
	2930	3110	Lined	Damaged lining	Repair of Lining
Mungthala Minor	122	390	Lined	Damaged lining	Repair of Lining
	435	840	Lined	Damaged lining	Repair of Lining
Kyaria Minor	15	290	Lined	Damaged lining	Repair of Lining
	1150	1400	Lined	Damaged lining	Repair of Lining
	2400	2800	Lined	Damaged lining	Repair of Lining

Inventory of structures

List of Structures of West Banas Project on canals

List of Structures of West Banas Project on canals

NAME OF CANAL	FALL	SYPHON	AQUADUCT	VRB	HIGHWAY CROSSING	OUTLET		REMARK
						A	B	
RMC	37	10	25	46	1	118	20	
LMC	19	17	15	19	7	67	65	
Minors								
Phulabai khera	9	4	-	4	-	8	17	
Sangwara	5	-	-	-	-	16	26	
Achpura	11	5	-	2	-	8	5	
Mungthala	6	2	2	3	-	11	20	
Kyaria	2	3	2	2	-	8	39	
Total	89	41	44	76	8	236	192	

INVENTORY OF STRUCTURES OF LMC CANAL									
S. No.	FALL	FALL DEPTH	SYPHON		AQUADUCT		VRB	HIGHWAY CROSSING	
			FROM	TO	FROM	TO		FROM	TO
1	3977	1.2	310.57	338.52	2877	2888	26.913	2620	2660
2	6507	0.5	1216	1242	4994	4506	619.225	3153	3260
3	8307	1.36	3150	3460.5	5431	5441	1828.5	4360	4446
4	8672	1	3523	3553.5	5556	5565	2006	7471	7506
5	9618	1	6070	6086	7650	7663	2131	12451	12473
6	9862	1.2	6601	6610	8714	8722	2321	18752	18781
7	12584	1.5	9402	9412	8982	8998	2813	21492	-
8	12690	2.5	13583	13590	10202	10211	3203	-	-

INVENTORY OF STRUCTURES OF LMC CANAL									
S. No.	FALL	FALL DEPTH	SYPHON		AQUADUCT		VRB	HIGHWAY CROSSING	
			FROM	TO	FROM	TO		FROM	TO
9	12750	1.8	13871	13879	10774	10783	3620.5	-	-
10	13063	1.3	14634	14643	13372	13382	5770	-	-
11	13190	1.1	16302	16309	13451	13464	6684	-	-
12	13500	1	18161	18171	14300	14313	9573	-	-
13	17285	1.1	19458	19464	15285	15292	1157	-	-
14	17330	1	19585	19591	15550	15558	12870	-	-
15	17484	1.8	19860	19866	16040	16050	13274	-	-
16	17510	1.2	20094	20100	-	-	14537	-	-
17	18469	1.2	20725	20734	-	-	16602	-	-
18	18609	1.1	-	-	-	-	19383	-	-
19	18984	1	-	-	-	-	-	-	-

INVENTORY OF STRUCTURES OF RMC CANAL

SR NO	FALL	FALL DEPTH	SYPHON		AQUADUCT		VRB	HIGHWAY CROSSING	
			FROM	TO	FROM	TO		FROM	TO
1	6218	1	1272	1413	2570	2590	594	24210	24220
2	7350	0.8	17958	17971	3554	3658	826	-	-
3	9600	1.2	19714		4200	4213	2811	-	-
4	13842	1.2	19682	19722	4430	4447	3464	-	-
5	13982	1.5	19908	19926	4646	4655	3953	-	-
6	14078	1.5	23480	23491	4805	4816	4388	-	-
7	14247	2.5	24987	24997	5610	5619	4463	-	-
8	14484	1.8	25312	25320	6053	6064	5728	-	-
9	14684	1.5	30028	30043	6202	6212	5775	-	-
10	15330	1.5	32735	32742	8621	8635	6414	-	-
11	18804	1.5	-	-	9833	9844	7815	-	-
12	20042	1.3	-	-	10305	10329	8284	-	-
13	20206	2	-	-	11267	11477	8853	-	-
14	24191	1	-	-	11635	11647	10200	-	-
15	24568	1.5	-	-	12287	12298	10655	-	-
16	24778	1	-	-	12880	12889	11611	-	-
17	24988	1.5	-	-	15703	15781	14244	-	-
18	25884	1	-	-	16201	16244	15771	-	-
19	26195	1.5	-	-	16507	16530	16792	-	-
20	26314	1.2	-	-	19252	19340	17433	-	-
21	26400	1.2	-	-	20510	20520	18722	-	-
22	26764	1	-	-	20736	20745	20320	-	-
23	26932	1	-	-	24210	24220	21205	-	-
24	29400	0.6	-	-	27190	27209	21875	-	-
25	29575	0.9	-	-	28151	28173	22343	-	-
26	30817	1.5	-	-	-	-	23570	-	-
27	30950	1	-	-	-	-	23640	-	-

SR NO	FALL	FALL	SYPHON		AQUADUCT		VRB	HIGHWAY CROSSING	
		DEPTH	FROM	TO	FROM	TO		FROM	TO
28	31089	1	-	-	-	-	23755	-	-
29	31200	1	-	-	-	-	23965	-	-
30	31394	1	-	-	-	-	24240	-	-
31	31577	1	-	-	-	-	24291	-	-
32	31640	1	-	-	-	-	24471	-	-
33	31700	0.6	-	-	-	-	24564	-	-
34	32065	1	-	-	-	-	24687	-	-
35	32536	1	-	-	-	-	24725	-	-
36	32832	1	-	-	-	-	24875	-	-
37	33142	1	-	-	-	-	25120	-	-
38	-	-	-	-	-	-	25646	-	-
39	-	-	-	-	-	-	25825	-	-
40	-	-	-	-	-	-	26126	-	-
41	-	-	-	-	-	-	27161	-	-
42	-	-	-	-	-	-	28603	-	-
43	-	-	-	-	-	-	29336	-	-
44	-	-	-	-	-	-	29590	-	-
45	-	-	-	-	-	-	33464	-	-
46	-	-	-	-	-	-	33824	-	-

List of Authorized Outlets

S. No	Name of canal	Location (RD in m) L/R	Present status	Remarks
1	LMC	91R	Damaged	APM is proposed
2	LMC	823R	Damaged	APM is proposed
3	LMC	1524R	Damaged	APM is proposed
4	LMC	1713R	Damaged	APM is proposed
5	LMC	2804R	Damaged	APM is proposed
6	LMC	3078R	Damaged	APM is proposed
7	LMC	3658R	Damaged	APM is proposed
8	LMC	3962R	Damaged	APM is proposed
9	LMC	4206R	Damaged	APM is proposed
10	LMC	4481R	Damaged	APM is proposed
11	LMC	4633R	Damaged	APM is proposed
12	LMC	4938R	Damaged	APM is proposed
13	LMC	5151R	Damaged	APM is proposed
14	LMC	5212R	Damaged	APM is proposed
15	LMC	5273R	Damaged	APM is proposed
16	LMC	5852R	Damaged	APM is proposed
17	LMC	6431R	Damaged	APM is proposed
18	LMC	6492R	Damaged	APM is proposed
19	LMC	6736R	Damaged	APM is proposed
20	LMC	6949R	Damaged	APM is proposed
21	LMC	7132R	Damaged	APM is proposed
22	LMC	7407R	Damaged	APM is proposed
23	LMC	7858R	Damaged	APM is proposed
24	LMC	7894R	Damaged	APM is proposed
25	LMC	8291R	Damaged	APM is proposed
26	LMC	9114R	Damaged	APM is proposed
27	LMC	9205R	Damaged	APM is proposed
28	LMC	9510R	Damaged	APM is proposed
29	LMC	9632R	Damaged	APM is proposed
30	LMC	10577R	Damaged	APM is proposed

31	LMC	10912R	Damaged	APM is proposed
32	LMC	11339L	Damaged	APM is proposed
33	LMC	12619L	Damaged	APM is proposed
34	LMC	13015R	Damaged	APM is proposed
35	LMC	13381R	Damaged	APM is proposed
36	LMC	13564R	Damaged	APM is proposed
37	LMC	13716R	Damaged	APM is proposed
38	LMC	13899R	Damaged	APM is proposed
39	LMC	14600R	Damaged	APM is proposed
40	LMC	14935R	Damaged	APM is proposed
41	LMC	15179R	Damaged	APM is proposed
42	LMC	15392R	Damaged	APM is proposed
43	LMC	15697R	Damaged	APM is proposed
44	LMC	15789R	Damaged	APM is proposed
45	LMC	16307R	Damaged	APM is proposed
46	LMC	16916R	Damaged	APM is proposed
47	LMC	16947L	Damaged	APM is proposed
48	LMC	16977R	Damaged	APM is proposed
49	LMC	17008L	Damaged	APM is proposed
50	LMC	17009L	Damaged	APM is proposed
51	LMC	17435L	Damaged	APM is proposed
52	LMC	17983R	Damaged	APM is proposed
53	LMC	18286R	Damaged	APM is proposed
54	LMC	18288R	Damaged	APM is proposed
55	LMC	18471R	Damaged	APM is proposed
56	LMC	18532R	Damaged	APM is proposed
57	LMC	18867R	Damaged	APM is proposed
58	LMC	18959R	Damaged	APM is proposed
59	LMC	20117R	Damaged	APM is proposed
60	LMC	20300R	Damaged	APM is proposed
61	LMC	21031L	Damaged	APM is proposed
62	LMC	21031R	Damaged	APM is proposed
63	LMC	21092L	Damaged	APM is proposed
64	LMC	21488R	Damaged	APM is proposed
65	LMC	21610L	Damaged	APM is proposed
66	LMC	21610R	Damaged	APM is proposed
67	LMC	22310R	Damaged	APM is proposed
68	RMC	305L	Damaged	APM is proposed
69	RMC	732L	Damaged	APM is proposed
70	RMC	1036L	Damaged	APM is proposed
71	RMC	1158L	Damaged	APM is proposed
72	RMC	1768L	Damaged	APM is proposed
73	RMC	1890L	Damaged	APM is proposed
74	RMC	2408L	Damaged	APM is proposed
75	RMC	2743L	Damaged	APM is proposed
76	RMC	3018L	Damaged	APM is proposed
77	RMC	3200L	Damaged	APM is proposed
78	RMC	3566L	Damaged	APM is proposed
79	RMC	3581L	Damaged	APM is proposed
80	RMC	4115L	Damaged	APM is proposed
81	RMC	4633L	Damaged	APM is proposed
82	RMC	4616L	Damaged	APM is proposed
83	RMC	5029L	Damaged	APM is proposed
84	RMC	5334L	Damaged	APM is proposed
85	RMC	5456L	Damaged	APM is proposed
86	RMC	6340L	Damaged	APM is proposed
87	RMC	6527L	Damaged	APM is proposed
88	RMC	6527L	Damaged	APM is proposed
89	RMC	6705L	Damaged	APM is proposed
90	RMC	7041L	Damaged	APM is proposed
91	RMC	7620L	Damaged	APM is proposed
92	RMC	7620R	Damaged	APM is proposed

93	RMC	7925L	Damaged	APM is proposed
94	RMC	8382L	Damaged	APM is proposed
95	RMC	8835L	Damaged	APM is proposed
96	RMC	10423L	Damaged	APM is proposed
97	RMC	10729L	Damaged	APM is proposed
98	RMC	11887L	Damaged	APM is proposed
99	RMC	12192L	Damaged	APM is proposed
100	RMC	12649L	Damaged	APM is proposed
101	RMC	12832L	Damaged	APM is proposed
102	RMC	13255L	Damaged	APM is proposed
103	RMC	13411L	Damaged	APM is proposed
104	RMC	13564L	Damaged	APM is proposed
105	RMC	13716L	Damaged	APM is proposed
106	RMC	13811L	Damaged	APM is proposed
107	RMC	13899L	Damaged	APM is proposed
108	RMC	15514L	Damaged	APM is proposed
109	RMC	15972L	Damaged	APM is proposed
110	RMC	16714L	Damaged	APM is proposed
111	RMC	17526L	Damaged	APM is proposed
112	RMC	17831L	Damaged	APM is proposed
113	RMC	18562L	Damaged	APM is proposed
114	RMC	18806L	Damaged	APM is proposed
115	RMC	19507L	Damaged	APM is proposed
116	RMC	19903L	Damaged	APM is proposed
117	RMC	20025L	Damaged	APM is proposed
118	RMC	20157L	Damaged	APM is proposed
119	RMC	20269L	Damaged	APM is proposed
120	RMC	20483L	Damaged	APM is proposed
121	RMC	20879L	Damaged	APM is proposed
122	RMC	20031L	Damaged	APM is proposed
123	RMC	21306L	Damaged	APM is proposed
124	RMC	21763L	Damaged	APM is proposed
125	RMC	21793R	Damaged	APM is proposed
126	RMC	21793L	Damaged	APM is proposed
127	RMC	22311L	Damaged	APM is proposed
128	RMC	22616L	Damaged	APM is proposed
129	RMC	23043L	Damaged	APM is proposed
130	RMC	23165L	Damaged	APM is proposed
131	RMC	23531L	Damaged	APM is proposed
132	RMC	23927L	Damaged	APM is proposed
133	RMC	24232L	Damaged	APM is proposed
134	RMC	24541L	Damaged	APM is proposed
135	RMC	25146L	Damaged	APM is proposed
136	RMC	25451L	Damaged	APM is proposed
137	RMC	25908L	Damaged	APM is proposed
138	RMC	26426R	Damaged	APM is proposed
139	RMC	26426L	Damaged	APM is proposed
140	RMC	26670L	Damaged	APM is proposed
141	RMC	26792L	Damaged	APM is proposed
142	RMC	26792R	Damaged	APM is proposed
143	RMC	27188L	Damaged	APM is proposed
144	RMC	27432L	Damaged	APM is proposed
145	RMC	27432R	Damaged	APM is proposed
146	RMC	27554L	Damaged	APM is proposed
147	RMC	27798L	Damaged	APM is proposed
148	RMC	27951L	Damaged	APM is proposed
149	RMC	28529L	Damaged	APM is proposed
150	RMC	28651L	Damaged	APM is proposed
151	RMC	29413L	Damaged	APM is proposed
152	RMC	29505L	Damaged	APM is proposed
153	RMC	29505R	Damaged	APM is proposed
154	RMC	29870L	Damaged	APM is proposed
155	RMC	29870R	Damaged	APM is proposed

156	RMC	29870L	Damaged	APM is proposed
157	RMC	30236L	Damaged	APM is proposed
157	RMC	30359L	Damaged	APM is proposed
159	RMC	30359R	Damaged	APM is proposed
160	RMC	30686L	Damaged	APM is proposed
161	RMC	30541L	Damaged	APM is proposed
162	RMC	30541R	Damaged	APM is proposed
163	RMC	30502L	Damaged	APM is proposed
164	RMC	30632L	Damaged	APM is proposed
165	RMC	30693L	Damaged	APM is proposed
166	RMC	30886L	Damaged	APM is proposed
167	RMC	30958L	Damaged	APM is proposed
168	RMC	30958R	Damaged	APM is proposed
169	RMC	31090L	Damaged	APM is proposed
170	RMC	31151L	Damaged	APM is proposed
171	RMC	31151R	Damaged	APM is proposed
172	RMC	31242R	Damaged	APM is proposed
173	RMC	31242L	Damaged	APM is proposed
174	RMC	31547L	Damaged	APM is proposed
175	RMC	31699L	Damaged	APM is proposed
176	RMC	31791L	Damaged	APM is proposed
177	RMC	32306L	Damaged	APM is proposed
178	RMC	32461L	Damaged	APM is proposed
179	RMC	32705L	Damaged	APM is proposed
180	RMC	32916L	Damaged	APM is proposed
181	RMC	33223L	Damaged	APM is proposed
182	RMC	33223L	Damaged	APM is proposed
183	RMC	33680L	Damaged	APM is proposed
184	RMC	33833L	Damaged	APM is proposed
185	RMC	34741L	Damaged	APM is proposed
186	Fulabai Khera Minor	750L	Damaged	APM is proposed
187		900R	Damaged	APM is proposed
188		1560L	Damaged	APM is proposed
189		1620R	Damaged	APM is proposed
190		1800L	Damaged	APM is proposed
191		1800R	Damaged	APM is proposed
192		1950R	Damaged	APM is proposed
193		2340Tail	Damaged	APM is proposed
194	Sangwara Minor	90L	Damaged	APM is proposed
195		90R	Damaged	APM is proposed
196		300L	Damaged	APM is proposed
197		300R	Damaged	APM is proposed
198		600L	Damaged	APM is proposed
199		750R	Damaged	APM is proposed
200		960L	Damaged	APM is proposed
201		1170R	Damaged	APM is proposed
202		1230L	Damaged	APM is proposed
203		1320L	Damaged	APM is proposed
204		1620L	Damaged	APM is proposed
205		1770R	Damaged	APM is proposed
206		1800L	Damaged	APM is proposed
207		2550L	Damaged	APM is proposed
208		2550R	Damaged	APM is proposed
209		3750Tail	Damaged	APM is proposed
210	Achpura Minor	300R	Damaged	APM is proposed
211		450L	Damaged	APM is proposed
212		930R	Damaged	APM is proposed
213		1830R	Damaged	APM is proposed
214		2670L	Damaged	APM is proposed
215		2670R	Damaged	APM is proposed
216		3300R	Damaged	APM is proposed
217		3840Tail	Damaged	APM is proposed

218	Mungthala Minor	450R	Damaged	APM is proposed
219		1020L	Damaged	APM is proposed
220		1500L	Damaged	APM is proposed
221		1980L	Damaged	APM is proposed
222		2340L	Damaged	APM is proposed
223		2580L	Damaged	APM is proposed
224		2280R	Damaged	APM is proposed
225		2880L	Damaged	APM is proposed
226		3510R	Damaged	APM is proposed
227		4395L	Damaged	APM is proposed
228		4890R	Damaged	APM is proposed
229	Kyaria Minor	750L	Damaged	APM is proposed
230		735L	Damaged	APM is proposed
231		735R	Damaged	APM is proposed
232		1410L	Damaged	APM is proposed
233		1410R	Damaged	APM is proposed
234		1800L	Damaged	APM is proposed
235		2160R	Damaged	APM is proposed
236		2910L	Damaged	APM is proposed

List of Unauthorized Outlets

S. No	Name of canal	Location (RD in m) L/R	Present status	Remarks
1	LMC	0		
2		91R		
3		1524R		
4		1713R		
5		2804R		
6		3078R		
7		3658R		
8		3962R		
9		4206R		
10		4481R		
11		4633R		
12		4938R		
13		5151R		
14		5212R		
15		5273R		
16		5852R		
17		6431R		
18		6492R		
19		6736R		
20		6949R		
21		7132R		
22		7407R		
23		7858R		
24		7894R		
25		8291R		
26		9114R		
27		9205R		
28		9510R		
29		9632R		
30		10577R		
31		10912R		
32		11339R		
33		12619R		
34		13015R		
35		13381R		
36		13564R		
37		13716R		
38		13899R		
39		14600R		
40		14935R		

41		15179R		
42		15392R		
43		15697R		
44		15789R		
45		16307R		
46		16916L		
47		16947R		
48		16977L		
49		17008L		
50		17009L		
51		17435R		
52		17983R		
53		18286R		
54		18288R		
55		18471R		
56		18532R		
57		18867R		
58		18959R		
59		20117R		
60		20300L		
61		21031R		
62		21031L		
63		21092R		
64		21488L		
65		823 R		
66	RMC	6218L		
67		7467R		
68		7952R		
69		12618R		
70		13624R		
71		13868R		
72		16002R		
73		16733R		
74		17190R		
75		17495R		
76		17891R		
77		18440R		
78		18623R		
79		19873R		
80		20147R		
81		20574R		
82		21275R		
83		23103R		
84		24202 R		
85		27103 R		
86	Fulabai Khera Minor	62L		
87		72L		
88		75R		
89		87L		
90		95L		
91		180L		
92		240L		
93		360R		
94		680L		
95		820L		
96		1235L		
97		1730R		
98		1825L		
99		1920L		
100		2015L		
101		2230R		
102		50L		
103	Sangwara Minor	30L		

104		39L		
105		56L		
106		64L		
107		78R		
108		110R		
109		135L		
110		191L		
111		229L		
112		350L		
113		464R		
114		569L		
115		713L		
116		820R		
117		1190L		
118		1250L		
119		1420L		
120		1750R		
121		1780L		
122		1920L		
123		2050L		
124		2120L		
125		2250L		
126		2280R		
127		2320L		
128		2810L		
129	Achpura Minor	120R		
130		250R		
131		600R		
132		750R		
133		1500R		
134	Mungthala Minor	20R		
135		100R		
136		180R		
137		250R		
138		380R		
139		490L		
140		530L		
141		650L		
142		720L		
143		790L		
144		880L		
145		920R		
146		1020R		
147		1140R		
148		1260R		
149		1330R		
150		1390L		
151		1450R		
152		1620R		
153		1780R		
154	Kyaria Minor	30L		
155		45L		
156		60L		
157		150L		
158		210L		
159		290L		
160		345L		
161		450L		
162		555L		
163		650R		
164		835L		
165		870R		
166		990R		

167		1230L		
168		1410L		
169		1440L		
170		1530R		
171		1580L		
172		1620L		
173		1700R		
174		1810L		
175		1850L		
176		1920R		
177		1950L		
178		1970R		
179		2000L		
180		2020L		
181		2050R		
182		2075L		
183		2090R		
184		2120L		
185		2150L		
186		2180R		
187		2220R		
188		2250L		
189		2270L		
190		2280R		
191		2320R		
192		2340R		

Annex 5.2 Hydraulic Calculation and Profiles for Main and Minor Canals

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

(Please attach FINAL version of hydraulic calculation and profiles for all main and minor canals)

Annex 9.1: Cropping Areas - with/without Rehabilitation

Cropping Areas - Without-Rehabilitation (Average)

No.	Crop	Average Cropping Area					
		Irrigated		Unirrigated		Total	
		% CCA	Area [ha]	% CCA	Area [ha]	% CCA	Area [ha]
	Kharif						
1	Maize		0		0	0.0	0
2	Jowar		0		0	0.0	0
3	Bajra		0		0	0.0	0
4	Kh.Pulses/Others		0		0	0.0	0
5	Til		0		0	0.0	0
6	Groundnuts		0		0	0.0	0
7	Cotton		0		0	0.0	0
	Total Kharif	0.0	0	0.0	0	0.0	0
	Rabi						
1	Wheat		0		0	0.0	0
2	Barley		0		0	0.0	0
3	Gram		0		0	0.0	0
4	Mustard		0		0	0.0	0
5	Others		0		0	0.0	0
	Total Rabi	0.0	0	0.0	0	0.0	0
	Grand Total	0.0	0	0.0	0	0.0	0

CCA = ha

Cropping Areas - With-Rehabilitation (Average)

No.	Crop	Average Cropping Area					
		Irrigated		Unirrigated		Total	
		% CCA	Area [ha]	% CCA	Area [ha]	% CCA	Area [ha]
	Kharif						
1	Maize		0		0	0.0	0
2	Jowar		0		0	0.0	0
3	Bajra		0		0	0.0	0
4	Kh.Pulses/Others		0		0	0.0	0
5	Til		0		0	0.0	0
6	Groundnuts		0		0	0.0	0
7	Cotton		0		0	0.0	0
	Total Kharif	0.0	0	0.0	0	0.0	0
	Rabi						
1	Wheat		0		0	0.0	0
2	Barley		0		0	0.0	0
3	Gram		0		0	0.0	0
4	Mustard		0		0	0.0	0
5	Others		0		0	0.0	0
	Total Rabi	0.0	0	0.0	0	0.0	0
	Grand Total	0.0	0	0.0	0	0.0	0

CCA = ha

Note:

Cultivation area of other crops in Kharif season such as groundnuts, soybeans, cotton, guar etc. shall be included in area of "Kh.

Annex 9.2: Cost of Inputs, Crop Yields and other Parameters

Without Rehabilitation

	Crop	Gross Receipts						(1) Expenditure on Seed			(2) Expenditure on fertilizer and manure	(3) Expenditure on Labour/bullock		(8) Plant protection
		Rate 1/ (Financial) [Rs./q]	Rate 2/ (Economic) [Rs./q]	Yield 3/ [q/ha]	Gross value of farm produce [Rs./ha]	Value of by- products [%]	Value of by- products [Rs./ha]	Input of seed [kg/ha]	Rate of seed [Rs./kg]	Cost of seed [Rs./ha]	[Rs./ha]	Family/owned labour/bullock [Rs./ha]	Hired labour/bullock [Rs./ha]	[Rs./ha]
	KHARIF													
1	Maize	1,715	1,189	16.0	27,440	20%	5,488	29	74	2,146	3,513	23,880	8,172	-
2	Jowar	1,864	1,789	5.5	10,252	50%	5,126	9	72	648	2,141	5,262	9,302	-
3	Bajra	1,446	1,388	9.1	13,159	50%	6,580	5	188	940	1,121	10,206	5,215	-
4	Kh.Pulses	6,219	5,970	4.0	24,876	10%	2,488	15	120	1,800	1,058	7,790	6,476	300
5	Til	9,743	9,353	2.9	28,255	0%	-	4	131	524	587	7,559	4,228	-
6	Groundnut	4,536	4,355	16.5	74,844	10%	7,484	115	83	9,545	3,951	17,565	15,411	880
7	Cotton	5,898	5,662	20.3	119,729	5%	5,986	1,462	4	5,848	6,529	35,136	12,378	2,940
	RABI													
1	Wheat	1,817	1,394	33.6	61,051	20%	12,210	151	26	3,926	4,755	14,488	10,080	100
2	Barley	1,446	1,288	29.4	42,512	20%	8,502	144	22	3,168	2,877	18,953	8,311	-
3	Gram	3,792	3,640	8.1	30,715	10%	3,072	58	68	3,944	1,158	11,021	3,564	650
4	Mustard	3,934	3,782	13.5	53,109	0%	-	6	166	996	3,100	11,324	6,572	100
5	Others	1,252	1,202	94.5	118,314	0%	-	10	396	3,960	18,387	10,554	25,986	3,900

With Rehabilitation

	Crop	Gross Receipts						(1) Expenditure on Seed			(2) Expenditure on fertilizer and manure	(3) Expenditure on Labour/bullock		(8) Plant protection
		Rate 1/ (Financial) [Rs./q]	Rate 2/ (Economic) [Rs./q]	Yield 3/ [q/ha]	Gross value of farm produce [Rs./ha]	Value of by- products [%]	Value of by- products [Rs./ha]	Input of seed [kg/ha]	Rate of seed [Rs./kg]	Cost of seed [Rs./ha]	[Rs./ha]	Family/owned labour/bullock [Rs./ha]	Hired labour/bullock [Rs./ha]	[Rs./ha]
	KHARIF													
1	Maize	1,715	1,189	16.8	28,812	20%	5,762	29	78	2,262	3,689	23,880	7,990	-
2	Jowar	1,864	1,789	5.5	10,252	50%	5,126	9	70	630	2,141	5,262	9,095	-
3	Bajra	1,446	1,388	9.1	13,159	50%	6,580	5	183	915	1,121	10,206	5,099	-
4	Kh.Pulses	6,219	5,970	4.0	24,876	10%	2,488	15	117	1,755	1,058	7,790	6,332	300
5	Til	9,743	9,353	2.9	28,255	0%	-	4	128	512	587	7,559	4,134	-
6	Groundnut	4,536	4,355	16.5	74,844	10%	7,484	115	83	9,545	3,951	17,565	15,411	880
7	Cotton	5,898	5,662	20.3	119,729	5%	5,986	1,462	4	5,848	6,529	35,136	12,378	2,940
	RABI													
1	Wheat	1,817	1,394	37.0	67,229	20%	13,446	151	27	4,077	4,993	15,213	9,856	105
2	Barley	1,446	1,288	32.3	46,706	20%	9,341	144	23	3,312	3,021	19,900	8,126	-
3	Gram	3,792	3,640	9.0	34,128	10%	3,413	58	71	4,118	1,216	11,572	3,485	680
4	Mustard	3,934	3,782	14.1	55,469	0%	-	6	174	1,044	3,255	11,890	6,426	105
5	Others	1,252	1,202	99.2	124,198	0%	-	10	416	4,160	19,306	11,082	25,409	4,095

Source:

1/ Calculated by JICA Survey Team based on Rajasthan Agricultural Statistics at a Glance 2013-14, published Nov. 2015, DoA, Rajasthan

2/ Economic price of maize, wheat and barley was calculated based on FOB price. The other price was calculated by using SCF = 0.96.

3/ Ave. 5 years data upto 2012-13, Rajasthan Agricultural Statistics at a Glance 2013-14, published Nov. 2015, DoA, Rajasthan

4/ Cost of cultivation data is prepared based on 2012-13 data, Estimates of Cost of Cultivation/Production & Related Data, Directorate of Economics & Statistics

Note:

- Cost of cultivation has converted to price at 2016 by using CPI (2012 to 2016, 132)

- Increase in production of 20% for wheat, barley & gram and 5% of mustard & other crops are anticipated for the crop budget with rehabilitation condition

- Increase of 5% of labour cost and material inputs are anticipated for Kharif crops with rehabilitation condition

Annex 9.3: Value of Crop and Cost of various Inputs (Without-Rehabilitation)

A) GROSS RECEIPTS

S.No	Crop	Area[ha]	Yield		(1) Gross value of farm produce (Financial)		(1) Gross value of farm produce (Economic)		(2) Value of by-products	
			Average [q/ha]	Total [q]	Rate [RS./q]	Value [RS.]	Rate [RS./q]	Value [RS.]	Rate [Percentage]	Value [RS.]
	Kharif									
1	Maize	-	16.0	-	1,715	-	1,189	-	20%	-
2	Jowar	-	5.5	-	1,864	-	1,789	-	50%	-
3	Bajra	-	9.1	-	1,446	-	1,388	-	50%	-
4	Kh.Pulses/Others	-	4.0	-	6,219	-	5,970	-	10%	-
5	Til	-	2.9	-	9,743	-	9,353	-	0%	-
6	Groundnut	-	16.5	-	4,536	-	4,355	-	10%	-
7	Cotton	-	20.3	-	5,898	-	5,662	-	5%	-
	Rabi									
1	Wheat	-	33.6	-	1,817	-	1,394	-	20%	-
2	Barley	-	29.4	-	1,446	-	1,288	-	20%	-
3	Gram	-	8.1	-	3,792	-	3,640	-	10%	-
4	Mustard	-	13.5	-	3,934	-	3,782	-	0%	-
5	Others	-	94.5	-	1,252	-	1,202	-	0%	-
	Total	-		-		-		-		-

B) FARM INPUTS

S.No	Crop	Area[ha]	(1) Expenditure on seeds		(2) Expenditure on fertilizer/manures		(3.1) Expenditure on family bullock and labour		(3.2) Expenditure on hired bullock and labour		(8) Plant Protection	
			Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]
	Kharif											
1	Maize	-	2,146	-	3,513	-	23,880	-	8,172	-	-	-
2	Jowar	-	648	-	2,141	-	5,262	-	9,302	-	-	-
3	Bajra	-	940	-	1,121	-	10,206	-	5,215	-	-	-
4	Kh.Pulses/Others	-	1,800	-	1,058	-	7,790	-	6,476	-	300	-
5	Til	-	524	-	587	-	7,559	-	4,228	-	-	-
6	Groundnut	-	9,545	-	3,951	-	17,565	-	15,411	-	880	-
7	Cotton	-	5,848	-	6,529	-	35,136	-	12,378	-	2,940	-
	Rabi											
1	Wheat	-	3,926	-	4,755	-	14,488	-	10,080	-	100	-
2	Barley	-	3,168	-	2,877	-	18,953	-	8,311	-	-	-
3	Gram	-	3,944	-	1,158	-	11,021	-	3,564	-	650	-
4	Mustard	-	996	-	3,100	-	11,324	-	6,572	-	100	-
5	Others	-	3,960	-	18,387	-	10,554	-	25,986	-	3,900	-
	Total	-		-		-		-		-		-

Table: Value of Crop and Cost of various Inputs (With-Rehabilitation)

A) GROSS RECEIPTS

S.No	Crop	Area[ha]	Yield		(1) Gross value of farm produce (Financial)		(1) Gross value of farm produce (Economic)		(2) Value of by-products	
			Average [q/ha]	Total [q]	Rate [RS./q]	Value [RS.]	Rate [RS./q]	Value [RS.]	Rate [Percentage]	Value [RS.]
	Kharif									
1	Maize	-	16.8	-	1,715	-	1,189	-	20%	-
2	Jowar	-	5.5	-	1,864	-	1,789	-	50%	-
3	Bajra	-	9.1	-	1,446	-	1,388	-	50%	-
4	Kh.Pulses/Others	-	4.0	-	6,219	-	5,970	-	10%	-
5	Til	-	2.9	-	9,743	-	9,353	-	0%	-
6	Groundnut	-	16.5	-	4,536	-	4,355	-	10%	-
7	Cotton	-	20.3	-	5,898	-	5,662	-	5%	-
	Rabi									
1	Wheat	-	37.0	-	1,817	-	1,394	-	20%	-
2	Barley	-	32.3	-	1,446	-	1,288	-	20%	-
3	Gram	-	9.0	-	3,792	-	3,640	-	10%	-
4	Mustard	-	14.1	-	3,934	-	3,782	-	0%	-
5	Others	-	99.2	-	1,252	-	1,202	-	0%	-
	Total	-		-		-		-		-

B) FARM INPUTS

S.No	Crop	Area[ha]	(1) Expenditure on seeds		(2) Expenditure on fertilizer/manures		(3.1) Expenditure on family bullock and labour		(3.2) Expenditure on hired bullock and labour		(8) Plant Protection	
			Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]	Rate [RS./ha]	Cost [RS.]
	Kharif											
1	Maize	-	2,262	-	3,689	-	23,880	-	7,990	-	-	-
2	Jowar	-	630	-	2,141	-	5,262	-	9,095	-	-	-
3	Bajra	-	915	-	1,121	-	10,206	-	5,099	-	-	-
4	Kh.Pulses/Others	-	1,755	-	1,058	-	7,790	-	6,332	-	300	-
5	Til	-	512	-	587	-	7,559	-	4,134	-	-	-
6	Groundnut	-	9,545	-	3,951	-	17,565	-	15,411	-	880	-
7	Cotton	-	5,848	-	6,529	-	35,136	-	12,378	-	2,940	-
	Rabi											
1	Wheat	-	4,077	-	4,993	-	15,213	-	9,856	-	105	-
2	Barley	-	3,312	-	3,021	-	19,900	-	8,126	-	-	-
3	Gram	-	4,118	-	1,216	-	11,572	-	3,485	-	680	-
4	Mustard	-	1,044	-	3,255	-	11,890	-	6,426	-	105	-
5	Others	-	4,160	-	19,306	-	11,082	-	25,409	-	4,095	-
	Total	-		-		-		-		-		-

Annex 9.4: Annual Net Receipt (Total Gross Margin)

Without-Rehabilitation

	Type of Produce/Input	Product Value/Cost of Farm Inputs [Rs.]			
		Factors	Financial	Conversion Factor	Economic
(A)	Gross Receipts				
	(1) Gross value of farm produce	-	-		-
	(2) Value of by-products	-	-	1/ 0.96	-
	(3) Dung receipts at 30% of the fodder expenditure	30.0%	-	1/ 0.96	-
	Total Gross Receipts				-
(B)	Farm Inputs				
	(1) Expenditure on seeds	-	-	2/ 1.14	-
	(2) Expenditure on fertilizer/manures	-	-	2/ 1.14	-
	(3.1) Expenditure on family bullock and labour	-	-	3/ 0.90	-
	(3.2) Expenditure on hired bullock and labour	-	-	3/ 0.90	-
	(4) Fodder expenditure (15% of the gross value of produce)	15.0%	-	1/ 0.96	-
	(5) Depreciation on implements (2.7% of the gross value of farm produce)	2.7%	-	1/ 0.96	-
	(6) Share and cash rent (5% of the gross value of produce)	5.0%	-	1/ 0.96	-
	(7) Land revenue (2% of the gross value of farm produce)	2.0%	-	1/ 0.96	-
	(8) Plant Protection	-	-	2/ 1.14	-
	Total Farm Inputs				-
(C)	Net Receipts (Total Gross Margin) (Total A – B)				-

1/ Standard Conversion factor = 0.96

2/ Standard conversion factor + subsidised portion (20%) - VAT (5.5%), conversion factor = $0.96/(1-20\%)/(1+5.5\%)$

3/ Shadow Wage Rate = 0.9

With-Rehabilitation

	Type of Produce/Input	Product Value/Cost of Farm Inputs [Rs.]			
		Factors	Financial	Conversion Factor	Economic
(A)	Gross Receipts				
	(1) Gross value of farm produce	-	-		-
	(2) Value of by-products	-	-	1/ 0.96	-
	(3) Dung receipts at 45% of the fodder expenditure	30.0%	-	1/ 0.96	-
	Total Gross Receipts				-
(B)	Farm Inputs				
	(1) Expenditure on seeds	-	-	2/ 1.05	-
	(2) Expenditure on fertilizer/manures	-	-	2/ 1.05	-
	(3.1) Expenditure on family bullock and labour	-	-	3/ 0.90	-
	(3.2) Expenditure on hired bullock and labour	-	-	3/ 0.90	-
	(4) Fodder expenditure (10% of the gross value of produce)	10.0%	-	1/ 0.96	-
	(5) Depreciation on implements (2.7% of the gross value of farm produce)	2.7%	-	1/ 0.96	-
	(6) Share and cash rent (3% of the gross value of produce)	3.0%	-	1/ 0.96	-
	(7) Land revenue (2% of the gross value of farm produce)	2.0%	-	1/ 0.96	-
	(8) Plant Protection	-	-	2/ 1.05	-
	Total Farm Inputs				-
(C)	Net Receipts (Total Gross Margin) (Total A – B)				-

1/ Standard Conversion factor = 0.96

2/ Standard conversion factor + subsidised portion (20%) - VAT (14.5%), conversion factor = $0.96/(1-20\%)/(1+14.5\%)$

3/ Shadow Wage Rate = 0.9

Annex 9.5: Cash Flow Schedule and EIRR

1. Annual Net Receipts, Without Rehabilitation [Rs.'000]

Irrigated:	- ha
Unirrigated:	- ha
Total crop area:	- ha
Total economic gross margin:	-

2. Annual Net Receipts, With Rehabilitation [Rs.'000]

Irrigated:	- ha
Unirrigated:	- ha
Total crop area:	- ha
Total economic gross margin:	-

3. Annual Incremental Economic Value of Production [Rs.'000]	Discout Rate
-	i = 12%

4. Capital Cost [Rs.'000]	SID = 4%
166,000	Consultancy = 6%

4. Cash Flow [Rs.'000] (Unit: INR Thousand)

Year	Cost				Total Cost	Benefit	Total Benefit
	Civil Works	SID Work	Consultancy	O&M			
1		6,640	1,245		7,885	0	-7,885
2	166,000		1,245		167,245	0	-167,245
3			1,245	3,285	4,530	0	-4,530
4			1,245	3,285	4,530	0	-4,530
5			1,245	3,285	4,530	0	-4,530
6			1,245	3,285	4,530	0	-4,530
7			1,245	3,285	4,530	0	-4,530
8			1,245	3,285	4,530	0	-4,530
9				3,285	3,285	0	-3,285
10				3,285	3,285	0	-3,285
11				3,285	3,285	0	-3,285
12				3,285	3,285	0	-3,285
13				3,285	3,285	0	-3,285
14				3,285	3,285	0	-3,285
15				3,285	3,285	0	-3,285
16				3,285	3,285	0	-3,285
17				3,285	3,285	0	-3,285
18				3,285	3,285	0	-3,285
19				3,285	3,285	0	-3,285
20				3,285	3,285	0	-3,285
21				3,285	3,285	0	-3,285
22				3,285	3,285	0	-3,285
23				3,285	3,285	0	-3,285
24				3,285	3,285	0	-3,285
25				3,285	3,285	0	-3,285
26				3,285	3,285	0	-3,285
27				3,285	3,285	0	-3,285
28				3,285	3,285	0	-3,285
29				3,285	3,285	0	-3,285
30				3,285	3,285	0	-3,285

Present Value (Unit: INR Thousand)

Total Cost	Gross Benefit	Total Benefit
7,040	0	-7,040
133,327	0	-133,327
3,224	0	-3,224
2,879	0	-2,879
2,570	0	-2,570
2,295	0	-2,295
2,049	0	-2,049
1,830	0	-1,830
1,185	0	-1,185
1,058	0	-1,058
944	0	-944
843	0	-843
753	0	-753
672	0	-672
600	0	-600
536	0	-536
478	0	-478
427	0	-427
381	0	-381
341	0	-341
304	0	-304
271	0	-271
242	0	-242
216	0	-216
193	0	-193
173	0	-173
154	0	-154
138	0	-138
123	0	-123
110	0	-110
###	0	-165,357

Economic Value Indicators

Net Present Value (NPV)	-165,357
Benefit / Cost Ratio (B/C)	0.00
Economic Internal Rate of Return (EIRR)	#DIV/0!

Benefit Increase

Year	Overall
1	0%
2	0%
3	10%
4	30%
5	70%
6	100%
7	100%
8	100%
9	100%
10	100%
11	100%
12	100%
13	100%
14	100%
15	100%
16	100%
17	100%
18	100%
19	100%
20	100%
21	100%
22	100%
23	100%
24	100%
25	100%
26	100%
27	100%
28	100%
29	100%
30	100%

Note: Annual Discount Rate: i = 12%

Annex 9.6: Calculation of Benefit Cost Ratio

Benefits Cost Ratio		Without Rehabilitation	With Rehabilitation
(A)	GROSS RECEIPTS		
1	Gross value of farm produce	0	0
2	Value of by-products	0	0
3	Dung receipts at 30% of the fodder expenditure	0	0
4	Total (A) : Gross Receipts (1+2+3)	0	0
(B)	FARM INPUTS		
1	Expenditure on seeds	0	0
2	Expenditure on fertilizer/manures etc.	0	0
3	Expenditure on hired bullock and labour	0	0
4	Fodder expenditure (15%/10% of the gross value of produce)	0	0
5	Depreciation on implements (2.7% of the gross value of farm produce)	0	0
6	Share and cash rent (5%/3% of the gross value of produce)	0	0
7	Land revenue (2% of the gross value of farm produce)	0	0
9	Total (B) Expenses (1 to 6)	0	0
(C)	NET VALUE OF PRODUCE		
1	Total Gross Receipts (Total A.4)	0	0
2	Minus Total Expenses (Total B.7)	0	0
3	Net Value of Produce (C) :(1-2)	0	0
(D)	ANNUAL AGRICULTURE BENEFITS:		
1	Net Value with rehabilitation (C.3)		0
2	Minus Net Value without rehabilitation (C.3)		0
3	Net Annual Benefits (D) :(1-2)		0
(E)	Other net annual benefits due to aqua- culture including pisciculture, drinking & industrial water supply, hydro power generation, animal husbandry etc.(average Rs 5.0 lakh per sub project)		
(F)	TOTAL NET ANNUAL BENEFITS (D+E)		0
(G)	ANNUAL COSTS:		
1	Interest on capital @10% (Estimated total cost of the project)		18,300,000
2	Depreciation of the project @ 2% of the cost of the project		3,660,000
3	Annual operation and maintenance charges @657 per ha of CCA		-
4	Maintenance of the head works @ 1.0% of its cost		-
5	Depreciation of the pumping system @ 8.33% of the estimated cost of the pumping system assuming life of the system as 12 years (Applicable to lift irrigation)		0
6	Depreciation of the raising mains @3.33% of the estimated cost of the raising mains assuming life of the system as 30 years (Applicable to lift irrigation)		0
7	Power charges for lift irrigation @ Rs...per ha(applicable to lift irrigation)		0
8	Total (G) Annual costs(1 to 7)		21,960,000
	BENEFIT COST RATIO = F: Annual Benefits/G8: Annual Costs		0.00

Total Cost
183,000,000

**Water Resource Department (WRD),
The State of Rajasthan, Republic of India**

**DETAILED PROJECT REPORT
ON
REHABILITATION OF WEST BANAS IRRIGATION
SUB-PROJECT**

Volume-2: COST ESTIMATE

August 2016

**Rajasthan Water Sector Livelihood Improvement Project (RWSLIP)
Sub-PMU 3 for Udaipur and Jodhpur Zones**

Basic Conditions for Cost Estimate

- i) Basic Schedule of Rates for Sirohi District, year 2014 was applied to the cost estimate.
- ii) 6% of price escalation was applied to adjust the price to April 2016 level.
- iii) Target area for installation of micro irrigation system is assumed as 5.5% of total CCA consisting of 5.0% for sprinkler irrigation system and 0.5% for drip irrigation system and unit rate of INR 49,731 / ha for sprinkler irrigation system and INR 82,010 / ha for drip irrigation system was applied for cost estimation, respectively.

Overall Summary of Cost Estimate

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
District: Sirohi District

No.	Description (Proposed Activity)	Estimated Cost (INR thousand)
1	Rehabilitation of West Banas Dam	
1.1	Dam body and intake structure	xxx
1.2	Spillway (rehabilitation of downstream walls at settling basin)	xxx
1.3	Provision of filter toe	xxx
	<u>Sub-total 1</u>	<u>xxx</u>
2	Rehabilitation of Right Main Canal System	
2.1	Rehabilitation of right main canal and related structures	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	xxx
2.2	Rehabilitation of minor canals and related structures (right main canal system)	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	xxx
	<u>Sub-total 2</u>	<u>xxx</u>
3	Rehabilitation of Left Main Canal System	
3.1	Rehabilitation of left main canal and related structures	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Provision of new canal lining	xxx
(3)	Construction/rehabilitation of related structures	xxx
3.2	Rehabilitation of minor canals and related structures (left main canal system)	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	xxx
	<u>Sub-total 3</u>	<u>xxx</u>
4	Promotion of Micro Irrigation System (target area to be developed)	
4.1	Construction and installation of community based sprinkler system	xxx
4.2	Construction and installation of individual farmer based drip system	xxx
	<u>Sub-total 4</u>	<u>xxx</u>
5	Construction of WUA Constructive Facilities	
5.1	Construction of xxxxxxxx at xxxxxxxx	xxx
	<u>Sub-total 5</u>	<u>xxx</u>
6	Support for Gender Mainstreaming Activities	
6.1	Construction of xxxxxxxx at xxxxxxxx	xxx
6.2	Construction of xxxxxxxx at xxxxxxxx	xxx
6.3	Planting of xxxxxxxx at xxxxxxxx	xxx
6.4	Planting of xxxxxxxx at xxxxxxxx	xxx
	<u>Sub-total 6</u>	<u>xxx</u>
	<u>Total (1 - 6)</u>	<u>xxx</u>

Summary of Cost Estimate for Rehabilitation of West Banas Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project

District: Sirohi District

No.	Description (Proposed Activity)	Estimated Cost (INR thousand)
1	Rehabilitation of West Banas Dam	
1.1	Dam body and intake structure	
(1)	Clearing of bush and trees	xxx
(2)	Rehabilitation of dam embankment (widening of top of dam, 6 m)	xxx
(3)	Repair of riprap	xxx
(4)	Provision of quarry spalls on top of dam body	xxx
(5)	Sod facing for downstream slope	xxx
(6)	Repair of intake structure (wall and sluice gates)	xxx
1.2	Spillway (rehabilitation of downstream walls at settling basin)	xxx
1.3	Provision of filter toe	xxx
	<u>Total</u>	<u>xxx</u>

Abstract of Cost for Rehabilitation of Dam Embankment _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Dam Embankment _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Repair of Riprap _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
	<u>Total</u>				<u>XXX</u>

Quantity Calculations for Repair of Riprap _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Quarry Spalls _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Provision of Quarry Spalls _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Sod Facing _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>XXX</u>

Quantity Calculations for Sod Facing _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Repair of Intake Structure _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Repair of Intake Structure _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Spillway _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
District: Sirohi District
Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Spillway _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
District: Sirohi District
Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Filter Toe _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
Total					<u>XXX</u>

Quantity Calculations for Provision of Filter Toe _ Dam

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of West Bans Dam _ dam body and intake structure
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Summary of Cost Estimate for Rehabilitation of Right Main Canal System

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project

District: Sirohi District

No.	Description (Proposed Activity)	Estimated Cost (INR thousand)
2	Rehabilitation of Right Main Canal System	
2.1	Rehabilitation of right main canal and related structures	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	
(a)	Provision of measuring devices	xxx
(b)	Rehabilitation of aqueduct	xxx
(c)	Rehabilitation of siphon	xxx
(d)	Rehabilitation of falls	xxx
(e)	Rehabilitation of VRBs	xxx
(f)	Replacement of outlets	xxx
2.2	Rehabilitation of minor canals and related structures (right main canal system)	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	
(a)	Provision of measuring devices	xxx
(b)	Rehabilitation of aqueduct	xxx
(c)	Rehabilitation of siphon	xxx
(d)	Rehabilitation of falls	xxx
(e)	Rehabilitation of VRBs	xxx
(f)	Replacement of outlets	xxx
<u>Total</u>		<u>xxx</u>

Abstract of Cost for Rehabilitation of Existing Canal Lining _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Existing Canal Lining _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Measuring Devices _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>XXX</u>

Quantity Calculations for Provision of Measuring Devices _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Aqueduct _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Aqueduct _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Siphon _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Siphon _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of VRBs _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of VRBs _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Outlets _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Outlets _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Right Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Existing Canal Lining _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Existing Canal Lining _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Measuring Devices _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Provision of Measuring Devices _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Aqueduct _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Aqueduct _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Siphon _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
Total					xxx

Quantity Calculations for Rehabilitation of Siphon _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Falls _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Falls _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of VRBs _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
	<u>Total</u>				<u>xxx</u>

Quantity Calculations for Rehabilitation of VRBs _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Outlets _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Outlets _ Minor Canals _ RMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of RMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Summary of Cost Estimate for Rehabilitation of Left Main Canal System

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project

District: Sirohi District

No.	Description (Proposed Activity)	Estimated Cost (INR thousand)
2	Rehabilitation of Left Main Canal System	
2.1	Rehabilitation of left main canal and related structures	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	
(a)	Provision of measuring devices	xxx
(b)	Rehabilitation of aqueduct	xxx
(c)	Rehabilitation of siphon	xxx
(d)	Rehabilitation of falls	xxx
(e)	Rehabilitation of VRBs	xxx
(f)	Replacement of outlets	xxx
2.2	Rehabilitation of minor canals and related structures (left main canal system)	
(1)	Rehabilitation of existing canal lining	xxx
(2)	Construction/rehabilitation of related structures	
(a)	Provision of measuring devices	xxx
(b)	Rehabilitation of aqueduct	xxx
(c)	Rehabilitation of siphon	xxx
(d)	Rehabilitation of falls	xxx
(e)	Rehabilitation of VRBs	xxx
(f)	Replacement of outlets	xxx
<u>Total</u>		<u>xxx</u>

Abstract of Cost for Rehabilitation of Existing Canal Lining _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Existing Canal Lining _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Measuring Devices _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Provision of Measuring Devices _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Aqueduct _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Aqueduct _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Siphon _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Siphon _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Falls _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Falls _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Outlets _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>XXX</u>

Quantity Calculations for Rehabilitation of Outlets _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Left Main Canal
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Existing Canal Lining _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Existing Canal Lining _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Provision of Measuring Devices _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Provision of Measuring Devices _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Aqueduct _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
Total					xxx

Quantity Calculations for Rehabilitation of Aqueduct _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Siphon _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
District: Sirohi District
Type of the Works: Rehabilitation of LMC System _ Minor Canals
Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Siphon _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
District: Sirohi District
Type of the Works: Rehabilitation of LMC System _ Minor Canals
Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Falls _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Falls _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of VRBs _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of VRBs _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Rehabilitation of Outlets _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Rehabilitation of Outlets _ Minor Canals _ LMC

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Rehabilitation of LMC System _ Minor Canals
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Promotion of Micro Irrigation System

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Promotion of Micro Irrigation System
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>XXX</u>

Quantity Calculations for Promotion of Micro Irrigation System

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Promotion of Micro Irrigation System
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

Abstract of Cost for Construction of WUA Facilities

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Construction of WUA Facilities
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	Quantity	Unit Rate (INR)	Amount (INR)
<u>Total</u>					<u>xxx</u>

Quantity Calculations for Construction of WUA Facilities

Name of the Sub-project: Rehabilitation of West Banas Irrigation Sub-project
 District: Sirohi District
 Type of the Works: Construction of WUA Facilities
 Reference Drawing: Drawing no.....

No.	Particulars of Item	Unit	No	L	B	H/D	Qty.

**Water Resource Department (WRD),
The State of Rajasthan, Republic of India**

**DETAILED PROJECT REPORT
ON
REHABILITATION OF WEST BANAS IRRIGATION
SUB-PROJECT**

Volume-3:DRAWINGS

Cwi wuv 2016

**Rajasthan Water Sector Livelihood Improvement Project (RWSLIP)
Sub-PMU 3 for Udaipur and Jodhpur Zones**

List of Drawings

Plate No.	Title of Drawing
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	Typical Cross Section for Canal Lining works
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Promotion of Micro Irrigation System	
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(Please insert at least the above drawings)

Attachment 4.6
Long List of the Candidate Irrigation
Sub-projects for RWSLIP

Attachment 4.7
Short List of the Candidate Irrigation
Sub-projects under RWSLIP

Attachment 4.7 Short List of the Candidate Irrigation Sub-projects under RWSLIP (result of 1st screening, 156 sub-projects)

S. No	Name of project	Basic Information				General Information										WRD Priority (0 - 10)	
		DPR	Zone	District / division	Category of scheme	CCA in ha (1)	Live storage in MM3 (2)	Effective storage in MM3 (3)	Evaporation in MM3 (4)	Free catchment area in km2 (5)	Run-off (Mm3) (7)	Year of construction (8)	Rehabilitated under RWSRIP or RAJAMHIP (9)	Estimated Cost (Rs in Lacs)			
														Total (12)	Dam (13)		Canal (14)
183	Rehabilitation of Farm Minor from RD 26.135 to 40.545	DPR006	North	Ganganagar	Medium	4,301.00	MI	MI	MI	MI	MI	State time	no	196.78	0.00	196.78	9
184	Rehabilitation of PP minor from RD 0 to 13.323	DPR007	North	Ganganagar	Minor	936.00	MI	MI	MI	MI	MI	State time	no	180.84	0.00	180.84	8
185	Rehabilitation of Karnisingh Distributary from Km 0 to 33.320. of Bhakra canal system	DPR008	North	Hanumangarh	Medium	9,269.23	MI	MI	MI	MI	MI	1953	no	5,595.01	0.00	5,595.01	7
186	Rehabilitation of Suratgarh Distributary from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	DPR009	North	Hanumangarh	Medium	8,547.36	MI	MI	MI	MI	MI	1953	no	4,991.54	0.00	4,991.54	7
187	Rehabilitation of PBN Distributary from Km 0 to 34.217 of Bhakra canal system	DPR010	North	Hanumangarh	Medium	9,443.32	MI	MI	MI	MI	MI	1953	no	5,227.88	0.00	5,227.88	7
188	Rehabilitation of fatehpura Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR011	North	Hanumangarh	Medium	8,503.31	MI	MI	MI	MI	MI	1953	no	3,081.84	0.00	3,081.84	8
189	Rehabilitation of Suratgarh Distributary from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26. KSR Mr. Km. 0 to 4.85 (SGM) Sardargarh Mr. km. 0 to 13.65 of Bhakra canal system	DPR012	North	Hanumangarh	Medium	8,510.94	MI	MI	MI	MI	MI	1953	no	2,736.72	0.00	2,736.72	8
190	Rehabilitation of Banwali Mr. Minor from Km 0 to 12.68 & Bhagsar (BGS) Mr. Km 0 to 11.0 Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR013	North	Hanumangarh	Medium	9,445.74	MI	MI	MI	MI	MI	1953	no	2,727.63	0.00	2,727.63	8
191	Rehabilitation of kishanpura (KSP) Distributary from Km 0 to 20.787 & Siwala distributary 0.00 to 10.050 of Bhakra canal system	DPR014	North	Hanumangarh	Medium	8,231.36	MI	MI	MI	MI	MI	1953	no	2,842.45	0.00	2,842.45	8
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	DPR015	North	Hanumangarh	Medium	9,906.45	MI	MI	MI	MI	MI	1953	no	2,491.74	0.00	2,491.74	10
193	Rehabilitation of PBN Distributary from Km 34.217 to 54.949 of Bhakra canal system	DPR016	North	Hanumangarh	Medium	9,358.00	MI	MI	MI	MI	MI	1953	no	2,552.63	0.00	2,552.63	6
194	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	DPR017	North	Hanumangarh	Medium	4,568.15	MI	MI	MI	MI	MI	1953	no	1,881.27	0.00	1,881.27	10
195	Rehabilitation of Sabuna Distributary from Km 0 to 17.777 & Nagrana distributary 0.00 to 6.614 of Bhakra canal system	DPR018	North	Hanumangarh	Medium	6,524.00	MI	MI	MI	MI	MI	1953	no	1,807.26	0.00	1,807.26	10
196	Rehabilitation of Manaksar Distributary from Km 0 to 14.264 & Daulapura Minor 0.00 to 7.103 of Bhakra canal system	DPR019	North	Hanumangarh	Medium	7,050.00	MI	MI	MI	MI	MI	1953	no	1,798.53	0.00	1,798.53	10
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	DPR046	North	Hanumangarh	Medium	8,616.00	MI	MI	MI	MI	MI	1953	no	2,285.11	0.00	2,285.11	10
198	Rehabilitation of Mansarovar Irrigation Project	DPR020	Jaipur	Alwar	Minor	843.00	9.41	8.00	0.80	93.20	13.37	State time	no	239.16	78.26	160.90	5
199	Rehabilitation Bharatpur Feeder System	DPR021	Jaipur	Bharatpur	Medium	7,278.00	MI	MI	MI	MI	MI	1960	RWSRP	4,465.00	0.00	4,465.00	1
200	Renovation of pai distributary (Gurgaon Main Canal)	DPR022	Jaipur	Bharatpur	Medium	3,064.00	MI	MI	MI	MI	MI	1980	no	2,800.17	0.00	2,800.17	1
202	Renovation of Hatheen Minor (Gurgaon Main Canal)	DPR024	Jaipur	Bharatpur	Minor	1,400.00	MI	MI	MI	MI	MI	1980	no	1,129.60	0.00	1,129.60	1
203	Renovation of Nonera Minor (Gurgaon Main Canal)	DPR025	Jaipur	Bharatpur	Minor	1,058.00	MI	MI	MI	MI	MI	1980	no	593.51	0.00	593.51	1
204	Renovation of Kanwadi Minor (Gurgaon Main Canal)	DPR026	Jaipur	Bharatpur	Minor	510.00	MI	MI	MI	MI	MI	1980	no	503.56	0.00	503.56	1
205	Renovation of Gaonri Minor (Gurgaon Main Canal)	DPR027	Jaipur	Bharatpur	Minor	419.00	MI	MI	MI	MI	MI	1980	no	241.64	0.00	241.64	1
206	Renovation of Kirawta Minor (Gurgaon Main Canal)	DPR028	Jaipur	Bharatpur	Minor	338.00	MI	MI	MI	MI	MI	1980	no	228.29	0.00	228.29	1
207	Renovation of Nagla Zalim Singh Minor (Gurgaon Main Canal)	DPR029	Jaipur	Bharatpur	Minor	414.00	MI	MI	MI	MI	MI	1980	no	223.18	0.00	223.18	1
208	Rehabilitation of Canal System of Kalisil Dam	DPR030	Jaipur	Karauli	Medium	4,903.17	37.25	31.66	3.17	331.52	44.35	1956	no	1,328.95	192.01	1,136.94	8
209	Rehabilitation of Dhsel Irrigation Project	DPR031	Jaipur	Sawai Madhopur	Medium	5,943.00	27.73	23.57	2.36	688.93	102.72	1911	no	3,835.88	209.89	3,625.99	10
210	Rehabilitation of Surwal Irrigation Project	DPR032	Jaipur	Sawai Madhopur	Medium	5,280.37	25.55	21.72	2.17	274.19	27.53	1954	RWSRP	1,571.96	183.44	1,388.52	8
214	Rehabilitation of West Banas Irrigation Project	DPR036	Jodhpur	Sirohi	Medium	7,952.00	36.22	30.79	3.08	414.40	39.05	1963	RWSRP	1,715.75	226.97	1,488.78	10
215	Rehabilitation of Hemawas Irrigation Project	DPR037	Jodhpur	Pali	Medium	8,704.00	62.55	53.17	5.32	907.00	62.55	1912	RWSRP	5,265.87	4,304.07	961.80	7
216	Rehabilitation of Phulad Minor Irrigation Project	DPR038	Jodhpur	Pali	Minor	787.79	3.49	2.97	0.30	48.69	3.72	1976	no	526.88	131.72	395.16	10
217	Rehabilitation of Amlia Minor Irrigation Project	DPR039	Jodhpur	Pali	Minor	357.89	1.15	0.98	0.10	6.99	1.39	1984	no	126.69	126.69	0.00	4
218	Rehabilitation of Dantiwara Minor Irrigation Project	DPR040	Jodhpur	Pali	Minor	806.48	3.49	2.97	0.30	31.06	3.69	1984	no	94.01	50.57	43.44	3
219	Rehabilitation of Bankey Sagar Sawar Irrigation Project	DPR041	Jaipur	Ajmer	Minor	327.81	1.73	1.47	0.15	15.54	1.73	State time	no	155.38	146.79	8.59	4
221	Rehabilitation of Galvania Medium Irrigation Project	DPR043	Jaipur	Tonk	Medium	2,257.00	11.40	9.69	0.97	69.46	11.94	1957	no	980.22	598.72	381.50	9
222	Rehabilitation of Ramsagar Ganwar Irrigation Project	DPR044	Jaipur	Tonk	Minor	466.00	2.46	2.09	0.21	9.32	2.46	1950	no	284.50	135.84	148.66	3
223	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	DPR045	Kota	Bundi	Medium	3,402.00	18.87	16.04	1.60	126.89	32.28	1982	RWSRP	2,285.00	1,253.16	1,031.84	8
224	Rehabilitation of Burdha Medium Irrigation project	DPR047	Kota	Bundi	Medium	4,274.87	28.93	24.59	2.46	261.61	37.74	State time	RWSRP	1,093.00	0.00	1,093.00	10
229	Renovation of Kothari Medium Irrigation Project	DPR052	Udaipur	Bhilwara	Medium	4,362.00	21.51	18.28	1.83	325.00	26.65	1985	no	546.98	231.06	315.92	9
230	Rehabilitation of Shakkargarh Minor Irrigation Project	DPR053	Udaipur	Bhilwara	Minor	828.83	3.81	3.24	0.32	61.34	3.81	1998	no	304.00	107.32	196.68	5
232	Rehabilitation of Jalva Minor	DPR055	Udaipur	Bhilwara	Minor	480.00	2.13	1.81	0.18	41.26	11.01	1987	no	176.30	81.52	94.78	4
233	Rehabilitation of Damti Kokra Minor Irrigation Project	DPR056	Udaipur	Bhilwara	Minor	947.00	4.30	3.66	0.37	36.28	4.74	1979	RAJAMHIP	196.76	0.00	196.76	6
234	Rehabilitation of Sagwara Ki Pal Irrigation Project	DPR057	Udaipur	Udaipur	Minor	303.00	1.92	1.63	0.16	44.03	4.89	1983	RAJAMHIP	486.42	79.44	406.98	2
235	Rehabilitation of Udaisar Medium Irrigation Project	DPR058	Udaipur	Udaipur	Medium	5,110.00	27.63	23.49	2.35	195.00	23.43	State time	no	7,281.42	1,655.97	5,625.45	9
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	DPR059	Udaipur	Udaipur	Minor	968.85	HW	HW	HW	714.77	270.84	1959	no	1,293.56	160.81	1,132.75	6

Attachment 4.7 Short List of the Candidate Irrigation Sub-projects under RWSLIP (result of 1st screening, 156 sub-projects)

S. No	Name of project	Basic Information				General Information										WRD Priority (0 - 10)	
		DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evaporation in MM3	Free catchment area in km2	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Estimated Cost (Rs in Lacs)			
														Total	Dam		Canal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)			
237	Rehabilitation of Sei Pick up Weir canal system	DPR060	Udaipur	Udaipur	Minor	390.43	1.70	1.45	0.14	16.74	3.02	1976	no	443.26	32.84	410.42	0
239	Rehabilitation of Dundia Minor Irrigation Project	DPR062	Udaipur	Udaipur	Minor	389.00	1.94	1.65	0.16	67.80	2.02	2001	no	245.30	86.80	158.50	4
240	Rehabilitation of Dorai Irrigation Project	DPR063	Udaipur	Chittorgarh	Minor	1,571.44	8.27	7.03	0.70	68.60	20.11	1992	RAJAMIP	485.90	118.78	367.12	5
241	Rehabilitation of Somi Irrigation Project	DPR064	Udaipur	Chittorgarh	Minor	444.98	1.88	1.60	0.16	52.45	4.64	1995	no	407.20	210.49	196.71	8
245	Sawan Bhadon Medium Irrigation Project	DPR073	Kota	Kota	Medium	6,692.00	27.85	23.67	2.37	153.31	31.20	1995	no	1,500.75	393.03	1,107.72	0
246	Rehabilitation of Parwan Medium Irrigation Project	DPR068	Kota	Baran	Medium	7,464.00	HW	HW	HW	3,009.00	241.80	1962	no	1,359.00	141.19	1,217.81	7
247	Rehabilitation of Bilas Medium Irrigation project	DPR069	Kota	Baran	Medium	5,863.00	26.76	22.75	2.27	233.00	41.25	1997	no	995.00	69.36	925.64	7
248	Rehabilitation of Ganeshgang Lift Irrigation Scheme	DPR070	Kota	Baran	Medium	6,960.00	MI	MI	MI	MI	MI	1991	no	938.00	0.00	938.00	3
249	Rehabilitation of Bhimsagar Medium Irrigation Project	DPR071	Kota	Jhalawar	Medium	9,986.00	72.53	61.65	6.17	335.00	106.51	1990	RWSRP	6,504.54	0.00	6,504.54	9
250	Rehabilitation of Borda Minor Irrigation Project	DPR072	Kota	Jhalawar	Minor	414.01	2.32	1.97	0.20	13.15	3.90	1985	no	238.82	74.40	164.42	8
255	Rehabilitation of Survaniya Dam Medium irrigation Project	no	Udaipur	Banswara	Medium	2,228.00	11.33	9.63	0.96	93.24	13.61	1963	no	1,336.80	534.72	802.08	5
256	Rehabilitation of Haro Dam Minor irrigation Project	no	Udaipur	Banswara	Minor	1,846.00	11.66	9.91	0.99	145.04	21.18	1958	no	1,107.60	443.04	664.56	1
257	Rehabilitation of Bhagora Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	573.00	2.56	2.18	0.22	47.14	6.88	1967	no	343.80	137.52	206.28	1
258	Rehabilitation of Phootan Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	546.00	3.06	2.60	0.26	36.26	5.29	1975	no	327.60	131.04	196.56	1
261	Rehabilitation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km	no	Udaipur	Banswara	Minor	1,070.00	MI	MI	MI	MI	MI	1986	no	642.00	0.00	642.00	9
262	Rehabilitation of Arthuna Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km.	no	Udaipur	Banswara	Medium	6,760.00	MI	MI	MI	MI	MI	1986	no	4,056.00	0.00	4,056.00	9
263	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	no	Udaipur	Banswara	Medium	9,598.00	MI	MI	MI	MI	MI	2007	no	5,758.80	0.00	5,758.80	9
264	Rehabilitation of Bhungra Canal & its system RD 28.5 to 39.81 km. (Tail)	no	Udaipur	Banswara	Medium	2,100.00	MI	MI	MI	MI	MI	2007	no	1,260.00	0.00	1,260.00	8
265	Rehabilitation of Right Main Canal & its system RD 0 to 6 km.	no	Udaipur	Banswara	Minor	1,083.00	MI	MI	MI	MI	MI	1976	no	649.80	0.00	649.80	8
266	Rehabilitation of Right Main Canal & its system RD 30 to 52km	no	Udaipur	Banswara	Medium	2,707.00	MI	MI	MI	MI	MI	1983	no	1,624.20	0.00	1,624.20	7
267	Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,113.00	MI	MI	MI	MI	MI	1983	no	1,267.80	0.00	1,267.80	7
268	Rehabilitation of Narwali Disty. & its system RD 3.52 km to 16 km Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	4,625.00	MI	MI	MI	MI	MI	1983	no	2,775.00	0.00	2,775.00	6
269	Rehabilitation of Jagpura Canal & its system Offtaking from Narwali disty	no	Udaipur	Banswara	Minor	1,005.00	MI	MI	MI	MI	MI	2007	no	603.00	0.00	603.00	6
270	Rehabilitation of Kanthav Minor & its system Offtaking from Narwali disty	no	Udaipur	Banswara	Medium	4,053.00	MI	MI	MI	MI	MI	1989	no	2,431.80	0.00	2,431.80	6
271	Rehabilitation of Karanpur disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,281.00	MI	MI	MI	MI	MI	1989	no	1,368.60	0.00	1,368.60	6
272	Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,530.00	MI	MI	MI	MI	MI	1989	no	1,518.00	0.00	1,518.00	8
273	Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,290.00	MI	MI	MI	MI	MI	1989	no	1,374.00	0.00	1,374.00	8
274	Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	3,348.00	MI	MI	MI	MI	MI	1989	no	2,008.80	0.00	2,008.80	8
275	Rehabilitation of Digod Lift Irrigation Project	no	Kota	Baran	Medium	2,972.00	MI	MI	MI	MI	MI	1986	no	400.00	0.00	400.00	4
277	Vallabh Nagar	no	Udaipur	Udaipur	Medium	6,480.00	28.76	24.45	2.44	461.80	67.42	1967	no	4,050.00	50.00	4,000.00	8
279	RESTORATION and RENOVATION OF Chawand Tank and Canal its minors under RWSLIP	no	Udaipur	Udaipur	Minor	359.00	2.24	1.90	0.19	27.84	4.06	1955	no	715.00	500.00	215.00	1
280	RESTORATION and RENOVATION OF Harchand Tank and Canal its minors under RWSLIP	no	Udaipur	Udaipur	Minor	966.00	6.28	5.34	0.53	86.79	12.67	1956	RWSRP	360.00	0.00	360.00	1
281	Rehabilitation/Modernisation of Jogiwala Distributory of Amarsingh Sub Branch System	no	North	Hanumangarh	Minor	585.00	MI	MI	MI	MI	MI	1961	no	181.00	0.00	181.00	7
282	Rehabilitation work of Rajgarh Canal System with Construction of Feeder from Jalsagar Dam	no	Udaipur	Chittorgarh	Minor	300.00	2.78	2.36	0.24	22.00	3.21	State time	no	100.00	0.00	100.00	0
285	Shivpura sub disty and its unlined canals offtaking from km 4.400 of ratodadistyofftaking from 44.255 km of NMC	no	Jodhpur	Jalore	Medium	7,328.38	MI	MI	MI	MI	MI	2007	no	1,304.00	0.00	1,304.00	5
286	Sankanya sub disty and its unlined canals offtaking from km 23.890 of ratodadistyofftaking from 44.225 km of NMC	no	Jodhpur	Jalore	Medium	5,478.20	MI	MI	MI	MI	MI	2007	no	911.00	0.00	911.00	5
287	Surachand minor and its unlined canals offtaking from 19.390 km BhimgudaDistyofftaking from 74 km of NMC	no	Jodhpur	Jalore	Medium	2,397.26	MI	MI	MI	MI	MI	2011	no	635.12	0.00	635.12	4
288	BaleraDisty and its unlined canals offtaking 16.00 km of NMC	no	Jodhpur	Jalore	Medium	4,000.00	MI	MI	MI	MI	MI	2007	no	500.00	0.00	500.00	4
291	Ganeshpura Minor Irrigation Project	no	Kota	Jhalawar	Minor	712.00	3.56	3.03	0.30	16.25	3.48	1998	no	150.00	40.00	110.00	7
Total (82 irrigation sub-projects)						550,397								241,715	26,105	206,420	

Attachment 4.8
Screening and Scoring Sheet for Selection
of the Candidate Irrigation Sub-projects
under RWSLIP

Attachment 4.8 Screening and Scoring Sheet for Selection of the Candidate Irrigation Sub-projects under RWSLIP

Name		Basic Information				General Information										1st Screening (pass or fail for all sub-projects)											
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evaporation in MM3	Free catchment area in km2	Run-off (mm)	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependency (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			WRD Priority (0 - 10)	PR10	PR4		PR5		JUDGE	
																	Total	Dam	Canal			CCA: 300 ~ 10,000 (ha)	(7) / (3)	Judge >1	(3) - (4) / (1)		Judge >0.0032
																	(12)	(13)	(14)			(15)					
133	Rehabilitation of Banka Distributory offlaking from Left Main Canal from R.D 0 km to Tail	no	Udaipur	Banswara	Medium	4,776.00	MI	MI	MI	MI	228.00	MI	1976	no				2,865.60	0.00	2,865.60	7	pass	MI	pass	MI	pass	PASS
134	Rehabilitation of Chhinch Distributory, RD 0 to 7.765 km offlaking from Left Main Canal at R.D. 26.34 Km.	no	Udaipur	Banswara	Medium	2,707.00	MI	MI	MI	MI	228.00	MI	1983	no				1,624.20	0.00	1,624.20	5	pass	MI	pass	MI	pass	PASS
135	Rehabilitation of Chhinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)	no	Udaipur	Banswara	Medium	5,267.00	MI	MI	MI	MI	228.00	MI	1986	no				3,160.20	0.00	3,160.20	9	pass	MI	pass	MI	pass	PASS
136	Rehabilitation of Parsolia Distributory system, offlaking from Arthuna Distributory at R.D 20.73 Km.	no	Udaipur	Banswara	Medium	5,878.00	MI	MI	MI	MI	228.00	MI	1986	no				3,526.80	0.00	3,526.80	6	pass	MI	pass	MI	pass	PASS
137	Rehabilitation of Gopinath ka gada Distributory system, offlaking from Arthuna Distributory at R.D 11.74 Km.	no	Udaipur	Banswara	Medium	3,150.00	MI	MI	MI	MI	228.00	MI	1986	no				1,890.00	0.00	1,890.00	8	pass	MI	pass	MI	pass	PASS
138	Baniawas	no	Jodhpur	Pali	Minor	1,470.00	7.86	6.68	0.67	634.30	36.00	22.83	1976	no				882.00	353.00	529.00	8	pass	3.4	pass	0.0041	pass	PASS
139	Dharia	no	Jodhpur	Pali	Minor	1,724.00	8.70	7.40	0.74	NA	36.00	NA	NA	no				1,040.00	416.00	624.00	6	pass	NA	fail	0.0039	pass	FAIL
140	Dantiwara Tank	no	Jodhpur	Pali	Minor	794.00	3.50	2.98	0.30	31.10	36.00	1.12	1963	no				480.00	192.00	288.00	0	pass	0.4	fail	0.0034	pass	FAIL
141	Akhelao Mansarowar	no	Jodhpur	Sirohi	Minor	327.80	1.52	1.29	0.13	20.72	146.00	3.03	State time	no				200.00	80.00	120.00	6	pass	2.3	pass	0.0035	pass	PASS
142	Kui Sagna	no	Jodhpur	Sirohi	Minor	393.25	1.78	1.51	0.15	12.45	146.00	1.82	1983	no				240.00	96.00	144.00	10	pass	1.2	pass	0.0035	pass	PASS
143	Lucri	no	Jodhpur	Sirohi	Minor	376.00	2.24	1.90	0.19	18.00	146.00	2.63	NA	no				225.00	90.00	135.00	6	pass	1.4	pass	0.0046	pass	PASS
144	Mahadev Nallah	no	Jodhpur	Sirohi	Minor	317.92	1.43	1.21	0.12	8.75	146.00	1.28	1989	no				190.00	76.00	114.00	6	pass	1.1	pass	0.0034	pass	PASS
145	Angore	no	Jodhpur	Sirohi	Medium	3,456.68	13.22	11.24	1.12	142.45	146.00	20.80	1988	RWSRP				1,400.00	560.00	840.00	8	pass	1.9	pass	0.0029	fail	FAIL
146	Bageri	no	Jodhpur	Sirohi	Minor	778.07	3.24	2.75	0.28	11.66	146.00	1.70	2000	no				460.00	184.00	276.00	6	pass	0.6	fail	0.0032	pass	FAIL
147	Gokul Bhai Bhatt Dam	no	Jodhpur	Sirohi	Medium	5,000.16	25.58	21.75	2.17	222.30	146.00	32.46	2008	no				2,000.00	800.00	1,200.00	1	pass	1.5	pass	0.0039	pass	PASS
148	Unmed Sagar Medium Irrigation Project	no	Kota	Baran	Medium	2,968.00	18.61	15.82	1.58	480.70	214.00	102.87	State time	RWSRP				1,780.00	712.00	1,068.00	7	pass	6.5	pass	0.0048	pass	PASS
149	Hathwari Minor Irrigation Project	no	Kota	Baran	Minor	109.00	NA	NA	NA	NA	214.00	NA	1956	no				65.00	26.00	39.00	0	fail	NA	fail	NA	fail	FAIL
150	Sirspura Minor Irrigation Project	no	Kota	Baran	Minor	182.00	NA	NA	NA	NA	214.00	NA	1956	no				110.00	44.00	66.00	0	fail	NA	fail	NA	fail	FAIL
151	Rampur Minor Irrigation Project	no	Kota	Baran	Minor	158.00	NA	NA	NA	NA	214.00	NA	1984	no				95.00	38.00	57.00	0	fail	NA	fail	NA	fail	FAIL
152	Alnia Medium Irrigation Project	no	Kota	Kota	Medium	7,882.00	43.71	37.15	3.72	182.00	214.00	38.95	1961	RWSRP				4,700.00	1,900.00	2,800.00	4	pass	1.0	pass	0.0042	pass	PASS
153	Dhadoon	no	Kota	Bundi	Minor	228.00	0.94	0.80	0.08	7.68	214.00	1.64	State time	no				140.00	56.00	84.00	0	fail	2.1	pass	0.0032	pass	FAIL
154	Vijaygarh-I	no	Kota	Bundi	Minor	57.00	0.15	0.13	0.01	3.00	214.00	0.64	1958	no				35.00	14.00	21.00	0	fail	5.0	pass	0.0020	fail	FAIL
155	Vijaygarh-II	no	Kota	Bundi	Minor	57.00	0.23	0.20	0.02	3.00	214.00	0.64	1958	no				35.00	14.00	21.00	0	fail	3.3	pass	0.0031	fail	FAIL
156	Rehabilitation of Sarkanya distributory and Dhaturia distributory of RMC and their minors	no	Kota	Baran	Minor	1,615.00	MI	MI	MI	MI	214.00	MI	1960	no				970.00	0.00	970.00	8	pass	MI	pass	MI	pass	PASS
157	Rehabilitation of Direct off taking Minors of RMC in between KM 57.50 to 103.50KM	no	Kota	Baran	Medium	6,606.00	MI	MI	MI	MI	214.00	MI	1960	no				3,960.00	0.00	3,960.00	7	pass	MI	pass	MI	pass	PASS
158	Rehabilitation of Kishanganj distributory and its minors	no	Kota	Kota	Medium	6,726.00	MI	MI	MI	MI	214.00	MI	1960	no				4,040.00	0.00	4,040.00	9	pass	MI	pass	MI	pass	PASS
159	Rehabilitation of Hanotia distributory and its minors	no	Kota	Kota	Medium	5,727.00	MI	MI	MI	MI	214.00	MI	1960	no				3,440.00	0.00	3,440.00	3	pass	MI	pass	MI	pass	PASS
160	Rehabilitation of Talera distributory and its minors	no	Kota	Bundi	Medium	2,701.00	MI	MI	MI	MI	214.00	MI	1960	no				1,620.00	0.00	1,620.00	3	pass	MI	pass	MI	pass	PASS
161	Rehabilitation of Matunda/Dayalpura distributory and its minors	no	Kota	Bundi	Medium	2,393.00	MI	MI	MI	MI	214.00	MI	1960	no				1,440.00	0.00	1,440.00	9	pass	MI	pass	MI	pass	PASS
162	Rehabilitation of Onkarpura distributory and its minors	no	Kota	Bundi	Medium	2,357.00	MI	MI	MI	MI	214.00	MI	1960	no				1,410.00	0.00	1,410.00	10	pass	MI	pass	MI	pass	PASS
163	Rehabilitation of Patan distributory and its minors	no	Kota	Bundi	Medium	5,822.00	MI	MI	MI	MI	214.00	MI	1960	no				3,500.00	0.00	3,500.00	9	pass	MI	pass	MI	pass	PASS
164	Rehabilitation of Anatpura distributory and its minors	no	Kota	Bundi	Medium	5,953.00	MI	MI	MI	MI	214.00	MI	1960	no				3,570.00	0.00	3,570.00	7	pass	MI	pass	MI	pass	PASS
165	Rehabilitation of Makheeda distributory and its minors	no	Kota	Bundi	Medium	3,000.00	MI	MI	MI	MI	214.00	MI	1960	no				1,800.00	0.00	1,800.00	5	pass	MI	pass	MI	pass	PASS
166	Rehabilitation of Dagariya distributory and its minors	no	Kota	Bundi	Medium	2,440.00	MI	MI	MI	MI	214.00	MI	1960	no				1,464.00	0.00	1,464.00	3	pass	MI	pass	MI	pass	PASS
167	Rehabilitation of Dahikhera distributory and its minors	no	Kota	Bundi	Minor	1,765.00	MI	MI	MI	MI	214.00	MI	1960	no				1,060.00	0.00	1,060.00	3	pass	MI	pass	MI	pass	PASS
168	Rehabilitation of Malikpura distributory and its minors	no	Kota	Bundi	Medium	3,885.00	MI	MI	MI	MI	214.00	MI	1960	no				2,340.00	0.00	2,340.00	3	pass	MI	pass	MI	pass	PASS
169	Rehabilitation of Laban distributory and its minors	no	Kota	Bundi	Medium	3,198.00	MI	MI	MI	MI	214.00	MI	1960	no				1,920.00	0.00	1,920.00	5	pass	MI	pass	MI	pass	PASS
170	Rehabilitation of different reaches of various canals of sidhmukh irrigation project	no	North	Hanumangarh	Medium	5,100.00	MI	MI	MI	MI	MI	MI	2000	no				2,100.00	NA	NA	3	pass	MI	pass	MI	pass	PASS
171	Rehabilitation of different reaches of various canals of Nohar irrigation project	no	North	Hanumangarh	Medium	3,200.00	MI	MI	MI	MI	MI	MI	2000	no				1,200.00	NA	NA	3	pass	MI	pass	MI	pass	PASS

Attachment 4.8 Screening and Scoring Sheet for Selection of the Candidate Irrigation Sub-projects under RWSLIP

Name		Basic Information				General Information											1st Screening (pass or fail for all sub-projects)									
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evaporation in MM3	Free catchment area in km2	Run-off (mm)	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependability (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			WRD Priority (0 - 10)	CCA: 300 ~ 10,000 (ha)	PR4 (7) / (3)	PR5 (3) - (4) / (1)	Judge >0.0032 >-0.0016	JUDGE	
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total (12)	Dam (13)	Canal (14)							(15)
172	Rehabilitation of CG Distributary system under RWSLIP	no	North	Ganganagar	Medium	4,416.00	MI	MI	MI	MI	MI	MI	State time	no			533.75	0.00	533.75	10	pass	MI	pass	MI	pass	PASS
173	Rehabilitation of J-Sub Minor system under RWSLIP	no	North	Ganganagar	Minor	250.00	MI	MI	MI	MI	MI	MI	State time	no			187.00	0.00	187.00	8	fail	MI	pass	MI	pass	FAIL
174	Rehabilitation of F- Branch system under RWSLIP	no	North	Ganganagar	Medium	2,584.00	MI	MI	MI	MI	MI	MI	State time	no			319.01	0.00	319.01	5	pass	MI	pass	MI	pass	PASS
175	Rehabilitation of RB Distributary system under RWSLIP	no	North	Ganganagar	Medium	2,895.00	MI	MI	MI	MI	MI	MI	State time	no			303.61	0.00	303.61	5	pass	MI	pass	MI	pass	PASS
176	Rehabilitation of H Distributary system under RWSLIP	no	North	Ganganagar	Medium	7,500.00	MI	MI	MI	MI	MI	MI	State time	no			472.76	0.00	472.76	5	pass	MI	pass	MI	pass	PASS
177	Rehabilitation of Y Minor system under RWSLIP	no	North	Ganganagar	Medium	4,416.00	MI	MI	MI	MI	MI	MI	State time	no			422.42	0.00	422.42	10	pass	MI	pass	MI	pass	PASS
178	Rehabilitation of Karniji Disty and its system	DPR001	North	Ganganagar	Medium	9,058.00	MI	MI	MI	MI	MI	MI	State time	no	MI	6.40	1,699.61	0.00	1,699.61	9	pass	MI	pass	MI	pass	PASS
179	Rehabilitation of H.H. Disty from RD 0 to 35.845	DPR002	North	Ganganagar	Medium	5,494.00	MI	MI	MI	MI	MI	MI	State time	no	MI	5.30	597.08	0.00	597.08	9	pass	MI	pass	MI	pass	PASS
180	Rehabilitation of LNP Disty and its system	DPR003	North	Ganganagar	Medium	2,633.00	MI	MI	MI	MI	MI	MI	State time	no	MI	6.20	461.96	0.00	461.96	7	pass	MI	pass	MI	pass	PASS
181	Rehabilitation of PS Disty and its system	DPR004	North	Ganganagar	Medium	9,834.00	MI	MI	MI	MI	MI	MI	State time	no	MI	5.10	376.69	0.00	376.69	7	pass	MI	pass	MI	pass	PASS
182	Rehabilitation of Sameja Disty and its system	DPR005	North	Ganganagar	Medium	5,521.00	MI	MI	MI	MI	MI	MI	State time	no	MI	6.00	289.32	0.00	289.32	7	pass	MI	pass	MI	pass	PASS
183	Rehabilitation of Farm Minor from RD 26.135 to 40.545	DPR006	North	Ganganagar	Medium	4,301.00	MI	MI	MI	MI	MI	MI	State time	no	MI	4.70	196.78	0.00	196.78	9	pass	MI	pass	MI	pass	PASS
184	Rehabilitation of PP minor from RD 0 to 13.323	DPR007	North	Ganganagar	Minor	936.00	MI	MI	MI	MI	MI	MI	State time	no	MI	4.80	180.84	0.00	180.84	8	pass	MI	pass	MI	pass	PASS
185	Rehabilitation of Karnisingh Distributary from Km 0 to 33.320, of Bhakra canal system	DPR008	North	Hanumangarh	Medium	9,269.23	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	5,595.01	0.00	5,595.01	7	pass	MI	pass	MI	pass	PASS
186	Rehabilitation of Suratgarh Distributary from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	DPR009	North	Hanumangarh	Medium	8,547.36	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	4,991.54	0.00	4,991.54	7	pass	MI	pass	MI	pass	PASS
187	Rehabilitation of PBN Distributary from Km 0 to 34.217 of Bhakra canal system	DPR010	North	Hanumangarh	Medium	9,443.32	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	5,227.88	0.00	5,227.88	7	pass	MI	pass	MI	pass	PASS
188	Rehabilitation of of fatehpura Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR011	North	Hanumangarh	Medium	8,503.31	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	3,081.84	0.00	3,081.84	8	pass	MI	pass	MI	pass	PASS
189	Rehabilitation of Suratgarh Distributary from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26, KSR Mr. Km. 0 to 4.85 (SGM) Sardargarh Mr. km. 0 to 13.65 of Bhakra canal system	DPR012	North	Hanumangarh	Medium	8,510.94	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	2,736.72	0.00	2,736.72	8	pass	MI	pass	MI	pass	PASS
190	Rehabilitation of Banwali Mr. Minor from Km 0 to 12.68 & Bhagsar (BGS) Mr. Km 0 to 11.0 Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR013	North	Hanumangarh	Medium	9,445.74	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	2,727.63	0.00	2,727.63	8	pass	MI	pass	MI	pass	PASS
191	Rehabilitation of kishanpura (KSP) Distributary from Km 0 to 20.787 & Siwala distributary 0.00 to 10.050 of Bhakra canal system	DPR014	North	Hanumangarh	Medium	8,231.36	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	2,842.45	0.00	2,842.45	8	pass	MI	pass	MI	pass	PASS
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	DPR015	North	Hanumangarh	Medium	9,906.45	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	2,491.74	0.00	2,491.74	10	pass	MI	pass	MI	pass	PASS
193	Rehabilitation of PBN Distributary from Km 34.217 to 54.949 of Bhakra canal system	DPR016	North	Hanumangarh	Medium	9,358.00	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	2,552.63	0.00	2,552.63	6	pass	MI	pass	MI	pass	PASS
194	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	DPR017	North	Hanumangarh	Medium	4,568.15	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	1,881.27	0.00	1,881.27	10	pass	MI	pass	MI	pass	PASS
195	Rehabilitation of of Sabuna Distributary from Km 0 to 17.777 & Nagrana distributary 0.00 to 6.614 of Bhakra canal system	DPR018	North	Hanumangarh	Medium	6,524.00	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	1,807.26	0.00	1,807.26	10	pass	MI	pass	MI	pass	PASS
196	Rehabilitation of of Manaksar Distributary from Km 0 to 14.264 & Daultapura Minor 0.00 to 7.103 of Bhakra canal system	DPR019	North	Hanumangarh	Medium	7,050.00	MI	MI	MI	MI	MI	MI	1953	no	MI	NA	1,798.53	0.00	1,798.53	10	pass	MI	pass	MI	pass	PASS

Attachment 4.8 Screening and Scoring Sheet for Selection of the Candidate Irrigation Sub-projects under RWSLIP

Name		Basic Information				General Information											1st Screening (pass or fail for all sub-projects)									
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evapolation in MM3	Free catchment area in km2	Run-off (mm)	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependency (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			WRD Priority (0 - 10)	PR10	PR4		PR5		JUDGE
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total	Dam	Canal	(15)	CCA: 300 ~ 10,000 (ha)	(7) / (3)	Judge >1	(3) - (4) / (1)	Judge >0.0032	
																			(12)	(13)	(14)			>0.5	>0.0016	
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	DPR046	North	Hanumangarh	Medium	8,616.00	MI	MI	MI	MI	MI	1953	no	MI	NA	2,285.11	0.00	2,285.11	10	pass	MI	pass	MI	pass	PASS	
198	Rehabilitation of Mansarovar Irrigation Project	DPR020	Jaipur	Alwar	Minor	843.00	9.41	8.00	0.80	93.20	143.45	13.37	State time	no	96.00	NA	239.16	78.26	160.90	5	pass	1.7	pass	0.0085	pass	PASS
199	Rehabilitation of Bharatpur Feeder System	DPR021	Jaipur	Bharatpur	Medium	7,278.00	MI	MI	MI	MI	MI	1960	RWSRP	MI	25.90	4,465.00	0.00	4,465.00	1	pass	MI	pass	MI	pass	PASS	
200	Renovation of pai distributary (Gurgaon Main Canal)	DPR022	Jaipur	Bharatpur	Medium	3,064.00	MI	MI	MI	MI	MI	1980	no	MI	NA	2,800.17	0.00	2,800.17	1	pass	MI	pass	MI	pass	PASS	
201	Rehabilitation of Bundh Baretha Medium Irrigation Project	DPR023	Jaipur	Bharatpur	Medium	4,243.00	50.13	42.61	4.26	181.30	150.03	27.20	State time	RWSRP	90.00	NA	1,230.00	0.00	1,230.00	8	pass	0.6	fail	0.0090	pass	FAIL
202	Renovation of Hathen Minor (Gurgaon Main Canal)	DPR024	Jaipur	Bharatpur	Minor	1,400.00	MI	MI	MI	MI	MI	1980	no	MI	NA	1,129.60	0.00	1,129.60	1	pass	MI	pass	MI	pass	PASS	
203	Renovation of Nonera Minor (Gurgaon Main Canal)	DPR025	Jaipur	Bharatpur	Minor	1,058.00	MI	MI	MI	MI	MI	1980	no	MI	NA	593.51	0.00	593.51	1	pass	MI	pass	MI	pass	PASS	
204	Renovation of Kanwadi Minor (Gurgaon Main Canal)	DPR026	Jaipur	Bharatpur	Minor	510.00	MI	MI	MI	MI	MI	1980	no	MI	30.90	503.56	0.00	503.56	1	pass	MI	pass	MI	pass	PASS	
205	Renovation of Gaonri Minor (Gurgaon Main Canal)	DPR027	Jaipur	Bharatpur	Minor	419.00	MI	MI	MI	MI	MI	1980	no	MI	36.10	241.64	0.00	241.64	1	pass	MI	pass	MI	pass	PASS	
206	Renovation of Kirawta Minor (Gurgaon Main Canal)	DPR028	Jaipur	Bharatpur	Minor	338.00	MI	MI	MI	MI	MI	1980	no	MI	NA	228.29	0.00	228.29	1	pass	MI	pass	MI	pass	PASS	
207	Renovation of Nagla Zalim Singh Minor (Gurgaon Main Canal)	DPR029	Jaipur	Bharatpur	Minor	414.00	MI	MI	MI	MI	MI	1980	no	MI	38.90	223.18	0.00	223.18	1	pass	MI	pass	MI	pass	PASS	
208	Rehabilitation of Canal System of Kalisil Dam	DPR030	Jaipur	Karauli	Medium	4,903.17	37.25	31.66	3.17	331.52	133.77	44.35	1956	no	76.00	29.37	1,328.95	192.01	1,136.94	8	pass	1.4	pass	0.0058	pass	PASS
209	Rehabilitation of Dheel Irrigation Project	DPR031	Jaipur	Sawai Madhopur	Medium	5,943.00	27.73	23.57	2.36	688.93	149.10	102.72	1911	no	65.00	20.58	3,835.88	209.89	3,625.99	10	pass	4.4	pass	0.0036	pass	PASS
210	Rehabilitation of Surwal Irrigation Project	DPR032	Jaipur	Sawai Madhopur	Medium	5,280.37	25.55	21.72	2.17	274.19	100.40	27.53	1954	RWSRP	41.00	22.99	1,571.96	183.44	1,388.52	8	pass	1.3	pass	0.0037	pass	PASS
211	Rehabilitation of Banjayawala Irrigation Project	DPR033	Jaipur	Sawai Madhopur	Minor	346.96	0.99	0.84	0.08	15.54	90.09	1.40	State time	no	43.00	21.46	150.06	87.49	62.57	4	pass	1.7	pass	0.0022	fail	FAIL
212	Rehabilitation of Sintholi Minor Irrigation Project	DPR034	Jaipur	Dausa	Minor	581.91	2.40	2.04	0.20	23.04	82.00	1.89	1978	no	53.00	21.15	246.85	38.97	207.88	9	pass	0.9	fail	0.0032	pass	FAIL
213	Rehabilitation of Haldas ka bass Band II Irrigation Project	DPR035	Jaipur	Sikar	Minor	240.75	1.35	1.15	0.11	45.25	33.81	1.53	1990	no	89.00	31.00	193.00	170.94	22.06	0	fail	1.3	pass	0.0043	pass	FAIL
214	Rehabilitation of West Banas Irrigation Project	DPR036	Jodhpur	Sirohi	Medium	7,952.00	36.22	30.79	3.08	414.40	94.23	39.05	1963	RWSRP	60.00	9.30	1,715.75	226.97	1,488.78	10	pass	1.3	pass	0.0035	pass	PASS
215	Rehabilitation of Hemawas Irrigation Project	DPR037	Jodhpur	Pali	Medium	8,704.00	62.55	53.17	5.32	907.00	68.96	62.55	1912	RWSRP	60.00	NA	5,265.87	4,304.07	961.80	7	pass	1.2	pass	0.0055	pass	PASS
216	Rehabilitation of Phulad Minor Irrigation Project	DPR038	Jodhpur	Pali	Minor	787.79	3.49	2.97	0.30	48.69	76.40	3.72	1976	no	64.00	NA	526.88	131.72	395.16	10	pass	1.3	pass	0.0034	pass	PASS
217	Rehabilitation of Anna Minor Irrigation Project	DPR039	Jodhpur	Pali	Minor	357.89	1.15	0.98	0.10	6.99	198.86	1.39	1984	no	50.00	NA	126.69	126.69	0.00	4	pass	1.4	pass	0.0025	pass	PASS
218	Rehabilitation of Dantiwara Minor Irrigation Project	DPR040	Jodhpur	Pali	Minor	806.48	3.49	2.97	0.30	31.06	118.80	3.69	1984	no	50.00	NA	94.01	50.57	43.44	3	pass	1.2	pass	0.0033	pass	PASS
219	Rehabilitation of Bankey Sagar Sawar Irrigation Project	DPR041	Jaipur	Ajmer	Minor	327.81	1.73	1.47	0.15	15.54	111.33	1.73	State time	no	50.00	17.30	155.38	146.79	8.59	4	pass	1.2	pass	0.0040	pass	PASS
220	Rehabilitation of Bada Talab Aloli	DPR042	Jaipur	Ajmer	Minor	145.00	0.71	0.60	0.06	7.77	91.06	0.71	State time	no	50.00	16.30	98.30	84.63	13.67	1	fail	1.2	pass	0.0037	pass	FAIL
221	Rehabilitation of Galvania Medium Irrigation Project	DPR043	Jaipur	Tonk	Medium	2,257.00	11.40	9.69	0.97	69.46	171.90	11.94	1957	no	82.00	33.29	980.22	598.72	381.50	9	pass	1.2	pass	0.0039	pass	PASS
222	Rehabilitation of Ramsagar Ganwar Irrigation Project	DPR044	Jaipur	Tonk	Minor	466.00	2.46	2.09	0.21	9.32	263.95	2.46	1950	no	50.00	52.51	284.50	135.84	148.66	3	pass	1.2	pass	0.0040	pass	PASS
223	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	DPR045	Kota	Bundi	Medium	3,402.00	18.87	16.04	1.60	126.89	254.39	32.28	1982	RWSRP	93.00	8.60	2,285.00	1,253.16	1,031.84	8	pass	2.0	pass	0.0042	pass	PASS
224	Rehabilitation of Burdha Medium Irrigation project	DPR047	Kota	Bundi	Medium	4,274.87	28.93	24.59	2.46	261.61	144.26	37.74	State time	RWSRP	77.00	9.96	1,093.00	0.00	1,093.00	10	pass	1.5	pass	0.0052	pass	PASS
225	Rehabilitation of Gurjania Irrigation Project	DPR048	Kota	Bundi	Minor	124.38	0.88	0.75	0.07	31.74	127.60	4.05	1993	no	100.00	20.00	166.83	48.55	118.28	0	fail	5.4	pass	0.0054	pass	FAIL
226	Rehabilitation of Anpurna Irrigation Project	DPR049	Kota	Bundi	Minor	142.05	0.88	0.75	0.07	5.30	118.49	0.63	1997	no	50.00	17.20	94.00	21.49	72.51	0	fail	0.8	fail	0.0047	pass	FAIL
227	Rehabilitation of Kumari Ka Naka	DPR050	Kota	Bundi	Minor	57.60	0.33	0.28	0.03	2.59	149.03	0.39	1993	no	61.00	17.00	80.32	13.04	67.28	0	fail	1.4	pass	0.0043	pass	FAIL
228	Renovation of Sareri Medium Irrigation Project	DPR051	Udaipur	Bhilwara	Medium	9,717.00	55.09	46.83	4.68	369.00	77.97	28.77	1957	no	20.00	18.20	3,568.99	95.55	3,473.44	3	pass	0.6	fail	0.0043	pass	FAIL
229	Renovation of Kothari Medium Irrigation Project	DPR052	Udaipur	Bhilwara	Medium	4,362.00	21.51	18.28	1.83	325.00	82.00	26.65	1985	no	50.00	25.70	546.98	231.06	315.92	9	pass	1.5	pass	0.0038	pass	PASS
230	Rehabilitation of Shakkargarh Minor Irrigation Project	DPR053	Udaipur	Bhilwara	Minor	828.83	3.81	3.24	0.32	61.34	62.11	3.81	1998	no	50.00	13.80	304.00	107.32	196.68	5	pass	1.2	pass	0.0035	pass	PASS
231	Rehabilitation of Sankhra Undi Minor Irrigation Project	DPR054	Udaipur	Bhilwara	Minor	398.00	1.90	1.62	0.16	3.84	395.83	1.52	State time	no	61.00	10.30	302.50	213.80	88.70	4	pass	0.9	fail	0.0037	pass	FAIL
232	Rehabilitation of Jaliya Minor	DPR055	Udaipur	Bhilwara	Minor	480.00	2.13	1.81	0.18	41.26	266.84	11.01	1987	no	59.00	11.60	176.30	81.52	94.78	4	pass	6.1	pass	0.0034	pass	PASS
233	Rehabilitation of Danti Kokra Minor Irrigation Project	DPR056	Udaipur	Bhilwara	Minor	947.00	4.30	3.66	0.37	36.28	130.65	4.74	1979	RAJAMIP	43.00	12.30	196.76	0.00	196.76	6	pass	1.3	pass	0.0035	pass	PASS
234	Rehabilitation of Sagwara Ki Pal Irrigation Project	DPR057	Udaipur	Udaipur	Minor	303.00	1.92	1.63	0.16	44.03	111.01	4.89	1983	RAJAMIP	20.00	11.50	486.42	79.44	406.98	2	pass	3.0	pass	0.0049	pass	PASS

Attachment 4.8 Screening and Scoring Sheet for Selection of the Candidate Irrigation Sub-projects under RWSLIP

Name		Basic Information				General Information											1st Screening (pass or fail for all sub-projects)									
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evaporation in MM3	Free catchment area in km2	Run-off (mm)	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependability (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			WRD Priority (0 - 10)	PR10	PR4		PR5		JUDGE
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total (12)	Dam (13)	Canal (14)		(15)	CCA: 300 ~ 10,000 (ha)	(7) / (3)	Judge >1	(3) - (4) / (1)		Judge >0.0016
235	Rehabilitation of Udaisagar Medium Irrigation Project	DPR058	Udaipur	Udaipur	Medium	5,110.00	27.63	23.49	2.35	195.00	120.15	23.43	State time	no	38.00	16.80	7,281.42	1,655.97	5,625.45	9	pass	1.0	pass	0.0041	pass	PASS
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	DPR059	Udaipur	Udaipur	Minor	968.85	HW	HW	HW	714.77	378.92	270.84	1959	no	NA	10.50	1,293.56	160.81	1,132.75	6	pass	HW	pass	HW	pass	PASS
237	Rehabilitation of Sei Pick up Weir canal system	DPR060	Udaipur	Udaipur	Minor	390.43	1.70	1.45	0.14	16.74	180.41	3.02	1976	no	61.00	34.00	443.26	32.84	410.42	0	pass	2.1	pass	0.0033	pass	PASS
238	Rehabilitation of Phila Minor Irrigation Project	DPR061	Udaipur	Udaipur	Minor	488.00	1.36	1.16	0.12	14.09	58.37	0.82	1974	no	0.00	31.60	348.06	0.00	348.06	4	pass	0.7	fail	0.0021	fail	FAIL
239	Rehabilitation of Dundia Minor Irrigation Project	DPR062	Udaipur	Udaipur	Minor	389.00	1.94	1.65	0.16	67.80	29.79	2.02	2001	no	90.00	17.70	245.30	86.80	158.50	4	pass	1.2	pass	0.0038	pass	PASS
240	Rehabilitation of Dorai Irrigation Project	DPR063	Udaipur	Chittorgarh	Minor	1,571.44	8.27	7.03	0.70	68.60	293.15	20.11	1992	RAJAMIP	64.00	21.50	485.90	118.78	367.12	5	pass	2.9	pass	0.0040	pass	PASS
241	Rehabilitation of Somi Irrigation Project	DPR064	Udaipur	Chittorgarh	Minor	444.98	1.88	1.60	0.16	52.45	88.47	4.64	1995	no	60.00	21.20	407.20	210.49	196.71	8	pass	2.9	pass	0.0032	pass	PASS
242	Rehabilitation of Umarcha Irrigation Project	DPR065	Udaipur	Chittorgarh	Minor	253.00	0.79	0.67	0.07	31.00	104.52	3.24	State time	no	64.00	21.80	242.02	140.23	101.79	0	fail	4.8	pass	0.0024	fail	FAIL
243	Rehabilitation of Nahargarh Irrigation Project	DPR066	Udaipur	Chittorgarh	Minor	226.72	0.79	0.67	0.07	7.12	220.51	1.57	State time	no	84.00	18.30	196.06	117.86	78.20	0	fail	2.3	pass	0.0027	fail	FAIL
244	Rehabilitation of Bhanwar Pipal Irrigation Project	DPR067	Udaipur	Chittorgarh	Minor	391.50	1.55	1.32	0.13	15.00	145.33	2.18	2004	no	50.00	27.40	168.68	40.64	128.04	5	pass	1.7	pass	0.0030	fail	FAIL
245	Sawan Bhadon Medium Irrigation Project	DPR073	Kota	Kota	Medium	6,692.00	27.85	23.67	2.37	153.31	203.51	31.20	1995	no	75.00	NA	1,500.75	393.03	1,107.72	0	pass	1.3	pass	0.0032	pass	PASS
246	Rehabilitation of Parwan Medium Irrigation Project	DPR068	Kota	Baran	Medium	7,464.00	HW	HW	HW	3,009.00	80.36	241.80	1962	no	NA	NA	1,359.00	141.19	1,217.81	7	pass	HW	pass	HW	pass	PASS
247	Rehabilitation of Bilas Medium Irrigation Project	DPR069	Kota	Baran	Medium	5,863.00	26.76	22.75	2.27	233.00	177.04	41.25	1997	no	71.00	43.70	995.00	69.36	925.64	7	pass	1.8	pass	0.0035	pass	PASS
248	Rehabilitation of Ganesghang Lift Irrigation Scheme	DPR070	Kota	Baran	Medium	6,960.00	MI	MI	MI	MI	MI	MI	1991	no	MI	34.10	938.00	0.00	938.00	3	pass	MI	pass	MI	pass	PASS
249	Rehabilitation of Bhimsagar Medium Irrigation Project	DPR071	Kota	Jhalawar	Medium	9,986.00	72.53	61.65	6.17	335.00	317.94	106.51	1990	RWSRP	66.00	10.60	6,504.54	0.00	6,504.54	9	pass	1.7	pass	0.0056	pass	PASS
250	Rehabilitation of Borda Minor Irrigation Project	DPR072	Kota	Jhalawar	Minor	414.01	2.32	1.97	0.20	13.15	296.58	3.90	1985	no	58.00	11.90	238.82	74.40	164.42	8	pass	2.0	pass	0.0043	pass	PASS
251	Gada Muhi	no	Jaipur	Dausa	Minor	57.00	NA	NA	NA	NA	82.00	NA	1978	no	NA	72.00	NA	NA	0	fail	NA	fail	NA	fail	FAIL	
252	Harijura	no	Jaipur	Dausa	Minor	72.00	NA	NA	NA	NA	82.00	NA	1891	no	NA	53.00	NA	NA	0	fail	NA	fail	NA	fail	FAIL	
253	Maheswara	no	Jaipur	Dausa	Minor	144.00	NA	NA	NA	NA	82.00	NA	1853	no	NA	69.00	NA	NA	0	fail	NA	fail	NA	fail	FAIL	
254	Vijay Sagar	no	Jaipur	Dausa	Minor	246.00	NA	NA	NA	NA	82.00	NA	1878	no	NA	54.50	NA	NA	0	fail	NA	fail	NA	fail	FAIL	
255	Rehabilitation of Survaniya Dam Medium irrigation Project	no	Udaipur	Banswara	Medium	2,228.00	11.33	9.63	0.96	93.24	146.00	13.61	1963	no	NA	1,336.80	534.72	802.08	5	pass	1.4	pass	0.0039	pass	PASS	
256	Rehabilitation of Haro Dam Minor irrigation Project	no	Udaipur	Banswara	Minor	1,846.00	11.66	9.91	0.99	145.04	146.00	21.18	1958	no	NA	1,107.60	443.04	664.56	1	pass	2.1	pass	0.0048	pass	PASS	
257	Rehabilitation of Bhagora Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	573.00	2.56	2.18	0.22	47.14	146.00	6.88	1967	no	NA	343.80	137.52	206.28	1	pass	3.2	pass	0.0034	pass	PASS	
258	Rehabilitation of Phoontan Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	546.00	3.06	2.60	0.26	36.26	146.00	5.29	1975	no	NA	327.60	131.04	196.56	1	pass	2.0	pass	0.0043	pass	PASS	
259	Rehabilitation of Delwara Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	328.00	1.17	0.99	0.10	11.65	146.00	1.70	1955	no	NA	196.80	78.72	118.08	1	pass	1.7	pass	0.0027	fail	FAIL	
260	Rehabilitation of Makanpura Tank Minor irrigation Project	no	Udaipur	Banswara	Minor	460.00	4.64	3.94	0.39	24.29	146.00	3.55	1951	no	NA	276.00	110.40	165.60	1	pass	0.9	fail	0.0077	pass	FAIL	
261	Rehabilitation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km	no	Udaipur	Banswara	Minor	1,070.00	MI	MI	MI	MI	MI	MI	1986	no	NA	642.00	0.00	642.00	9	pass	MI	pass	MI	pass	PASS	
262	Rehabilitation of Arthuna Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km.	no	Udaipur	Banswara	Medium	6,760.00	MI	MI	MI	MI	MI	MI	1986	no	NA	4,056.00	0.00	4,056.00	9	pass	MI	pass	MI	pass	PASS	
263	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	no	Udaipur	Banswara	Medium	9,598.00	MI	MI	MI	MI	MI	MI	2007	no	NA	5,758.80	0.00	5,758.80	9	pass	MI	pass	MI	pass	PASS	
264	Rehabilitation of Bhungra Canal & its system RD 28.5 to 39.81 km. (Tail)	no	Udaipur	Banswara	Medium	2,100.00	MI	MI	MI	MI	MI	MI	2007	no	NA	1,260.00	0.00	1,260.00	8	pass	MI	pass	MI	pass	PASS	
265	Rehabilitation of Right Main Canal & its system RD 0 to 6 km.	no	Udaipur	Banswara	Minor	1,083.00	MI	MI	MI	MI	MI	MI	1976	no	NA	649.80	0.00	649.80	8	pass	MI	pass	MI	pass	PASS	
266	Rehabilitation of Right Main Canal & its system RD 30 to 52 km.	no	Udaipur	Banswara	Medium	2,707.00	MI	MI	MI	MI	MI	MI	1983	no	NA	1,624.20	0.00	1,624.20	7	pass	MI	pass	MI	pass	PASS	
267	Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,113.00	MI	MI	MI	MI	MI	MI	1983	no	NA	1,267.80	0.00	1,267.80	7	pass	MI	pass	MI	pass	PASS	
268	Rehabilitation of Narwali Disty. & its system RD 3.52 km to 16 km Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	4,625.00	MI	MI	MI	MI	MI	MI	1983	no	NA	2,775.00	0.00	2,775.00	6	pass	MI	pass	MI	pass	PASS	
269	Rehabilitation of Jagpura Canal & its system Offtaking from Narwali disty	no	Udaipur	Banswara	Minor	1,005.00	MI	MI	MI	MI	MI	MI	2007	no	NA	603.00	0.00	603.00	6	pass	MI	pass	MI	pass	PASS	
270	Rehabilitation of Kanthav Minor & its system Offtaking from Narwali disty	no	Udaipur	Banswara	Medium	4,053.00	MI	MI	MI	MI	MI	MI	1989	no	NA	2,431.80	0.00	2,431.80	6	pass	MI	pass	MI	pass	PASS	

Attachment 4.8 Screening and Scoring Sheet for Selection of the Candidate Irrigation Sub-projects under RWSLIP

Name		Basic Information				General Information											1st Screening (pass or fail for all sub-projects)									
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Live storage in MM3	Effective storage in MM3	Evaporation in MM3	Free catchment area in km2	Run-off (mm)	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependability (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			WRD Priority (0 - 10)	PR10	PR4		PR5		JUDGE
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total	Dam	Canal	(15)	CCA: 300 ~ 10,000 (ha)	(7) / (3)	Judge	(3) - (4) / (1)	Judge	
						(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)		
271	Rehabilitation of Karanpur disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,281.00	MI	MI	MI	MI	MI	MI	1989	no			1,368.60	0.00	1,368.60	6	pass	MI	pass	MI	pass	PASS
272	Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,530.00	MI	MI	MI	MI	MI	MI	1989	no			1,518.00	0.00	1,518.00	8	pass	MI	pass	MI	pass	PASS
273	Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,290.00	MI	MI	MI	MI	MI	MI	1989	no			1,374.00	0.00	1,374.00	8	pass	MI	pass	MI	pass	PASS
274	Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	3,348.00	MI	MI	MI	MI	MI	MI	1989	no			2,008.80	0.00	2,008.80	8	pass	MI	pass	MI	pass	PASS
275	Rehabilitation of Digod Lift Irrigation Project	no	Kota	Baran	Medium	2,972.00	MI	MI	MI	MI	MI	MI	1986	no			400.00	0.00	400.00	4	pass	MI	pass	MI	pass	PASS
276	Badi Tank	no	Udaipur	Udaipur	Minor	251.00	7.23	6.15	0.61	15.54	146.00	2.27	State time	no			320.00	10.00	310.00	0	fail	0.4	fail	0.0220	pass	FAIL
277	Vallabh Nagar	no	Udaipur	Udaipur	Medium	6,480.00	28.76	24.45	2.44	461.80	146.00	67.42	1967	no			4,050.00	50.00	4,000.00	8	pass	2.8	pass	0.0034	pass	PASS
278	Barapal	no	Udaipur	Udaipur	Minor	136.00	0.58	0.49	0.05	7.70	146.00	1.12	2007	no			200.00	30.00	170.00	0	fail	2.3	pass	0.0033	pass	FAIL
279	RESTORATION and RENOVATION OF Chawand Tank and Canal its minors under RWSLIP	no	Udaipur	Udaipur	Minor	359.00	2.24	1.90	0.19	27.84	146.00	4.06	1955	no			715.00	500.00	215.00	1	pass	2.1	pass	0.0048	pass	PASS
280	RESTORATION and RENOVATION OF Harchand Tank and Canal its minors under RWSLIP	no	Udaipur	Udaipur	Minor	966.00	6.28	5.34	0.53	86.79	146.00	12.67	1956	RWSRP			360.00	0.00	360.00	1	pass	2.4	pass	0.0050	pass	PASS
281	Rehabilitation/Modernisation of Jogiwala Distributory of Amarsingh Sub Branch System	no	North	Hanumangarh	Minor	585.00	MI	MI	MI	MI	MI	MI	1961	no			181.00	0.00	181.00	7	pass	MI	pass	MI	pass	PASS
282	Rehabilitation work of Rajgarh Canal System with Construction of Feeder from Jalsagar Dam	no	Udaipur	Chittorgarh	Minor	300.00	2.78	2.36	0.24	22.00	146.00	3.21	State time	no			100.00	0.00	100.00	0	pass	1.4	pass	0.0071	pass	PASS
283	Rehabilitation of Motipura tank	no	Udaipur	Bhilwara	Minor	304.00	1.11	0.94	0.09	6.24	146.00	0.91	2000	no			151.37	62.44	88.93	3	pass	1.0	pass	0.0028	fail	FAIL
284	Rehabilitation of DeoriNalla tank	no	Udaipur	Bhilwara	Minor	307.70	1.10	0.94	0.09	7.25	146.00	1.06	2006	no			194.52	105.29	89.23	3	pass	1.1	pass	0.0027	fail	FAIL
285	Shivpura sub disty and its unlined canals offtaking from km 4.400 of ratodadisty offtaking from 44.255 km of NMC	no	Jodhpur	Jalore	Medium	7,328.38	MI	MI	MI	MI	MI	MI	2007	no			1,304.00	0.00	1,304.00	5	pass	MI	pass	MI	pass	PASS
286	Sankhya sub disty and its unlined canals offtaking from km 23.890 of ratodadisty offtaking from 44.225 km of NMC	no	Jodhpur	Jalore	Medium	5,478.20	MI	MI	MI	MI	MI	MI	2007	no			911.00	0.00	911.00	5	pass	MI	pass	MI	pass	PASS
287	Surachand minor and its unlined canals offtaking from 19.390 km BhimgudaDisty offtaking from 74 km of NMC	no	Jodhpur	Jalore	Medium	2,397.26	MI	MI	MI	MI	MI	MI	2011	no			635.12	0.00	635.12	4	pass	MI	pass	MI	pass	PASS
288	BaleraDisty and its unlined canals offtaking 16.00 km of NMC	no	Jodhpur	Jalore	Medium	4,000.00	MI	MI	MI	MI	MI	MI	2007	no			500.00	0.00	500.00	4	pass	MI	pass	MI	pass	PASS
289	Harishehand Sagar (Diversion work on Kalsindh River)	no	Kota	Jhalawar	Medium	17,970.00	HW	HW	HW	NA	146.00	NA	1966	no			4,600.00	4,600.00	0.00	8	fail	HW	pass	HW	pass	FAIL
290	Govardhanpura Minor Irrigation Project (State Time Tank)	no	Kota	Jhalawar	Minor	419.00	2.35	2.00	0.20	5.55	214.00	1.19	State time	no			155.00	130.00	35.00	7	pass	0.6	fail	0.0043	pass	FAIL
291	Ganeshpura Minor Irrigation Project	no	Kota	Jhalawar	Minor	712.00	3.56	3.03	0.30	16.25	214.00	3.48	1998	no			150.00	40.00	110.00	7	pass	1.1	pass	0.0038	pass	PASS
292	Rehabilitation of Uncha dam	no	Udaipur	Pratapgarh	Minor	200.00	2.51	2.13	0.21	13.00	228.00	2.96	State time	no			400.00	160.00	240.00	0	fail	1.4	pass	0.0096	pass	FAIL

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
S. No	Name of project	pass or fail				scoring										
		PRI Dependability	PR7 EIRR	Cost (Lacs.)	JUDGE	WRD priority (k) / 2	Years after const.		RWSRP / RAJAMII P	Gender mainstr. (% of canal works)		Value chain		Total Score	Min. score for judge 50	JUDGE (for Stage 1) 1st
							years	score		score	score					
							10	2.5		2.5	2.5					
>50	>5 (NA)	>2,500														
1	Narayan Sagar Julia															
2	Bhagat Sagar Junia															
3	Nabar Sagar Piploj															
4	Ganwai Talab Ugai															
5	Jhadjhadla Junia															
6	Kalyan Sagar Farkiya															
7	Kishan Sagar Khawas															
8	Dholai Tank Dholai (Deogaon)															
9	Bada Talab Kalitalai kheda															
10	Naya Talab Mewdakalan															
11	Chhota Talab Molkiya															
12	Bandiwala Naikheda															
13	Sitolav Sankaria															
14	Chhota Bada Talab Manda															
15	Shiv Sagar Ugankheda															
16	Bhawani Sagar Katsura															
17	Dhan Sagar Dadiya															
18	Ganesh Sagar Katsura															
19	Kalyan Sagar Jorawarpura															
20	Kodia Sagar & Surkheli Sagar Arain															
21	Lapda Talab Bantli															
22	Madan Sagar Akodiya															
23	Narayan Sagar Dhasook															
24	Sukh Sagar Sironj															
25	Vijay Sagar Akodiya															
26	Vijay Sagar Lamba															
27	Gaj Sagar Sarwar															
28	Sindoor Sagar Sarwar															
29	Madan Sarovar Dhanwa															
30	Bada Talab Chandma															
31	Bada Talab Nimeda															
32	Balwant Sagar Kushalpur															
33	Karni Sagar Hiyaliya															
34	Man Sagar Jadana															
35	Murdia Talab Jawla															
36	Prithvee Sagar Gudliya															
37	Shell Sagar Kitap															
38	Shiv Sagar Chapaneri															
39	Suraj Sagar Bhinai															
40	Kheda Bhagwanpura															
41	Bhadur Sagar Bhadurpura															
42	Bada Talab Sathana															
43	Mashi															
44	Kirawal Sagar															
45	Mohamadgarh															
46	Chandsen															
47	Kumhariya															
48	Thanwala															
49	Bhanpura															
50	Sangram Sagar Niwariya															
51	Duni Sagar															
52	Mansagar Arniya															
53	Ramsagar Lamba Harisingh															
54	Parana															
55	Luhara South															
56	Haripura															
57	Naya Gaon															
58	Banetha															
59	Sultan Sagar															
60	Ramsagar Morla															
61	Shivsagar Morla															
62	Dheer Sagar Lawa															
63	Vijay Sagar Lawa															
64	Ratanpura Bund															
65	Pratappura Bund															
66	Malik Sagar															
67	Bhawani Sagar															
68	Megh Sagar															

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
S. No	Name of project	pass or fail			scoring											
		PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMII P	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)
		Dependability	EIRR				(k) / 2	score		(% of canal works)	score					
		>50	>5 (NA)	>2,500		10		2.5	2.5	2.5	2.5		2.5	50	1st	
69	Mewaliya Sitarampura															
70	Bagdi															
71	Hatona															
72	Nameda															
73	Mui MIP															
74	Devpura MIP															
75	New Tank Liwali MIP															
76	Gandal															
77	Renovation of posar minor (GMC)															
78	Renovation of Dhilawati minor (GMC)															
79	Renovation of Satpura minor (GMC)															
80	Renovation of Kancaner minor (GMC)															
81	Kot Sikrai Dam															
82	Haripura															
83	Raipur Patan															
84	Dogar Ka Nalla															
85	Tonda															
86	Sheel ki Dongari Chaksu															
87	Naya sagar Mozmadad															
88	Hingonia Dam															
89	Ganga Sagar															
90	Naya Talab Jhag															
91	Ram Sagar Madhorajpura															
92	Urmila Sagar															
93	Ram Sagar															
94	Dhaur Bund Baseri															
95	Madar Big Tank															
96	Madar Small Tank															
97	Badi Tank															
98	Baxa ka Naka															
99	Ogna															
100	Gahmbhri															
101	Arniya															
102	Badgaon															
103	Bhupalsagar															
104	Kadiadch Minor Irrigation project															
105	Mansarover dam															
106	Miyala dam															
107	Ajigarh dam															
108	Neemjhar dam															
109	Sopara assan dam															
110	Chhapli															
111	Baradpura															
112	Nagdi															
113	Agucha															
114	Dholaroi Gagera															
115	Devriya Kotri															
116	Bhim Sagar Dikola															
117	Nahar Sagar															
118	Ummed Sagar															
119	Naogaon															
120	Panghatiya project															
121	Bilpan															
122	Karawara															
123	Punjpur															
124	Galiyana															
125	Wagan dam															
126	Gadola															
127	Baseda Lower															
128	Semari															
129	Jaisamand															
130	Rehabilitation of Left Main Canal from R.D 0 km to 15 Km.															
131	Rehabilitation of Left Main Canal from R.D. 15.km to 26.34 Km.															
132	Rehabilitation of Left Main Canal from R.D26.34km to 36.12Km.															

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
Name		pass or fail				scoring										
S. No	Name of project	PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMII P	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)
		Dependability	EIRR			(k) / 2	(years)	score		(% of canal works)	score					
		>50	>5 (NA)	>2,500		10		2.5	2.5	2.5					50	1st
133	Rehabilitation of Banka Distributory offlaking from Left Main Canal from R.D 0 km to Tail															
134	Rehabilitation of Chhinch Distributory, RD 0 to 7.765 km offlaking from Left Main Canal at R.D. 26.34 Km.															
135	Rehabilitation of Chhinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)															
136	Rehabilitation of Parsolia Distributory system, offlaking from Arthuna Distributory at R.D 20.73 Km.															
137	Rehabilitation of Gopinath ka gada Distributory system, offlaking from Arthuna Distributory at R.D 11.74 Km.															
138	Baniawas															
139	Dharia															
140	Dantiwara Tank															
141	Akheiao Mansarowar															
142	Kui Sagna															
143	Luneri															
144	Mahadev Nallah															
145	Angore															
146	Bageri															
147	Gokul Bhai Bhatt Dam															
148	Ummed Sagar Medium Irrigation Project															
149	Hathwari Minor Irrigation Project															
150	Sirsipura Minor Irrigation Project															
151	Rampur Minor Irrigation Project															
152	Alnia Medium Irrigation Project															
153	Dhadoop															
154	Vijaygarh-I															
155	Vijaygarh-II															
156	Rehabilitation of Sarkanya distributory and Dhaturia distributory of RMC and their minors															
157	Rehabilitation of Direct off taking Minors of RMC in between KM 57.50 to 103.50KM															
158	Rehabilitation of Kishanganj distributory and its minors															
159	Rehabilitation of Hanotia distributory and its minors															
160	Rehabilitation of Talera distributory and its minors															
161	Rehabilitation of Matunda/Dayalpara distributory and its minors															
162	Rehabilitation of Onkarpura distributory and its minors															
163	Rehabilitation of Patan distributory and its minors															
164	Rehabilitation of Anatpura distributory and its minors															
165	Rehabilitation of Makheeda distributory and its minors															
166	Rehabilitation of Dagariya distributory and its minors															
167	Rehabilitation of Dahikhera distributory and its minors															
168	Rehabilitation of Malikpura distributory and its minors															
169	Rehabilitation of Laban distributory and its minors															
170	Rehabilitation of different reaches of various canals of sidhmukh irrigation project															
171	Rehabilitation of different reaches of various canals of Nohar irrigation project															

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
S. No	Name of project	pass or fail				scoring										
		PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMII P	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)
		Dependability	EIRR			(k) / 2	(years)	score		(% of canal works)	score					
		>50	>5 (NA)	>2,500	10		2.5	2.5	2.5	2.5			50	1st		
172	Rehabilitation of CG Distributary system under RWSLIP															
173	Rehabilitation of J-Sub Minor system under RWSLIP															
174	Rehabilitation of F- Branch system under RWSLIP															
175	Rehabilitation of RB Distributary system under RWSLIP															
176	Rehabilitation of H Distributary system under RWSLIP															
177	Rehabilitation of Y Minor system under RWSLIP															
178	Rehabilitation of Karmiji Disty and its system	pass	pass	pass	PASS	50.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	95.0	95.0	1st Pri
179	Rehabilitation of H.H. Disty from RD 0 to 35.845	pass	pass	pass	PASS	50.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	95.0	95.0	1st Pri
180	Rehabilitation of LNP Disty and its system	pass	pass	pass	PASS	40.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	85.0	85.0	1st Pri
181	Rehabilitation of PS Disty and its system	pass	pass	pass	PASS	40.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	85.0	85.0	1st Pri
182	Rehabilitation of Sameja Disty and its system	pass	pass	pass	PASS	40.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	85.0	85.0	1st Pri
183	Rehabilitation of Farm Minor from RD 26.135 to 40.545	pass	pass	pass	PASS	50.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	95.0	95.0	1st Pri
184	Rehabilitation of PP minor from RD 0 to 13.323	pass	pass	pass	PASS	40.0	70.0	12.5	12.5	100.0	12.5	3.0	7.5	85.0	85.0	1st Pri
185	Rehabilitation of Karnisingh Distributary from Km 0 to 33.320. of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
186	Rehabilitation of Suratgarh Distributary from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
187	Rehabilitation of PBN Distributary from Km 0 to 34.217 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
188	Rehabilitation of of fatehpura Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
189	Rehabilitation of Suratgarh Distributary from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26, KSR Mr. Km. 0 to 4.85 (SGM) Sardargarh Mr. km. 0 to 13.65 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
190	Rehabilitation of Banwali Mr. Minor from Km 0 to 12.68 & Bhagsar (BGS) Mr. Km 0 to 11.0 Distributary from Km 0 to 14.463 , Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
191	Rehabilitation of kishampura (KSP) Distributary from Km 0 to 20.787 & Siwala distributary 0.00 to 10.050 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	pass	NA	pass	PASS	50.0	64.0	12.5	12.5	100.0	12.5	1.0	2.5	90.0	90.0	1st Pri
193	Rehabilitation of PBN Distributary from Km 34.217 to 54.949 of Bhakra canal system	pass	NA	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	±
194	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshabar Sub Mr. Km 0 to 2.26 of Bhakra canal system	pass	NA	pass	PASS	50.0	64.0	12.5	12.5	100.0	12.5	1.0	2.5	90.0	90.0	1st Pri
195	Rehabilitation of of Sabuna Distributary from Km 0 to 17.777 & Nagrana distributary 0.00 to 6.614 of Bhakra canal system	pass	NA	pass	PASS	50.0	64.0	12.5	12.5	100.0	12.5	1.0	2.5	90.0	90.0	1st Pri
196	Rehabilitation of of Manaksar Distributary from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	pass	NA	pass	PASS	50.0	64.0	12.5	12.5	100.0	12.5	1.0	2.5	90.0	90.0	1st Pri

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
S. No	Name of project	pass or fail				scoring										
		PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMII P	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)
		Dependability	EIRR			(k) / 2	(years)	score	(% of canal works)	score						
		>50	>5 (NA)	>2,500	10	10	2.5	2.5	2.5	2.5	2.5	50	1st			
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	pass	NA	pass	PASS	50.0	64.0	12.5	12.5	100.0	12.5	1.0	2.5	90.0	90.0	1st Pri
198	Rehabilitation of Mansarovar Irrigation Project	pass	NA	pass	PASS	30.0	70.0	12.5	12.5	67.3	10.0	5.0	12.5	77.5	77.5	1st Pri
199	Rehabilitation Bharatpur Feeder System	pass	pass	fail	FAIL	-	-	-	-	-	-	1.0	-	-	-	-
200	Renovation of pai distributary (Gurgaon Main Canal)	pass	NA	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
201	Rehabilitation of Bundh Baretha Medium Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
202	Renovation of Hatheen Minor (Gurgaon Main Canal)	pass	NA	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
203	Renovation of Nonera Minor (Gurgaon Main Canal)	pass	NA	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
204	Renovation of Kanwadi Minor (Gurgaon Main Canal)	pass	pass	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
205	Renovation of Gaonri Minor (Gurgaon Main Canal)	pass	pass	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
206	Renovation of Kirawta Minor (Gurgaon Main Canal)	pass	NA	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
207	Renovation of Nagla Zalim Singh Minor (Gurgaon Main Canal)	pass	pass	pass	PASS	10.0	37.0	7.5	12.5	100.0	12.5	1.0	2.5	45.0	-	-
208	Rehabilitation of Canal System of Kalisil Dam	pass	pass	pass	PASS	40.0	61.0	12.5	12.5	85.6	12.5	1.0	2.5	80.0	80.0	1st Pri
209	Rehabilitation of Dheel Irrigation Project	pass	pass	pass	PASS	50.0	106.0	12.5	12.5	94.5	12.5	3.0	7.5	95.0	95.0	1st Pri
210	Rehabilitation of Surwal Irrigation Project	fail	pass	pass	FAIL	-	-	-	-	-	-	3.0	-	-	-	-
211	Rehabilitation of Banyawala Irrigation Project	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-
212	Rehabilitation of Sintholi Minor Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
213	Rehabilitation of Hardas ka bass Bund II Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
214	Rehabilitation of West Banas Irrigation Project	pass	pass	pass	PASS	50.0	54.0	12.5	7.5	86.8	12.5	1.0	2.5	85.0	85.0	1st Pri
215	Rehabilitation of Hemawas Irrigation Project	pass	NA	fail	FAIL	-	-	-	-	-	-	3.0	-	-	-	-
216	Rehabilitation of Phulad Minor Irrigation Project	pass	NA	pass	PASS	50.0	41.0	10.0	12.5	75.0	10.0	3.0	7.5	90.0	90.0	1st Pri
217	Renovation of Amma Minor Irrigation Project	pass	NA	pass	PASS	20.0	33.0	7.5	12.5	0.0	0.0	3.0	7.5	47.5	-	-
218	Rehabilitation of Dantiwara Minor Irrigation Project	pass	NA	pass	PASS	20.0	33.0	7.5	12.5	46.2	7.5	3.0	7.5	55.0	55.0	1st Pri
219	Rehabilitation of Bankey Sagar Sawar Irrigation Project	pass	pass	pass	PASS	20.0	70.0	12.5	12.5	5.5	2.5	5.0	12.5	60.0	60.0	1st Pri
220	Rehabilitation of Bada Talab Aloli	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	-
221	Rehabilitation of Galvania Medium Irrigation Project	pass	pass	pass	PASS	50.0	60.0	12.5	12.5	38.9	5.0	3.0	7.5	87.5	87.5	1st Pri
222	Rehabilitation of Ramsagar Ganwar Irrigation Project	pass	pass	pass	PASS	20.0	67.0	12.5	12.5	52.3	7.5	3.0	7.5	60.0	60.0	1st Pri
223	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	pass	pass	pass	PASS	40.0	35.0	7.5	7.5	45.2	7.5	1.0	2.5	65.0	65.0	1st Pri
224	Rehabilitation of Burdha Medium Irrigation project	pass	pass	pass	PASS	50.0	70.0	12.5	7.5	100.0	12.5	1.0	2.5	85.0	85.0	1st Pri
225	Rehabilitation of Gurjania Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
226	Rehabilitation of Ampurna Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
227	Rehabilitation of Kumari Ka Naka	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
228	Renovation of Sareri Medium Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
229	Renovation of Kothari Medium Irrigation Project	pass	pass	pass	PASS	50.0	32.0	7.5	12.5	57.8	7.5	1.0	2.5	80.0	80.0	1st Pri
230	Rehabilitation of Shakkargarh Minor Irrigation Project	pass	pass	pass	PASS	30.0	19.0	0.0	12.5	64.7	10.0	1.0	2.5	55.0	55.0	1st Pri
231	Rehabilitation of Sankhra Undi Minor Irrigation Project	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-
232	Rehabilitation of Jaliya Minor	pass	pass	pass	PASS	20.0	30.0	7.5	12.5	53.8	7.5	1.0	2.5	50.0	50.0	1st Pri
233	Rehabilitation of Damti Kokra Minor Irrigation Project	fail	pass	pass	FAIL	-	-	-	-	-	-	1.0	-	-	-	-
234	Rehabilitation of Sagwara Ki Pal Irrigation Project	fail	pass	pass	FAIL	-	-	-	-	-	-	3.0	-	-	-	-

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																	
S. No	Name of project	pass or fail				scoring											
		PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMII P	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)	
		Dependability	EIRR			(k) / 2	(years)	score		(% of canal works)	score						
		>50	>5 (NA)	>2,500	10	2.5	2.5	2.5	2.5								
235	Rehabilitation of Udaisagar Medium Irrigation Project	fail	pass	fail	FAIL	-	-	-	-	-	-	-	3.0	-	-	-	-
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	NA	pass	pass	PASS	30.0	58.0	12.5	12.5	87.6	12.5	3.0	7.5	75.0	75.0	1st Pri	
237	Rehabilitation of Sei Pick up Weir canal system	pass	pass	pass	PASS	0.0	41.0	10.0	12.5	92.6	12.5	3.0	7.5	42.5	-	-	-
238	Rehabilitation of Phila Minor Irrigation Project	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-
239	Rehabilitation of Dundia Minor Irrigation Project	pass	pass	pass	PASS	20.0	16.0	0.0	12.5	64.6	10.0	3.0	7.5	50.0	50.0	1st Pri	
240	Rehabilitation of Dorai Irrigation Project	pass	pass	pass	PASS	30.0	25.0	5.0	7.5	75.6	10.0	5.0	12.5	65.0	65.0	1st Pri	
241	Rehabilitation of Somi Irrigation Project	pass	pass	pass	PASS	40.0	22.0	2.5	12.5	48.3	7.5	5.0	12.5	75.0	75.0	1st Pri	
242	Rehabilitation of Umarcha Irrigation Project	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	-	-
243	Rehabilitation of Nahargarh Irrigation Project	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	-	-
244	Rehabilitation of Bhanwar Pipla Irrigation Project	-	-	-	-	-	-	-	-	-	-	5.0	-	-	-	-	-
245	Sawan Bhadon Medium Irrigation Project	pass	NA	pass	PASS	0.0	22.0	2.5	12.5	73.8	10.0	5.0	12.5	37.5	-	-	-
246	Rehabilitation of Parwan Medium Irrigation Project	NA	NA	pass	PASS	40.0	55.0	12.5	12.5	89.6	12.5	3.0	7.5	85.0	85.0	1st Pri	
247	Rehabilitation of Bilas Medium Irrigation project	pass	pass	pass	PASS	40.0	20.0	2.5	12.5	93.0	12.5	3.0	7.5	75.0	75.0	1st Pri	
248	Rehabilitation of Ganeshgang Lift Irrigation Scheme	pass	pass	pass	PASS	20.0	26.0	5.0	12.5	100.0	12.5	3.0	7.5	57.5	57.5	1st Pri	
249	Rehabilitation of Bhimsagar Medium Irrigation Project	pass	pass	fail	FAIL	-	-	-	-	-	-	3.0	-	-	-	-	-
250	Rehabilitation of Borda Minor Irrigation Project	pass	pass	pass	PASS	40.0	32.0	7.5	12.5	68.8	10.0	3.0	7.5	77.5	77.5	1st Pri	
251	Gada Muhi																
252	Harpura																
253	Maheswara																
254	Vijay Sagar																
255	Rehabilitation of Survaniya Dam Medium irrigation Project																
256	Rehabilitation of Haro Dam Minor irrigation Project																
257	Rehabilitation of Bhagora Tank Minor irrigation Project																
258	Rehabilitation of Phootan Tank Minor irrigation Project																
259	Rehabilitation of Delwara Tank Minor irrigation Project																
260	Rehabilitation of Makanpura Tank Minor irrigation Project																
261	Rehabilitation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km																
262	Rehabilitation of Arthuna Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km.																
263	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)																
264	Rehabilitation of Bhungra Canal & its system RD 28.5 to 39.81 km. (Tail)																
265	Rehabilitation of Right Main Canal & its system RD 0 to 6 km.																
266	Rehabilitation of Right Main Canal & its system RD 30 to 52km																
267	Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal																
268	Rehabilitation of Narwali Disty. & its system RD 3.52 km to 16 km Offtaking from Right Main Canal																
269	Rehabilitation of Jagpura Canal & its system Offtaking from Narwali disty																
270	Rehabilitation of Kanthav Minor & its system Offtaking from Narwali disty																

Attachment 4.8 Screening and

Selection of 1st priority sub-projects from sub-projects with DPR (to be implemented in Stage 1)																
Name		pass or fail				scoring										
S. No	Name of project	PRI	PR7	Cost (Lacs.)	JUDGE	WRD priority	Years after const.		RWSRP / RAJAMIP	Gender mainstr.		Value chain		Total Score	Min. score for judge	JUDGE (for Stage 1)
		Dependability	EIRR			(k) / 2	(years)	score		(% of canal works)	score					
		>50	>5 (NA)	>2,500		10		2.5	2.5	2.5		2.5			50	1st
271	Rehabilitation of Karanpur disty. & its system Offtaking from Right Main Canal															
272	Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal															
273	Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal															
274	Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal															
275	Rehabilitation of Digod Lift Irrigation Project															
276	Badi Tank															
277	Vallabh Nagar															
278	Barapal															
279	RESTORATION and RENOVATION OF Chawand Tank and Canal its minors under RWSLIP															
280	RESTORATION and RENOVATION OF Harchand Tank and Canal its minors under RWSLIP															
281	Rehabilitation/Modernisation of Jogiwala Distributory of Amarsingh Sub Branch System															
282	Rehabilitation work of Rajgarh Canal System with Construction of Feeder from Jalsagar Dam															
283	Rehabilitation of Motipura tank															
284	Rehabilitation of DeoriNalla tank															
285	Shivpura sub disty and its unlined canals offtaking from km 4.400 of ratodadistyofftaking from 44.255 km of NMC															
286	Sankanya sub disty and its unlined canals offtaking from km 23.890 of ratodadistyofftaking from 44.225 km of NMC															
287	Surachand minor and its unlined canals offtaking from 19.390 km BhimgudaDistyofftaking from 74 km of NMC															
288	BaleraDisty and its unlined canals offtaking 16.00 km of NMC															
289	Harishchand Sagar (Diversion work on Kalisindh River)															
290	Govardhanpura Minor Irrigation Project (State Time Tank)															
291	Ganeshpura Minor Irrigation Project															
292	Rehabilitation of Uncha dam															

Attachment 4.8 Screening and

Name		Scoring and selection of the candidate irrigation sub-projects for Stage 2, 3 or later											Summary of the Result of Screening of Irrigation Sub-projects																
S. No	Name of project	WRD priority	Years after const.		RWSRP / RAJAMHP	Gender mainstr.		Micro. Irr. & Water Manag.	Value chain		Total	JUDGE (min. score for each priority)								for stage 1	recommended for stage 2, 3, (depend on scale of the Project)								not selected
		(k) / 2	(years)	score	2.5	(% of canal works)	score	0				2nd	3rd	4th	5th	6th	7th	8th	9th	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	8th Pri.	9th Pri.	
		10		2.5			2.5			2.5		90	85	80	75	70	65	60	25										
133	Rehabilitation of Banka Distributory offlaking from Left Main Canal from R.D 0 km to Tail	40.0	41.0	10.0	12.5	100.0	12.5	0.0	0.0	0.0	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0
134	Rehabilitation of Chhinch Distributory, RD 0 to 7.765 km offlaking from Left Main Canal at R.D. 26.34 Km.	30.0	34.0	5.0	12.5	100.0	12.5	0.0	0.0	0.0	60.0	-	-	-	-	-	-	8th	-	0	0	0	0	0	0	0	1	0	0
135	Rehabilitation of Chhinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)	50.0	31.0	5.0	12.5	100.0	12.5	0.0	0.0	0.0	80.0	-	-	4th	-	-	-	-	-	0	0	0	1	0	0	0	0	0	0
136	Rehabilitation of Parsolia Distributory system, offlaking from Arthuna Distributory at R.D 20.73 Km.	30.0	31.0	5.0	12.5	100.0	12.5	0.0	0.0	0.0	60.0	-	-	-	-	-	-	8th	-	0	0	0	0	0	0	0	1	0	0
137	Rehabilitation of Gopinath ka gada Distributory system, offlaking from Arthuna Distributory at R.D 11.74 Km.	40.0	31.0	5.0	12.5	100.0	12.5	0.0	0.0	0.0	70.0	-	-	-	-	6th	-	-	-	0	0	0	0	0	1	0	0	0	0
138	Baniawas	40.0	41.0	10.0	12.5	60.0	7.5	0.0	3.0	7.5	77.5	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0
139	Dharia	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
140	Dantiwara Tank	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
141	Akheiao Mansarwar	30.0	70.0	12.5	12.5	60.0	10.0	0.0	1.0	2.5	67.5	-	-	-	-	-	7th	-	-	0	0	0	0	0	1	0	0	0	0
142	Kui Sagna	50.0	34.0	5.0	12.5	60.0	10.0	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	1	0	0	0	0	0	0
143	Luceri	30.0	0.0	0.0	12.5	60.0	10.0	0.0	1.0	2.5	55.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	1	0
144	Mahadev Nallah	30.0	28.0	2.5	12.5	60.0	10.0	0.0	1.0	2.5	57.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	1	0
145	Angore	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
146	Bageri	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
147	Gokul Bhai Bhatt Dam	10.0	9.0	0.0	12.5	60.0	10.0	0.0	1.0	2.5	35.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	1	0
148	Unmed Sagar Medium Irrigation Project	40.0	70.0	12.5	7.5	60.0	10.0	0.0	3.0	7.5	77.5	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0
149	Hathwari Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
150	Sirsipura Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
151	Rampur Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
152	Alnia Medium Irrigation Project	20.0	56.0	12.5	7.5	59.6	7.5	0.0	5.0	12.5	60.0	-	-	-	-	-	-	8th	-	0	0	0	0	0	0	0	1	0	0
153	Dhadoon	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
154	Vijaygarh-I	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
155	Vijaygarh-II	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	1
156	Rehabilitation of Sarkanya distributory and Dhaturia distributory of RMC and their minors	40.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	85.0	-	3rd	-	-	-	-	-	-	0	0	1	0	0	0	0	0	0	0
157	Rehabilitation of Direct off taking Minors of RMC in between KM 57.50 to 103.50KM	40.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	85.0	-	3rd	-	-	-	-	-	-	0	0	1	0	0	0	0	0	0	0
158	Rehabilitation of Kishanganj distributory and its minors	50.0	57.0	12.5	12.5	100.0	12.5	0.0	5.0	12.5	100.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0
159	Rehabilitation of Hanotia distributory and its minors	20.0	57.0	12.5	12.5	100.0	12.5	0.0	5.0	12.5	70.0	-	-	-	6th	-	-	-	-	0	0	0	0	0	1	0	0	0	0
160	Rehabilitation of Talera distributory and its minors	20.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	-	7th	-	-	0	0	0	0	0	0	1	0	0	0
161	Rehabilitation of Matunda/Dayalpora distributory and its minors	50.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	95.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0
162	Rehabilitation of Onkarpura distributory and its minors	50.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	95.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0
163	Rehabilitation of Patan distributory and its minors	50.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	95.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0
164	Rehabilitation of Anatpura distributory and its minors	40.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	85.0	-	3rd	-	-	-	-	-	-	0	0	1	0	0	0	0	0	0	0
165	Rehabilitation of Makheeda distributory and its minors	30.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0
166	Rehabilitation of Dagariya distributory and its minors	20.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	-	7th	-	-	0	0	0	0	0	0	1	0	0	0
167	Rehabilitation of Dahikhera distributory and its minors	20.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	-	7th	-	-	0	0	0	0	0	0	1	0	0	0
168	Rehabilitation of Malikpura distributory and its minors	20.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	-	7th	-	-	0	0	0	0	0	0	1	0	0	0
169	Rehabilitation of Laban distributory and its minors	30.0	57.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0
170	Rehabilitation of different reaches of various canals of sidhmukh irrigation project	20.0	17.0	0.0	12.5	NA	0.0	0.0	1.0	2.5	35.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	1	0
171	Rehabilitation of different reaches of various canals of Nohar irrigation project	20.0	17.0	0.0	12.5	NA	0.0	0.0	1.0	2.5	35.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	1	0

Attachment 4.8 Screening and

Name		Scoring and selection of the candidate irrigation sub-projects for Stage 2, 3 or later											Summary of the Result of Screening of Irrigation Sub-projects																					
S. No	Name of project	WRD priority	Years after const.		RWSRP / RAJAMHP	Gender mainstr.		Micro. Irr. & Water Manag.	Value chain		Total	JUDGE (min. score for each priority)									for stage 1	recommended for stage 2, 3, (depend on scale of the Project)									not selected			
		(k) / 2	(years)	score		(% of canal works)	score					2nd	3rd	4th	5th	6th	7th	8th	9th	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	8th Pri.	9th Pri.						
		10		2.5	2.5	2.5	0				90	85	80	75	70	65	60	25																
172	Rehabilitation of CG Distributary system under RWSLIP	50.0	70.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	95.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
173	Rehabilitation of J-Sub Minor system under RWSLIP	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
174	Rehabilitation of F- Branch system under RWSLIP	30.0	70.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
175	Rehabilitation of RB Distributary system under RWSLIP	30.0	70.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
176	Rehabilitation of H Distributary system under RWSLIP	30.0	70.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
177	Rehabilitation of Y Minor system under RWSLIP	50.0	70.0	12.5	12.5	100.0	12.5	0.0	3.0	7.5	95.0	2nd	-	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
178	Rehabilitation of Karniji Disty and its system	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
179	Rehabilitation of H.H. Disty from RD 0 to 35.845	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	Rehabilitation of LNP Disty and its system	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
181	Rehabilitation of PS Disty and its system	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
182	Rehabilitation of Sameja Disty and its system	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
183	Rehabilitation of Farm Minor from RD 26.135 to 40.545	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
184	Rehabilitation of PP minor from RD 0 to 13.323	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
185	Rehabilitation of Karnisingh Distributary from Km 0 to 33.320. of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
186	Rehabilitation of Suratgarh Distributary from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
187	Rehabilitation of PBN Distributary from Km 0 to 34.217 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
188	Rehabilitation of of fatehpura Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
189	Rehabilitation of Suratgarh Distributary from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26, KSR Mr. Km. 0 to 4.85 (SGM) Sardargarh Mr. km. 0 to 13.65 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
190	Rehabilitation of Banwali Mr. Minor from Km 0 to 12.68 & Bhagsar (BGS) Mr. Km 0 to 11.0 Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
191	Rehabilitation of kishampura (KSP) Distributary from Km 0 to 20.787 & Siwala distributary 0.00 to 10.050 of Bhakra canal system	40.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
193	Rehabilitation of PBN Distributary from Km 34.217 to 54.949 of Bhakra canal system	30.0	64.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	70.0	-	-	-	-	6th	-	-	-	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
194	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
195	Rehabilitation of of Sabuna Distributary from Km 0 to 17.777 & Nagrana distributary 0.00 to 6.614 of Bhakra canal system	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
196	Rehabilitation of of Manaksar Distributary from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	

Attachment 4.8 Screening and

Name		Scoring and selection of the candidate irrigation sub-projects for Stage 2, 3 or later														Summary of the Result of Screening of Irrigation Sub-projects																			
S. No	Name of project	WRD priority	Years after const.		RWSRP / RAJAMHP	Gender mainstr.		Micro. Irr. & Water Manag.	Value chain		Total	JUDGE (min. score for each priority)									for stage 1	recommended for stage 2, 3, (depend on scale of the Project)									not selected				
			(k) / 2	(years)		score	(% of canal works)		score				2nd	3rd	4th	5th	6th	7th	8th	9th		1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	8th Pri.	9th Pri.					
		10		2.5	2.5		2.5	0		2.5				90	85	80	75	70	65	60		25													
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
198	Rehabilitation of Mansarovar Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
199	Rehabilitation Bharatpur Feeder System	10.0	57.0	12.5	7.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
200	Renovation of pai distributary (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
201	Rehabilitation of Bundh Baretha Medium Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
202	Renovation of Hatheen Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
203	Renovation of Nonera Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
204	Renovation of Kanwadi Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
205	Renovation of Gaonri Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
206	Renovation of Kirawta Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
207	Renovation of Nagla Zalim Singh Minor (Gurgaon Main Canal)	10.0	37.0	7.5	12.5	100.0	12.5	0.0	1.0	2.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
208	Rehabilitation of Canal System of Kalisil Dam	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
209	Rehabilitation of Dheel Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
210	Rehabilitation of Surwal Irrigation Project	40.0	63.0	12.5	7.5	88.3	12.5	0.0	3.0	7.5	80.0	-	-	-	4th	-	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
211	Rehabilitation of Banjyawala Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
212	Rehabilitation of Sinholi Minor Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
213	Rehabilitation of Hardas ka bass Bund II Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
214	Rehabilitation of West Banas Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
215	Rehabilitation of Hemawas Irrigation Project	40.0	105.0	12.5	7.5	18.3	2.5	0.0	3.0	7.5	70.0	-	-	-	6th	-	-	-	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
216	Rehabilitation of Phulad Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
217	Rehabilitation of Annamirir Irrigation Project	20.0	33.0	5.0	12.5	0.0	0.0	0.0	3.0	7.5	45.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
218	Rehabilitation of Dantiwara Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
219	Rehabilitation of Bankey Sagar Sawar Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	Rehabilitation of Bada Talab Aloli	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
221	Rehabilitation of Galvania Medium Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	Rehabilitation of Ramsagar Ganwar Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
223	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
224	Rehabilitation of Burdha Medium Irrigation project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
225	Rehabilitation of Gurjania Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
226	Rehabilitation of Anpurna Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
227	Rehabilitation of Kumari Ka Naka	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
228	Renovation of Sareri Medium Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
229	Renovation of Kothari Medium Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
230	Rehabilitation of Shakkargarh Minor Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
231	Rehabilitation of Sankhra Undi Minor Irrigation Project	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
232	Rehabilitation of Jaliya Minor	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
233	Rehabilitation of Damti Kokra Minor Irrigation Project	30.0	38.0	7.5	7.5	100.0	12.5	0.0	1.0	2.5	60.0	-	-	-	-	-	8th	-	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
234	Rehabilitation of Sagwara Ki Pal Irrigation Project	10.0	34.0	5.0	7.5	83.7	12.5	0.0	3.0	7.5	42.5	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	

Attachment 4.8 Screening and

Name		Scoring and selection of the candidate irrigation sub-projects for Stage 2, 3 or later											Summary of the Result of Screening of Irrigation Sub-projects																			
S. No	Name of project	WRD priority	Years after const.		RWSRP / RAJAMHP	Gender mainstr.		Micro. Irr. & Water Manag.	Value chain		Total	JUDGE (min. score for each priority)							for stage 1	recommended for stage 2, 3, (depend on scale of the Project)									not selected			
		(k) / 2	(years)	score	2.5	(% of canal works)	score	0				2nd	3rd	4th	5th	6th	7th	8th	9th	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	8th Pri.	9th Pri.				
		10		2.5		2.5		0		2.5		90	85	80	75	70	65	60	25													
235	Rehabilitation of Udaisar Medium Irrigation Project	50.0	70.0	12.5	12.5	77.3	10.0	0.0	3.0	7.5	92.5	2nd	-	-	-	-	-	-	0	1	0	0	0	0	0	0	0	0	0	0	0	0
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
237	Rehabilitation of Sei Pick up Weir canal system	0.0	41.0	10.0	12.5	92.6	12.5	0.0	3.0	7.5	42.5	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	1	0	
238	Rehabilitation of Phila Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
239	Rehabilitation of Dundia Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
240	Rehabilitation of Dorai Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	Rehabilitation of Somi Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
242	Rehabilitation of Umarcha Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
243	Rehabilitation of Nahargarh Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
244	Rehabilitation of Bhanwar Pipla Irrigation Project	-	-	-	-	-	-	-	5.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
245	Sawan Bhadon Medium Irrigation Project	0.0	22.0	0.0	12.5	73.8	10.0	0.0	5.0	12.5	35.0	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0	
246	Rehabilitation of Parwan Medium Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
247	Rehabilitation of Bilas Medium Irrigation project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
248	Rehabilitation of Ganeshgang Lift Irrigation Scheme	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
249	Rehabilitation of Bhimsagar Medium Irrigation Project	50.0	27.0	2.5	7.5	100.0	12.5	0.0	3.0	7.5	80.0	-	-	4th	-	-	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
250	Rehabilitation of Borda Minor Irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
251	Gada Muhi	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
252	Haripura	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
253	Maheswara	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
254	Vijay Sagar	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
255	Rehabilitation of Survaniya Dam Medium irrigation Project	30.0	54.0	12.5	12.5	60.0	10.0	0.0	3.0	7.5	72.5	-	-	-	-	6th	-	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
256	Rehabilitation of Haro Dam Minor irrigation Project	10.0	59.0	12.5	12.5	60.0	10.0	0.0	3.0	7.5	52.5	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
257	Rehabilitation of Bhagora Tank Minor irrigation Project	10.0	50.0	12.5	12.5	60.0	10.0	0.0	3.0	7.5	52.5	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
258	Rehabilitation of Phootan Tank Minor irrigation Project	10.0	42.0	10.0	12.5	60.0	10.0	0.0	3.0	7.5	50.0	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
259	Rehabilitation of Delwara Tank Minor irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
260	Rehabilitation of Makanpura Tank Minor irrigation Project	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
261	Rehabilitation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km	50.0	31.0	5.0	12.5	100.0	12.5	0.0	3.0	7.5	87.5	-	3rd	-	-	-	-	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
262	Rehabilitation of Arthuna Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km.	50.0	31.0	5.0	12.5	100.0	12.5	0.0	3.0	7.5	87.5	-	3rd	-	-	-	-	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
263	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	50.0	10.0	0.0	12.5	100.0	12.5	0.0	3.0	7.5	82.5	-	-	4th	-	-	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
264	Rehabilitation of Bhungra Canal & its system RD 28.5 to 39.81 km. (Tail)	40.0	10.0	0.0	12.5	100.0	12.5	0.0	3.0	7.5	72.5	-	-	-	-	6th	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
265	Rehabilitation of Right Main Canal & its system RD 0 to 6 km.	40.0	41.0	10.0	12.5	100.0	12.5	0.0	3.0	7.5	82.5	-	-	4th	-	-	-	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
266	Rehabilitation of Right Main Canal & its system RD 30 to 52km	40.0	34.0	5.0	12.5	100.0	12.5	0.0	3.0	7.5	77.5	-	-	-	5th	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
267	Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal	40.0	34.0	5.0	12.5	100.0	12.5	0.0	3.0	7.5	77.5	-	-	-	5th	-	-	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
268	Rehabilitation of Narwali Disty. & its system RD 3.52 km to 16 km Offtaking from Right Main Canal	30.0	34.0	5.0	12.5	100.0	12.5	0.0	3.0	7.5	67.5	-	-	-	-	7th	-	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
269	Rehabilitation of Jagpura Canal & its system Offtaking from Narwali disty	30.0	10.0	0.0	12.5	100.0	12.5	0.0	3.0	7.5	62.5	-	-	-	-	-	8th	-	0	0	0	0	0	0	0	0	1	0	0	0	0	0
270	Rehabilitation of Kanthav Minor & its system Offtaking from Narwali disty	30.0	28.0	2.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	7th	-	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

Attachment 4.8 Screening and

Name		Scoring and selection of the candidate irrigation sub-projects for Stage 2, 3 or later											Summary of the Result of Screening of Irrigation Sub-projects																			
S. No	Name of project	WRD priority	Years after const.		RWSRP / RAJAMHP	Gender mainstr.		Micro. Irr. & Water Manag.	Value chain		Total	JUDGE (min. score for each priority)								for stage 1	recommended for stage 2, 3, (depend on scale of the Project)									not selected		
		(k) / 2	(years)	score		(% of canal works)	score						2nd	3rd	4th	5th	6th	7th	8th	9th	1st Pri.	2nd Pri.	3rd Pri.	4th Pri.	5th Pri.	6th Pri.	7th Pri.	8th Pri.	9th Pri.			
		10		2.5	2.5		2.5	0		2.5			90	85	80	75	70	65	60	25												
271	Rehabilitation of Karanpur disty. & its system Offtaking from Right Main Canal	30.0	28.0	2.5	12.5	100.0	12.5	0.0	3.0	7.5	65.0	-	-	-	-	-	7th	-	-	0	0	0	0	0	0	0	1	0	0	0	0	
272	Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal	40.0	28.0	2.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	0	1	0	0	0	0	0	0	
273	Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal	40.0	28.0	2.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	0	1	0	0	0	0	0	0	
274	Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal	40.0	28.0	2.5	12.5	100.0	12.5	0.0	3.0	7.5	75.0	-	-	-	5th	-	-	-	-	0	0	0	0	0	1	0	0	0	0	0	0	
275	Rehabilitation of Digod Lift Irrigation Project	20.0	31.0	5.0	12.5	100.0	12.5	0.0	0.0	50.0	-	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	0	1	0
276	Badi Tank	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
277	Vallabh Nagar	40.0	50.0	12.5	12.5	98.8	12.5	0.0	3.0	7.5	85.0	-	-	3rd	-	-	-	-	-	0	0	1	0	0	0	0	0	0	0	0	0	
278	Barapal	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
279	RESTORATION and RENOVATION OF Chawand Tank and Canal its minors under RWSLIP	10.0	62.0	12.5	12.5	30.1	5.0	0.0	3.0	7.5	47.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
280	RESTORATION and RENOVATION OF Harchand Tank and Canal its minors under RWSLIP	10.0	61.0	12.5	7.5	100.0	12.5	0.0	3.0	7.5	50.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
281	Rehabilitation/Modernisation of Jogiwala Distributory of Amarsingh Sub Branch System	40.0	56.0	12.5	12.5	100.0	12.5	0.0	1.0	2.5	80.0	-	-	4th	-	-	-	-	-	0	0	0	1	0	0	0	0	0	0	0	0	
282	Rehabilitation work of Rajgarh Canal System with Construction of Feeder from Jalsagar Dam	0.0	70.0	12.5	12.5	100.0	12.5	0.0	5.0	12.5	50.0	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
283	Rehabilitation of Motipura tank	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
284	Rehabilitation of DeoriNalla tank	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
285	Shivpura sub disty and its unlined canals offtaking from km 4.400 of ratodadistyofftaking from 44.255 km of NMC	30.0	10.0	0.0	12.5	100.0	12.5	0.0	1.0	2.5	57.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
286	Sankanya sub disty and its unlined canals offtaking from km 23.890 of ratodadistyofftaking from 44.225 km of NMC	30.0	10.0	0.0	12.5	100.0	12.5	0.0	1.0	2.5	57.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
287	Surachand minor and its unlined canals offtaking from 19.390 km BhimgudaDistyofftaking from 74 km of NMC	20.0	6.0	0.0	12.5	100.0	12.5	0.0	1.0	2.5	47.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
288	BaleraDisty and its unlined canals offtaking 16.00 km of NMC	20.0	10.0	0.0	12.5	100.0	12.5	0.0	1.0	2.5	47.5	-	-	-	-	-	-	-	9th	0	0	0	0	0	0	0	0	0	0	1	0	0
289	Harischand Sagar (Diversion work on Kalisindh River)	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
290	Govardhanpura Minor Irrigation Project (State Time Tank)	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0
291	Ganeshpura Minor Irrigation Project	40.0	19.0	0.0	12.5	73.3	10.0	0.0	3.0	7.5	70.0	-	-	-	-	6th	-	-	-	0	0	0	0	0	0	1	0	0	0	0	0	
292	Rehabilitation of Uncha dam	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	1	0

Attachment 4.9
Short List of Candidate Irrigation
Sub-projects for RWSLIP
(82 Sub-projects, for Project Formulation)

Attachment 4.9 Short List of Candidate Irrigation Sub-projects for RWSLIP (82 Sub-projects, for Project Formulation)

Basic Information						General Information															
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Estimated number of WUA	Live storage in MM3	Effective storage in MM3	Evapola tion in MM3	Free catchment area in km2	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMHIP	Dependability (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			Stage	WRD Priority (0 - 10)
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total (12)	Dam (13)	Canal (14)	(15)	(16)
3	Nahar Sagar Piplaj	no	Jaipur	Ajmer	Minor	964	1	4.08	3.47	0.35	107.74	8.83	2004	no			578	173	405	2	10
43	Mashi	no	Jaipur	Tonk	Medium	6,985	7	35.11	29.84	2.98	1,652.00	241.19	1960	RWSRP			4,200	1,260	2,940	2	7
77	Renovation of posar minor (GMC)	no	Jaipur	Bharatpur	Minor	431	1	MI	MI	MI	MI	MI	1980	no			350	0	350	3	8
78	Renovation of Dhillawati minor (GMC)	no	Jaipur	Bharatpur	Medium	4,672	5	MI	MI	MI	MI	MI	1980	no			2,970	0	2,970	3	8
83	Raipur Patan	no	Jaipur	Sikar	Medium	2,207	3	8.32	7.07	0.71	154.80	5.57	1968	no			1,324	464	860	3	8
100	Gahmbhri	no	Udaipur	Chittorgarh	Medium	7,575	8	53.48	45.46	4.55	932.40	136.13	1958	RWSRP			4,545	1,845	2,700	2	7
103	Bhupalsagar	no	Udaipur	Chittorgarh	Medium	3,874	4	18.41	15.65	1.56	176.30	25.74	State time	no			2,324	934	1,390	3	5
130	Rehabilitation of Left Main Canal from R.D 0 km to 15 Km.	no	Udaipur	Banswara	Medium	3,160	4	MI	MI	MI	MI	MI	1976	no			1,896	0	1,896	3	7
133	Rehabilitation of Banka Distributory offlaking from Left Main Canal from R.D 0 km to Tail	no	Udaipur	Banswara	Medium	4,776	5	MI	MI	MI	MI	MI	1976	no			2,866	0	2,866	3	7
135	Rehabilitation of Chhinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)	no	Udaipur	Banswara	Medium	5,267	6	MI	MI	MI	MI	MI	1986	no			3,160	0	3,160	3	9
138	Baniawas	no	Jodhpur	Pali	Minor	1,470	2	7.86	6.68	0.67	634.30	22.83	1976	no			882	353	529	3	8
142	Kui Sagna	no	Jodhpur	Sirohi	Minor	393	1	1.78	1.51	0.15	12.45	1.82	1983	no			240	96	144	2	10
148	Ummed Sagar Medium Irrigation Project	no	Kota	Baran	Medium	2,968	3	18.61	15.82	1.58	480.70	102.87	State time	RWSRP			1,780	712	1,068	3	7
156	Rehabilitation of Sarkanya distributory and Dhaturia distributory of RMC and their minors	no	Kota	Baran	Minor	1,615	2	MI	MI	MI	MI	MI	1960	no			970	0	970	2	8
157	Rehabilitation of Direct off taking minor of RMC in between KM 57.50 to 103.50 KM	no	Kota	Baran	Medium	6,606	7	MI	MI	MI	MI	MI	1960	no			3,960	0	3,960	2	7
158	Rehabilitation of Kishanganj distributory and its minors	no	Kota	Kota	Medium	6,726	7	MI	MI	MI	MI	MI	1960	no			4,040	0	4,040	2	9
161	Rehabilitation of Matunda/Dayalpura distributory and its minors	no	Kota	Bundi	Medium	2,393	3	MI	MI	MI	MI	MI	1960	no			1,440	0	1,440	2	9
162	Rehabilitation of Onkarpura distributory and its minors	no	Kota	Bundi	Medium	2,357	3	MI	MI	MI	MI	MI	1960	no			1,410	0	1,410	2	10
163	Rehabilitation of Patan distributory and its minors	no	Kota	Bundi	Medium	5,822	6	MI	MI	MI	MI	MI	1960	no			3,500	0	3,500	2	9
164	Rehabilitation of Anatpura distributory and its minors	no	Kota	Bundi	Medium	5,953	6	MI	MI	MI	MI	MI	1960	no			3,570	0	3,570	3	7
165	Rehabilitation of Makheeda distributory and its minors	no	Kota	Bundi	Medium	3,000	3	MI	MI	MI	MI	MI	1960	no			1,800	0	1,800	3	5
169	Rehabilitation of Laban distributory and its minors	no	Kota	Bundi	Medium	3,198	4	MI	MI	MI	MI	MI	1960	no			1,920	0	1,920	3	5
172	Rehabilitation of CG Distributory system under RWSLIP	no	North	Ganganagar	Medium	4,416	5	MI	MI	MI	MI	MI	State time	no			534	0	534	2	10
174	Rehabilitation of F- Branch system under RWSLIP	no	North	Ganganagar	Medium	2,584	3	MI	MI	MI	MI	MI	State time	no			319	0	319	3	5
175	Rehabilitation of RB Distributory system under RWSLIP	no	North	Ganganagar	Medium	2,895	3	MI	MI	MI	MI	MI	State time	no			304	0	304	3	5
176	Rehabilitation of H Distributory system under RWSLIP	no	North	Ganganagar	Medium	7,500	8	MI	MI	MI	MI	MI	State time	no			473	0	473	2	5
177	Rehabilitation of Y Minor system under RWSLIP	no	North	Ganganagar	Medium	4,416	5	MI	MI	MI	MI	MI	State time	no			422	0	422	2	10
178	Rehabilitation of Kamiji Disty and its minors	DPR001	North	Ganganagar	Medium	9,058	10	MI	MI	MI	MI	MI	State time	no	MI	6.40	1,700	0	1,700	1	9
179	Rehabilitation of H.H. Disty from RD 0 to 35.845	DPR002	North	Ganganagar	Medium	5,494	6	MI	MI	MI	MI	MI	State time	no	MI	5.30	597	0	597	1	9
180	Rehabilitation of LNP Disty and its system	DPR003	North	Ganganagar	Medium	2,633	3	MI	MI	MI	MI	MI	State time	no	MI	6.20	462	0	462	1	7
181	Rehabilitation of PS Disty and its system	DPR004	North	Ganganagar	Medium	9,834	10	MI	MI	MI	MI	MI	State time	no	MI	5.10	377	0	377	1	7
182	Rehabilitation of Sameja Disty and its minors	DPR005	North	Ganganagar	Medium	5,521	6	MI	MI	MI	MI	MI	State time	no	MI	6.00	289	0	289	1	7
183	Rehabilitation of Farm Minor from RD 26.135 to 40.545	DPR006	North	Ganganagar	Medium	4,301	5	MI	MI	MI	MI	MI	State time	no	MI	4.70	197	0	197	1	9
184	Rehabilitation of PP minor from RD 0 to 13.323	DPR007	North	Ganganagar	Minor	936	1	MI	MI	MI	MI	MI	State time	no	MI	4.80	181	0	181	1	8
185	Rehabilitation of Karnisingh Distributory from Km 0 to 33.320. of Bhakra canal system	DPR008	North	Hanumangarh	Medium	9,269	10	MI	MI	MI	MI	MI	1953	no	MI	NA	5,595	0	5,595	3	7
186	Rehabilitation of Suratgarh Distributory from Km 0 to 33.528 & STG Ditch minor Km 0 to 12.192 of Bhakra canal system	DPR009	North	Hanumangarh	Medium	8,547	9	MI	MI	MI	MI	MI	1953	no	MI	NA	4,992	0	4,992	3	7

Attachment 4.9 Short List of Candidate Irrigation Sub-projects for RWSLIP (82 Sub-projects, for Project Formulation)

Basic Information						General Information															
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Estimated number of WUA	Live storage in MM3	Effective storage in MM3	Evapola tion in MM3	Free catchment area in km2	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMHP	Dependability (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			Stage	WRD Priority (0 - 10)
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total (12)	Dam (13)	Canal (14)	(15)	(16)
187	Rehabilitation of PBN Distributary from Km 0 to 34.217 of Bhakra canal system	DPR010	North	Hanumangarh	Medium	9,443	10	MI	MI	MI	MI	MI	1953	no	MI	NA	5,228	0	5,228	3	7
188	Rehabilitation of of fatchpura Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR011	North	Hanumangarh	Medium	8,503	9	MI	MI	MI	MI	MI	1953	no	MI	NA	3,082	0	3,082	2	8
189	Rehabilitation of Suratgarh Distributary from Km 33.528 to 48.768 & RP Mr. Km 0 to 5.26, KSR Mr. Km. 0 to 4.85 (SGM) Sardargarh Mr. km. 0 to 13.65 of Bhakra canal system	DPR012	North	Hanumangarh	Medium	8,511	9	MI	MI	MI	MI	MI	1953	no	MI	NA	2,737	0	2,737	2	8
190	Rehabilitation of Banwali Mr. Minor from Km 0 to 12.68 & Bhagsar (BGS) Mr. Km 0 to 11.0 Distributary from Km 0 to 14.463, Chandurwali (CDR-I, CDR-II) distributary 0.00 to 12.207 & New Khara Km. 0.000 to 8.245 of Bhakra canal system	DPR013	North	Hanumangarh	Medium	9,446	10	MI	MI	MI	MI	MI	1953	no	MI	NA	2,728	0	2,728	2	8
191	Rehabilitation of kishanpura (KSP) Distributary from Km 0 to 20.787 & Siwala distributary 0.00 to 10.050 of Bhakra canal system	DPR014	North	Hanumangarh	Medium	8,231	9	MI	MI	MI	MI	MI	1953	no	MI	NA	2,842	0	2,842	2	8
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	DPR015	North	Hanumangarh	Medium	9,906	10	MI	MI	MI	MI	MI	1953	no	MI	NA	2,492	0	2,492	1	10
194	Rehabilitation of Bhagsagar Sub Mr. (BGSM) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	DPR017	North	Hanumangarh	Medium	4,568	5	MI	MI	MI	MI	MI	1953	no	MI	NA	1,881	0	1,881	1	10
195	Rehabilitation of of Sabana Distributary from Km 0 to 17.777 & Nagrana distributary 0.00 to 6.614 of Bhakra canal	DPR018	North	Hanumangarh	Medium	6,524	7	MI	MI	MI	MI	MI	1953	no	MI	NA	1,807	0	1,807	1	10
196	Rehabilitation of of Manaksar Distributary from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	DPR019	North	Hanumangarh	Medium	7,050	8	MI	MI	MI	MI	MI	1953	no	MI	NA	1,799	0	1,799	1	10
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	DPR046	North	Hanumangarh	Medium	8,616	9	MI	MI	MI	MI	MI	1953	no	MI	NA	2,285	0	2,285	1	10
198	Rehabilitation of Mansarovar Irrigation Project	DPR020	Jaipur	Alwar	Minor	843	1	9.41	8.00	0.80	93.20	13.37	State time	no	96.00	NA	239	78	161	1	5
208	Rehabilitation of Canal System of Kalisil Dam	DPR030	Jaipur	Karauli	Medium	4,903	5	37.25	31.66	3.17	331.52	44.35	1956	no	76.00	29.37	1,329	192	1,137	1	8
209	Rehabilitation of Dheel Irrigation Project	DPR031	Jaipur	Sawai Madhopur	Medium	5,943	6	27.73	23.57	2.36	688.93	102.72	1911	no	65.00	20.58	3,836	210	3,626	1	10
210	Rehabilitation of Surwal Irrigation Project	DPR032	Jaipur	Sawai Madhopur	Medium	5,280	6	25.55	21.72	2.17	274.19	27.53	1954	RWSRP	41.00	22.99	1,572	183	1,389	2	8
214	Rehabilitation of West Banas Irrigation Project	DPR036	Jodhpur	Sirohi	Medium	7,952	8	36.22	30.79	3.08	414.40	39.05	1963	RWSRP	60.00	9.30	1,716	227	1,489	1	10
216	Rehabilitation of Phulad Minor Irrigation Project	DPR038	Jodhpur	Pali	Minor	788	1	3.49	2.97	0.30	48.69	3.72	1976	no	64.00	NA	527	132	395	1	10
218	Rehabilitation of Dantiwara Minor Irrigation Project	DPR040	Jodhpur	Pali	Minor	806	1	3.49	2.97	0.30	31.06	3.69	1984	no	50.00	NA	94	51	43	1	3
219	Rehabilitation of Bankey Sagar Sawar Irrigation Project	DPR041	Jaipur	Ajmer	Minor	328	1	1.73	1.47	0.15	15.54	1.73	State time	no	50.00	17.30	155	147	9	1	4

Attachment 4.9 Short List of Candidate Irrigation Sub-projects for RWSLIP (82 Sub-projects, for Project Formulation)

Basic Information						General Information															
S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Estimated number of WUA	Live storage in MM3	Effective storage in MM3	Evapola tion in MM3	Free catchment area in km2	Run-off (Mm3)	Year of construction	Rehabilitated under RWSRP or RAJAMIP	Dependabi lity (%)	EIRR (%)	Estimated Cost (Rs in Lacs)			Stage	WRD Priority (0 - 10)
						(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	Total	Dam	Canal	(15)	(16)
221	Rehabilitation of Galvania Medium Irrigation Project	DPR043	Jaipur	Tonk	Medium	2,257	3	11.40	9.69	0.97	69.46	11.94	1957	no	82.00	33.29	980	599	382	1	9
222	Rehabilitation of Ramsagar Ganwar Irrigation Project	DPR044	Jaipur	Tonk	Minor	466	1	2.46	2.09	0.21	9.32	2.46	1950	no	50.00	52.51	285	136	149	1	3
223	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	DPR045	Kota	Bundi	Medium	3,402	4	18.87	16.04	1.60	126.89	32.28	1982	RWSRP	93.00	8.60	2,285	1,253	1,032	1	8
224	Rehabilitation of Burdha Medium Irrigation project	DPR047	Kota	Bundi	Medium	4,275	5	28.93	24.59	2.46	261.61	37.74	State time	RWSRP	77.00	9.96	1,093	0	1,093	1	10
229	Renovation of Kothari Medium Irrigation Project	DPR052	Udaipur	Bhilwara	Medium	4,362	5	21.51	18.28	1.83	325.00	26.65	1985	no	50.00	25.70	547	231	316	1	9
230	Rehabilitation of Shakkargarh Minor Irrigation Project	DPR053	Udaipur	Bhilwara	Minor	829	1	3.81	3.24	0.32	61.34	3.81	1998	no	50.00	13.80	304	107	197	1	5
232	Rehabilitation of Jaliya Minor	DPR055	Udaipur	Bhilwara	Minor	480	1	2.13	1.81	0.18	41.26	11.01	1987	no	59.00	11.60	176	82	95	1	4
235	Rehabilitation of Udaisagar Medium Irrigation Project	DPR058	Udaipur	Udaipur	Medium	5,110	6	27.63	23.49	2.35	195.00	23.43	State time	no	38.00	16.80	7,281	1,656	5,625	2	9
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	DPR059	Udaipur	Udaipur	Minor	969	1	HW	HW	HW	714.77	270.84	1959	no	NA	10.50	1,294	161	1,133	1	6
239	Rehabilitation of Dundia Minor Irrigation Project	DPR062	Udaipur	Udaipur	Minor	389	1	1.94	1.65	0.16	67.80	2.02	2001	no	90.00	17.70	245	87	158	1	4
240	Rehabilitation of Dorai Irrigation Project	DPR063	Udaipur	Chittorgarh	Minor	1,571	2	8.27	7.03	0.70	68.60	20.11	1992	RAJAMIP	64.00	21.50	486	119	367	1	5
241	Rehabilitation of Somi Irrigation Project	DPR064	Udaipur	Chittorgarh	Minor	445	1	1.88	1.60	0.16	52.45	4.64	1995	no	60.00	21.20	407	210	197	1	8
246	Rehabilitation of Parwan Medium Irrigation Project	DPR068	Kota	Baran	Medium	7,464	8	HW	HW	HW	3,009.00	241.80	1962	no	NA	NA	1,359	141	1,218	1	7
247	Rehabilitation of Bilas Medium Irrigation project	DPR069	Kota	Baran	Medium	5,863	6	26.76	22.75	2.27	233.00	41.25	1997	no	71.00	43.70	995	69	926	1	7
248	Rehabilitation of Ganeshgang Lift Irrigation Scheme	DPR070	Kota	Baran	Medium	6,960	7	MI	MI	MI	MI	MI	1991	no	MI	34.10	938	0	938	1	3
249	Rehabilitation of Bhimsagar Medium Irrigation Project	DPR071	Kota	Jhalawar	Medium	9,986	10	72.53	61.65	6.17	335.00	106.51	1990	RWSRP	66.00	10.60	6,505	0	6,505	2	9
250	Rehabilitation of Borda Minor Irrigation Project	DPR072	Kota	Jhalawar	Minor	414	1	2.32	1.97	0.20	13.15	3.90	1985	no	58.00	11.90	239	74	164	1	8
261	Renovation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km	no	Udaipur	Banswara	Minor	1,070	2	MI	MI	MI	MI	MI	1986	no			642	0	642	2	9
262	Renovation of Arunima Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km	no	Udaipur	Banswara	Medium	6,760	7	MI	MI	MI	MI	MI	1986	no			4,056	0	4,056	2	9
263	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	no	Udaipur	Banswara	Medium	9,598	10	MI	MI	MI	MI	MI	2007	no			5,759	0	5,759	2	9
265	Rehabilitation of Right Main Canal & its system RD 0 to 6 km.	no	Udaipur	Banswara	Minor	1,083	2	MI	MI	MI	MI	MI	1976	no			650	0	650	2	8
266	Rehabilitation of Right Main Canal & its system RD 30 to 52km	no	Udaipur	Banswara	Medium	2,707	3	MI	MI	MI	MI	MI	1983	no			1,624	0	1,624	3	7
267	Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,113	3	MI	MI	MI	MI	MI	1983	no			1,268	0	1,268	3	7
272	Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,530	3	MI	MI	MI	MI	MI	1989	no			1,518	0	1,518	3	8
273	Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	2,290	3	MI	MI	MI	MI	MI	1989	no			1,374	0	1,374	3	8
274	Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal	no	Udaipur	Banswara	Medium	3,348	4	MI	MI	MI	MI	MI	1989	no			2,009	0	2,009	3	8
277	Vallaab Nagar	no	Udaipur	Udaipur	Medium	6,480	7	28.76	24.45	2.44	461.80	67.42	1967	no			4,050	50	4,000	3	8
281	Rehabilitation/Modernisation of Jogiwala Distributory of Amarsingh Sub Branch System	no	North	Hanumangarh	Minor	585	1	MI	MI	MI	MI	MI	1961	no			181	0	181	3	7
Total (82 irrigation sub-projects)						361,266	398										151,063	12,032	139,031		
	Stage 1			34		136,151	150										33,595	4,306	29,289		
	Stage 2			24		131,347	143										64,165	5,213	58,952		
	Stage 3			24		93,768	105										53,303	2,513	50,790		

Chapter 5
Attachment

Attachment 5.2.1
List of Technical Notes (TN) and
Comments from the Consultant for
RAJAMIIP

Attachment 5.2.1 List of Technical Notes (TN) and Comments from the Consultant for RAJAMIIP

T N number	Subject	Contents / comments
1	Socio-Economic Questionnaire	This study was initially done for socio- economic base line survey and evaluation about the status of farmers within project area i.e. RAJAMIIP. It contains questioner and guidelines for undertaking surveys.
2	General Concept of Initial Phase	Power point presentation was prepared to highlight the concept, scope, objectives, roles and responsibilities and details of component including implementation phasing. Workshop was conducted for officials of WRD and other line departments.
3	Project Implementation Workshop	
4	TOT Manual for Officers and NGO facilitators	<p>This manual had been prepared as module for ‘Training of Trainers (TOT)’ on the Use of Participatory Training Techniques for the Faculty of Irrigation Management Training Institute, Kota. This course offers a series of pointers and considerations to be used by trainers in the design and delivery of effective participatory training, workshops or meetings. This course used a “learning-by-doing approach” since the most effective means to train a trainer to train well was to provide them space and opportunity “to do now as they will do tomorrow”.</p> <p>However, effective implementation could not be witnessed in RAJAMIIP. IMTI Kota is the nodal agency for training purposes. Faculty comprises of serving engineers from WRD and officers from DoA, who are not professional trainers but posted on rational basis. There is paradigm shift in water management, capacity building, and improved agriculture practices, which shall play a major role in making WUOs sustainable. It was also experienced that no guest speakers who can deliver substance in subject matter were hired. The following suggestions are extended for making training useful to WRD officers, NGO and WUAs: -</p> <ol style="list-style-type: none"> 1. TOT is most essential for upgrading the knowledge of the faculty and NGO 2. Selection of faculty and NGO should invariably be suitable to fulfill minimum requirement of training curriculum. 3. Trainers after obtaining TOT should serve training centers i.e. IMTI, KVK for a minimum period of five years. 4. Manual should encompass the evaluation methodology to access the effectiveness of the training. 5. TOT will be a specialized training for trainers and should be arranged as a workshops and practical at a suitable place other than institutes. 6. TOT should be organized biannually and nominations may also be decided to ensure suitable representation.
5	NGO work in WUA Establishment in MIP-M	This TN contains report on study conducted on functioning of NGO in Maharashtra.
6	EIRR manual	This technical note sets modalities and procedure for evaluation of EIRR for each sub-project under RAJAMIIP. This manual is

T N number	Subject	Contents / comments
		required to be updated in view of present provisions in the agriculture practices i.e. cropping pattern, market rates for input and output, provision for micro irrigation system etc.
7	Final second stage screening	This note contained results of 2 nd stage screening based on criteria for selection of sub-projects under RAJAMIIP.
8	Management Skill developments Program	<p>This manual was prepared as a part of series of training manuals and lay down guidelines for management skill development program for the sub-PMU and WRD officials in conformity with mandate of GoI. The basic purpose was to enhance the knowledge and skills of the participants with regards to Community Participation, Participatory Rural Appraisal, Log frame analysis, and effective co-ordination and communication techniques in minor irrigation project. A thrust was contemplated for different procedure and steps in participatory irrigation management for effective implementation of RAJAMIIP.</p> <p><i>But it could not be implemented effectively under RAJAMIIP because sub-PMUs were not created. Moreover, the field staff was also not dedicated to the project being loaded with multifarious and non-engineering activities. Skill management training is certainly useful for capacity building of WRD officials, representatives of NGOs and WUAs. The main objective should be to generate harmony in all the agencies of the project for its successful implementation.</i></p>
9	District maps	It contains detailed district wise map indicating location of the sub-projects of RAJAMIIP.
10	SID manual	<p>Revised SID manual already formulated based on guidelines for preparation of DPR for modernization / rehabilitation of irrigation projects issued by CWC, New Delhi.</p> <p><i>Copies of this manual (soft copies) were widely circulated among the SID contractors and WRD officers at field level. WRD officers were required to follow the guidelines prescribed while selecting the SID contractors. On the contrary, the qualification criteria were relaxed and some of the most important items viz. submergence survey of the reservoir, command area survey & chak planning, testing of construction materials, detailed design of structures to be rehabilitated etc. were excluded. Most of the SID contractors did not have modern gadgets and experienced survey and design engineers suitable for hydraulic structures. There was lack of understanding between field staff, contractor and WUAs. WRD staff failed to recognize the importance of SID works, DPRs and ultimately there was lack of ownership.</i></p>
11	Manual for Livelihood Activities under Pro Poor Component	Pro poor component was included under RAJAMIIP on pilot basis under 6 WUAs in selected areas with aims to improve the lively-hood of the poor households under Water Users Association (WUA). Formation of Self Help Groups and saving and loaning activities, thereby bringing about the tangible

T N number	Subject	Contents / comments
		<p>benefits of the project to the poor households were targeted. This training manual was prepared to set guidelines to sensitize women of target area of RAJAMIIP for the need of SHG and its relevance in their empowerment process in order to: -</p> <ul style="list-style-type: none"> • To create group feeling among women. • To enhance the confidence and capabilities of women. • To develop collective decision making among women. • To encourage habit of saving among women and facilitate the accumulation of their own capital resource base. • To motivate women taking up social responsibilities particularly related to women development. <p>This component of the project could not be successfully implemented under RAJAMIIP due to failure on the part of NGO who was assigned this job. Concept of livelihood manual is most novel particularly for its utilization in the proposed RWSLIP. It has to be modified based on concept of RWSLIP under gender mainstreaming component.</p>
12	Manual Construction and Maintenance Methods	This draft manual indicates in general labor based construction methodology and gives only preliminary information. Final manual was not considered necessary.
13	Guidelines for Construction supervision and QC and monitoring	<p>This manual was framed in order to affix guidelines for SID works, site supervision and quality assurance management. This is a very handy document which should be utilized by the field staff for day to day SID and construction activities.</p> <p><i>These guidelines (in hard and soft copies) were widely distributed among the field staff and SID contractors by the Consultant. But the field staff and SID contractors had not followed them religiously. There was lack of coordination between WRD officers and SID contractors in not only guidance but even supply of basic technical data. This resulted in poor quality in formulation of DPRs, delays in finalization of DPRs, non-adherence to quality standards of constructed works, delay in completion of works. Contractors were supposed to establish field laboratories for conducting routine test of construction material and end products (concrete and earthwork), but this was not followed which affected the system for evaluation of quality issues. Most of the civil contractors failed to appoint project Engineers as per norms contemplated in the contract agreement. Due to lack of WRD staff at site compliance of observations was not attended timely. There was lack of harmony amongst WRD, consultant, WUAs and the contractors.</i></p>
14	Draft Manual for O&M	This manual was prepared for setting out guidelines for operation, regulation, maintenance and management of canal network specifically by WUAs. It also endow with modalities for WUAs for management of system and functioning of WUAs as per PIM Act 2000. This is very useful manual particularly for WUAs and NGOs and should be available in Hindi also for wide circulation among WUAs and farmers in particulars. This is an

T N number	Subject	Contents / comments
		important document and needs to be reviewed and modified to suit present requirement of WUAs.
15	NGO Training Manual	This TN included modules to enhance the knowledge and skills of the participants from lead NGO and its consortium NGOs with regards to minor irrigation project, awareness, motivation and community participation, participatory rural appraisal, PIM Act, steps in participatory irrigation development and managements for effective implementation of RAJAMIIP, pro-poor activities effective co-ordination and communication techniques in minor irrigation project.
16	Quality Control Manual	<p>A quality control manual is suitable for supervision and 'Quality Assurance Management System' under the project.</p> <p><i>This manual (soft copies) was widely distributed among the field staff of WRD for reference and to practice in the field. The manual contemplated the importance of effective Quality Management System (QMS). The objective of Quality Control / Quality Assurance Management system under RAJAMIIP was to ensure that each and every job, civil as well as mechanical & electrical are executed to good construction quality standards and workmanship duly conforming to technical specifications and sound construction procedures for long term durability and reliability of services. This manual also contained a well drafted checklist for observations during field visits and formats for adoption of OK card system.</i></p> <p><i>Consultant also imparted training to field staff of WRD at zone level.</i></p> <p><i>Quality control unit of WRD was functioning exclusively for monitoring quality assurance in field. But there was lack of mobilization facilities, willpower and coordination with field agencies, leading to ineffective QAM. OK card system was not followed, testing of construction materials and end product was not done as per norms prescribed under QC manual. Consultant made intense inspections of ongoing sub-projects and conveyed 16014 number of observations of which 2465 observations remained unattended up to 15th May 2015 (tenure of consultant expired on May 31, 2015) despite of best efforts by PMU and Consultants. It is worthwhile to mention that the Consultant can only pinpoint faulty construction work; the WRD has to take action to correct shortcomings. There is large scope for improvement in the existing system which could be done with the enforcement of quality control manual sincerely and effectively.</i></p>
17	Monitoring Manual	<p>This manual was prepared for monitoring the progress of implementation of civil work component including SID activity. It would need slight modification as per role of sub-PMU and additional activities /component under RWSLIP.</p> <p><i>PMU instructed the field divisions to submit the monitoring information on monthly basis with copy to Consultant. But information was received from a few divisions only. Under these</i></p>

T N number	Subject	Contents / comments
		<p><i>circumstances, consultant managed the flow of information through its field representatives on personal basis and transmitted it to PMU after compilation at Jaipur office. There was lack of coordination at the level of field offices to share the information as per schedule.</i></p> <p><i>Sub-PMU should be made responsible for managing regular information for monitoring purposes at zone level and conveyed to PMU. Consultant should also collect the information through its representatives to expedite and authenticated details for monitoring purposes.</i></p> <p><i>It will be worthwhile to have quarterly review of monitoring system to evaluate and undertake corrective measures if any.</i></p>
18	Draft Guidelines for Inspection & Maintenance of Dams	<p>This manual was prepared for setting guidelines for post construction inspection and maintenance of dams.</p> <p><i>This shall have to be revised to accommodate the requirements of large dams (height more than 15 m) under medium irrigation projects included under RWSLIP</i></p>
19	Draft Water Demand Estimate for Selected Cultivation Models in 6 Agro-Climatic Zones of Rajasthan	<p>This TN was prepared to set out guidelines for estimation of irrigation water demand with the objective to provide generalized demand figures to the E&M Consultant for quick examination and verification of cropping pattern and resulting water demand given by SID-contractors in DPRs of individual sub-projects under six agro-climatic zones using PENMAN-MONTHEIT method.</p> <p><i>The gross water demand for selected cultivation models under 6 Agro climatic Zones of Rajasthan were estimated. The gross irrigation requirement (40% efficiency) was worked out. The K.C. values are useful for estimating the crop water requirement. The water demand estimates are always approximate and refinement occurs during the course of operation in the irrigation season with the change in the climate. These water demand estimates only serve as guidelines for efficiency improvement, which was partial applied under RAJAMIIP. Water demand estimates will be useful for RWSLIP and can serve as guide line for the efficiency improvement and verification of cropping pattern.</i></p>
20	Concise Construction/Rehabilitation Manual	<p>This manual lay down the specifications, construction methodologies, quality assurance management, “Dos and Do not” for construction activities. This includes latest methodologies, practices and modalities for construction purposes. This is very handy useful reference document for all engineers engaged particularly in rehabilitation works.</p> <p><i>Consultant widely circulated this manual through hard and soft copies among all field and regional officers. Subsequently zonal and circle level workshops were conducted by Consultant /PMU</i></p>

T N number	Subject	Contents / comments
		<p><i>to create awareness among field officers regarding QAM. However it has been observed that response was poor and they failed to exercise the concept of this manual resulting in poor construction quality.</i></p> <p><i>The proposed dedicated staff will have to be imparted extensive training not only to understand the procedure for construction & quality assurance but also to change their mindset from casual to quality based implementation. Action should also be taken against defaulting contractors found defying the quality issues repeatedly – rules need to be amended to debar such defaulters.</i></p> <p><i>There is need for effective control over price dumping and sub-letting the works to other petty contractor having low level of experience and resources.</i></p> <p><i>Action should also be taken against low performing officers so as to encourage other sincere officers for better performance with adherence to QAM.</i></p> <p><i>Contract management including fixing of qualification criteria (physical & financial) and special conditions should be followed strictly and religiously. Only competent and eligible bidders should be allowed to participate and no relaxation should be allowed.</i></p> <p><i>Contract conditions stipulate that time is the essence of the contract. There should be no reluctance in taking action against defaulting contractors.</i></p> <p><i>The involvement of E & M consultant in contract management would help in timely execution of quality based construction. The E & M Consultant is an independent agency and his observations are based on critical analysis and field visits without any bias. But the suggestions made by E & M Consultant remained in paper due to lack of harmony between WRD and the consultant. The recommendations / suggestions made by consultant should be taken in right earnest and needs implementation thereof in totality. However any dispute in exceptional circumstances should be resolved mutually.</i></p>
21	ToT Module “Rehabilitation of Water Courses”	This Technical Note basically had been prepared to serve as guidelines for TOT training for rehabilitation of water courses by WUAs. Practical approach is to be required for preparation of this document and needs to be in Hindi.
22	Water Management Questionnaire (Hindi)	This note contains questionnaire on water management for survey purposes under RAJAMIIP.
23	Demonstration Plot Design	<p>The practices and modalities required to be followed in demonstration plots under RAJAMIIP has been spelled out under this manual.</p> <p><i>Based on prevailing agriculture practices, the modalities/ procedures were summarized and shown/ explained on practical basis on selected / identified demonstration plots. This practice was widely adopted RAJAMIIP on various sub-projects in different districts. Subsequently the highlight of demonstration</i></p>

T N number	Subject	Contents / comments
		<p><i>were displayed on board for the benefit other farmers. This is a useful mode for publication of latest practices and modalities of agriculture practices which should be adopted under RWSLIP.</i></p>
24	Irrigation Water Demand	This manual is primarily related to calculations for crop water requirement, scheduling of crop, and cultivation models based on agronomy practices.
25	Assessment of Training Effectiveness	Training is an integral part of the project which facilitate in generating an atmosphere where the officers of lines department and NGO. The effectiveness of the training already conducted has been assessed by the Consultant under this manual.
26	Training Manual for Village Water Masters	The role and responsibilities of village water masters has been defined under this TN. This manual also contains training modules and topics to be used for training purposes. However village water masters had not been deployed under RAJAMIIP.
27	Policy Issues, Completion Certificates & Handing Over Documents	This is an important document which highlights the deficiencies of the PIM Act 2000 and Rules 2002. But no action was initiated by WRD.
28	2nd stage screening report Aug 2012	This note contains results of second stage screening up to August 2012 of additional sub-projects under RAJAMIIP
29	RAJAMIIP MIS model	Consultant submitted a proposal for introduction of MIS system under the RAJAMIIP as per modern practices. But same could not be implemented due to denial by WRD to hire expert on this subject.
30	Mid-term review	<p>A critical midterm review of civil construction activities was undertaken by Consultant to review, evaluate the status, bottlenecks/ deficiencies, measures required to accelerate the progress under RAJAMIIP. Such type of periodical evaluation is also required to be undertaken to access the performance of sub-PMUs under RWSLIP.</p> <p><i>Midterm critical review was undertaken by consultant of his own in the best interest of the project. The findings were communicated and discussed with PMU for issuing instructions to field officers to learn lessons from such drawback. But it was experienced that the suggestions were not implemented sincerely, which delayed completion of works and resulted in extension of project period. Consultant is an independent body comprising of experienced experts and their support should have been utilized effectively.</i></p> <p><i>PMU was always understaffed and fully dependant on consultant in absence of sub-PMU. It is most important that all units viz. consultant, NGO, and WRD with line departments should work in liaison with each other to ensure successful implementation of the project.</i></p>
31	Handing Over Training Module	A training module was prepared and submitted by Consultant to impart training to MMC members, WUAs and Cos in order to sensitize the WUAs so as to enable them to take over management of the system under their jurisdiction.

T N number	Subject	Contents / comments
		This type of training was imparted at the fake end of the project. However to support WUAs, it is essential to cover this training under the main courses for WUAs and COs of NGOs along-with refresher trainings.
32	Critical Review of Civil Construction Activities	Despite of best efforts of PMU and consultant, the progress of civil construction activities under Pali Circle was lagging behind the schedule. Under such circumstances, Consultant carried out a detailed study to pinpoint shortcoming and reasons for the delay and to suggest corrective measures. PMU was suggested to adopt special measures for mobilizing all resources and to accelerate the progress.
33	Policy issues for consideration by WRD	This is an important document which highlights the deficiencies of the PIM Act 2000 and Rules 2002, feedback from WUAs, action required for sustainability of WUAs.

Attachment 5.2.2
SAMPLE Application Form
(Micro Irrigation System)

Attachment 5.2.2 SAMPLE Application Form (Micro Irrigation System)

We/I would like to apply the Project support for promotion of micro irrigation system under RWSLIP with the conditions and commitments as follows:

1. General Information

- 1) Name of applicant: xxxxxxxxxxxx (*name of farmer/farmers group or representative*)
- 2) Name of WUA: xxxxxxxxxxxx (*if available*)
- 3) Location of farm land: xxxxxxxxxxxx (*minimum, name of irrigation system and canal*)

2. Water Management

- 1) Present water management system in chak: Warabandi Others
- 2) Copy of latest rotation schedule applied: Attached Not available
- 3) Condition of chak located: Water shortage Water sufficient

3. Type of the Works for Application

- Community based Sprinkler Irrigation => to item 4.
- Individual Farmer based Drip Irrigation => to item 5.

4. Community based Sprinkler Irrigation

- 1) Preferred crop cultivated after installation: Wheat Mustard Others
- 2) Commitment for water saving and selection of project support

Note 1: Condition of chak will be evaluated by sub-PMU and may be changed from your choice in the above 2. 3). Therefore, all applicants are requested to select one choice from the table 1 even though he considers his chak is suffering from water shortage.

Note 2: In case your chak is evaluated as “water shortage chak” by sub-PMU officially, your commitment selected in table 1 will not be applied and full support (diggi, pump and pipe line system) will be provided without any allocation of irrigation water to downstream chak.

Table 1 Commitment for water saving and selection of project support

Estimated Water Saving Effect	Allocation to Downstream Chak *1)	Benefit in the Target Chak	Project Support	Farmers' Responsibility (with Government Subsidy)	Application
36%	20%	16%	Full support (<i>diggi</i> , pipeline system and pump w/solar panels)	Sprinkler irrigation kit	<input type="checkbox"/>
	10%	26%	Partial support (<i>diggi</i> , pipeline system and pump wo/solar panels)	Solar panels and sprinkler irrigation kit	<input type="checkbox"/>
	0%	36%	No support from RWSLIP	Full responsibility	<input type="checkbox"/>

5. Individual Farmer based Drip Irrigation

- 1) Preferred crop cultivated after installation: Citrus Vegetables Others
- 2) Commitment for water saving and selection of project support

Table 2 Commitment for water saving and selection of project support

Estimated Water Saving Effect	Allocation to Downstream Farmers *	Benefit of the Target Farmer	Project Support	Farmers' Responsibility (with Government Subsidy)	Application
72 %	40%	32%	Construction of <i>diggi</i> , pump house, and pipe line	Solar pump (with solar panel) and drip irrigation kit	<input type="checkbox"/>

	30%	42%	Solar pump (with solar panel and pump house)	Construction of <i>diggi</i> and pipeline, installation of drip irrigation kit	<input type="checkbox"/>
	20%	52%	Drip irrigation kit	Construction of <i>diggi</i> and pipeline, installation of solar pump (with solar panel and pump house)	<input type="checkbox"/>
	0%	72%	No support form RWSLIP	Full responsibility	<input type="checkbox"/>

6. Agreement of all farmers in chak

Please attach the separate sheet (*name and signature of all farmers in chak for agreement and acknowledgement with application for the above project support shall be clearly shown*)

7. Confirmation of farmers' obligation and commitment

- 1) Commitment for allocation of a part of saved water to downstream based on table 1 or 2: confirmed
- 2) Commitment for installation of facilities as your own responsibility based on table 1 or 2: confirmed
- 3) Provision of land required for construction works without any compensation: confirmed
- 4) Commitment for operation and maintenance works as a farmers group as their own responsibility including collection of water fee and water management: confirmed
- 5) No objections for decision by the sub-PMU coordination committee regarding the applicable Project support to each applicant: confirmed
- 6) No objections for rejection of this application by the sub-PMU coordination committee in case false declaration is found in this application: confirmed

Name and signature of applicant
Date:

Acknowledged by the President of WUA
Date:

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Attachment 5.3.1
Summary of Project Activity for
WUA Sector

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1 Establishment of WUA Support Mechanism								
1.1. Development of Project Materials								
<p>1.1.1. Training Materials on Water Management and WUA Management</p> <p><u>Objectives:</u> To develop training materials to explain; how to manage irrigation water and scheme, how to manage WUA and how to promote women's participation in water management as well as WUA, how to make a gender action plan (annual and long term)</p>	<p><u>In charge:</u> Consultant <u>Cooperated by:</u> IMTI, WCD <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur <u>Frequency:</u> Once at the beginning of stage</p>	<p>The materials are used in ToT and training on water management and WUA management</p> <ol style="list-style-type: none"> 1. TSG-SP (7person per SP) 2. NGO staff (Team leader: 5 person) 3. NGO staff (Sector expert: 1-4 persons per Sub PMU) 4. NGO staff (Community Motivator: 1 person per WUA) 5. WUA managing committee members (3 persons per WUA) 	<p>Develop and print the training materials.</p> <p>The training materials covers the following topics</p> <ol style="list-style-type: none"> 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities including environmental aspects) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management 5. environmental issues and activities under water management 6. gender analysis and gender action plan 7. handing over procedure 	<ol style="list-style-type: none"> 1. consultant 2. printing cost 	<p>consultant</p> <p>PMU</p>			<p>- Part for "handing over procedure" can be prepare later</p> <p>-the materials should be gender-responsive, for example, using pictures/drawing shown both male and female farmers, reflecting both male's and female's needs/thought</p>
<p>1.1.2. Leaflet on the Project Concept and Activities for Water Users</p> <p><u>Objectives:</u> to develop leaflet to disseminate information on the Project and WUA</p>	<p><u>In charge:</u> consultant <u>Cooperated by:</u> PMU(WRD) <u>Logistics:</u> consultant <u>Venue:</u> Jaipur <u>Frequency:</u> at the beginning of the Project</p>	<ol style="list-style-type: none"> 1. water users (50 copies per WUA) 2. sub-PMU level (50 copies per sub-PMU) 	<p>Develop and print the leaflet. The Leaflet needs to cover the following information.</p> <ol style="list-style-type: none"> 1. objectives of the Project 2. duration and schedule of the Project 3. roles and responsibility of WUA 4. model schedule of WUA formation and activities with gender and environmental aspects 	<ol style="list-style-type: none"> 1. consultant 2. printing cost 	<p>consultant</p> <p>PMU</p>			<p>Hindi language will be preferable.</p>

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.2. Trainings in Different Level								
1.2.1. TOT on Water Management and WUA Support for TSG-SP Members and NGO Staff <u>Objectives:</u> To understand water management and WUA support with gender aspects and how to conduct field activities To understand how to teach the topics to WUA/MC members	<u>In charge:</u> consultant <u>Cooperated by:</u> IMTI, PMU(WCD) <u>Logistics:</u> PMU <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage	1. TSG-SP staff (7 person per SP) 2. NGO staff (Team leader: 5 person) 3. NGO staff (Sector expert: 1-4 person per sub-PMU)	Classroom lecture and group work 1. adult learning theory and principles 2. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities including environmental aspects) 3. operation and maintenance of irrigation scheme (including how to make annual plan) 4. water charge policy 5. administrative and financial management 6. environmental issues and activities under water management 7. gender analysis and gender action plan 8. handing over procedure 9. topics for WUA/MC and TC meeting cum training	1. facilitator (consultant) 2. training materials 3. facilitator (private and/or governmental organization) 4. allowance/transportation of consultant and facilitator from outside 5. facilitator (IMTI) 6. venue 7. lodging and food 8. classroom 9. stationery 10. allowance/transportation of TSG-SP staff 11. allowance/transportation of NGO staff	consultant PMU NGO			- Training will be done for maximum 40 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise - Consultants need to prepare 35-40 topics for WUA/MC and TC meeting cum training: water management 10, agriculture/marketing 10, gender 10, environment 5-10) so that TSG-SP/NGO can choose suitable topics for that area and the season
1.2.2. Training on Water Management and WUA Support for NGO staff (Community Motivator) <u>Objectives:</u> To understand water management and WUA support with gender aspects and how to conduct field activities	<u>In charge:</u> consultant <u>Cooperated by:</u> IMTI, PMU(WCD) <u>Logistics:</u> PMU <u>Venue:</u> KVK in each sub-PMU <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage	1. NGO staff (Community Motivator: 1 person per WUA)	Classroom lecture and group work 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct field activities	1. facilitator (consultant) 2. training materials 3. allowance/transportation of consultant 4. facilitator (IMTI) 5. venue 6. lodging and food 7. classroom 8. stationery 9. training materials developed by the project 10. allowance/transportation of NGO staff	consultant PMU NGO			- Training will be done for around 40 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.3. Project Management Activities								
1.3.1. Planning Workshop in Sub-project Level <u>Objectives:</u> To develop work plan for stage and for annual as TSG-SP team	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage	1. TSG-SP (7 staff per Sub-project), 2. NGO staff (Community Motivator, 1 person per WUA=1-10 person per Sub-project)	1. Compile activities under Sub-project and WUA level for the on-going stage. 2. Develop annual work plan based on the stage-wise plan. Breakdown each activities in preparation, implementation and monitoring and confirm timing, responsible person, necessary action.	1. facilitator (NGO Team leader or Sector expert) 2. Community Motivator 3. allowance/transportation of NGO staff 4. TSG-SP members 5. stationery 6. venue 7. allowance/transportation of TSG-SP staff	NGO PMU			Each TSG-SP team has stage-wise and annual work plan for smooth coordination and operation. Sub-PMU and NGO team leader/sector expert provide necessary support and monitor the progress based on the plan. Annual plan for the second year is developed in TSG-SP monthly meeting.
1.3.2. Monthly Meeting in Sub-PMU <u>Objectives:</u> To plan and review activities monthly To develop annual work plan at the beginning of the year To invite person concerned to on-going activities and share the information (ex. Revenue department for water charge collection, KVK for coming training, NABARD for loan scheme, etc.)	<u>In charge:</u> WRD (Sub-PMU) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-PMU <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. Sub-PMU member (7-10 person per Sub-PMU) 2. NGO staff: (1 Team leader and 2-5 Sector expert per Sub-PMU)	1. Review of progress in the previous month 2. Discuss issues reported from the field and any other agendas 3. Plan for this month: especially field visit needs to be planned efficiently (each Sub-PMU member visits all the Sub-project quarterly basis, Executive Engineer visits Sub-projects monthly)	1. Sub-PMU members 2. venue 3. allowance/transportation of Sub-PMU member 4. NGO Team leader and Sector expert 5. allowance/transportation of NGO staff	PMU NGO			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>1.3.3. Monthly Meeting in TSG-SP</p> <p><u>Objectives:</u> To plan and review activities monthly To develop annual work plan at the beginning of the year To invite person concerned to on-going activities and share the information (ex. Patwari (tax collector) for water charge collection, agro-vet shop owner for seasonal inputs, etc.)</p>	<p><u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly</p>	<p>1. TSG-SP (7staff per Sub-project), 2. NGO staff (Community Motivator, 1 person per WUA=1-10 person per Sub-project) 3. NGO Team leader or Sector expert (1 person), advisable</p>	<p>1. Review of progress in the previous month 2. Discuss issues reported from the field and any other agendas 3. Plan for this month: especially field visit needs to be planned efficiently (each TSG-SP member visit at least one of the WUA: all the WUA are visited by one of the TSG-SP member monthly)</p>	<p>1. TSG-SP members 2. venue 3. allowance/transportation of TSG-SP member 4. NGO Community Motivator 5. NGO Team leader or Sector expert 6. allowance/transportation of NGO staff</p>	<p>PMU NGO</p>			
<p>1.3.4. Monitoring/mentoring of implementation of the Activity in WUA level</p> <p><u>Objectives:</u> To monitor the progress To provide practical advice to improve implementation of the activities as well as attitude of staff and water users</p>	<p><u>In charge:</u> PMU <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project and WUA <u>Duration:</u> various <u>Frequency:</u> PMU and consultant: half yearly (at least cover all Sub-PMU) IMTI: annually (at least cover all Sub-PMU) Sub-PMU: quarterly (Ex. En: monthly) TSG-SP: monthly NGO management: quarterly NGO team leader and sector expert: monthly NGO com. Motivator: daily</p>	<p>1. Sub-PMU 2. TSG-SP 3. NGO 4. WUA 5. Women Wing 6. SHG</p>	<p>1. Upper unit of the Project organization visits lower unit and its field 2. Monitor the progress as well as implementation process 3. Provide practical advice to improve implementation of the activities and improve attitude of staff and water users</p>	<p>1. PMU members 2. IMTI lecturers 3. Sub-PMU members 4. TSG-SP members 5. allowance/transportation of PMU, IMTI, Sub-PMU and TSG-SP member 6. NGO management 7. NGO Team leader 8. NGO Sector expert 9. Community Motivator 10. allowance/transportation of NGO staff</p>	<p>PMU NGO</p>			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2. Capacity building of WUA management								
2.1. Formation of WUA								
2.1.1. Water users meeting to form Pre-WUA (1st stage only) <u>Objectives:</u> To explain necessity of forming Pre-WUA to water users and to form Pre-WUA	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> beginning of 1st stage	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. explain the Project activities and necessity of forming Pre-WUA to water users 2. explain roles and responsibilities of Pre-WUA 3. give detail information on coming activities including official WUA formation schedule 4. form Pre-WUA with by mutual consensus	1. Sub-PMU members 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			
2.1.2. Orientation for villagers in SP area <u>Objectives:</u> To provide information on the Project and sub-project to villagers (both land owners and other farmers)	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. Governmental organization staff (gram panchayat staff, Patwari (tax collector), block office staff, etc.) 2. Villagers (land owners, farmers, etc. both male and female) at least 5-10 people from each WUA area	1. explain objectives and activities of the Project 2. provide information on the Sub-project 3. explain roles and responsibility of WUA and its formation process 4. fix the date for general meeting with water users in WUA area	1. Sub-PMU members 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			- in 2 nd and 3 rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule - invite villagers and governmental organization staff concerned as much as possible - Number of female participants should be more than 30% of male'

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>2.1.3. General meeting of users (husband and wife) in WUA wise</p> <p><u>Objectives:</u> To provide detail information on WUA formation and fix the schedule for election</p>	<p><u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage</p>	<p>1. water users (both husband and wife) at least 20 person from each territorial constituency</p>	<p>1. provide detail information on the sub project (activities and time schedule, organizational structure, etc.) 2. explain roles and responsibilities of WUA, process of WUA formation and Women Wing 3. fix the schedule for territorial constituency meeting and for election</p>	<p>1. Sub-PMU member (WRD Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member</p>	PMU			<p>- in 2nd and 3rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule - invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's</p>
<p>2.1.4. Orientation for Territorial Constituencies</p> <p><u>Objectives:</u> To provide enough information to run for or to elect WUA managing committee member from each territorial constituency</p>	<p><u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage</p>	<p>1. water users (both husband and wife) at least 50 person of the territorial constituency</p>	<p>1. explain PIM act and rules briefly 2. explain roles and responsibilities of WUA, process of WUA formation and Women Wing (activities and time schedule, implementation structure, etc.) 3. provide detail information on necessary procedure on WUA managing committee member election</p>	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP member</p>	PMU			<p>- in 2nd and 3rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule - invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's</p>
<p>2.1.5. Election of President and Managing Committee (MC) of WUA</p> <p><u>Objectives:</u> To elect president and Managing Committee (MC) of WUA</p>	<p><u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage</p>	<p>1. water users (land owner)</p>	<p>1. Prepare for election according to PIM Act and Rules: preparation of voter list and its display, appointment of election officer, assistant election officer, notice of election, nomination paper, ballot paper, ballot box, etc. 2. election, counting and declaration of results immediately after poll</p>	<p>1. Sub-PMU member (WRD Superintendent or Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member</p>	PMU			
				<p>6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff</p>	NGO			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.2. Capacity building activities								
<p>2.2.1. Training on water management for President and MC members</p> <p><u>Objectives:</u> To train WUA president and managing committee(MC) members on water management and WUA management for sustainable use of irrigation scheme</p>	<p><u>In charge:</u> NGO Team leader <u>Cooperated by:</u> Sub-PMU, KVK <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 days <u>Frequency:</u> beginning of each stage</p>	<p>1. WUA president (1 person per WUA) 2. WUA/MC member (2 person per WUA) 3. Women Wing (WW) members (3 person per WUA)</p>	<p>Classroom lecture, group work and field visit</p> <p>1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management (briefly) 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct WUA activities</p>	<p>1. facilitator: Sub-PMU members 2. facilitator: KVK 3. training materials developed by the project 4. allowance/transportation of Sub-PMU member and KVK 5. venue 6. lodging and food 7. classroom 8. stationery 9. travel cost for participants (WUA/MC members, WW members)</p>	PMU			<p>- Training will be done for around 40 participants in each time - including exposure visit - Include agriculture, environment and gender session - Part for "handing over procedure" can be trained later in sub-PMU wise - administrative management is guided through OJT - financial management training is conducted WUA wise practically and guided through OJT</p>
				<p>10. facilitator and manager: NGO Team leader 11. facilitator and assistant: NGO Sector expert 12. allowance/transportation of NGO staff</p>	NGO			
<p>2.2.2. Orientation on organization management for WUA members</p> <p><u>Objectives:</u> To introduce elected WUA members officially to water users To share and discuss WUA's annual plan</p>	<p><u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> once after the training for WUA/MC members</p>	<p>1. water users (both husband and wife) at least 20 person from each territorial constituency</p>	<p>1. introduce elected WUA members officially to water users 2. WUA/MC and WW share annual plan (including gender action plan) 3. explain roles and responsibility of sub-committees and form sub-committees</p>	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. venue 4. stationery</p>	PMU		<p>- invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's - before conducting the orientation, MC meeting is conducted and develop annual plan with target/indicator including gender disaggregated target</p>	
				<p>5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 8. allowance/transportation of NGO staff</p>	NGO			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>2.2.3. Training on record keeping for WUA/MC members</p> <p><u>Objectives:</u> To train WUA/MC members on record keeping practically</p>	<p><u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> once after the orientation</p>	<p>1. WUA president 2. WUA/MC members (4-6 person per WUA) 3. WW members (3 person per WUA)</p>	<p>Lecture and practices</p> <ol style="list-style-type: none"> 1. introduction of financial management of WUA 2. basic principles of accounting 3. how and where to keep record 4. annual budget, financial statement and annual account 5. reporting and auditing 	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. venue 4. stationery</p>	PMU			<p>- using actual data and account ledgers - follow-up/mentoring at least quarterly basis at WUA/MC monthly meeting or WUA visit</p>
				<p>5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 8. allowance/transportation of NGO staff</p>	NGO			
<p>2.2.4. Support to conduct MC monthly meeting cum training</p> <p><u>Objectives:</u> To review and plan activities monthly To provide seasonal training/session on water management, agriculture/marketing, gender and environment</p>	<p><u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly</p>	<p>1. WUA/MC members (5-7 person per WUA) 2. WW members (3 person per WUA)</p>	<ol style="list-style-type: none"> 1. review previous month's activities 2. discuss issues and agendas 3. plan activities for the month in detail 4. provide training/session on seasonal/suitable topics 	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. stationery</p>	PMU			<p>- Consultants prepare seasonal topics on water management, agriculture/marketing, environment and gender. TSG-SP and NGO choose one or two topics per meeting based on WUA's needs and suitability. At least two topics from every sector should be chosen per year. - "handing over procedure" should be explained in detail at the time of completion of the construction works</p>
				<p>4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff</p>	NGO			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>2.2.5. Conduct Territorial Constituency monthly meeting cum training</p> <p><u>Objectives:</u> To review and plan activities monthly To provide seasonal training/session on water management, agriculture/marketing, gender and environment</p>	<p><u>In charge:</u> NGO (Com. Motivator) <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly</p>	<p>1. water users in TC (at least 15 person per TC) 2. WW members (5 person per TC)</p>	<p>1. review previous month's activities 2. discuss issues and agendas 3. plan activities for the month in detail 4. provide training/session on seasonal/suitable topics</p>	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. stationery</p> <p>4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff</p>	<p>PMU</p> <p>NGO</p>			<p>- Consultants prepare seasonal topics on water management, agriculture/marketing, environment and gender. TSG-SP and NGO choose one or two topics per meeting based on WUA's needs and suitability. At least two topics from every sector should be chosen per year.</p>
<p>2.2.6. Annual WUA/MCs' review meeting</p> <p><u>Objectives:</u> To share experiences on WUA and SP management</p>	<p><u>In charge:</u> Sub-PMU (WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 2 days <u>Frequency:</u> annually (end of the year)</p>	<p>1. WUA/MC members (3 person per WUA) 2. WW members (3 person per WUA)</p>	<p>1. share experiences on WUA and SP management 2. award best perform WUA 3. provide update information on the Project 4. provide update information on water management, agriculture, gender and environment 5. visit field of good practices</p>	<p>1. Consultant 2. IMTI 3. Sub-PMU members 4. TSG-SP members 5. allowance/transportation of consultants, IMTI, Sub-PMU and TSG-SP member 6. venue 7. lodging and food 8. classroom 9. stationery 10. travel cost for participants (WUA/MC members, WW members)</p> <p>10. NGO Team leader 11 NGO Sector expert 12 NGO Com. Motivator 13. allowance/transportation of NGO staff</p>	<p>PMU</p> <p>NGO</p>			<p>WW members participate in 1st day session only.</p>

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>2.2.7. Stage-wise WUA review meeting</p> <p><u>Objectives:</u> To share experiences on WUA and SP management inter-Sub-PMU</p>	<p><u>In charge:</u> Consultant <u>Cooperated by:</u> PMU, Sub-PMU <u>Logistics:</u> Consultant <u>Venue:</u> IMTI <u>Duration:</u> 2 days <u>Frequency:</u> once at the end of each stage</p>	<p>2 WUA/MC and 2 WW per Sub-PMU 1. WUA/MC members (3 person per WUA) 2. WW members (3 person per WUA)</p>	<p>1. share experiences on WUA, WW and SP management 2. award best perform WUA and WW 3. visit field of good practices</p>	<p>1. Consultant 2. IMTI 3. Sub-PMU members 4. TSG-SP members (in selected WUA, WW) 5. allowance/transportation of consultants, IMTI, Sub-PMU and TSG-SP member 6. venue 7. lodging and food 8. classroom 9. stationery 10. travel cost for participants (WUA/MC members, WW members)</p>	<p>Consultant</p>			
				<p>10. NGO Team leader 11. NGO Sector expert (related) 12. NGO Com. Motivator (related) 13. allowance/transportation of NGO staff</p>	<p>NGO</p>			
<p>2.2.8. Follow-up training on water management and organizational management</p> <p><u>Objectives:</u> To</p>	<p><u>In charge:</u> NGO (Team leader) <u>Cooperated by:</u> Consultant, IMTI <u>Logistics:</u> Consultant <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage</p>	<p>1. WUA president (1 person per WUA) 2. WUA/MC member (2 person per WUA) 3. Women Wing (WW) members (3 person per WUA)</p>	<p>Classroom lecture, group work and field visit Briefly review on: 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. administrative and financial management (briefly) 3. gender analysis and gender action plan</p>	<p>1. facilitator: consultant 2. facilitator: IMTI 3. training materials developed by the project 4. allowance/transportation of Sub-PMU member and KVK 5. venue 6. lodging and food 7. classroom 8. stationery 9. travel cost for participants (WUA/MC members, WW members)</p>	<p>Consultant</p>			<p>- more focus on water management, operation and maintenance -</p>

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
			Detail and practical session on: 4. operation and maintenance of irrigation scheme (including how to make annual plan) 5. water charge policy 6. how to conduct WUA activities sustainably	10. facilitator: NGO Team leader 11. allowance/transportation of NGO staff	NGO			
2.3. WUA management								
2.3.1. Support MC members to participate in Walk-through survey <u>Objectives:</u> To conduct walk-through survey with presence of WUA/MC	<u>In charge:</u> TSG-SP(WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project, WUA <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage	1. WUA/MC members (5-7 persons per WUA) 2. WW members (3 person per WUA) 3. other interested water users	1. confirm and check the construction work and situation 2. take necessary measure to start construction work smoothly	1. TSG-SP member (WRD) 2. allowance/transportation of TSG-SP member 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6.. allowance/transportation of NGO staff	PMU NGO			- check carefully use of the land along the irrigation canal for tree plantation
2.3.2. Support MC members to participate in weekly progress meeting in monthly basis <u>Objectives:</u> To share information on progress with WUA/MC and WW	<u>In charge:</u> TSG-SP(WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project, WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly during construction period	1. WUA/MC members (5-7 persons per WUA) 2. WW members (3 person per WUA)	1. explain progress of construction works 2. discuss issues related to construction works 3. take necessary measure to implement construction work smoothly	1. TSG-SP member (WRD) 2. Sub-PMU (WRD, Ex. En.) 3. allowance/transportation of TSG-SP member and Sub-PMU (WRD, Ex. En.) 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6.. allowance/transportation of NGO staff	PMU NGO			- There are weekly meeting and monthly meeting with contractor, but weekly meeting is more casual and suitable for WUA and WW members to participate. But no need to participate weekly, participating one of weekly meeting per month is enough.

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.3.3. Support to conduct General Meeting of WUA <u>Objectives:</u> To conduct general meeting of WUA twice in a year effectively	<u>In charge:</u> TSG-SP (WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> half yearly, before Rabi and Kharif season (April and October)	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. report progress of WUA and WW activities with progress of gender action plan 2. report financial management of WUA and WW 3. explain water management plan for coming season and discuss issues and demands of water users 4. inform timing and means of water charge collection	1. TSG-SP members 2 Sub-PMU (WRD, Ex. En.) 3. allowance/transportation of TSG-SP members and Sub-PMU (WRD)	PMU			
				4. NGO Team leader or sector expert 5. NGO Com. Motivator 6.. allowance/transportation of NGO staff	NGO			
3. Improvement of agricultural linkage								
3.1. Strengthen linkage between farmers and agricultural organization								
3.1.1. Monthly coordination meeting on agricultural activities <u>Objectives:</u> To develop linkage with agricultural organization	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU <u>Venue:</u> Agriculture Services Centre <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. Agriculture Services centre 2. related organization (agro-vet shop, banks providing agricultural loan, etc.)	1. meet monthly basis and get seasonal information to be able to share in WUA/MC and TC monthly meeting 2. discuss potential of demonstration activities	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	NGO			
3.1.2. Invite Agriculture supervisor (DoA) to MC/TC monthly meeting <u>Objectives:</u> To develop linkage between Agriculture supervisors and WUA/TC	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU <u>Venue:</u> WUA, TC <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. Agriculture supervisor 2. WUA/MC members 3. water users in TC	1. provide seasonal advices and information on available support	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	NGO			

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.1.3. Coordinate with existing Farmers Organization <u>Objectives:</u> To link interested water users to Farmers Organization	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> Sub-PMU (DoA/DoH, Marketing Board) <u>Logistics:</u> PMU <u>Venue:</u> Sub-PMU <u>Duration:</u> <u>Frequency:</u> throughout the Project	1. existing Farmers Organization 2. interested water users	1. collect information on existing Farmers Organization 2. provide collected information through WUA/MC, TC meeting 3. introduce interested water users to Farmers organization	1. Sub-PMU member (DoA/DoH, Marketing board) 2. allowance/transportation of Sub-PMU members (DoA/DoH, marketing board) 3. NGO sector expert 4.. allowance/transportation of NGO staff	PMU NGO			
3.2. Conduct agricultural demonstration								
3.2.1. Establish demonstration plot to promote seasonal technology <u>Objectives:</u> To demonstrate seasonal technology to water users	<u>In charge:</u> TSG-SP (DoA/DoH) <u>Cooperated by:</u> NGO (sector expert and Com. motivator) <u>Logistics:</u> PMU <u>Venue:</u> Sub-project area <u>Duration:</u> 1/2 days <u>Frequency:</u> half-yearly (Rabi and Kharif)	1. interested water user 1 person per Sub-project	1. prepare land 2. establish demonstration plot as instruction and inputs of DoA/DoH	1. NGO sector expert and community motivator 2.. allowance/transportation of NGO staff	NGO	using DoA/DoH's demonstration program/scheme 1. agricultural inputs 2. allowance/transportation of DoA/DoH staff	DoA/DoH	
3.2.2. Conduct Farmers Field Day in the demonstration plot <u>Objectives:</u> To provide detail information of demonstrated technology and share experience of the farmer	<u>In charge:</u> TSG-SP (DoA/DoH) <u>Cooperated by:</u> NGO (sector expert and Com. motivator) <u>Logistics:</u> PMU <u>Venue:</u> Sub-project area <u>Duration:</u> 1/2 days <u>Frequency:</u> half-yearly (Rabi and Kharif)	1. 30 water users	1. invite water users in the neighbourhood 2. explain the technologies by DoA/DoH staff 3. share experience of the demonstrate farmer 4. provide information on loan scheme for necessary demonstrated technology and agricultural inputs (if possible)	1. NGO sector expert and community motivator 2.. allowance/transportation of NGO staff 3. stationery 4. food and tea	NGO	using DoA/DoH's demonstration program/scheme 1. agricultural inputs 2. allowance/transportation of DoA/DoH staff	DoA/DoH	- invite bank manager of nearest bank for giving information on loan facility related to demonstration

Attachment 5.3.1 Summary of Project Activity for WUA Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
4. Corpus fund								
4.1. Providing corpus fund to WUAs <u>Objectives:</u> To provide Corpus fund to WUAs	<u>In charge:</u> PMU(WRD) <u>Cooperated by:</u> <u>Logistics:</u> PMU <u>Venue:</u> - <u>Duration:</u> - <u>Frequency:</u> at the completion of the construction works	WUAs	1. provide corpus fund					
4.2. Monitoring corpus fund management <u>Objectives:</u> To monitor management of corpus fund in WUAs	<u>In charge:</u> Sub-PMU (WRD, Ex. En.) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> monthly, after one year of deposit of corpus fund	WUAs	1. monitor management of corpus fund in WUAs	1. Sub-PMU member (WRD, Ex. En) 2 TSG-SP member (WRD, WRD) 3. allowance/transportation of Sub-PMU member (WRD) and TSG-SP (WRD)	PMU			
				3. NGO team leader and community motivator 4.. allowance/transportation of NGO staff	NGO			

Source: JICA Survey Team

Attachment 5.3.2
Selection Criteria on Awarding WUA

Attachment 5.3.2 Selection Criteria on Awarding WUA

To award WUA in the annual review meeting and the stage-wise review meeting, at least the following points are needed to be considered.

- i President and MC members of the WUA are elected democratically
- ii There are more than 33% of female members in WUA/MC.
- iii Woman Wing is formed and supported by WUA MC members
- iv MC members conduct meeting regularly
- v WUA general meeting is conducted at least twice in a year (Before Rabi and Kharif)
- vi Women participation in WUA/MC meeting as well as WUA general meeting is more than 30%.
- vii Water plan and financial report are announced in the general meeting
- viii MC members provide necessary information to WUA General Body members in time
- ix Ratio of water charge collection is high
- x Water charge is collected constantly
- xi WUA fund is managed properly
- xii Record of related meeting is kept properly

Attachment 5.4.1
Summary of Project Activity for
Agriculture Sector

Attachment 5.4.1 Summary of Project Activity for Agriculture Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
Agriculture Training								
1. Training of Trainers for Agriculture								
1.1. Workshop for implementation schedule (planning, monitoring and evaluation) and technical issues <u>Objectives:</u> To let them understand the project activities and solve the problems related to the project	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU, consultant, DoA/DoH, NGOs, Research officers and agronomists from 17 districts <u>Logistics:</u> Consultant <u>Venue:</u> SIAM <u>Frequency:</u> Once a year for 5 years/ State level	<u>Target Group</u> 1. Deputy director of Agriculture(1) and Horticulture(1) 2. PMU and 5 Sub-PMU (6) 3. Consultant (3), 4. NGO-Sub-PMU (5) 5. Research officers(17) from 17 districts 6. Agronomists (17) from 17 districts (50 persons/time)	-2 days workshop x 5 times <u>1 day:</u> • Role and responsibility in RWSLIP • Planning of implementation schedule • Monitoring of implementation schedule • Result analysis and planning for next year <u>2 day:</u> • Thematic issues related to agriculture techniques	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5. Resource person (SIAM) 6. Digital refractometer	Consultant DoA	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	• State level workshop for planning, monitoring and evaluation (result analysis) of the project • Technical issues are discussed to solve the problems related agriculture • Refractometer is used for measurement of the sugar contents of vegetables and fruit in order to add value.
1.2. Workshop for implementation schedule (planning, monitoring and evaluation) and technical issues. <u>Objectives:</u> To let them understand the project activities and solve the problems related to the project	<u>In charge:</u> Consultant <u>Cooperated by:</u> Sub-PMU, Consultant, DoA/DoH, NGOs <u>Logistics:</u> Consultant <u>Venue:</u> SIAM <u>Frequency:</u> Once a year for 5 years / Sub-PMU level (5 sub-PMUs)	<u>Target Group</u> 1. Consultant(1) 2. PMU (1) and Sub-PMU (1) 3. NGO Sub-PMU (1), 4. Agriculture supervisor (20) 5. Horticulture field level officers (20) 6. NGO Agriculture expert (4) (50 persons/time)	- 2 days workshop x 5 x 5 • Role and responsibility in RWSLIP • Planning of implementation schedule • Monitoring of implementation schedule • Reporting of result of activities to PMU • Planning for next year	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5. Resource person(SIAM) 6. Handheld refractometer	Consultant DoA	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	• Sub-PMU level workshop for planning, monitoring and evaluation (result analysis) of the project. • Technical issues are discussed to solve the problems related agriculture • Refractometer is used for measurement of the sugar contents of vegetables and fruit in order to add value
1.3. Training of trainers for general agriculture techniques <u>Objectives:</u> To provide training for intimation of cultivation techniques of cereals, pulses, oilseeds, spices and medicinal plants	<u>In charge:</u> DoA/DoH, NGOs <u>Cooperated by:</u> PMU <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> Once a year / Sub-project level in stage-wise	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	- 2 days training Varieties and their features Cropping pattern Optimum use of water On-time application of fertilizer	1. Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	• Sub-PMU level training of trainers • This training is general one and covers water-wise crops to save water

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
To understand how to teach techniques to farmers			Plant protection Harvest and post-harvest Cost and profit					
1.4. Training of trainers for specific cultivation techniques on cereals, pulses and oilseeds <u>Objectives:</u> To provide opportunity to intimate the cultivation techniques To provide how to teach techniques to farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH officers, NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> 1 time/ sub- PMU	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training • Varieties and their features • Optimum use of water with sprinkler • On-time application of fertilizer • Plant protection • Harvest and post-harvest • Cost and profit	1. Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	
1.5. Training of trainers for specific cultivation techniques on spices and medicinal plants <u>Objectives:</u> To provide them the cultivation techniques To provide them how to teach techniques to farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH officers, NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> 1 time/ Sub- PMU	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30persons/time)	2 days training • Varieties and their features • Optimum use of fertilizer • Insect/diseases management • Harvest and post-harvest • Cost and profit	1.facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	
1.6. Training of trainers for specific cultivation techniques on kinnow and santra orange <u>Objectives:</u> To provide them the cultivation techniques To provide how to teach techniques to farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH officers, NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> 1 time/ sub- PMU	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 ersons/time)	2 days training • Optimumu use of water with drip irrigation • On-time application of fertilizer • Insect/diseases management • Harvest and post harvest • Cost and profit	1.Facilitator (PMU&PMU NGO) 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch for fruits and vegetables 5.Resource person(KVK)	Consultant PMU	1. Allowancce/ transportation DoH/DoH staff	DoA/DoH	

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.7. Training of trainers for exotic vegetables <u>Objectives:</u> To provide them the cultivation techniques To provide how to teach techniques to farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH officers, NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> 1 time/ sub- PMU	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training • Varieties and their features • Optimum use of water with drip irrigation • On-time application of fertilizer • Insects/diseases management • Harvest and post-harvest • Cost and profit	1. Facilitator 2. Venue 3. Tea&lunch 4. Training materials 5. Mulch for fruits and vegetable 6. Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	
1.8. Training of trainers for quality improvement <u>Objectives:</u> To provide the cultivation techniques for improvement of quality To provide how to teach quality improvement techniques to farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH officers, NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> KVK <u>Frequency:</u> 1 time/ sub- PMU	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training • What is marketing? • How to improve marketability • Harvest and post-harvest management • Value addition (seed selection to harvesting) • Measurement of TSS by refractometer	1. Facilitator 2. Venue 3. Tea&lunch 4. Training materials 5. Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	
2. Exposure Visit for Agriculture Trainers								
2.1. Exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation <u>Objectives:</u> To provide opportunity to intimate advanced techniques To provide them improved training skills for farmers	<u>In charge:</u> DoA/DoH, NGO <u>Cooperated by:</u> DoA/DoH and NGOs <u>Logistics:</u> NGO-Sub-PMU <u>Venue:</u> Punjab agriculture university <u>Frequency:</u> 1 time/ sub-PMU/project period	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts	4 days exposure visit • Visit to experimental farm of fruits and vegetables with drip irrigation and mulch • Lecture on advanced cultivation techniques on fruits and exotic vegetables	1. Facilitator 2. Travelling cost & stay 3. Allowance 4. Venue 5. Tea&lunch 4. Training materials 6. Resource person (Punjab agriculture university)	Consultant PMU			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3. Improvement of Agriculture Support System								
3.1. Task team for farmer's friendly manuals (compilation of 10 visual manuals for farmers) <u>Objectives:</u> To let them understand how to improve training materials for farmers using visual aide	<u>In charge:</u> DoA/DoH, NGOs <u>Cooperated by:</u> DoA/DoH and NGO-Sub-PMU <u>Logistics:</u> DoA and DoH <u>Venue:</u> PMU <u>Frequency:</u> 10 times workshops/ one year advance before starting stage I	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts	5 months workshop • Organizing task team • Preparation of illustrations and narratives • Compilation of draft manuals • Testing the draft manuals in the field • Finalize the manuals • Printing and laminating the manuals • Training of extension staff how to use them • Distribution of manuals to each sub-projects	1. Facilitator 2. Venue 3. Tea & lunch 4. Printing cost 5. Laminating machine 6. Laminating sheet 7. Illustrator	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	
3.2. Strengthening of information centre <u>Objectives:</u> To provide opportunity to improve information diffusion system on agriculture related matters (Ex. Seed availability, diseases and insects control, subsidies and etc.) by using mobile phone	<u>In charge:</u> DoA/DoH, PMU, PMC, NGO-PMU <u>Cooperated by:</u> DoA/DoH and NGO Sub-PMU <u>Logistics:</u> DoA and DoH <u>Venue:</u> DoA call centre <u>Frequency:</u> once a month/ 5 years	<u>Target Group</u> 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts	5 years program • Selection of necessary information to be diffused • Instalment of computers and software • Training of operator • Input of list of farmers • Trial operation of SMS • Implementation of SMS	1. Facilitator 2. Computers 3. Software for SMS 4. Trainer (SMS simultaneous transmission system) 5. Mechanical staff 6. SMS service cost	Consultant PMU	1. Allowance/ transportation 2. Venue	DoA/DoH DoA	
4. Agriculture Farmer's Training								
4.1. Training of farmers for general agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants <u>Objectives:</u> To provide improved cultivation techniques for water-wise crops	<u>In charge:</u> DoA/DoH, NGO agriculture expert <u>Cooperated by:</u> DoA/DoH, NGO agri-expert <u>Logistics:</u> NGO agri-expert and community motivators <u>Venue:</u> each WUA site <u>Frequency:</u> 2 times/year/WUA	<u>Target Group</u> 1. Farmers in non-focal area	One day training • Varieties and their features • Cropping pattern • Optimum use of water • On-time application of fertilizer • Plant protection • Harvest and post harvest • Cost and profit	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5. Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2. Resource persons	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>4.2. Training of farmers in focal area for specific agriculture techniques on cereals, pulses and oilseeds</p> <p><u>Objectives:</u> To provide specific cultivation techniques for water-wise crops with sprinkler</p>	<p><u>In charge:</u> DoA/DoH, NGO agri- expert</p> <p><u>Cooperated by:</u> DoA/DoH, NGO agri-expert</p> <p><u>Logistics:</u> NGO agri-expert</p> <p><u>Venue:</u> each WUA site in focal area</p> <p><u>Frequency:</u> 2 times/year/WUA</p>	<p><u>Target Group</u></p> <p>1. Farmers in focal area</p>	<p>One day training</p> <p>Varieties and their feature</p> <p>Optimum use of water with sprinkler</p> <p>On-time application of fertilizer</p> <p>Plant protection</p> <p>Harvest and post-harvest</p> <p>Cost and profit of cultivation</p>	<p>1.Facilitator</p> <p>2.Venue</p> <p>3.Tea&lunch</p> <p>4.Training materials</p> <p>5.Resource persons (NGO)</p>	<p>NGO agri-expert</p> <p>PMU</p>	<p>1. Allowance/transportation</p> <p>2.Resource person</p>	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
<p>4.3. Training of farmers in focal area for specific agriculture techniques on spices and medicinal plants</p> <p><u>Objectives:</u> To provide specific cultivation techniques for water-wise crops in rain-fed condition</p>	<p><u>In charge:</u> DoA/DoH, NGO agri- expert</p> <p><u>Cooperated by:</u> DoA/DoH, NGO agri- expert</p> <p><u>Logistics:</u> NGO agri-expert</p> <p><u>Venue:</u> each WUA site in focal area</p> <p><u>Frequency:</u> 2 times/year/WUA</p>	<p><u>Target Group</u></p> <p>1. Farmers in focal area</p>	<p>One day training</p> <p>Varieties and their feature</p> <p>Optimum use of water</p> <p>On-time application of fertilizer</p> <p>Insects/disease management</p> <p>Harvest and post-harvest</p> <p>Cost and profit</p>	<p>1.Facilitator</p> <p>2.Venue</p> <p>3.Tea&lunch</p> <p>4.Training materials</p> <p>5.Resource persons (NGO)</p>	<p>NGO agri-expert</p> <p>PMU</p>	<p>1. Allowance/transportation</p> <p>2.Resource person</p>	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
<p>4.4. Training of farmers in focal area for specific agriculture techniques on kinnow and santra orange</p> <p><u>Objectives:</u> To provide specific improved cultivation techniques for water saving with drip irrigation and mulch</p>	<p><u>In charge:</u> DoA/DoH, NGO agri- expert</p> <p><u>Cooperated by:</u> DoA/DoH, NGO agri- expert</p> <p><u>Logistics:</u> NGO agri-expert</p> <p><u>Venue:</u> each WUA site in focal area</p> <p><u>Frequency:</u> Once/year/WUA</p>	<p><u>Target Group</u></p> <p>1. Farmers in focal area</p>	<p>2 days training</p> <p>Optimum use of water with drip irrigation and mulch</p> <p>On-time application of fertilizer</p> <p>Insects/diseases management</p> <p>Pruning and training</p> <p>Harvest and post-harvest</p> <p>Cost and profit</p>	<p>1.Facilitator</p> <p>2.Venue</p> <p>3.Tea&lunch</p> <p>4.Training materials</p> <p>5. Mulch sheet</p> <p>6.Resource persons (NGO)</p>	<p>NGO agri-expert</p> <p>PMU</p>	<p>1. Allowance/transportation</p> <p>2.Resource person</p>	DoA/DoH	Once a year, one month before flowering season

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
4.5. Training of farmers in focal area for specific agriculture techniques on exotic vegetables <u>Objectives:</u> To provide specific improved cultivation techniques for water saving with drip irrigation and mulch	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> each WUA site in focal area <u>Frequency:</u> Once/year/WUA	<u>Target Group</u> 1. Farmers in focal area	2 days training Optimum use of water with drip irrigation and mulch On-time application of fertilizer Insects/diseases management Training and pruning Harvest and post-harvest Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch sheet 6.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Once a year, 2 months before rabi season
4.6. Training of farmers in focal area for quality improvement <u>Objectives:</u> To provide specific improved cultivation techniques for quality up-grading	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> each WUA site in focal area <u>Frequency:</u> Once/year/WUA	<u>Target Group</u> 1. Farmers in focal area	One day training Selection of seed/variety Quality improvement and water stress On and off nutrition Use of effective materials Improvement of harvest and post-harvest	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO) 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Once a year, 1 month before rabi harvest season
4.7. Marketing survey by farmers in focal area <u>Objectives:</u> To provide opportunity to improve marketing skills To provide opportunity to interact with advanced farmers and traders for quality improvement of concerned crops	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> Advanced farmers and markets	<u>Target Group</u> 1. Farmers in focal area	4 days training (exposure visit within state) Visit to advanced farmers Lecture on advanced techniques Visit to market Lecture on marketing skills	1.Facilitator 2.Travelling cost & stay 3.Tea&lunch 4.Training materials 5.Resource persons (NGO, farmers, traders)	NGO agri-expert PMU	1. Allowance 2.Resource person	DoA/DoH	

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
5. Agriculture Demonstration Farm								
5.1. Establishment of orange demonstration farm (4 farmers) 1ha <u>Objectives:</u> To provide venue for demonstration of specific agriculture techniques to improve quality of kinnow and santra oranges To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> Advanced farmers and markets	<u>Target Group</u> 1. Kinnow and santra orange farmers in focal area	3 years advises • Establishment of orange demonstration farm • Farm design • Water application and fertigation • Plant protection • Hands-on training on pruning and training • On-time harvesting and post-harvest in field level • Cost and profit management	1.Facilitator 2. Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO) 5.Seedling of seedless kinnow/seedless santra orange 6. Fences	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists
5.2. Establishment of exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha <u>Objectives:</u> To provide venue for demonstration of specific agriculture techniques to intimate exotic vegetable cultivation To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> Advanced farmers and markets	<u>Target Group</u> 1. Farmers in focal area	3 years advises • Establishment of orange demonstration farm • Farm design • Water application and fertigation • Plant protection • Hands-on training on pruning and training • On-time harvesting and post-harvest in field level • Cost and profit management	1.Facilitator 2.Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO) 5. Fences 6. Seeds	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists
5.3. Mentoring of demonstration farm (oranges and exotic vegetables) (11 farmers) <u>Objectives:</u> To provide support to demonstration farmers To provide opportunity to improve quality of concerned crops	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> Advanced farmers and markets	<u>Target Group</u> 1. Farmers in focal area	Mentoring support Water application and fertigation Plant protection Pruning and training Harvesting and post harvesting	1.Facilitator 2.Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO)	NGO agri-expert	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Others Fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
5.4. Monitoring of demonstration farm (Citruses and exotic vegetables) (11 farmers) <u>Objectives:</u> To provide opportunity to monitor the agriculture techniques of farmers To provide opportunity to check the quality of crops by using refractometer	<u>In charge:</u> DoA/DoH, NGO agri- expert <u>Cooperated by:</u> DoA/DoH, NGO agri- expert <u>Logistics:</u> NGO agri-expert <u>Venue:</u> Advanced farmers and markets	<u>Target Group</u> 1. Farmers in focal area	Monitoring Monitoring the result (agricultural techniques) Evaluation of the result (checking by refractometer) • Reflection the result to next year plan	1. Facilitator 2. Tea&lunch 3. Training materials 4. Resource persons (KVK/NGO)	NGO agri-expert	1. Allowance/ transportation 2. Resource person	DoA/DoH	Technical advisory group from concerned scientists

Note: Target areas/ districts/ sub-projects and additional data are summarized in another sheet.

Source: JICA Survey Team

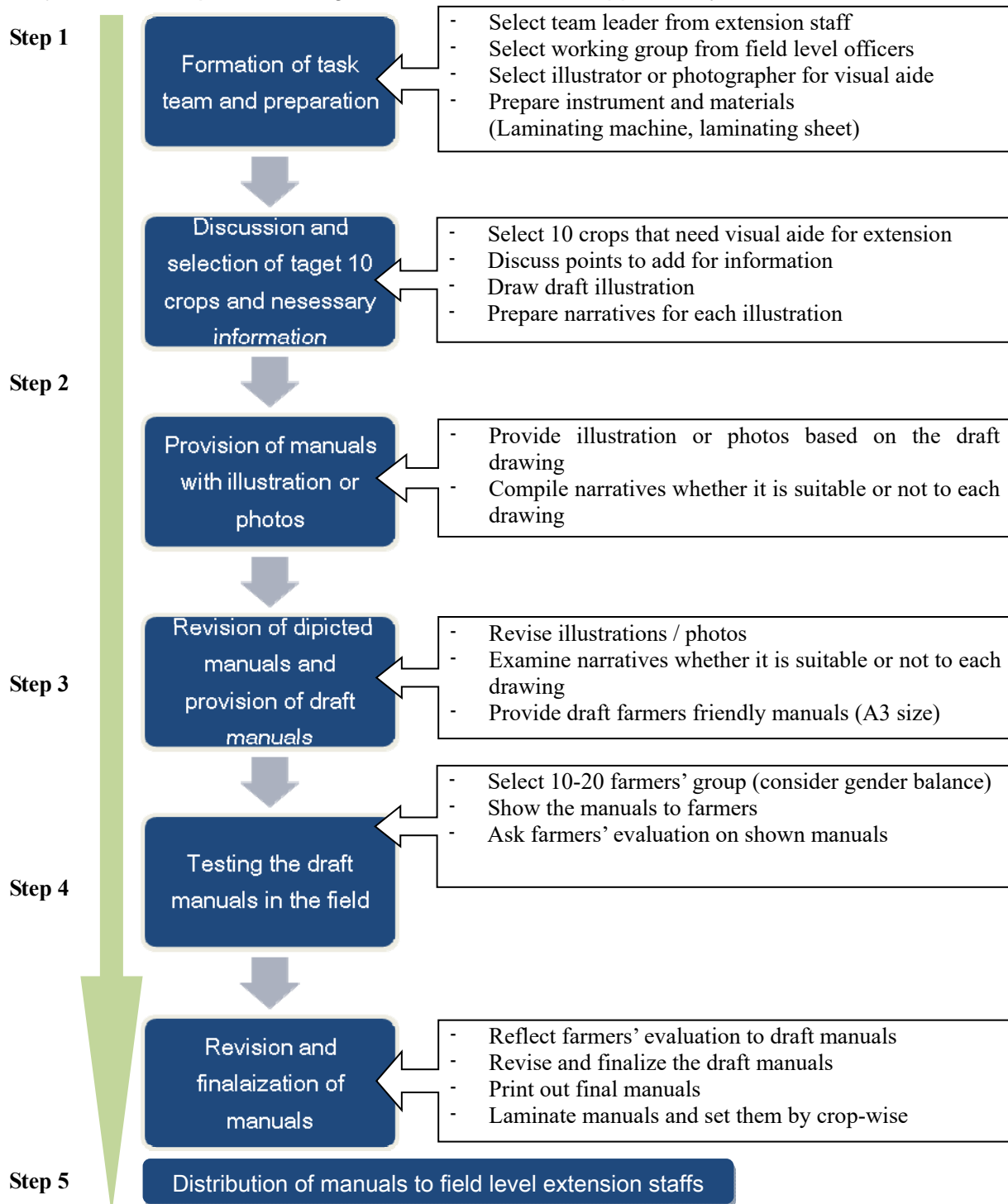
Attachment 5.4.2
Farmer Friendly Manuals

Attachment 5.4.2 Farmer Friendly Manuals

Size: A3 or bigger

(Compilation of 10 visual manual for picture-story show)

Objectives: To improve training materials for farmers supported by visual aid



Final goal:

- To support field level extension staffs when they teach agricultural techniques to farmers
- To promote farmers' understanding of agricultural techniques with visual aid

These manuals are helpful for illiterate farmers since they provide visual aid and narratives.

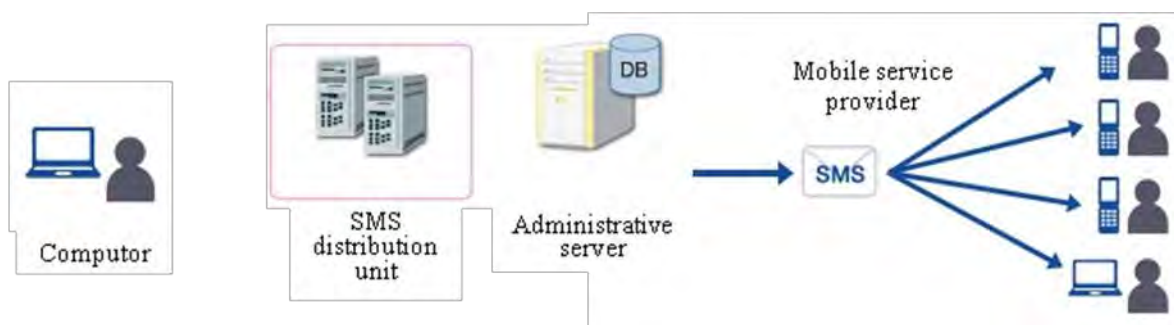
Attachment 5.4.3
Strengthening of Agriculture
Information Centre

Attachment 5.4.3 Strengthening of Agriculture Information Centre

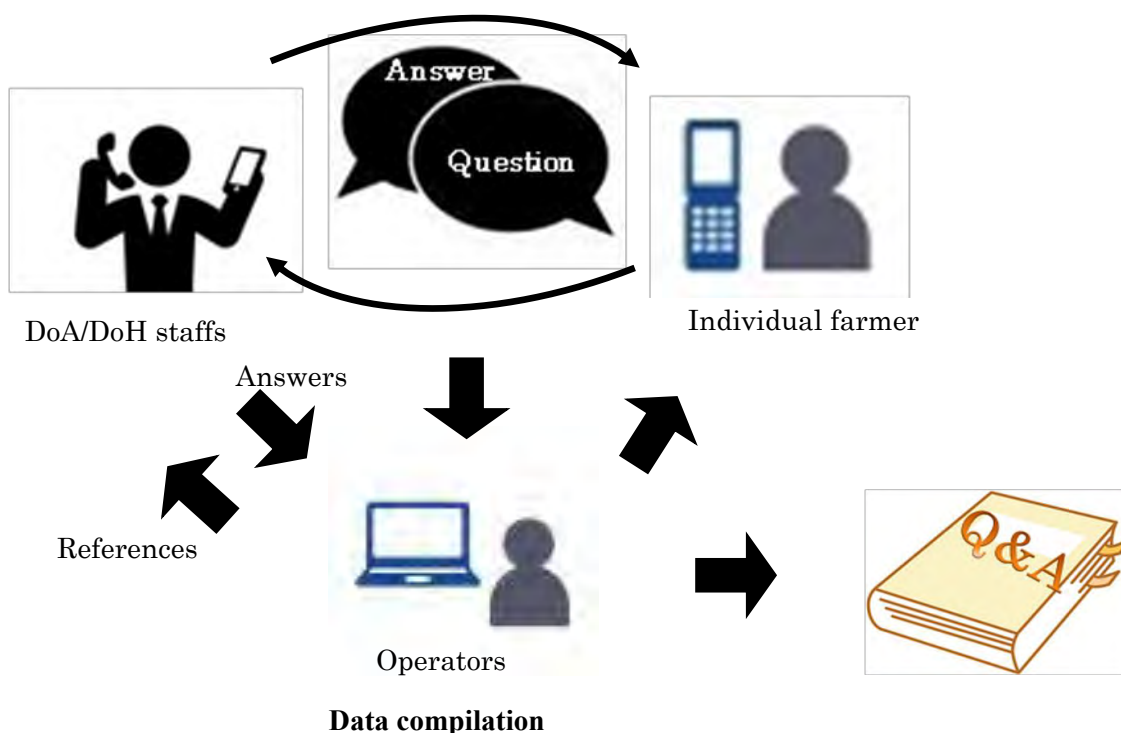
Objectives:

1. To strengthen the function of existing **Kisan Call Center** to provide necessary information on crop cultivation, insects and diseases management, seed availability, subsidy availability and so on through mobile phone by SMS services.
2. To intensify the function of interactive communication through telephone calls.
3. To compile Q&A to annual data book for future uses.

1. One-way communication (Distribution of mass information)



2. Interactive communication



3. Compilation of Q&A→Q&A data book

1. Introduction of Short Message Service (SMS)

- i. Form a task team for improvement of information center in DoA
- ii. Employ a consultant for installation and operation of the system
- iii. Collect lists of farmers (name and mobile number) from project sites (1 month)
- iv. Discuss and decide information to be sent
- v. Contact mobile service providers (mobile network operators) and choose one company
- vi. Provide SMS simultaneous transmission system (computer, power distribution unit, SQL database servers and software)
- vii. Provide 6 laptop computers for data entry
- viii. Employ 6 typists for compilation of list of farmers' name with mobile number
- ix. Employ a trainer of operators
- x. Employ operators
- xi. Install software to computer and input the database of farmers' list
- xii. Train the operators
- xiii. Connect the computer to mobile service provider's network
- xiv. Test the operation in small scale by operators
- xv. Start agriculture information service and send SMS once a month for 5years
- xvi. Monitor and review the system by consultant once a year

2. Fortify telephone call service (Interactive communication)

- i. Receive phone calls from farmers
- ii. Input their queries to computer
- iii. Record response from DoA/DoH into computer
- iv. Utilize the compiled data in computer for response to farmers

3. Compile Q&A and publish annual data book for future use

- i. Compile question and answer to annual data book
- ii. Circulate the data book to DoA/DoH agriculture supervisors, NGO agriculture experts and farmers for their reference.

Attachment 5.4.4
Estimated Water Requirement of
Vegetable Crops

Attachment 5.4.4 Estimated Water Requirement of Vegetable Crops

Crop name	mm /ha	Critical Need Stage
Radish, red globe	33-64	rapid growth and development
Squash	46-160	uniform throughout growth
Lettuce	51-76	establishment
Carrot	64-97	emergence through establishment
Bean, green	64-97	bloom and pod set
Beet, table	64-97	establishment and early growth
Cowpea	64-97	bloom, fruit set, pod development
Mustard green	64-97	uniform throughout growth
Turnip	64-97	uniform throughout growth
Watermelon	64-97	uniform until 10-14 days prior to anticipated harvest
Spinach	64-97	uniform throughout growth, after each cut if needed
Asparagus	64-114	establishment and fern development
Sweetpotato	64-127	uniform until 2-3 weeks prior to anticipated harvest
Collards/kale	76-89	uniform throughout growth
Cantaloupe (musk melon, red meat)	84-127	establishment vining to first net
Cucumber, pickle	97-127	establishment, vining, fruit set
Garlic	97-127	establishment
Bean, pinto	97-127	bloom and pod set
Okra	97-127	uniform throughout growth
Broccoli	127-160	establishment and heading
Cucumber, slicer	127-160	establishment, vining, fruit set
Tomato	127-160	bloom through harvest
Cabbage	127-191	uniform throughout growth
Cauliflower	127-191	establishment and 6-7 leaf stage
Sweet corn	127-224	establishment, tassel elongation, ear development
Eggplant	127-224	establishment, bulbing to maturity
Potato	127-254	vining, bloom, tuber initiation
Pepper, jalapeno	160-191	uniform throughout growth
Onion	160-191	establishment, bulbing to maturity
Pumpkin	160-191	2-4 weeks after emergence, bloom, fruit set and development
Bell pepper	160-224	establishment, bloom set
Celery	191-224	uniform, last month of growth

Source: Texas Cooperative Extension, Horticulture Crop Guides Series Revised November, 2003

Attachment 5.5.1
Activity Plan: FIG Formulation and
Cooperative Activities

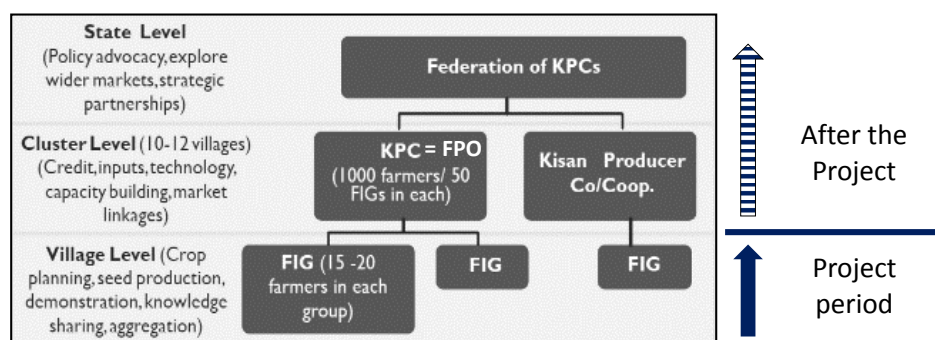
Attachment 5.5.1

Activity Plan: FIG Formulation and Cooperative Activities

I. Overall View

Supply chains through public markets could generally weaken communication between farmers and buyers, and farmers hardly access information on buyers'/consumers' demand for quality/quantity/varieties. Moreover, commission for traders, charges for market facilities, and labour cost for loading/unloading, could also reduce farmers' share in total consumer prices. Higher percentage of post-harvest loss is also caused during the long distribution process from farm gate to consumers. Another issue is the weak negotiation power of farmers. For those who can sell rather large quantity of vegetables at once and have access to markets, it is reasonable and possible to transport produces by themselves. On the other hand, small/marginal farmers who can sell only small quantity at once and have no access to markets, have only options to sell to middlemen who charge unreasonable commission.

To increase individual farmers' marketing capacity, the Project would promote formulation of Farmer Interest Groups (FIGs) by WUA members, targeting to develop into Farmer Producer Organizations (FPOs) as a final goal after the Project (Figure 1).



Source: FPO Brochure 2015 (SFAC) and Process Guidelines for Promotion of Farmer Producer Organisations (SFAC)
Remark: "FIG" = Farmer Interest Group, "Kisan Producer Co/Coop." = FPO

Figure 1: Structure of FIGs and FPO

Overall view of the Activity Plan is summarized in Table 1.

Table 1: Overall View of the Activity Plan

Goal	Profit of WUA members is increased through formulation and operation of cooperative groups (Farmer Interest Groups: FIGs), also toward development of FIGs into FPOs under Small Farmers' Agri-Business Consortium (SFAC)																																											
Objectives	To promote FIG formulation and cooperative activities through demonstration by Cooperative demonstration groups																																											
Outputs	<ul style="list-style-type: none"> - 5 Cooperative demonstration groups (CDGs) are formulated at every Sub-PMU (1 group/Sub-PMU) - 2 FIGs are formulated at every WUA - CDGs and FIGs actively work as cooperative groups 																																											
Implementation period	<p>5 years (3 Stages of Construction works)</p> <ul style="list-style-type: none"> - CDGs: Formulated at the beginning of Stage 1 - FIGs: Formulated at the 2nd year of every stage (after getting used to production activity in the 1st year) <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2" style="background-color: #cccccc;">Stage 1</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td colspan="3" style="background-color: #cccccc;">Stage 2</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td colspan="3" style="background-color: #cccccc;">Stage 3</td> </tr> <tr> <td></td> <td>4th year</td> <td>5th year</td> <td>6th year</td> <td>7th year</td> <td>8th year</td> </tr> <tr> <td>CDGs</td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> </tr> <tr> <td>FIGs</td> <td></td> <td></td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> <td style="background-color: #0070c0;">█</td> </tr> </tbody> </table>			2019	2020	2021	2022	2023		Stage 1							Stage 2							Stage 3				4th year	5th year	6th year	7th year	8th year	CDGs	█	█	█	█	█	FIGs			█	█	█
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CDGs	█	█	█	█	█																																							
FIGs			█	█	█																																							
Target	Sites	<ul style="list-style-type: none"> - CDGs: All Sub-PMUs - FIGs: All Sub-projects 																																										
	Crops	Water-wise crops: cereals/pulses/oilseeds, spices, and medicinal plants																																										
	Markets	Public markets, public spices markets (Ago Export Zones, etc.), public medicinal plants markets																																										
Flow of training	<ol style="list-style-type: none"> 1. Training of trainers (ToT) for NGOs 2. Farmers training and mentoring by NGOs for implementation 																																											
Activities	<ol style="list-style-type: none"> 1. ToT 2. Support for Cooperative demonstration groups <ol style="list-style-type: none"> (a) Selection of Cooperative demonstration groups (b) Guidance for demonstration group activities (c) Accessing loan (d) Group procurement of agricultural inputs (e) Repairing/maintenance of common farm properties (f) Collective marketing (g) Review and planning for coming seasons (h) Experience sharing with potential FIGs 3. FIG formulation and activities <ol style="list-style-type: none"> (a) Request for FIG formulation (b) Guidance for group activities (c) Exposure visit to Cooperative demonstration groups (d) Accessing loan (e) Group procurement of agricultural inputs (f) Repairing/maintenance of common farm properties (g) Collective marketing 4. Guidance for FPO formulation 																																											
Gender mainstreaming approach	A certain number of female members are to be included in CDGs and FIGs, considering their traditional roles in postharvest/marketing activities. Female members would be requested to join every event/training with male members.																																											

II. Approaches

1. Intensive Support for Cooperative Demonstration Groups and Application of Results to Farmer Interest Groups

For effective promotion of formulation of Farmer Interest Groups (FIGs) among farmers rather conservative for group activities, the Project would first formulate Cooperative demonstration groups (CDGs) at every Sub-PMU by selected WUA members, to accumulate good results on cooperative activities. It is expected that sharing their experiences would encourage many other WUA members to work on cooperative activities by formulating FIGs. Table 2 summarizes supports for CDGs and FIGs.

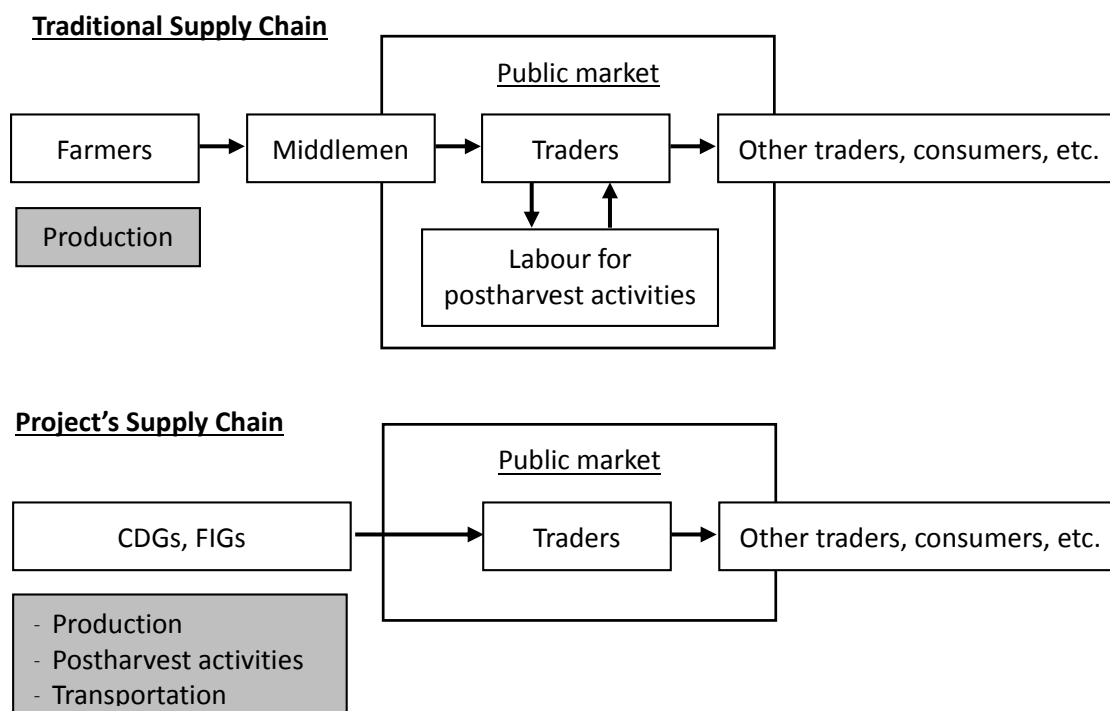
Table 2: Supports for CDGs and FIGs

	CDGs	FIGs
Goal	<ul style="list-style-type: none"> - Cooperative activities contribute to increase in profit of individual farmers - Groups develop into Farmer Producers Organization (FPO) for further marketing activities 	
Objectives	To be formulated for accumulating good examples of cooperative activities through intensive support and to apply to following FIGs activities	To be formulated for promoting cooperative activities among WUA members
Group number	1 CDG / Sub-PMU	2FIGs/WUA (all target WUAs)
Implementation period	<ul style="list-style-type: none"> - Intensive support during Stage 1 - Mentoring during Stage 2 & 3 - Experience sharing with potential FIGs during Stage 2 & 3 	Support throughout an entire stage (one production period) for every FIG

Prepared by JICA Survey Team

2. Support through Training and Promotion for Implementation

Formulation of CDGs and FIGs eventually aims to “Collective marketing” for higher profit, which are preceded by “Accessing loan”, “Group procurement of agricultural inputs” and “Repairing/maintenance of common farm properties”. In addition to training, which is conventionally done, the Project would promote actual implementation of activities by farmers through training. As for Collective marketing, CDGs and FIGs are supposed to actually implement the activity by taking roles of market labour for postharvest duties for quality standardization among group members. They will be also requested to transport produces by themselves without intervention of middlemen. It is then expected to increase negotiation power of the groups and increase the groups’ selling prices. Figure 2 summarizes the concept of the Collective marketing activity in the Project.



Prepared by JICA Survey Team

Figure 2: Collective Marketing in the Project's Supply Chain

To promote actual implementation of the cooperative activities, ordinary training (class-room lecture, practices) will be followed by mentoring and financial assistance. Financial assistance is to be done only for serious groups with high potential for successful cooperative activities. Table 3 summarizes frequency for implementing the activities during the Project and possible financial assistance for CDGs and FIGs (for the detail of every activity, refer to Table 9~24).

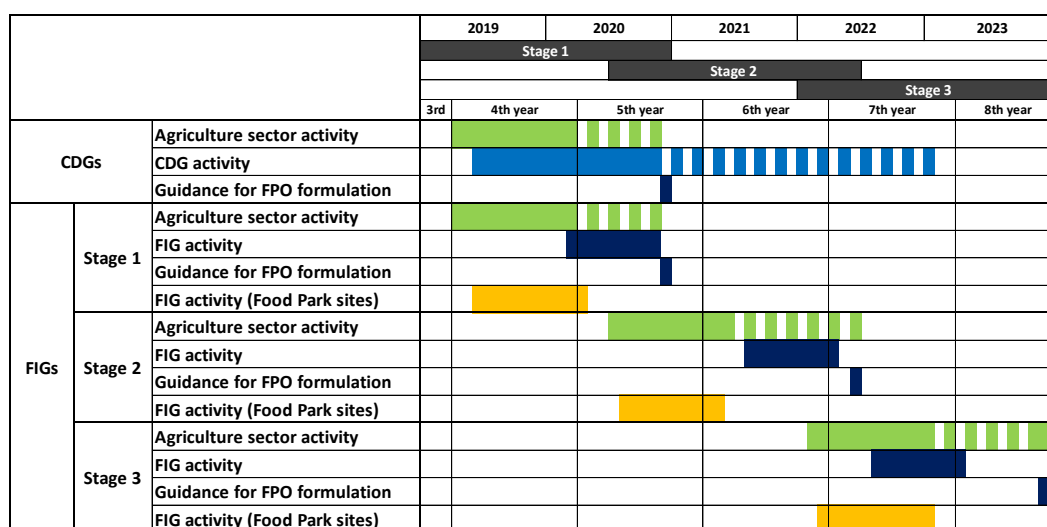
Table 3: Frequency for Implementation and Possible Assistance for CDGs and FIGs

Cooperative Activities	Frequency for Implementation during the Project		Contents of Possible Assistance
	CDGs	FIGs	
Accessing loan	2 times	Once	Guarantee deposit to open bank account
Group procurement of agricultural inputs	3 times	Once	Cost for truck rental to transport agricultural produces
Repairing/maintenance of common farm properties	2 times	Once	- Cost for repairing existing farm properties - Cost for procuring new machinery - Cost for maintenance and/or truck rental to transport machinery
Collective marketing	3 times	Once	- Labour cost for grading/cleaning cereals/pulses/oilseeds - Plastic sheets for postharvest activities - Weighing scale - Cost for truck rental to transport agro produces

Prepared by JICA Survey Team

3. Schedule for Implementation

Basically, cooperative activities are planned to start after farmers get used to production activities of Agriculture sector in the first year of every stage. In the case of CDGs, they would start activities at the beginning of Stage 1 (a few months after production activities start) without waiting for completing a series of production activities. As for target sites of Matching activities of Sub-component 2 (Food Park sites), FIG formulation would start earlier at the same timing for CDGs, considering that they are supposed to start matching activities in the second year of every stage. Figure 3 explains period for implementing CDGs and FIGs' activities.



Prepared by JICA Survey Team

Figure 3: Period of Implementation

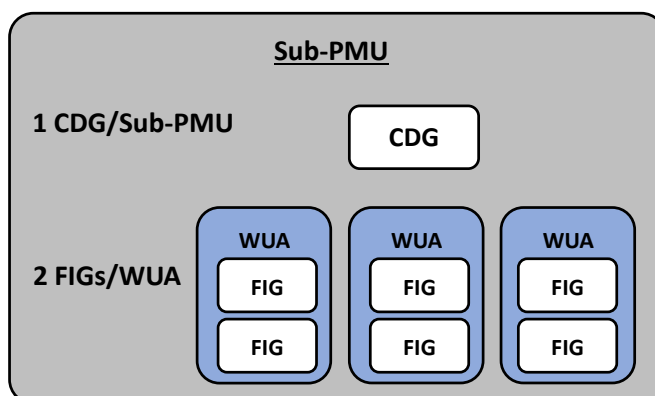
4. Number of Groups to Formulate

For every Sub-PMU, one CDG would be formulated while two FIGs would be formulated at every target WUAs. Every group is comprised of 10-20 members. Table 4 summarizes number of groups to formulate for CDGs and FIGs activities whereas Figure 4 illustrate the structure of the group formulation in one Sub-PMU.

Table 4: Number of Groups to Formulate

		Stage 1			Stage 2			Stage 3		
		WUAs	CDGs	FIGs	WUAs	CDGs	FIGs	WUAs	CDGs	FIGs
Sub-PMU	Jaipur	17	1	33	14	-	28	9	-	18
	Kota	31	1	61	38	-	76	13	-	26
	Udaipur	22	1	43	36	-	72	47	-	94
	Ganganagar	41	1	81	18	-	36	6	-	12
	Hanumangarh	39	1	77	37	-	74	30	-	60
	Total	150	5	295	143	-	286	105	-	210

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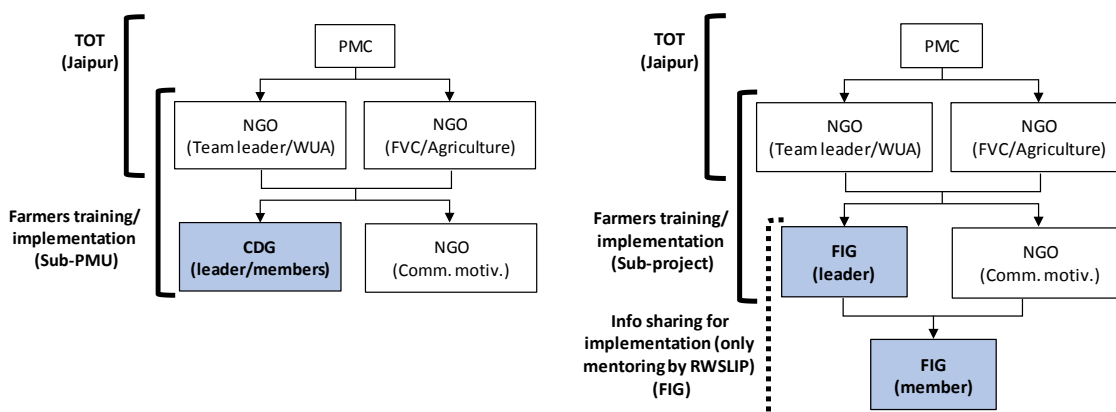


Prepared by JICA Survey Team

Figure 4: Number of CDG and FIGs Formulated in Sub-PMU

5. Flow of Training and Implementation

For both CDGs' and FIGs' activities, ToT for NGO staff (Team leader/WUA) and (Food Value Chain/Agriculture) would be first conducted all at once in Jaipur. Then, farmers training would be conducted directly to CDG leaders and CDG members as well as to NGO staff (Community motivators) whereas only leaders would receive farmers training in the case of FIGs. FIG leaders are expected to share information to FIG members and to promote implementation with NGO staff (Community motivators). For implementation, NGO staff (Community motivators) would mentor the groups in the field while PMC and NGO staff (Team leader/WUA) and (Food Value Chain/Agriculture) are to be in charge of periodical monitoring. Figure 5 summarizes target trainees and flow of training and implementation for CDGs and FIGs activities.



Prepared by JICA Survey Team

Figure 5: Target Trainees and Flow of Training and Implementation for Activities of CDGs (left) and FIGs (right)

6. Number of Training

For every training, 20 leaders or members would participate in at maximum. As for “Exposure visit” and “Guidance for FPO formulation”, 50 members (25 FIGs) and 30 FIG leaders would participate in, respectively. Table 5 summarizes number of trainees for every training.

Table 5: Number of Trainees for Every Training

Training	Groups	No. of Trainees	Unit
- Accessing loan - Group procurement of agricultural inputs - Repairing/maintenance of common farm properties - Collective marketing	CDGs	20	members/time (average)
	FIGs	20	leaders/time (average)
Exposure visit	FIGs	25	FIGs/time
		50	members/time
Guidance for FPO formulation	CDGs & FIGs	30	leaders/time (average)

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Based on the number of trainees in Table 5, number of training are determined as summarized in Table 6.

Table 6: Number of Training

Groups	No. of group	Training	Exposure visit	Guidance for FPO
Stage 1				
CDGs	5	5	-	11
FIGs	225	12	9	
FIGs (AFP/MFP)	70	4	-	
Total	300	21	9	11
Stage 2				
CDGs	-	-	-	8
FIGs	208	11	9	
FIGs (AFP/MFP)	78	4	4	
Total	286	15	13	8
Stage 3				
CDGs	-	-	-	8
FIGs	156	8	7	
FIGs (AFP/MFP)	52	4	4	
Total	210	12	11	8
Grand total (Stage 1-3)	796	48	33	27

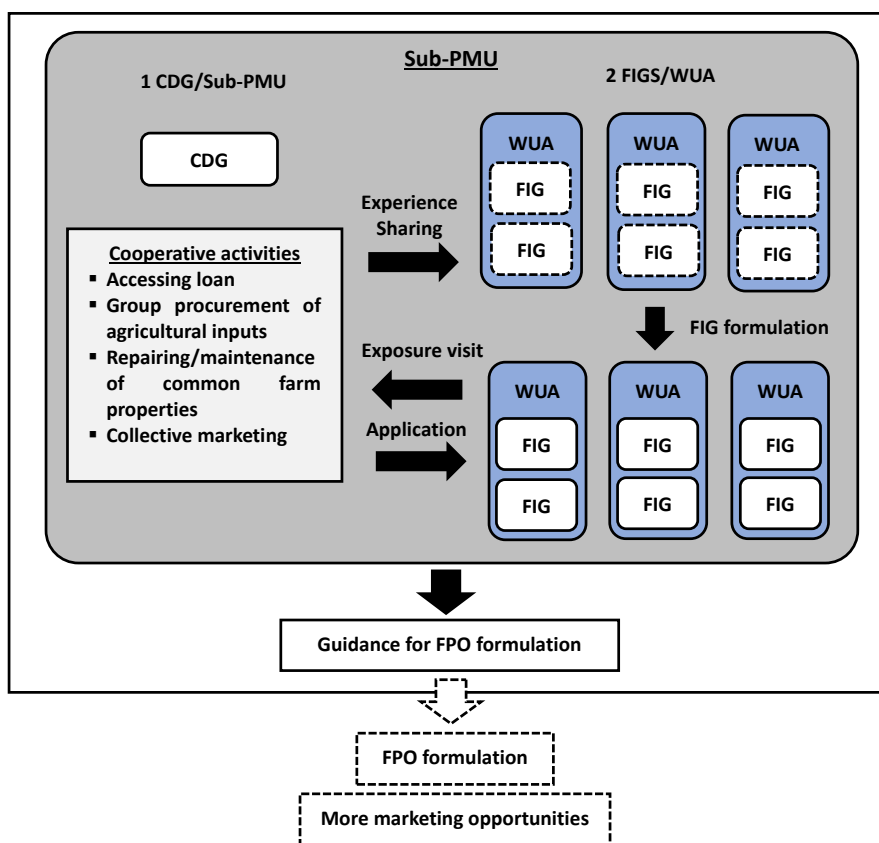
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Remark: There will be no exposure visit by FIGs (AFP/MFP) to CDGs in Stage 1 as they will start the activities at the same timing as CDGs.

III. Activities

1. Flow of Activities

Flow of activities are explained in Figure 6. After implementing the cooperative activities, CDGs are requested to share their experiences with potential FIG members for promoting formulation of FIGs. After formulation of FIGs in every WUA, FIGs would have opportunities for exposure visit to CDGs to directly see their activities and directly listen to their stories, and then apply CDGs' experiences to their own activities.



Prepared by JICA Survey Team

Figure 6: Flow of Activities

2. Support for CDGs

Table 7~14 summarize contents of every activities for CDGs.

Table 7: Selection of Cooperative Demonstration Groups

Objectives	To select potential groups to act as CDGs
Target	Farmers who have received training in Agriculture sector
Frequency/ Timing	- Once/Sub-PMU/3 stages - 1~2 months after activities of Agriculture sector (land preparation) start
Process	1. Discussion with NGO staff (Agriculture) to determine candidate farmers who are motivated for agricultural activities 2. Field visit to explain purposes and roles of Cooperative demonstration groups to candidate farmers and confirm intention

Prepared by JICA Survey Team

Table 8: Guidance for Demonstration Group Activities (class-room lecture)

Objectives	To guide CDGs for cooperative activities
Target	CDG members selected above (10-20 prs.)
Lecturer	Bank manager from nearest local bank branch
Frequency/ Timing	- Once/Sub-PMU/ 3 Stages - 2 months after activities of Agriculture sector (land preparation) start
Points of training	CDGs discuss and agree with following points: - Objectives, procedure and schedule for following activities - Management members - Group rules <i>Note: A bank manager will be invited from a nearest local bank branch to explain about opening account as part of his/her duties (refer to Table 11).</i>

Prepared by JICA Survey Team

Table 9: Accessing Loan (implementation)

Objectives	To promote accessing loan through opening bank account by a group (or a group representative) for agricultural input procurement
Target	CDG members selected above (10-20 prs.)
Frequency/ Timing	- Twice/Sub-PMU/ 3 Stages - 2~3 months after activities of Agriculture sector (land preparation) start
Contents	CDGs implement following activities: - Open bank account - Get a loan to procure agricultural inputs
Inputs by the Project	- Mentoring by NGO staff (Community motivator) - Advance cost for guarantee deposit to open bank account (only when groups are serious)

Prepared by JICA Survey Team

Table 10: Group Procurement of Agricultural Inputs (implementation)

Objectives	To promote group procurement of agricultural input using a loan
Target	CDG members selected above (10-20 prs.)
Frequency/ Timing	- 3 times/Sub-PMU/ 3 Stages - 3~4 months after activities of Agriculture sector (land preparation) start

Contents	CDGs implement following activities: - Group procurement of agricultural inputs (seeds, fertilizers, pesticides, etc.) for coming production season to save transportation cost and other transaction cost
Inputs by the Project	- Mentoring by NGO staff (Community motivator) - Financial assistance for truck rental to transport agricultural produces (only when groups are serious)

Prepared by JICA Survey Team

Table 11: Repairing/Maintenance of Common Farm Properties (implementation)

Objectives	To promote proper use of common farm activities (machinery, farm pond, etc.)
Target	CDG members selected above (10-20 prs.)
Frequency/ Timing	- Twice/Sub-PMU/ 3 Stages - 3~4 months after activities of Agriculture sector (land preparation) start
Contents	CDGs implement following activities: - Repair common farm properties or purchase new farm properties for common use - Maintain common farm properties for proper use in production activities
Inputs by the Project	- Mentoring by NGO staff (Community motivator) - Financial assistance for repairing existing properties, procurement of new machinery, maintenance and/or truck rental to transport machinery (only when groups are serious)

Prepared by JICA Survey Team

Table 12: Collective Marketing (implementation)

Objectives	To promote collective marketing by standardizing postharvest quality of agricultural produces
Target	CDG members selected above (10-20 prs.)
Frequency/ Timing	- 3 times/Sub-PMU/ 3 Stages - During harvest period
Contents	CDGs implement following activities: - Postharvest conditioning for cereals/pulses/oilseeds/spices/medicinal plants to meet quality standards to sell at higher prices - Sell agricultural produces as a group to increase negotiation power - Sell agricultural produces as a group to save transport cost <i>Note: CDG members will be required to work on postharvest conditioning to improve quality of produces so that traders would purchase them at higher prices by saving cost for hiring postharvest conditioning labour.</i>
Inputs by the Project	- Mentoring by NGO staff (Community motivator) - Financial assistance for labor for winnowing/grading/cleaning cereals, etc., (only when groups are serious) - Weighing scale - Plastic sheets - Truck rental to transport agricultural produces (only when groups are serious)

Prepared by JICA Survey Team

Table 13: Review and Planning for Coming Seasons (class-room lecture)

Objectives	To provide CDGs with a place to review and improve past activities and plan for coming season
Target	CDG members selected above (10-20 prs.)

Frequency/ Timing	- 4 times/Sub-PMU/ 3 Stages - 1 month after harvest period (after a series of the activities finishes)
Points of training	CDGs discuss and agree with following points: - Reasons for successful and unsuccessful cases of their cooperative activities - Schedule of cooperative activities for coming season

Prepared by JICA Survey Team

**Table 14: Experience Sharing with Potential FIGs
(presentation at General meeting of WUA, same timing as Table 17)**

Objectives	To encourage other WUA members to formulate FIGs in the same Sub-PMU by sharing experiences by Cooperative demonstration groups
Target	Other WUA members in the same Sub-PMU (TC leaders, etc.)
Frequency/ Timing	- 5 times/Sub-PMU/ 3 Stages - 1 month after harvest period (after a series of the activities finishes)
Points of presentation	Presentation about CDGs' experiences for cooperative activities (both successful and unsuccessful cases) is done for other WUA members to become motivated for FIG formulation.

Prepared by JICA Survey Team

3. FIG Formulation and Activities

Table 15~21 summarize contents of every activities for FIGs.

**Table 15: Request for FIG Formulation
(notification through General meeting of WUA, same timing as Table 16)**

Objectives	To formulate FIGs for cooperative activities
Target	WUA members (TC leaders, etc.)
Frequency/ Timing	- Once every other sites of Sub-PMU Stage - 1~2 months before the 2 nd production season starts
Process	1. Request to formulate 2 FIGs/WUA through General meeting of WUA 2. Presentation by CDGs (Table 16) 3. Confirmation of intention and selection (sometime after the request)

Prepared by JICA Survey Team

Table 16: Guidance for Group Activities (class-room lecture)

Objectives	To guide FIGs for cooperative activities
Target	Leaders of FIGs selected above (max. 20 persons/training)
Lecturer	Bank manager from nearest local bank branch
Frequency/ Timing	- Once every other sites of Sub-PMU /Stage - 1 month after the 2 nd production season starts
Points of training	FIGs discuss and agree with following points: - Objectives, procedure and schedule for following activities - Management members - Group rules <i>Note: A bank manager will be invited from a nearest local bank branch to explain about opening account as part of his/her duties (refer to Table 20).</i>

Prepared by JICA Survey Team

Table 17: Exposure Visit to Cooperative Demonstration Groups (bus tour)

Objectives	To motivate FIGs for cooperative activities by showing good examples of CDGs
Target	FIG members (50 persons from 25 FIGs at maximum)
Guest participant	CDP members, traders of nearby markets
Frequency/ Timing	- Once/FIG/Stage - 1~2 months after the 2 nd production season starts
Points of tour	1. Confirming good practices of cooperative activities by actually seeing CDGs' activities (well-conditioned grains, etc.) and listening to stories from CDG members 2. Listening to stories of traders of nearby markets who buy from CDGs (reasons for buying from CDGs, etc.)

Prepared by JICA Survey Team

Table 18: Accessing Loan (implementation)

Objectives	To promote accessing loan through opening bank account by a group (or a group representative) for agricultural input procurement
Target	FIGs
Frequency/ Timing	- Once/FIG/Stage - 2~3 months after the 2 nd production season starts
Contents	Same as Table 11
Inputs by the Project	Same as Table 11

Prepared by JICA Survey Team

Table 19: Group Procurement of Agricultural Inputs (implementation)

Objectives	To promote group procurement of agricultural input using a loan
Target	FIGs
Frequency/ Timing	- Once/FIG/Stage - 3~4 months after the 2 nd production season starts
Contents	Same as Table 12
Inputs by the Project	Same as Table 12

Prepared by JICA Survey Team

Table 20: Repairing/Maintenance of Common Farm Properties (implementation)

Objectives	To promote proper use of common farm activities (machinery, farm pond, etc.)
Target	FIGs
Frequency/ Timing	- Once/FIG/Stage - 3~4 months after the 2 nd production season starts
Contents	Same as Table 13
Inputs by the Project	Same as Table 13

Prepared by JICA Survey Team

Table 21: Collective Marketing (implementation)

Objectives	To promote collective marketing by standardizing postharvest quality of agricultural produces
Target	FIGs
Frequency/ Timing	- Once/FIG/Stage - During harvest period
Contents	Same as Table 14
Inputs by the Project	Same as Table 14

Prepared by JICA Survey Team

4. Guidance for FPO Formulation

Table 22 summarizes contents of Guidance for FPO formulation. For this guidance, both CDGs and FIGs will be targeted together without differentiation.

Table 22: Guidance for FPO Formulation (class-room lecture)

Objectives	To guide FIGs for FPO formulation
Target	CDGs, FIGs
Lecturer	Resource person from SFAC (Small Farmers' Agribusiness Consortium)
Frequency/ Timing	- Once/Sub-PMU/ Stage - At the end of every Stage
Points of training	- FIGs are encouraged to develop in to FPOs after understanding procedure for FPO formulation <i>Note: A resource person will be invited from SFAC to explain about FPO formulation as well as practical guidance for registration, as part of his/her duties.</i>

Prepared by JICA Survey Team

Attachment 5.5.2
Activity Plan: Connecting with Large-size
Consumers (Matching meeting)

Attachment 5.5.2

Activity Plan: Connecting with Large-size Consumers (Matching meeting)

I. Overall View

Currently, there are few cases for direct deals between farmers and processing units of the Food Parks. Many of the units procure raw materials crops at nearby public markets as it is simply “easy to access public markets”, “easy to purchase at public markets”, and “quantity and quality are ensured at public markets”, whereas they are also interested in procuring directly from farmers, according to an informal survey by JICA Survey Team. Farmers around the Food Parks, then, usually sell their products to traders of public markets, sometimes even without recognizing the existence of such Food Parks, and even though they can physically access the Food Parks.

To provide more marketing opportunities for higher profit for both demand side and supply side, and to promote direct sales from Farmer Interest Groups (FIGs) to Food Parks, a series of activities is planned for matching between them. Table 1 summarizes the overall view of the activity plan.

Table 1: Overall View of the Activity Plan

Goal	<ul style="list-style-type: none"> - Marketing options of Farmer Interest Groups (FIGs) are increased for higher profit - Successful results of the activities contribute to future development of the processing/export sector 	
Objectives	To promote direct sales of raw materials crops by FIGs to Food Parks processors	
Outputs	Sales contract is made between FIGs and processors of Food Parks	
Implementation period	5 years (3 Stages of Construction works)	
Target	Food Parks	<ul style="list-style-type: none"> - Kota Agro Food Park - Sri Ganganagar Agro Food Park - Jhalawar Agro Food Park - Mega Food Park (Ajmer)
	FIGs	<ul style="list-style-type: none"> - Stage 1: 70 FIGs - Stage 2: 78 FIGs - Stage 3: 54 FIGs (as of June, 2016)
Flow of training	<ol style="list-style-type: none"> 1. Training of trainers (ToT) 2. Farmers training and mentoring by NGOs for implementation 	
Activities	<ul style="list-style-type: none"> - One set of matching activities include: <ol style="list-style-type: none"> 1. Information exchange between FIGs and processors 2. Information analysis 3. Matching meeting (1st) 4. Review and Improvement 5. Matching meeting (2nd) 6. Gap filling training for postharvest quality - For every Stage, two sets of matching activities would be repeated for every Food Park. 	

Prepared by JICA Survey Team

II. Approaches

1. Target Food Parks

The matching activities focus on three Food Parks with higher number of active processing units and the Mega Food Park in Rajasthan, which is planned to start operation in 2017. Table 2 summarizes overall view of the target Food Parks (refer to Attachment 2.6.1~2.6.3: List of units at Agro Food Parks).

Table 2: Overall View of the Target Food Parks

Food Parks	Kota (Agro Food Park)	Sri Ganganagar (Agro Food Park)	Jodhpur (Agro Food Park)	Ajmer (Mega Food Park)
Active units	139	24	238	Under construction as of June 2016
Products (examples)	<ul style="list-style-type: none"> - Coriander (cleaning/ grinding/grading) - Other spices (cleaning/grinding/ grading) - Wheat (cleaning/ grinding/grading) - Edible soybean oil - Herbal products 	<ul style="list-style-type: none"> - Mustard oil, oil cake - <i>Kinnow</i> (grading/waxing) - Grain (grading) - Seed processing 	<ul style="list-style-type: none"> - Guar gum powder - Spices (grinding) - Cattle feed - Herbal products - Confectionary - Dehydrated vegetables/fruits - Wheat (cleaning/ grinding/grading) 	Anola, Guava, Mango, Sweet orange, Mandarin, Onion, Potato, Tomato, Bitter gourd, Bottle gourd, Garlic, Coriander, Cumin, Fenugreek, Fennel, Ajwain, Grains (wheat, etc.)/Pulses (gram, etc.)
Distances from market	9 km	9 km	17 km	N/A

Prepared by JICA Survey Team

2. Districts Covered for the Matching Activities

Target districts for the matching activities include the ones where the Food Parks are located, and the neighbouring ones. Table 3 summarizes target districts for the matching activities, which are covered within supply chains of every Food Park.

Table 3: Overall View of the Target Food Parks

Food Parks	Target districts
Kota Agro Food Park	Kota, Baran, Bundi, Jhalawar
Sri Ganganagar Agro Food Park	Sri Ganganagar, Hanumangarh
Jodhpur Agro Food Park	Pali, Jodhpur
Mega Food Park (Ajmer)	Ajmer, Tonk, Sawai Madhopur

Prepared by JICA Survey Team

Remarks: Jodhpur district is not included in the target districts of the Project as of June 2016 but listed here as a potential district in the case of any possible revision of the target districts in the future.

3. Rules for Selecting Target FIGs

For the matching activities, Farmer Interest Groups (FIGs) which are formulated at Sub-component 1 (FIG formulation and cooperative activities), would be targeted. This section explains rules to select target FIGs, starting from selection of Sub-projects.

Among the 82 Sub-projects targeted by the Project throughout the entire implementation period from Stage 1 to Stage 3 (as of June 2016), the matching activities would require selection of Sub-projects (25% ~ 38% of the total number of the target Sub-projects for each stage). Table 4 describes the rule to select Sub-projects based on the number of Sub-projects per target districts. Based on the selection rule, Sub-projects would be selected for every Food Parks (Table 5).

**Table 4: Rule to Select Sub-Projects (SP)
for the Matching Activities**

No. of SP/ target districts for every Food Park	No. of SP to select
1~3	1
4~7	2
8~12	3

Prepared by JICA Survey Team

Table 5: Number of Sub-Projects (SP) to Be Selected for the Matching Activities

Food Parks	Stage 1		Stage 2		Stage 3	
	SP	% total SPs	SP	% total SPs	SP	% total SPs
Kota Agro Food Park	3	-	3	-	2	-
Sri Ganganagar Agro Food Park (Sri Ganganagar district)	3	-	1	-	1	-
Sri Ganganagar Agro Food Park (Hanumangarh district)	2	-	2	-	2	-
Jodhpur Agro Food Park	2	-	0	-	1	-
Mega Food Park (Ajmer)	0	-	3	-	0	-
Total	10	29%	9	38%	6	25%

Prepared by JICA Survey Team

Remarks:

- *Sub-Projects of Sri Ganganagar district and Hanumangarh district will be selected separately due to the originally large number of total target Sub-projects in the districts.*
- *In the case of Jodhpur AFP and MFP sites, all SPs will be selected, considering the originally small numbers of the sub-projects in their target districts.*

Among the selected Sub-projects in Table E, the matching activities would further require selection of WUAs based on the rule below (Table 6). 23% ~ 27% of the total number of WUAs would be then selected for each stage (Table 7).

Table 6: Rule to Select WUAs for the Matching Activities

No. of SP to Select	Estimated WUA No. /SP	No. of WUA to Select (max.)
1	-	all
2~3	1~8	7
	9~16	8
	17~24	9
	25~32	10
	33~40	11
	41~48	12
	49~56	13
	57~64	14
	65~72	15
	73~80	16

Prepared by JICA Survey Team

Table 7: Number of WUAs to Be Selected for the Matching Activities

Food Parks	Stage 1		Stage 2		Stage 3	
	WUA	% total WUAs	WUA	% total WUAs	WUA	% total WUAs
Kota Agro Food Park	10	-	11	-	8	-
Sri Ganganagar Agro Food Park (Sri Ganganagar district)	12	-	9	-	7	-
Sri Ganganagar Agro Food Park (Hanumangarh district)	11	-	11	-	10	-
Jodhpur Agro Food Park	2	-	0	-	2	-
Mega Food Park (Ajmer)	0	-	8	-	0	-
Total	35	23%	39	27%	27	26%

Prepared by JICA Survey Team

Remarks:

- Sub-Projects of Sri Ganganagar district and Hanumangarh district will be selected separately due to the originally large number of total target Sub-projects in the districts.
- In the case of Jodhpur AFP and MFP sites, all SPs will be selected, considering the originally small numbers of the sub-projects in their target districts.

Based on the number of selected WUAs above, number of FIGs and training would be determined as summarized in Table 8. Two FIGs will be selected for every WUA. As training will be conducted for FIG leaders, instead of collecting all the FIG members, number of training could be determined based on the number of FIGs. “Average number of FIGs/Food Park/entire period” is applied to calculate number of participants for every training.

Table 8: Number of FIGs to Be Selected for the Matching Activities and Number of Training

Food Parks	Stage 1		Stage 2		Stage 3	
	FIG	Set of Training	FIG	Set of Training	FIG	Set of Training
Kota Agro Food Park	20	2	22	2	16	1
Sri Ganganagar Agro Food Park (Sri Ganganagar district)	24	2	18	2	12	1
Sri Ganganagar Agro Food Park (Hanumangarh district)	22	2	22	2	20	1
Jodhpur Agro Food Park	4	2	0	0	4	1
Mega Food Park (Ajmer)	0	0	16	2	0	0
Total	70	8	78	8	52	4
Average number of FIGs/ Food Park/entire period	18					

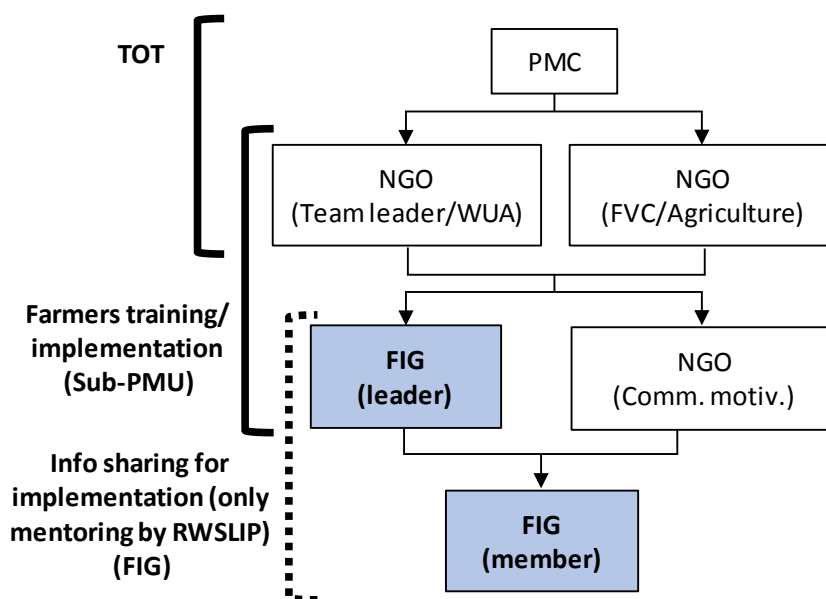
Prepared by JICA Survey Team

Remarks:

- Sub-Projects of Sri Ganganagar district and Hanumangarh district will be selected separately due to the large number of total target Sub-projects in the districts.
- "Set of training" indicates a set of matching activities as explained in "III. Activities" below.

4. Flow of Training and Implementation

For the matching activities, ToT for NGO staff (Team leader/WUA) and (Food Value Chain/Agriculture) would be first conducted all at once in Jaipur. Then, farmers training would be conducted to FIG leaders as well as to NGO staff (Community motivators). FIG leaders are expected to share information to FIG members and to promote implementation with NGO staff (Community motivators). Figure 1 summarizes the flow of training and implementation for matching activities.

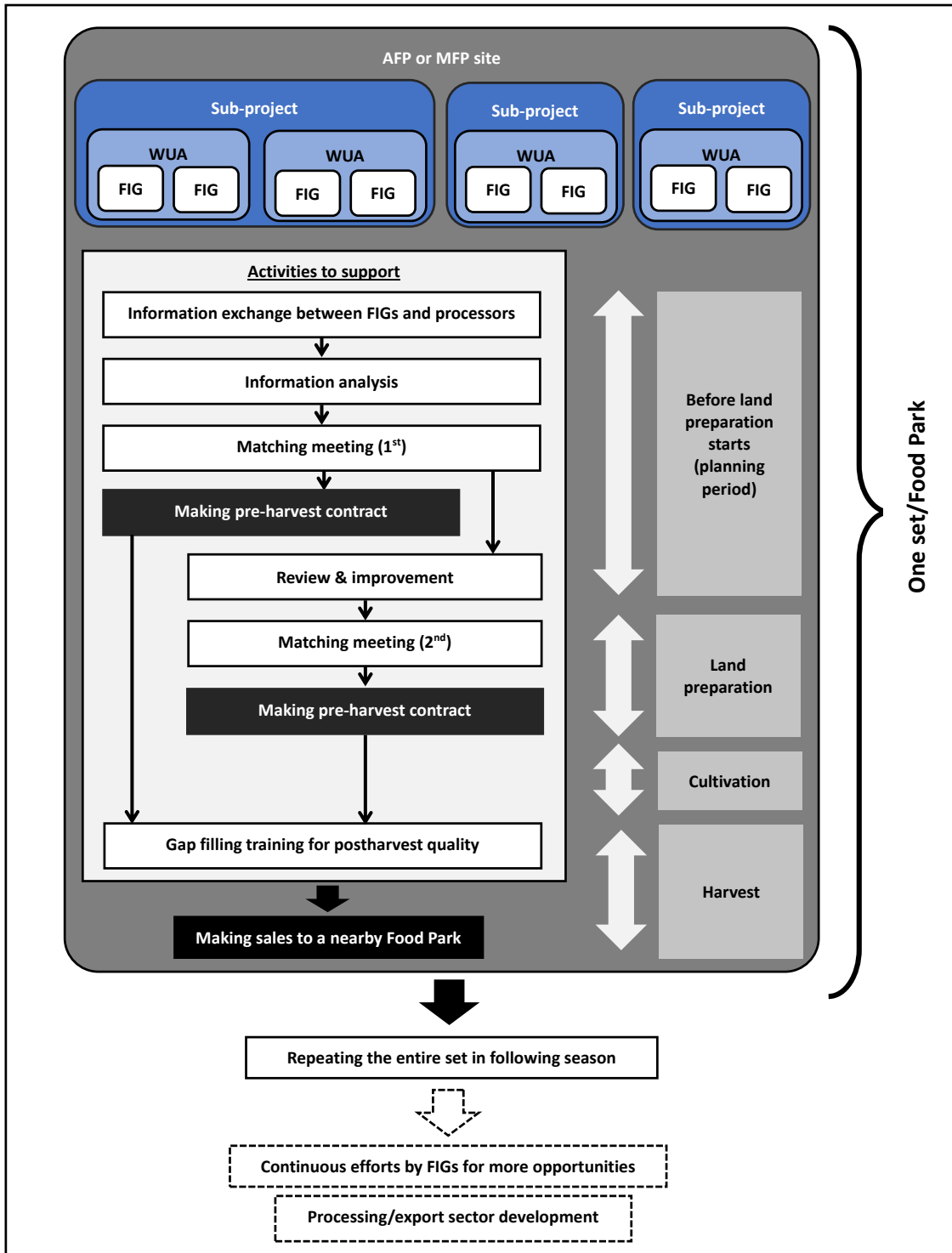


Prepared by JICA Survey Team

Figure 1: Flow of training and implementation for matching activities

III. Activities

Flow of a set of matching activities for one Food Park is illustrated in Figure 2.



Prepared by JICA Survey Team

Remark: "AFP" indicates "Agro Food Park" whereas "MFP" indicates "Mega Food Park"

Figure 2: Flow of Matching Activities

Adequate preparation and reviewing are expected to bring higher possibilities for matching.

As shown in Figure 2, a series of the activities are planned based on cropping calendar, starting before land preparation period (planning period) and continuing till harvest period. After information exchange between Food Parks and FIGs, and information analysis by FIGs, Matching meeting (1st) will be conducted. For those FIGs who reach successful deals then, they could directly step into Gap filling training for postharvest quality at the time of harvest period. However, for those FIGs who failed to make successful contract at Matching meeting (1st), places would be provided for them to analyse for successful matching and another try for matching (Matching meeting (2nd)). During two seasons of every stage, two sets of the matching activities would be repeated for same FIGs to increase opportunities for successfully making contracts with processors. Table 9~14 summarize every activity for matching, respectively.

Table 9: Information exchange between FIGs and processors

Objectives	<ul style="list-style-type: none"> - To select processors to participate in Matching meetings - To guide FIGs to grasp requests by the demand side - To guide processors to grasp capacity of the supply side
Target	<ul style="list-style-type: none"> - All the processors of a Food Park who deal with raw materials cultivated by FIGs - All target FIGs
Frequency/ Timing	<ul style="list-style-type: none"> - Once/set/Food Park - 1~2 months before land preparation starts
Procedure (roles of implementers)	<ol style="list-style-type: none"> 1. Distribution of information collection sheets to <ol style="list-style-type: none"> (a) Processors: <ul style="list-style-type: none"> - Quantity and timing to buy raw materials - Prices for purchasing - Request for postharvest quality (moisture content, maturity, cleanness, accuracy for weighing produces, etc.) (b) FIGs <ul style="list-style-type: none"> - Quantity and timing to sell crops - Prices for selling 2. Collection of filled sheets from the processors and FIGs 3. Preparation for list of participants based on the information (processors with higher matching potential should be selected based on their requests) 4. Exchange information between selected processors and FIGs

Prepared by JICA Survey Team

Table 10: Information Analysis (class-room discussion)

Objectives	To guide FIGs to analyse information shared between processors (quantity/timing/prices) and prepare for Matching meeting (1 st)
Target	FIG leaders (average 18 FIGs/class-room discussion)
Lecturer	President of Food Park unit owner association (or any other representative of processors)
Frequency/ Timing	<ul style="list-style-type: none"> - Once/set/Food Park - 1~2 months before land preparation starts

Points of discussion	<ol style="list-style-type: none"> 1. Reconfirmation of request by processors for direct sales 2. Possible revision of FIGs' request to meet processors' request as much as possible 3. Narrowing down target processors to sell raw materials crops
Remark	<ul style="list-style-type: none"> - Practical advises will be given by the lecturer to maximize possibilities for matching - Processors might be further selected out based on FIGs' preference

Prepared by JICA Survey Team

Table 11: Matching Meeting (1st)

Objectives	To provide a place for FIGs and processors to make pre-harvest contract based on quantity and timing
Target	<ul style="list-style-type: none"> - 20 Unit owners (at least 10 commodities) - FIG leaders and representatives (36 members from 18 FIGs at average)
Frequency/ Timing	<ul style="list-style-type: none"> - Once/set/Food Park - 1 month before land preparation starts
Procedure	<ol style="list-style-type: none"> 1. Unit owners sit at own tables to wait for FIGs 2. FIG representatives visit target unit owners' tables 3. Negotiation 4. Making pre-harvest contract if possible 5. Repeating the same steps (FIGs sit at own tables and wait for processors)

Prepared by JICA Survey Team

Table 12: Review and Improvement

Objectives	To provide a place for FIGs to analyse reasons for unsuccessful cases in the Matching meeting (1 st) and prepare for Matching meeting (2 nd)
Target	FIG leaders (18 FIGs/class-room discussion at maximum (average))
Frequency/ Timing	<ul style="list-style-type: none"> - Once/set/Food Park - 1 month before land preparation starts
Points of discussion	<ul style="list-style-type: none"> - Reasons for successful cases / unsuccessful cases - Possible improvement
Remark	<ul style="list-style-type: none"> - Targets are those FIGs which had no success in Matching meeting (1st) - If necessary, new processors should be selected for Matching meeting (2nd) to increase matching possibilities

Prepared by JICA Survey Team

Table 13: Matching Meeting (2nd)

Objectives	To guide FIGs to analyse information shared between processors (quantity/timing/prices) and prepare for Matching meeting (1 st)
Target	<ul style="list-style-type: none"> - 20 Unit owners (at least 10 commodities) - FIG leaders and representatives (36 members from 18 FIGs at maximum (average))
Frequency/ Timing	<ul style="list-style-type: none"> - Once/set/Food Park - At the beginning of land preparation
Procedure	Same as Matching meeting (1 st)
Remark	<ul style="list-style-type: none"> - Targets are those FIGs which had no success in Matching meeting (1st) - If necessary, new processors should be selected for Matching meeting (2nd) to increase matching possibilities

Prepared by JICA Survey Team

Table 14: Gap Filling Training for Postharvest Quality (Field training)

Objectives	To train FIG members to meet quantity and timing to sell required by processors
Target	FIG leaders (18 FIG leaders at maximum (average))
Lecturer	Purchasers from units of Food Parks (2 for cereals/pulses/oilseeds, 2 for spices, and 2 for fresh produces)
Frequency/ Timing	- Once/set/Food Park - 1 month before harvest period starts
Procedure	- Confirmation of requirement for postharvest quality by processors - Technical training for postharvest practices and accurate weighing
Remarks	Following items would be provided per FIG - One set of weighing scale for accurate crop weighing - 2 plastic sheets for postharvest practices (winnowing, cleaning, drying, etc.)

Prepared by JICA Survey Team

Attachment 5.5.3
Activity Plan: Connecting with Small-size
Consumers (Exotic vegetables)

Attachment 5.5.3

Activity Plan: Connecting with Small-size Consumers (Exotic vegetables)

I. Overall View

Rajasthan currently produces 2,169,000 MT of fruits/vegetables, which is only 0.85% of total fruits/vegetables production of the country, due to its natural environment unsuitable for fruits and vegetables cultivation. Shortage of fruits and vegetables is most serious in Rajasthan among all the states in the country, with the negative balance of supply and demand (-3,135,000 MT for fruits and -4,653,000 MT for vegetables). Even the imports (4.7% of the total shortage on a weight basis) from other states and countries are not sufficient to overcome the shortage. Part of exotic vegetables are also imported from other states and countries. Transaction of fruits and vegetables is concentrated at Jaipur (58% on a weight basis) to be locally distributed in Jaipur and surrounding consumption areas, indicating rural areas consume very small quantity of fruits and vegetables.

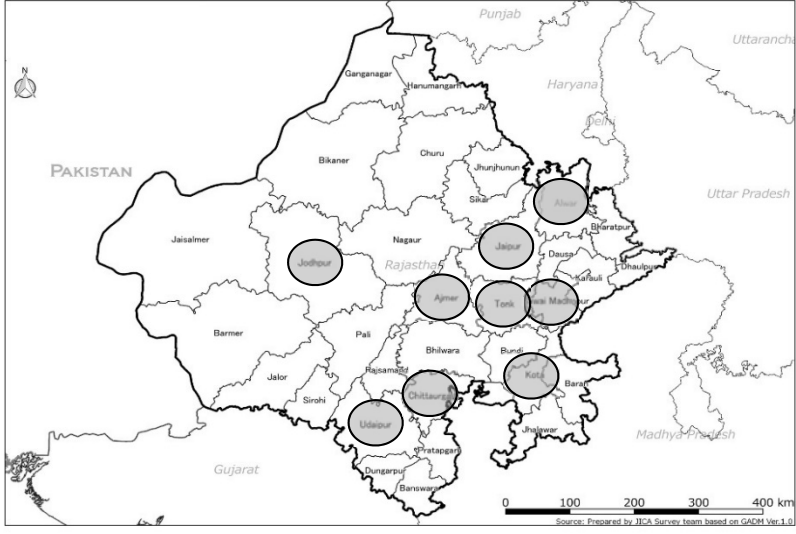
It is then remarkable that Rajasthan, holding many tourist sites such as Jaipur, Udaipur, and Jodhpur, etc., annually accepts more than a million of foreign tourists and more than 20 million including Indian tourists¹. Hotels and restaurants in such areas could be regarded as niche markets to supply various exotic vegetables for tourists. Exotic vegetables, including cherry tomato, broccoli, Chinese cabbage, leek, red cabbage, yellow/red bell pepper, sweet corn, young corn, and mushroom, are transacted at the Jaipur Market. Exotic vegetables coming to the Jaipur Market are cultivated in/around Jaipur in protected environment (tunnel, net houses, etc.)², whereas some of them are also from other states. Most buyers in Jaipur such as purchasers from supermarkets and hotels, procure exotic vegetables at Jaipur Market.

To increase quantity of Rajasthan-origin exotic vegetables distributed in the state, the Project would assist farmers' sales after a few harvest seasons, by sharing marketing experiences of Agriculture Demonstration Farms established at Agriculture sector. Table 1 summarizes overall view of the Activity Plan.

¹ Government of Rajasthan Tourist Offices Website (data for 2010)

² For the lists of districts producing exotic vegetables and villages producing exotic vegetables near Jaipur, refer to Supplemental information 1 and 2, at the end of Attachment 5.5.4 (Activity Plan: Brand building for high-value agricultural produces).

Table 1: Overall view of the Activity Plan

Goal	Increase in distribution of domestically grown exotic vegetables contributes to reduction of the current shortage of vegetables in Rajasthan																																																
Objectives	To promote sales of exotic vegetables by farmers																																																
Outputs	<ul style="list-style-type: none"> - Farmers sell exotic vegetables at preferable prices through sales channels opened up by the Project - Farmers start to develop new sales channels by themselves 																																																
Implementation period	<p>During Rabi harvest seasons for 5 years (3 Stages of Construction works)</p> <ul style="list-style-type: none"> - Demonstration: first 3 years - Extension to farmers: following 3 years <table border="1"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td colspan="6">Stage 1</td> </tr> <tr> <td colspan="6">Stage 2</td> </tr> <tr> <td colspan="6">Stage 3</td> </tr> <tr> <td></td> <td>4th year</td> <td>5th year</td> <td>6th year</td> <td>7th year</td> <td>8th year</td> </tr> <tr> <td>Demonstration</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Extention to farmers</td> <td>Stage 1 & 2 farmers</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Stage 3 farmers</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		2019	2020	2021	2022	2023	Stage 1						Stage 2						Stage 3							4th year	5th year	6th year	7th year	8th year	Demonstration						Extention to farmers	Stage 1 & 2 farmers						Stage 3 farmers				
	2019	2020	2021	2022	2023																																												
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Demonstration																																																	
Extention to farmers	Stage 1 & 2 farmers																																																
	Stage 3 farmers																																																
Target	Sites	<p>In and around tourist sites (Jaipur, Jodhpur, and Udaipur, etc.)</p>  <p>The map shows the state of Rajasthan with its districts. Three specific areas are highlighted with circles: Jaipur in the north-east, Jodhpur in the west, and Udaipur in the south. Surrounding states like Punjab, Haryana, Uttar Pradesh, Gujarat, and Madhya Pradesh are also labeled. A scale bar at the bottom indicates distances up to 400 km.</p>																																															
	Exotic vegetables	<p><u>Mainly recommended:</u> Cherry tomato, broccoli, leaf lettuce</p> <p><u>Possibly recommended:</u> Coloured cauliflower, snap peas, red cabbage, Chinese cabbage, capsicum (bell pepper) and parsley, etc.</p>																																															
	Markets	<ul style="list-style-type: none"> - Public markets (exotic vegetables traders) - Hotels and restaurants 																																															
Flow of training	<ol style="list-style-type: none"> 1. Training of trainers (ToT) for NGOs 2. Farmers training and mentoring by NGOs for implementation 																																																
Activities	<ol style="list-style-type: none"> 1. ToT 2. Demonstration <ol style="list-style-type: none"> (a) Sales to public markets (b) Door-to-door sales to hotels/restaurants 3. Extension to farmers <ol style="list-style-type: none"> (a) Sales to public markets (b) Door-to-door sales to hotels/restaurants 																																																

II. Approaches

1. Demonstration (trial by the Project) of sales activities and extension to farmers

For the first three years, the Project would work on sales of exotic vegetables grown in Agriculture Demonstration Farms by itself. During the harvest period, additional workers would be hired for postharvest activities.

Target buyers are traders of public markets who already deal with exotic vegetables. Another targets are hotels and restaurants in tourist sites for direct sales. Negotiation would be then needed first by bringing sample vegetables to hotels and restaurants and explain quantity to be able to supply. Experiences for developing sales channels would be later shared with farmers through training with a list of potential buyers, starting in the third year of the implementation period. Only for serious farmers, financial support for truck rental services would be provided to transport vegetables as groups.

2. Target sites and target farmers

Targets are farmers in the districts recognized as tourist sites, where Agriculture Demonstration Farms would be established in every district (excluding Jaipur and Jodhpur as of June 2016). Table 2 summarizes target districts and trainees for production training.

Table 2: Target districts for training of exotic vegetables production (Agriculture sector)

Sub-PMU	District	Total number of trainees		
		Stage 1	Stage 2	Stage 3
Jaipur	Ajmer	520	280	240
	Alwar			
	Sawai Madhopur			
	Tonk			
	Jaipur			
Jodhpur	Pali	520	280	240
	Jodhpur			
Udaipur	Chittorgarh	520	280	240
	Udaipur			

Prepared by JICA Survey Team

Remarks:

- Jaipur and Jodhpur are not included in target sites for the Project as of June 2016, but are listed up here for future possibilities to be included.
- For rules to select farmers for the production training, refer to the report of Agriculture sector.

3. Number of training and implementation

As for sales training, 40% of farmers who receive production training would be targeted, selecting based on their performance (productivity, marketability and motivation). For every training, 30 farmers are to be targeted at once whereas 15 farmers are to be grouped for implementation

support (truck rental for collective marketing). Table 3 summarizes the number of farmers for training and implementation support.

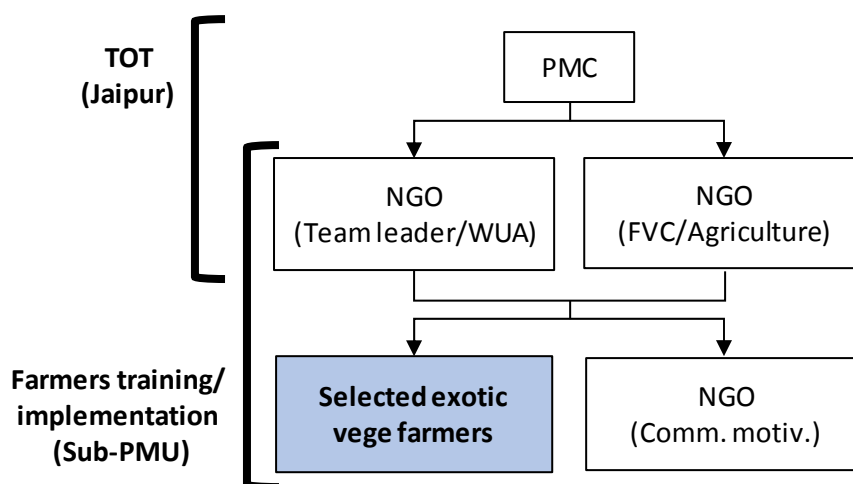
Table 3: Number of farmers for sales training and support for implementation

Training topics		Stage 1	Stage 2	Stage 3
Production training	No. of farmers (100%)	520	280	240
	No. of farmers (40%)	208	112	96
Sales training	No. of training	7	4	4
	No. of farmers for implementation support (truck rental for 15 farmers)	14	7	6

Prepared by JICA Survey Team

4. Flow of training and implementation

For the sales activities, ToT for NGO staff (Team leader/WUA) and (Food Value Chain/Agriculture) would be first conducted all at once in Jaipur. Then, farmers training would be conducted directly to selected exotic vegetable farmers as well as to NGO staff (Community motivators) as mentors. Figure 1 summarizes the flow of training and implementation for exotic vegetables sales.



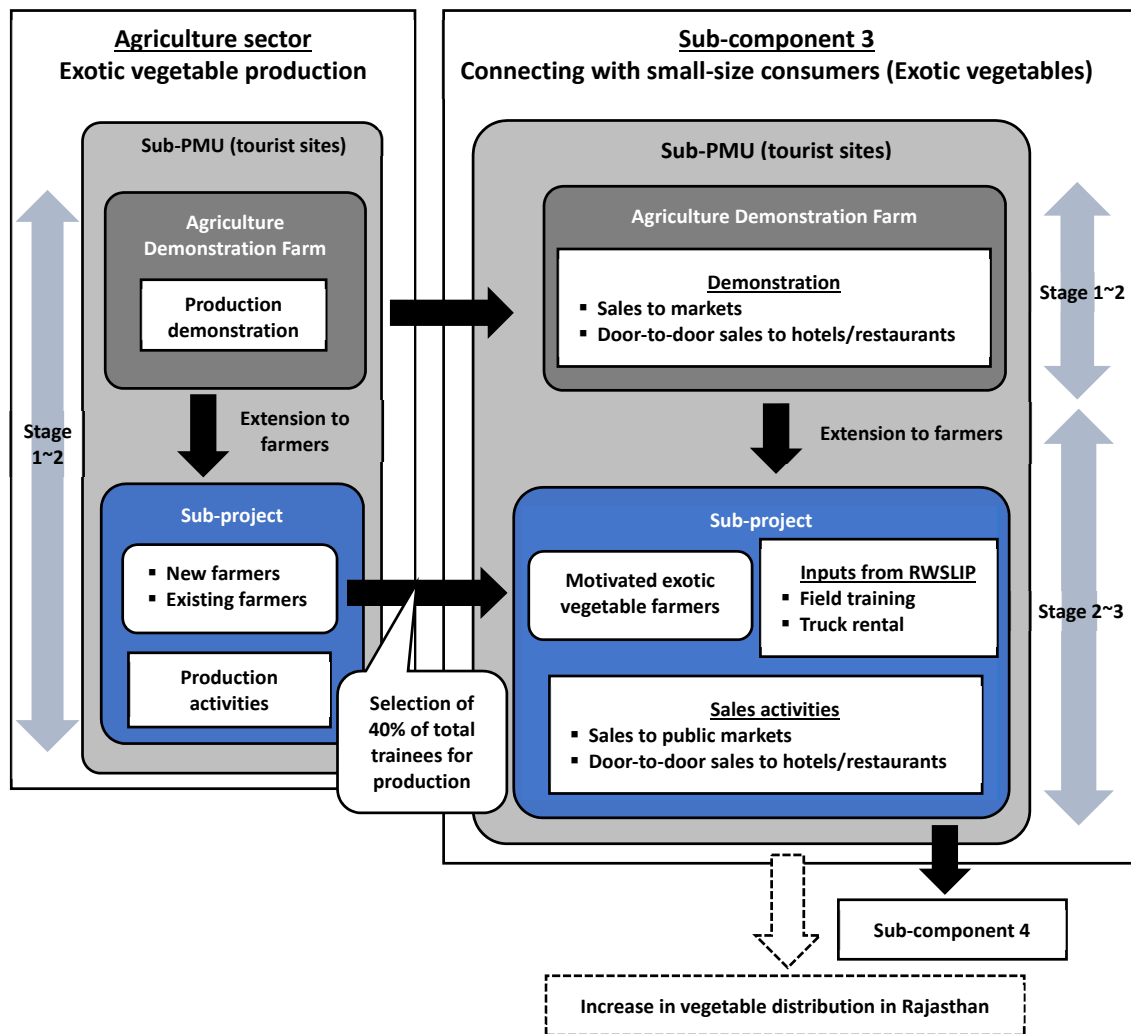
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Figure 1: Flow of training and implementation

III. Activities

1. Flow of activities

Main activities of the farms would be sales to public markets in Jaipur and other large cities in the state as well as door-to-door sales to hotels/restaurants. Prior to extension to farmers, potential farmers would be selected from those who have been trained for exotic vegetables production at Agriculture sector as explained above, based on their performances. Through training in the farms, selected farmers could learn successful cases also from owners and workers of Agriculture Demonstration Farms, and receive support for actual implementation, such as information on buyers and truck rental services to transport vegetables. After the sales support, farmers are expected to move on to Sub-component 4: Brand building for high-value agricultural produces, for higher quality and advanced sales. Flow of activities of Sub-component 3 is explained in Figure 2.



Prepared by JICA Survey Team

Figure 2: Flow of activities

2. Demonstration

Table 4 and 5 summarize contents of the sales activities for demonstration.

Table 4: Sales to public markets

Objectives	To achieve creditable sales results to extend to farmers
Target	- Workers of Agriculture Demonstration Farms
Frequency/ Timing	Constantly during harvest period (especially Rabi season) throughout the implementation period (3 stages)
Expected outputs	Exotic vegetables from Agriculture Demonstration Farms are rather constantly sold to public markets
Inputs by the Project	- Cost for truck rental to transport vegetables - Cost for labour during the harvest period (harvesting, packaging, loading/unloading)

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Table 5: Door-to-door sales to hotels and restaurants

Objectives	To achieve creditable sales results to extend to farmers
Target	- Workers of Agriculture Demonstration Farms
Frequency/ Timing	Constantly during harvest period (especially Rabi season) throughout the implementation period (3 stages)
Expected outputs	Exotic vegetables from Agriculture Demonstration Farms are rather constantly sold to hotels and restaurants
Inputs by the Project	- Cost for truck rental to transport vegetables - Cost for labour during the harvest period (harvesting, packaging, loading/unloading)

Prepared by JICA Survey Team

3. Extension to farmers

Table 6 and 7 summarize contents of the sales activities for demonstration.

Table 6: Sales to public markets

Objectives	To promote exotic vegetables farmers for sales through training and mentoring for implementation
Target	Exotic vegetables farmers who received production training at Agriculture sector
Guest participants	Owners and workers of Agriculture Demonstration Farms

Frequency/ Timing	<u>Training</u> Once before harvest season starts from the third year of the implementation period (Rabi season: November ~ March) <u>Implementation support</u> Constantly during harvest season starting
Expected outputs	Exotic vegetables from Agriculture Demonstration Farms are rather constantly sold to public markets
Inputs by the Project	<u>Implementation support</u> Financial support for truck rental to transport vegetables (only for serious farmers with good performance)

Prepared by JICA Survey Team

Table 7: Door-to-door sales to hotels and restaurants

Objectives	To promote exotic vegetables farmers for sales through training and mentoring for implementation
Target	Exotic vegetables farmers who received production training at Agriculture sector
Frequency/ Timing	<u>Training</u> Once before harvest season starts from the third year of the implementation period (Rabi season: November ~ March) <u>Implementation support</u> Constantly during harvest season
Guest participants	Owners and workers of Agriculture Demonstration Farms
Expected outputs	Exotic vegetables from Agriculture Demonstration Farms are rather constantly sold to hotels and restaurants
Inputs by the Project	<u>Implementation support</u> Financial support for truck rental to transport vegetables (only for serious farmers with good performance)

Prepared by JICA Survey Team

Attachment 5.5.4
Activity Plan: Brand Building for
High-value Added Agricultural Produce

Activity Plan: Brand Building for High-value Added Agricultural Produce

I. Overall View

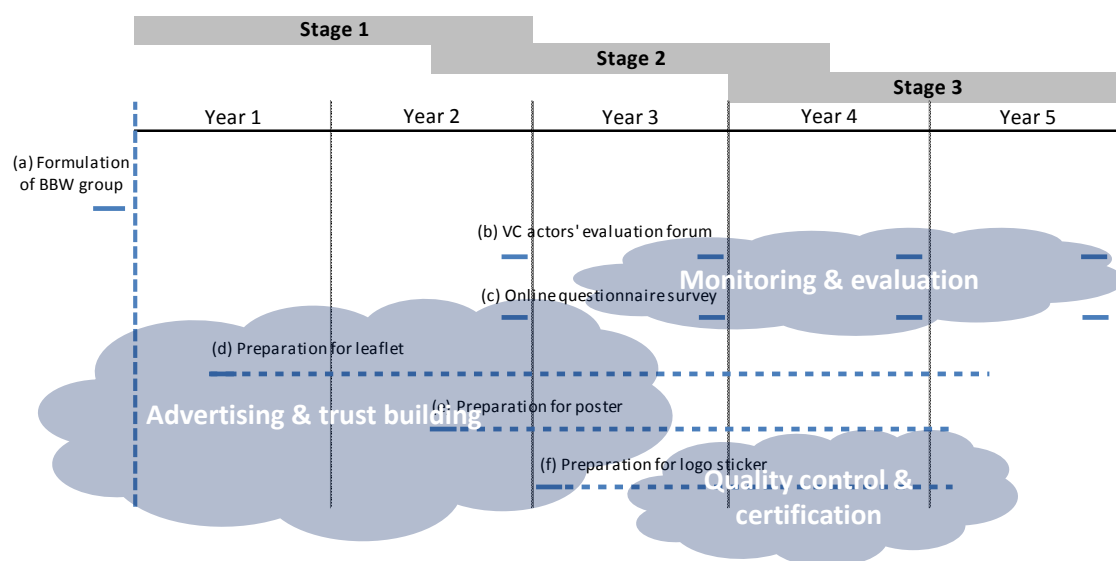
Goal	A basis is established for future branding of high-TSS fruits/vegetables grown in Rajasthan	
Outcomes	<ol style="list-style-type: none"> 1. <u>Market-oriented approaches have been clarified to achieve following objectives:</u> <ol style="list-style-type: none"> (a) To increase TSS of fruits/vegetables through improvement of cultivation techniques in the field also aiming at stable production. (b) To control quality of high-TSS fruits/vegetables sunder standards defined by the Project (c) To develop marketing channels for high-TSS fruits/vegetables 2. <u>Manual is compiled to explain the market-oriented approaches</u> 3. <u>Sales results have been achieved as indicated by following points:</u> <ol style="list-style-type: none"> (a) Single-time sales to individual customers (b) Contract with individual customers (c) Contract with private services (vegetables delivery services, high-grade groceries/ restaurants, etc.) 4. <u>Size of production and marketing has started to enlarge through:</u> <ol style="list-style-type: none"> (a) Extension of the market-oriented approaches to farmers (b) Increase in consumers recognition for high-TSS fruits/vegetables 	
Implementation Period	5 years (3 Stages of Construction works)	
Target Buyers	Upper-income-class and upper-middle-class consumers in large cities (Delhi, Jaipur, etc.)	
Target Farmers	Farmers who received <ul style="list-style-type: none"> ▪ Production training at Agriculture sector (Exotic vegetables, <i>kinnow</i>, santra orange), and ▪ Sales training at Agro-processing and Marketing sector (Exotic vegetables) 	
Target Produce/ Production Sites	Produce	Sites
	Vegetables	In/near Jaipur and other tourist sites
	<i>Kinnow</i> mandarin	Sri ganganagar or Hanumangarh
	Santra orange	Jhalawar or Kota
Coordination Agencies	DoA/DoH	
Approaches throughout the Implementation Period	<ol style="list-style-type: none"> 1. Coordination of overall activities by Brand building working group 2. Experiment for quality improvement at Market-oriented experimental plots for production and sales promotion 3. Application of experimental results to farmers 4. Advertising for high-TSS fruits/vegetables 5. Extension to outside of the Project <div style="text-align: center; margin-top: 10px;"> <p style="text-align: center;">Flow of Approaches throughout the Implementation Period</p> </div>	

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II. Approaches and Activities

1. Coordination of Overall Activities by Brand Building Working Group

To drive projects forward successfully, presence of core members who play central roles for project promotion is essential. For continuous efforts for brand building in the Project, formulation of Brand building working group (hereafter abbreviated to “BBW group”) is suggested. The group would work on overall coordination throughout the entire implementation period from Stage 1 to 3, including following activities, of which implementation timing and objectives are illustrated in Figure 1.



Prepared by JICA Survey Team

Figure 1: Timing and Objectives of Coordination Activities

Details of each activity are explained below.

(a) Formulation of Brand Building Working Group

Above all, under PMC’s initiative, BBW group would be formulated before Stage 1 starts as leading team to coordinate and monitor overall activities for brand building with cooperation by NGOs. Group members would include motivated staff of DoA/DoH, PMU and PMC (5-6 people). After the formulation, BBW group is expected to discuss and agree with the following points, preferably at the kick-off meeting:

- Objectives and schedule of coming activities
- Plan for establishing and operating Market-oriented experimental plots (target sites, target buyers, management rules, etc.)
- RWSLIP’s Quality standards
- Timing of regular meetings for the group

Through regular meetings, all the activity results would be shared and discussed among them for possible improvement.

(b) VC Actors' Evaluation Forum / (c) Online Questionnaire Survey

For periodical monitoring and evaluation purposes, VC actors' evaluation forum and Online questionnaire survey would be conducted as explained in Table 1.

Table 1: Details of VC Actors' Evaluation Forum and Online Questionnaire Survey

	VC Actors' Evaluation Forum	Online Questionnaire Survey
Objective	To obtain opinions from various local value-chain actors from both supply and demand sides on the Project's brand building strategies and to improve activities for coming seasons	<ul style="list-style-type: none"> ▪ To obtain opinions from consumers on high TSS fruits/vegetables produce distributed through the Project. ▪ To understand levels of consumers recognition and reputation for the produce
Timing/ Frequency	<ul style="list-style-type: none"> ▪ At the end of every fiscal year ▪ 4 times throughout 3 Stages 	<ul style="list-style-type: none"> ▪ At the end of every fiscal year ▪ 4 times throughout 3 Stages
Target	BBW group members, regular members from consumer groups, restaurants, high-grade groceries, and farmers, etc. (15-20 people from Rajasthan)	Many and unspecified consumers in and outside Rajasthan
Remarks	Participants should be preferably kept same throughout 3 Stages	To be cooperated by certain organizations for distributing questionnaire to existing consumer food monitors, etc.

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(c) Preparation for Leaflet / (d) Preparation for Poster / (e) Preparation for Logo Sticker

To use for advertising, trust building and quality control, BBW group would prepare leaflet, poster and logo sticker, as needed basis (Table 2). It is preferable that BBW group itself would positively exchange as many ideas as possible on contents and design, instead of completely outsourcing to designers or printing companies.

Table 2: Details of Preparation for Leaflet, Poster and Logo Sticker

	Leaflet	Poster	Logo Sticker
Objectives	<ul style="list-style-type: none"> ▪ To advertise high-TSS fruits /vegetables of the Project ▪ To explain details of high-TSS fruits /vegetables for trust building 	To advertise high-TSS fruits/vegetables of the Project	<ul style="list-style-type: none"> ▪ To control quality among farmers ▪ To certify quality for consumers
Target	<ul style="list-style-type: none"> ▪ Present buyers ▪ Potential buyers 	Potential buyers	<ul style="list-style-type: none"> ▪ Farmers ▪ Present buyers

	Leaflet	Poster	Logo Sticker
Place/ Items	<ul style="list-style-type: none"> ▪ To be distributed with fruits /vegetables for sales ▪ To be distributed at advertising events <ul style="list-style-type: none"> - Antenna shops - Antenna corners - Tasting events - Farmers' fairs 	To be used at <ul style="list-style-type: none"> - Antenna shops - Antenna corners - Tasting events - Farmers' fairs 	To be attached on package of high-TSS fruits/vegetables meeting RQSLIP's Quality standards
Contents	<ul style="list-style-type: none"> ▪ Photo of high-TSS fruits/vegetables ▪ Explanation about TSS/nutrients ▪ Production sites ▪ Date of harvest ▪ Farmers' introduction (name, face, comments, etc.) ▪ Ways to consume (recipe, storage, expiration date, etc.) ▪ Brand logo 	<ul style="list-style-type: none"> ▪ Photo of high-TSS fruits/vegetables ▪ Catch phrase ▪ Brand logo 	<ul style="list-style-type: none"> ▪ Certification logo to indicate that produce meets quality standards ▪ Brand logo
Start to Prepare at	Before starting to sell from Market-oriented experimental plots (middle of Stage 1)	Before starting to operate antenna shops/corners (beginning of Stage 2)	Before (middle of Stage 2)
Designed by	BBW group	BBW group	<ul style="list-style-type: none"> ▪ BBW group (basic idea) ▪ Printing company (finalization)
Printed by	<ul style="list-style-type: none"> ▪ Printing company ▪ BBW group for small number 	Printing company	Printing company

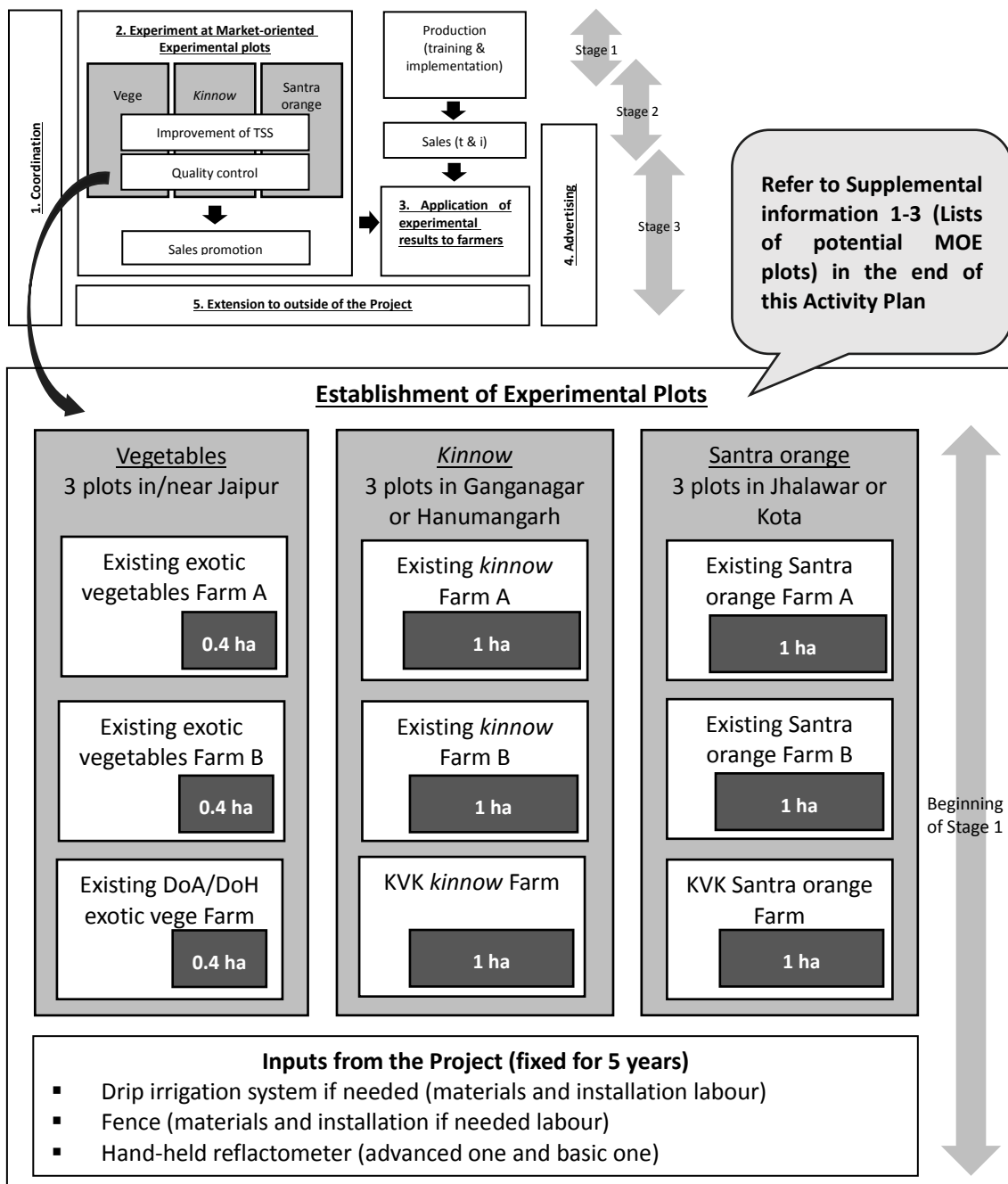
Prepared by JICA Survey Team

2. Experiment for Quality Improvement at Market-oriented Experimental Plots for Production and Sales

Verification of capacity of the production side is required to meet requests from the demand side, such as timing, quantity, quality and delivery methods, and eventually to reach deals. In Rajasthan, however, there is currently no field site aiming to specifically produce high-TSS fruits/vegetables, and no market differentiating prices for high-TSS fruits/vegetables. Therefore, to clarify methodology for TSS improvement and stable production, quality control system, and market channel development, it is recommended to establish Market-oriented experimental plots (hereafter abbreviated to "MOE plots") at the beginning of Stage 1 and continuously operate throughout the entire implementation period, consequently for extension of experimental results to farmers.

(a) Establishment of Experimental Plots

Figure 2 explains the details of MOE plots establishment.



Prepared by JICA Survey Team

Figure 2: Establishment of Market-oriented Experimental Plots

As the approach should be “Improvement and advancement of current techniques”, instead of starting from zero, use of part of existing farms is essential to save time for initial farm preparation

and training. For vegetables MOE plots, it is recommended to select rather experienced exotic farms producing without using tunnel or net houses, considering future extension to other farmers. As for farms without drip irrigation system and mulching sheets yet, the Project would financially support to introduce the materials. It is then expected to take around 2 months at the beginning of Stage 1 for whole preparation (site selection, instalment of drip irrigation, fencing, etc.).

(b) Operation of Experimental Plots

MOE plots aim to conduct experimental activities for 1) TSS/nutrients improvement, 2) Quality control and 3) Market development, each of which are planned based on cropping calendar as shown in Figure 3 (above). Timing of the experimental activities would varies by crops. As for MOE plots (vegetables), target crops include tomato (cherry tomato and regular tomato), broccoli, leaf lettuce, carrot, onion, sweet corn, bell pepper, cucumber, sweet potato, muskmelon and watermelon. As for muskmelon and watermelon, cultivation/harvest period would be Zayed season whereas others would be mainly during Rabi season (Figure 3 (below)).

Cropping Calendar	Sowing/Nursery preparation /Land preparation	
	Cultivation	
	Harvesting	
Experimental Activity	TSS/nutrients improvement	
	Quality control (inspection)	
	Sales promotion	

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
		E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L	E|M|L
Vegetables	Sowing/nursery preparation																
	Cultivation																
	Harvest																
Vegetables (melon)	Sowing/nursery preparation																
	Cultivation																
	Harvest																
Kinnow	Cultivation																
	Harvest																
Santra orange	Cultivation																
	Harvest																

Prepared by JICA Survey Team

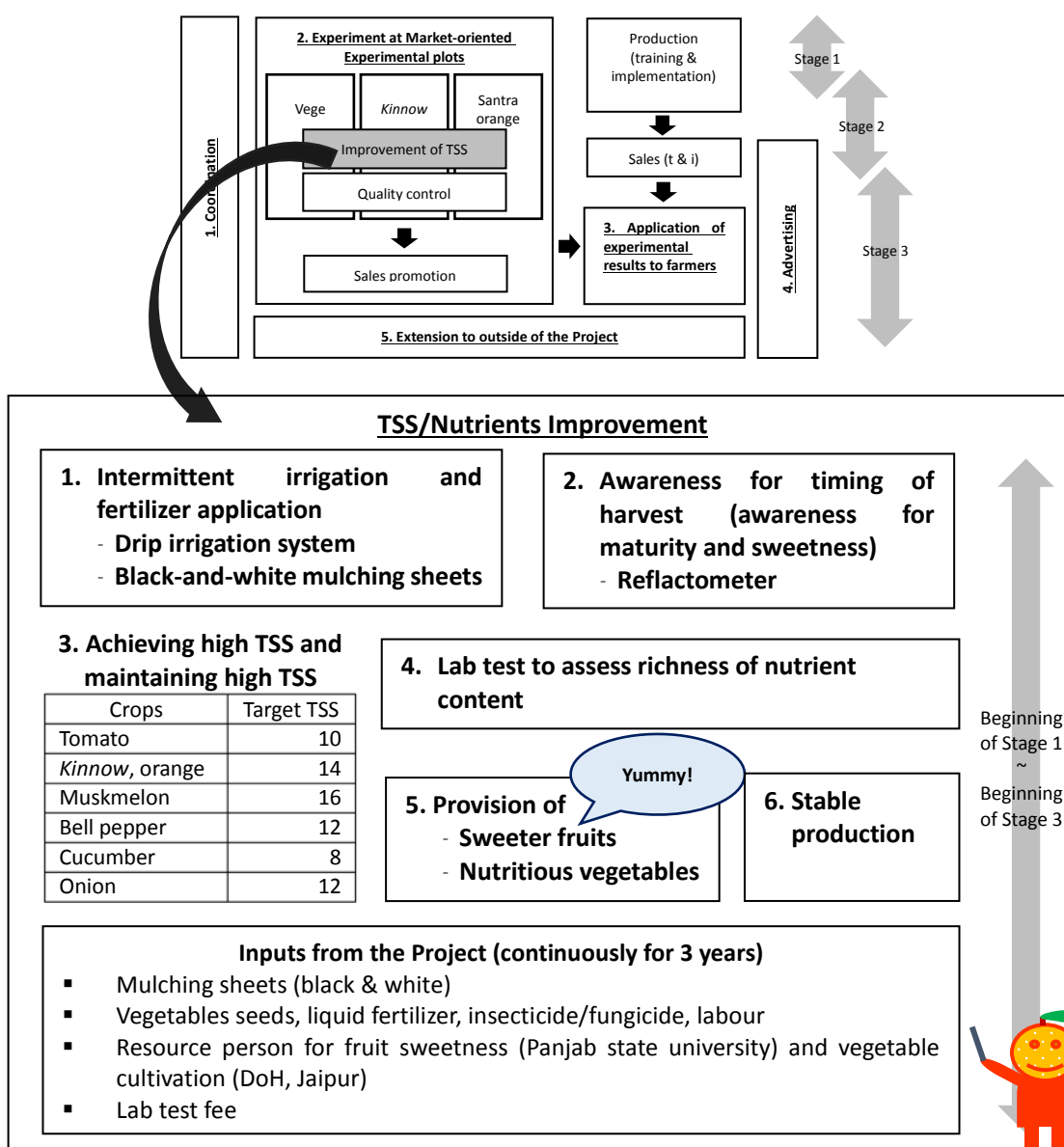
Figure 3: Timing of Activities (above) and Cropping Calendar for Target Crops of Market-oriented Experimental Plots (below)

Experimental results would be compiled into a manual with KVK and DoA/DoH for future implementers of brand building activities.

1) TSS/Nutrients Improvement

TSS levels can be used as indicators of sweetness of crops as well as nutrient contents such as vitamin C and beta-Carotene, as seen in proportional relevancy between levels of TSS and nutrients (proved by Japan Food Research Laboratories). According to an informal tasting survey

by JICA Survey Team, it seems that many Indian consumers prefer higher-TSS fruits (muskmelon¹) simply because they are “sweeter”. As for vegetables (tomato, cucumber), on the other hand, high TSS does not necessarily indicate “sweet” and “tasty” for the consumers, of which opinions differ depending on other factors such as bitterness and skin hardness. This result has suggested us to aim at promoting high-TSS fruits as “sweeter fruits” and high-TSS vegetables as “more nutritious vegetables” instead of “sweeter vegetables”. Figure 4 explains the details of the experimental activity for TSS/nutrients improvement in MOE plots.



Prepared by JICA Survey Team

Figure 4: TSS/Nutrients Improvement at Market-oriented Experimental Plots

¹ Although both muskmelon and watermelon are theoretically regarded as vegetables in India, we categorized muskmelon into fruits in this tasting survey as a representative of fruits.

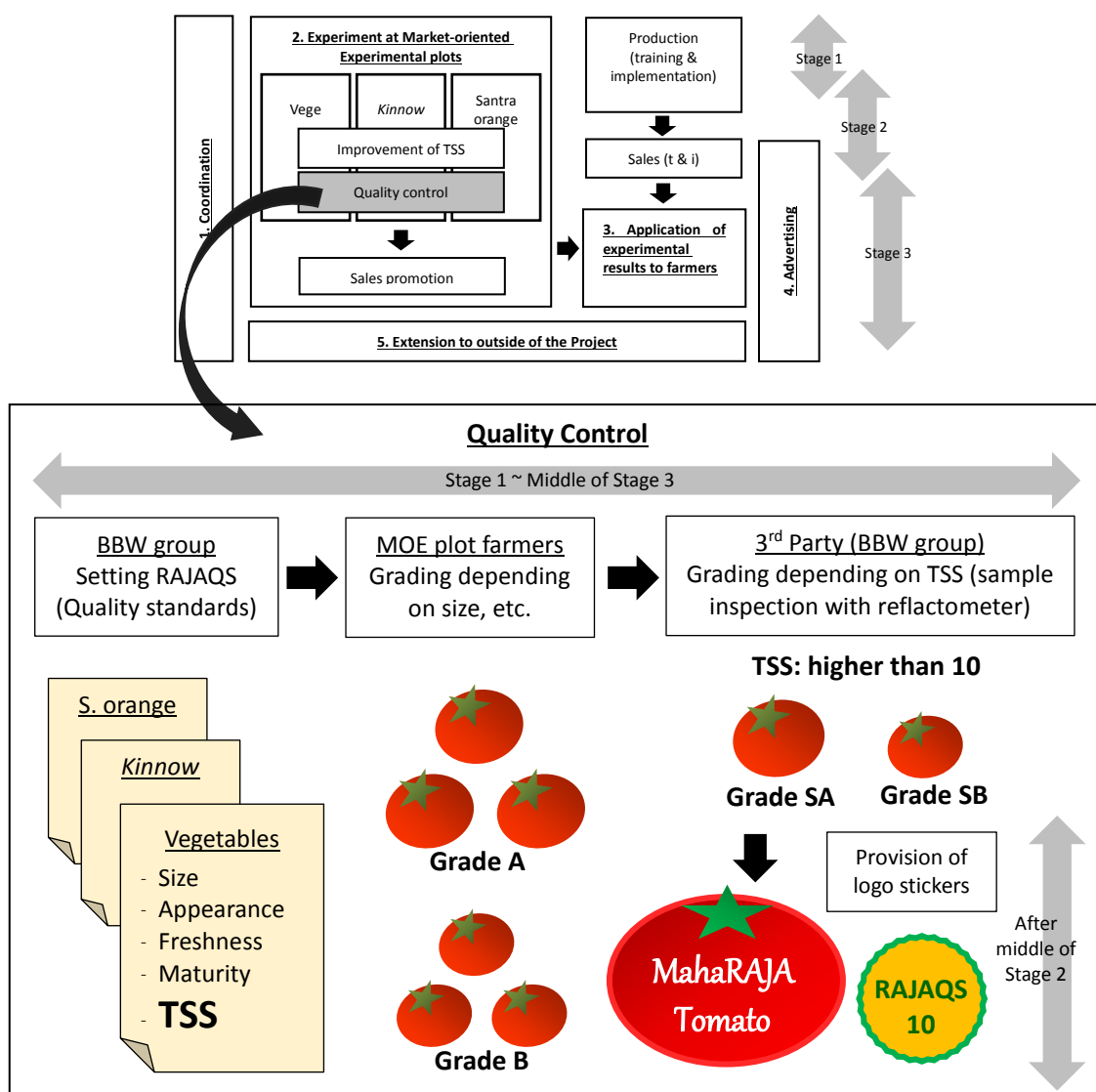
Application of limited water and fertilizer would allow increase in TSS and other nutrients in crops. Combined use of drip irrigation system and black-and-white mulching sheets could realize intermittent irrigation and fertilizer application. Timing of harvest is another point to be aware for maximizing TSS level, which can be checked by a refractometer for sweetness².

It is expected that those cultural methods would improve current productivity of high-TSS fruits/vegetables, namely, by increasing TSS/nutrients and by maintaining TSS which are already high enough. Use of refractometer would simply tell TSS levels as indicator of sweetness and levels of other nutrient contents, whereas other nutrients could be annually measured through lab test outsourcing to State agricultural universities (Department of Horticulture, Department of Home Sciences, etc.). After several seasons, it is expected that MOE plots would be able to constantly produce a stable amount of high-TSS fruits/vegetables.

2) Quality Control

Quality control for high-TSS fruits/vegetables means protection of images of their brand, which is built on trust by consumers. There is currently no official standards to evaluate TSS levels of fruits/vegetables in Rajasthan. To achieve differentiation of high-TSS fruits/vegetables in the market, BBW group would set simple quality standards (e.g. RAJAQS = RWSLIP's quality standards) based on TSS levels, objective indicator for quality, for third-party certification within the Project (Figure 5).

² For example, Aichi prefecture, Japan, produces tree-ripened mandarin orange ("*dekopon*" brand), which has less sourness but is much sweeter than those get ripen after harvesting.



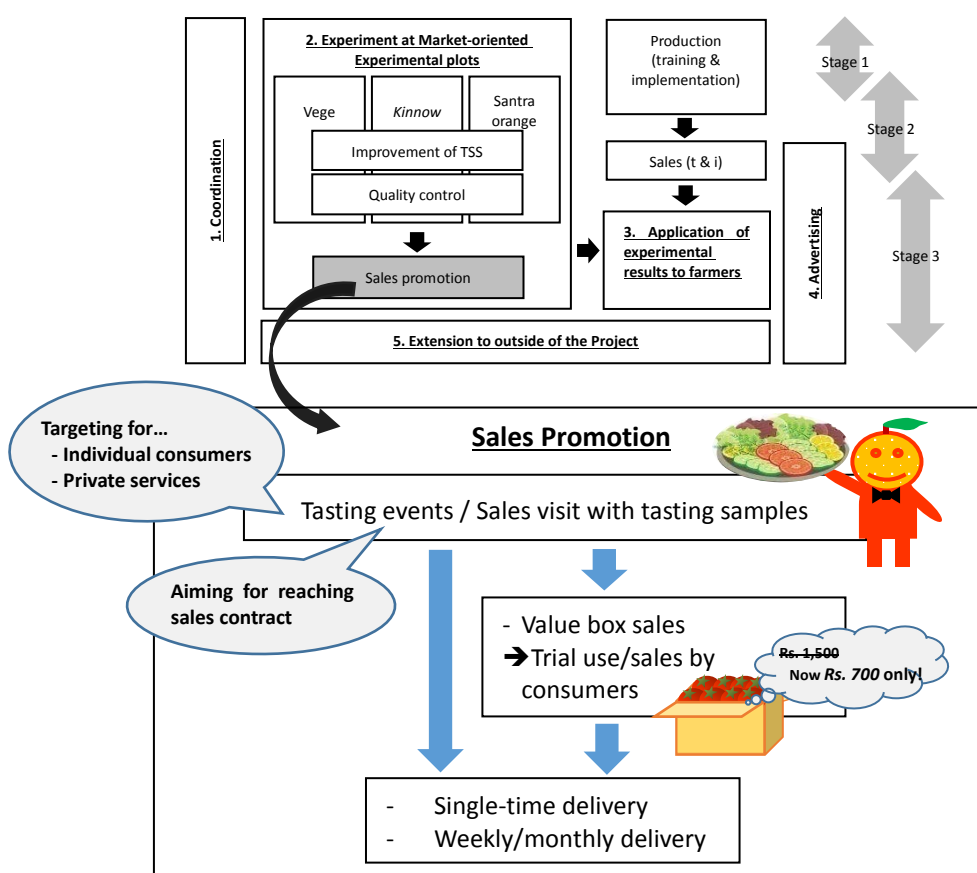
Prepared by JICA Survey Team

Figure 5: Quality Control at Market-oriented Experimental Plots

RAJAQS should be set differently for every commodity, covering its size, appearance (skin shininess, level of damage, etc.), freshness, and maturity, which are usually checked on farm by farmers who grade produce. In addition, TSS levels would be included in the standards. This could require additional grading after grading by the third party, namely sample inspection by BBW group, in the case of the Project. Only the agro produce which cleared the required TSS could obtain logo stickers for certification. Note that use of such logo stickers would start after sales of high-TSS fruits/vegetables become rather constant (e.g. after middle of Stage 2).

3) Sales Promotion

Since the definition of high-TSS fruits/vegetables is not familiar with Rajasthan consumers yet, it would be necessary to let them know about the produce first to increase their buying motivation. Based on this understanding, in the Project, face-to-face sales promotion activities with targeted consumers are planned, devoting a certain amount of time and energy to explain about value or merit of the produce. The activities would not aim only to advertise or sell but finally to attract customers to reach sales contract hopefully on a scheduled delivery basis. Figure 6 illustrates the basic concept of the Project's sales promotion, followed by explanation about targeted consumers, sales promotion activities, and delivery and packaging.



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Figure 6: Basic Concept of Sales Promotion

(a) Targeted Consumers

Considering that high-TSS fruits/vegetables would be priced higher than ordinary fruits/vegetables, targeted market segment should be those who can afford to pay for them. Therefore, the Project would strategically focus on consumers belonging to the upper-income class and upper-middle-income class, both individuals and private services. Individuals could be identified, for example, among members of social services groups (Rotary Club, Lion's Club, etc.), employees of Japanese/foreign-affiliated companies and members of Japanese/foreign

associations in India, etc. Besides, private services dealing with high-grade commodities for the upper-class and upper-middle-class consumers would be targeted; for example, high-grade groceries/restaurants and vegetables delivery services³.

(b) Sales Promotion Activities

To effectively convey values of high-TSS fruits/vegetables to the targeted consumers, two types of sales promotion activities are planned throughout the harvest seasons, namely, tasting events and sales visit with tasting samples. Appropriate

Tasting Events

For different types of targeted consumers, different types of tasting events are proposed: catering type for upper-middle-income class office workers and invitation type for upper-income class consumers and private services (Table 3).

Table 3: Details of Tasting Events

	Catering Type	Invitation Type
Target	<p><u>Upper-middle-income class consumers</u></p> <ul style="list-style-type: none"> - Unspecified office workers - 20~100 persons/time 	<p><u>Upper-income class consumers</u></p> <ul style="list-style-type: none"> - Social services group members, etc. - 30 persons/time <p><u>Private services</u></p> <ul style="list-style-type: none"> - Representatives from vegetable delivery services, high-grade groceries/restaurants - 30 persons/time
Venue	Working places of targets (canteen, etc.)	High-grade restaurants
Contents	<ol style="list-style-type: none"> 1. Serving a few plates of prepared/cooked high-TSS fruits/vegetables 2. Questionnaire survey 3. Making contract if possible (0.5-1 hour during office lunch time) 	<ol style="list-style-type: none"> 1. Presentation by the Project about high-TSS fruits/vegetables 2. Serving full-course lunch using high-TSS fruits/vegetables 3. Opinion exchange/questionnaire survey 4. Making contract if possible (2-3 hours)
Timing and Frequency	<p>(A) <u>Vegetables and citrus</u> 92 times/project period (4 seasons)</p> <ul style="list-style-type: none"> - 28 places /Rabi season (only 8 places/season in the first season depending on the status of harvest) - 1 places/week - 7 months/Rabi season (October - April) (only 2 months in the first season depending on the status of harvest) <p>(B) <u>Melon</u> 32 times/project period (4 seasons)</p> <ul style="list-style-type: none"> - 8 times/Zayed season - 4 places/month (1 places / week) - 2 months/Zayed season (May - June) 	<p>(A) <u>Vegetables and citrus</u> 42 times/project period (3 seasons)</p> <ul style="list-style-type: none"> - 14 places/Rabi season - 2 places/month - 7 months/Rabi season (October - April) <p>(B) <u>Melon</u> 12 times/project period (3 seasons)</p> <ul style="list-style-type: none"> - 4 place_times/Zayed season - 2 place_times/month - 2 months/Zayed season (May - June)

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By spending a certain amount of time to explain carefully about the produce and entertain participants with elegant presentation of food, it is also expected to give an impression that they

³ As for examples of vegetable delivery services, refer to Supplemental information 4 (List of vegetable delivery services in Delhi) at the end of this Activity Plan.

are selected consumers for the events arranged exclusively for them. Consequently, the events could lead to establishment of face-to-face relationship with the participants, also enhancing their trust for the produce and increasing buying motivation.

Sales Visit with Tasting Samples

In parallel with tasting events, sales visit shall be conducted with tasting samples for many and unspecified potential customers in the upper-income class and upper-middle-income class, for example, by means of walk-in visit to residents in high-class residential areas. This activity might also lead to additional implementation of tasting events for specific groups (residents in same apartment, etc.). It is recommendable to plan to implement sales visit continuously during the entire harvest season every year, for 5~20 places per week.

Provision of Opportunities for Trial

Even after increasing interest of targeted consumers to purchase the produce, they may still feel reluctant to jump straight to making sales contract on a regular delivery basis. For such consumers, two-step marketing is proposed, instead of trying to sell the produce to them in one step without trial. Specifically saying, samples could provided, for instance by selling value boxes at discount prices for trial consumption at home or trial sales to their own customers in the case of private services. It is expected that provision of such opportunities could lower consumers' psychological barriers for paying good money to new produce, and make them step into sales contract.

(c) Delivery

During the Project period, the Project would deliver produce directly to customers by truck. In the future, after the Project completion, possibly with a number of customers, it is expected that its customers would be shifted to vegetables delivery services with its delivery tasks. In some distant future, private services might collect produce by themselves at production sites or nearby collection points to save delivery costs. Parcel delivery services (courier companies) could be made use of, too. However, at present, it is not certain if such options would be available in a nod of the current situation of the distribution industry (refer to Attachment 2.6.7 for the details). Therefore, it would be first necessary to explore methods appropriate for the local situation.

(d) Packaging

Finally, it would be also important to be aware of packaging to maintain the quality of the produce and retain customers. To demonstrate the importance of packaging, following points could be taken care of; 1) wrap small amount of fruits/vegetables individually using materials appropriate for every different fruit/vegetable (e.g., plastic case for cherry tomato, newspaper for onion, etc.), 2) use of buffer materials to protect fruits/vegetables during transportation, 3) use of reusable bags for customers with longer-term contract.

3. Application of Experimental Results to Farmers

After several seasons for the experimental activities in MOE plots, successful results would be applied to farmers to increase total production. Also with awareness of brand control, quality of farmers' produce shall be maintained under the Project. Farmers would be then integrated into the sales network developed by the Project. Basic structure of the activity is summarized in Table 4.

Table 4: Basic Structure of Application of Experimental Results to Farmers

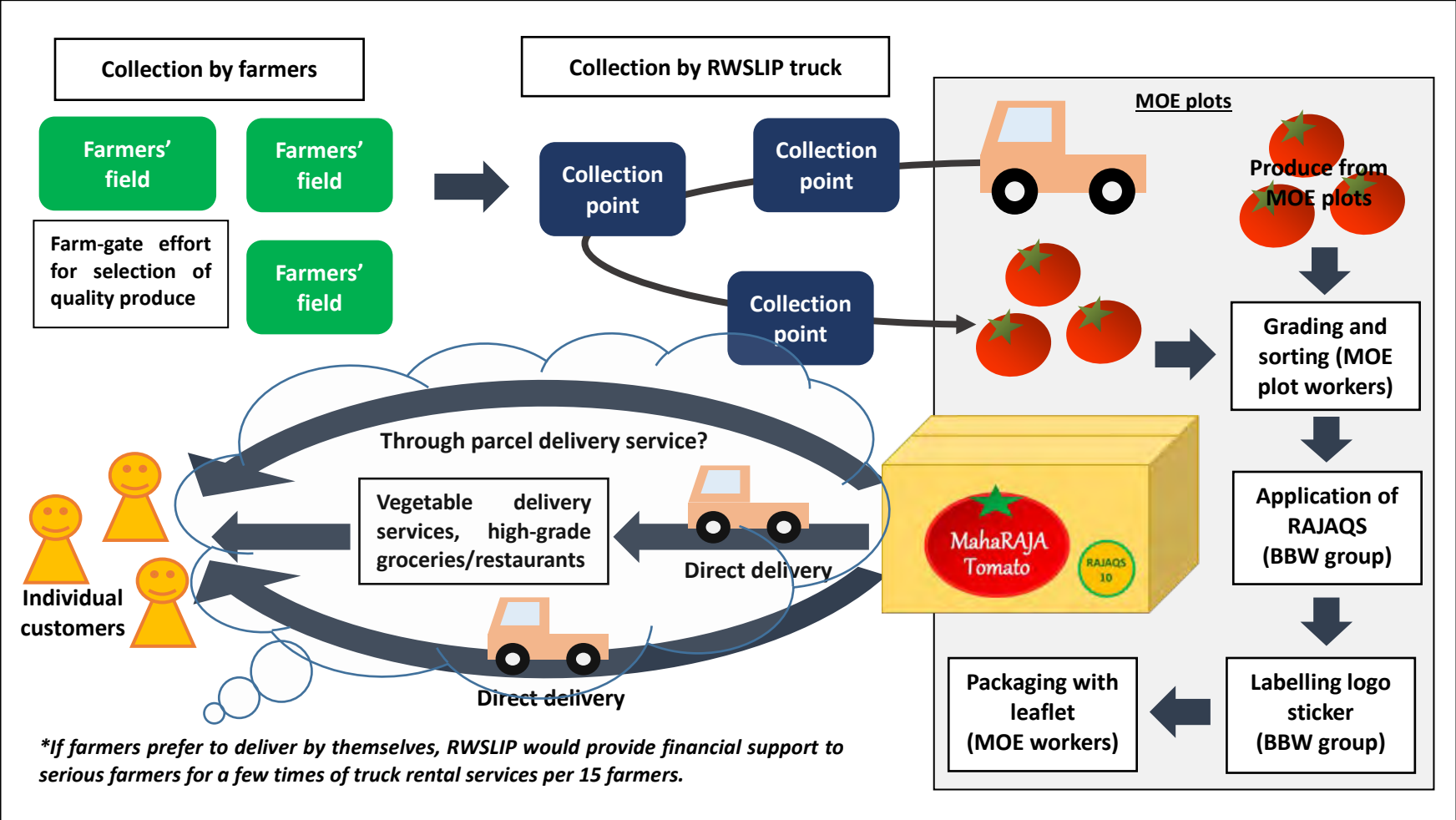
MOE plots	Vegetables	Kinnow	Santra Orange																																										
Target Site	- In and around MOE plots (Jaipur) - Other exotic vege sites	In and around MOE plots (Sri ganganagar, Hanumangarh)	In and around MOE plots (Jhalawar, Kota)																																										
Estimated no. of Trainees	208 (Ajmer, Alwar, Sawai Madhpur, Tonk, Pali, Chittorgah, Udanpur)	488 (Sri ganganagar, Hanumangarh)	312 (Jhalawar, Kota)																																										
Selection of Trainees	<p>Farmers who are motivated for participating in brand building activities after receiving following training (around 20% of total farmers who have received production training):</p> <ol style="list-style-type: none"> 1. Production of exotic vegetables, <i>kinnow</i>, and Santra orange, respectively (Agriculture sector) 2. Sales of exotic vegetables to market or hotels/restaurant (Activity 3.3.1 & 2 of Component 4: Agro-processing, Marketing, and Promotion of High-value Added Agricultural Produce) 																																												
Period	<p>After several trials of the experimental activities in MOE plots (from the end of Stage 2, at earliest)</p> <table border="1"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td>Stage 1</td> <td colspan="5">[Shaded]</td> </tr> <tr> <td>Stage 2</td> <td colspan="5">[Shaded]</td> </tr> <tr> <td>Stage 3</td> <td colspan="5">[Shaded]</td> </tr> <tr> <td></td> <td>4th year</td> <td>5th year</td> <td>6th year</td> <td>7th year</td> <td>8th year</td> </tr> <tr> <td>MOE plots</td> <td>[Shaded]</td> <td>[Shaded]</td> <td>[Shaded]</td> <td>[Shaded]</td> <td></td> </tr> <tr> <td>Application to farmers</td> <td></td> <td></td> <td></td> <td>[Shaded]</td> <td>[Shaded]</td> </tr> </tbody> </table>				2019	2020	2021	2022	2023	Stage 1	[Shaded]					Stage 2	[Shaded]					Stage 3	[Shaded]						4th year	5th year	6th year	7th year	8th year	MOE plots	[Shaded]	[Shaded]	[Shaded]	[Shaded]		Application to farmers				[Shaded]	[Shaded]
	2019	2020	2021	2022	2023																																								
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MOE plots	[Shaded]	[Shaded]	[Shaded]	[Shaded]																																									
Application to farmers				[Shaded]	[Shaded]																																								
Methods	<ol style="list-style-type: none"> 1. Field raining at MOE plots: TSS/nutrients improvement, Quality control, Market development 2. Support for implementation 																																												

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Following steps summarizes a process to include farmers in the brand building activities after the experiment period also as illustrated in Figure 7.

1. The Project conducts training on TSS/nutrient improvement and quality control to farmers.
2. Farmers work on production and harvest as well as quality control by their own effort using refractometers.
3. Farmers bring their produce to collection points or MOE plots.
4. The Project collects the farmers' produce at collection points or MOE plots.
5. The Project works on grading both farmers' produces and MOE plots' produce following its own quality standards (RAJAQS).
6. The Project deliver selected high-TSS fruits/vegetables to customers from MOE plots.

If farmers prefer to deliver their produce to customers by themselves, financial support would be provided by the Project only for those who are serious (a few times of truck rental services per 15 farmers).



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Figure 7: Inclusion of Farmers in Brand Building Activities

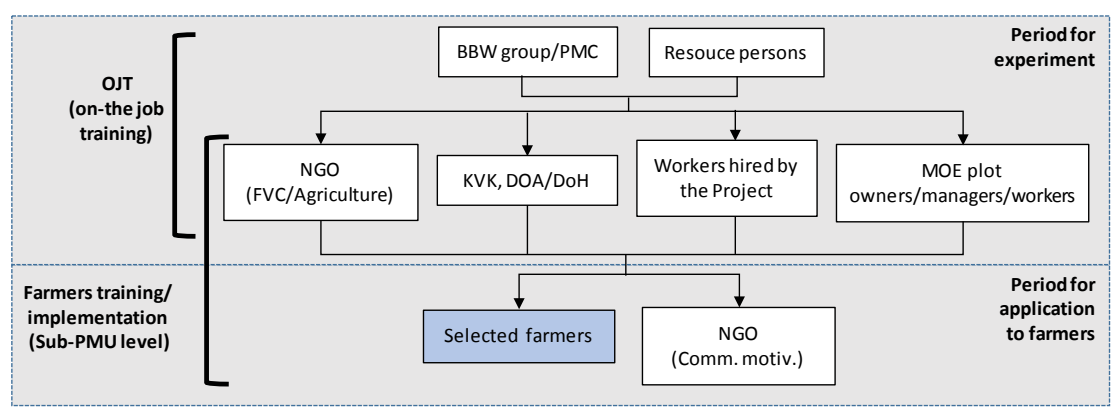
Table 5 summarizes contents of field training as well as implementation support for farmers

Table 5: Contents of Field Training and Implementation Support for Farmers

Topics	TSS/nutrients improvement	Quality control	Sales/packaging
Objectives	To train farmers to technically increase TSS/nutrients in the field using drip irrigation and black & white mulching sheets	To train farmers for quality control system of the Project	To train farmers for selling to individual consumers (directly or through vegetable delivery services)
Timing of conducting field training	<u>At the beginning of cultivation</u> Note: Training for vegetables will be conducted separately for regular vegetables at Kharif season and muskmelon/watermelon at Zayed season (see Figure 3).	<u>At the beginning of harvesting period</u> Note: The two topics, “Quality control” and “Sales/packaging”, will be combined in same training.	
Contents of field training	Techniques to maximize TSS - Intermittent irrigation and fertilizer application - Harvesting at best timing based on TSS level and maturity	Quality control system - Quality standards of the Project (RAJAQS) - Confirmation of harvest timing using handheld refractometer	- Sharing information on buyers - Agreement with collection system - Practice for packaging using proper materials
Implementation support	Mentoring	Provision of handheld refractometer (75% financed for Rs. 2,000)	Partial financing for - Truck rental service to transport agricultural produce (incl. driver, 35km/day) - Packaging materials

Flow of extension

1. On-the-Job Training by BBW group/PMC and resource persons to NGO staff (Food value chain/Agriculture) and MOE plot owners/managers
2. Field training at MOE plots by NGOs and MOE plot owners/managers to farmers



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4. Advertising for High-TSS Fruits/Vegetables

Only selling produce can attract limited number of consumers, taking some time to increase customers. It is therefore important, for brand building, to tell consumers stories behind produce as well as sales activities. In the Project, after several seasons for implementation of the experimental activities, for example after the middle of Stage 2, several advertising activities are planned in and outside the state to widely advertise high-TSS fruits/vegetables of Rajasthan and gain higher number of customers. Table 6 summarizes contents of the activities.

Table 6: Contents of Advertising Activities

	Antenna Shops/Corners	Farmers' Fairs	Multimedia Advertising	DoA/DoH's Website
Objectives	<ul style="list-style-type: none"> - To advertise and sell high-TSS fruits/vegetables produced by the Project - To obtain opinions from consumers 		To widely advertise high-TSS fruits/vegetables produced by the Project	
Location/ media	Tourist sites <u>(a) Shops</u> <ul style="list-style-type: none"> - Airports (2) - Railway stations (3) <u>(b) Corners</u> <ul style="list-style-type: none"> - High-grade groceries (3) 	<ul style="list-style-type: none"> - State farmers' fair sites (Rajasthan) - National farmers' fair sites (Delhi) 	TV commercial, newspaper, gourmet magazine, public transportation	DoA/DoH's website
Target	<ul style="list-style-type: none"> - Airport/railway station users (tourists, etc.) - Customers of high-grade groceries 	<ul style="list-style-type: none"> - Buyers (traders, etc.) - Consumers (visitors) - Farmers outside the Project 	Wider range of consumers	Website accessors
Timing/ frequency	2~8 month/year during Rabi/Zayed harvest season	1~2 times/year during Rabi harvest season	2~5 month/year during Rabi harvest season	Continuously during Stage 2-3
Contents	<ul style="list-style-type: none"> - Sell high-TSS fruits/vegetables of the Project at stall established at airports/ railway stations or corner of groceries - Tasting - Questionnaire survey after tasting - Distribution of leaflet 	<ul style="list-style-type: none"> - Exhibition of high-TSS fruits/vegetables at State/National farmers' fairs - Competition show for higher TSS among Project farmers - Tasting - Questionnaire survey - Distribution of leaflet 	<ul style="list-style-type: none"> - Designing of advertisement - Advertising at national level (TV commercial, newspaper, gourmet magazine) - Advertising at state level (bus) 	<ul style="list-style-type: none"> - Designing of advertisement - Advertising

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5. Extension to Outside the Project

To extend the experimental results at Market-experimental plots to promote production and sales of high-TSS fruits/vegetables outside the Project, training (class-room lecture) would be conducted for DoA/DoH officials outside the Project (in Rajasthan), for 3 times during Stage 3.

Supplemental Information 1:

List of Potential Market-oriented Experimental Plots

Districts Producing Exotic Vegetables

No.	Districts	Places	Cultivated Exotic Vegetables
1	Jaipur	Chomu	Broccoli
2	Jaipur	Bassi Chomu, Begus Kotputli Pavta	Yellow Zucchini
3	Jaipur	Chomu Bassi	Lettuce: Romaine, Iceberg, Lolo-rossa, Green
4	Jaipur	Bassi	Pak-choy-White/Green
5	Jaipur	Chomu Bassi	Celery
6	Jaipur	Chomu	Parsley
7	Jaipur	Chomu Bassi	Red cabbage
8	Jaipur	Bassi Chomu	Basil
9	Jaipur	Bassi Chomu	Rocket (Ruccola)
10	Jaipur	Nearby places	Florence fennel
11	Jaipur	Chomu	Lemon grass
12	Jaipur	Nearby places	Brussels sprout
13	Jaipur	Bassi Chomu	Cherry tomato
14	Jaipur	Bassi Chomu	Chinese cabbage
15	Jaipur	Bassi Chomu	Leak
16	Jaipur	Nearby places	Lemon balm
17	Pali, Udaipur, Ajmer, Kota, Jaipur, Sikar, Alwar, Dausa	Nearby places	Red & yellow capsicum (Paprika, bell pepper)
18	Dausa, Alwar	Lalsot	Green zucchini
19	Jaipur, Tonk, Sawai Madhopur	Chomu Bassi	Chinese cucumber (= Japanese cucumber)
20	Sriganganagar Hanumangarh Alwar, Jaipur	Nearby places	Sweet corn

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Supplemental Information 2:

List of Potential Market-oriented Experimental Plots

Villages Producing Exotic Vegetables in Jaipur

No.	Panchayat Samiti	Villages
1	NA	Basedi
2	Govindgarh	Singod
3	Govindgarh	Ghenoi
4	Govindgarh	Chimanpura
5	Govindgarh	Manpura
6	Govindgarh	Machedi
7	Near Bassi	Peelia

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Supplemental Information 3:

List of Potential Market-oriented Experimental Plots

~Progressive Farmers Who Have Produced *Kinnow* with Drip Irrigation System~

No.	Name of farmer (mobile no,)	Father's name	Chak	Panchayat Samiti	Year to start cultivating <i>kinnow</i>	Area (ha)	No. of plants	Production (in Quintal)
1	Shri Indra sain m.no.- 9983900007	Shri Hansraj	11 que	shri ganganagar	2008-09	2.5	800	1,000
2	Shri Vipul Godara m.no.-9413747838	Shri Surendra kumar	7 D	Shri ganganagar	2011-12	5.35	1,920	1,200
3	Shri Rakesh Jakhar m.no.-9680717555	Shri Nandram Jakhar	5 PP A Ghamurwali	Padampur	2006-07	7.5	2,420	4,180

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Supplemental Information 4:

List of Private Vegetable Delivery Services in Delhi

No.	Shops	Website
1	Altitude store	http://www.thealtitudestore.com
2	Apna haat	http://www.apnahaat.com/
3	Big basket	www.bigbasket.com/
4	Big shopping	http://www.bigshopping.com/
5	Delhi mandi	http://www.delhimandi.com/
6	Drishtee	http://www.drishtee.org/
7	Falphool	http://falphool.com/
8	Farm fresh to you	www.farmfreshtoyou.com/home_delivery/
9	Fresh 'n' fair	http://www.freshnfair.in/
10	Fresh fal sabzi	http://www.freshfalsabzi.com/
11	Green tokri	www.greentokri.com/
12	Grofers	https://www.grofers.com/
13	I Say Organic	http://www.isayorganic.com/
14	Jag's Fresh	http://www.jagsfresh.com/
15	Just dial	http://www.justdial.com/Delhi-NCR/Fruit-Home-Delivery-Services-%3Cnear%3E-Gurgaon/ct-99552
16	Mother Dairy Fruits & vegetables	http://www.motherdairy.com/MotherDairyPages/ourproducts.aspx?CATID=5
17	Nature's basket	http://www.naturesbasket.co.in/Online-grocery-shopping/Fruits---Vegetables/5_0_0
18	Sabji on wheels	http://www.sabjionwheels.com/
19	Sabzi2home	www.sabzi2home.com/
20	Sabzikart	http://www.sabzikart.com/
21	SabziLo	www.sabzilo.com/
22	SRS Grocery shop	http://www.srsgrocery.com/
23	The Smart Trolley	www.thesmarttrolley.com/
24	Tomato Project	http://vegehime.web.fc2.com
25	Vaer organic	http://www.vaerorganic.com/index.php?route=common/home
26	Veggi Bazaar	http://veggiebazaar.com/
27	24x7Fresh	http://24x7fresh.in/

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Attachment 5.5.5
Summary of Project Activity for
Agro-Processing, Marketing and
Promotion of High-value Added
Agricultural Produce

Attachment 5.5.5 Summary of Project Activity for Component 4: Agro-processing, Marketing, and Promotion of High-value Added Agricultural Produce

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
1. FIG formulation for cooperative activities								
1.1. Training of trainers (ToT) for FIG activities <u>Objectives:</u> To train trainers for FIG formulation and cooperative activities	<u>In charge:</u> Consultant, PMU (Marketing board/SFAC) <u>Cooperated by:</u> WRD or Marketing board <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur (WRD or Marketing board) <u>Frequency:</u> Once/Stage	1. NGO staff (Team leader/WUA) (5 prs.) 2. NGO staff (FVC) & (FVC/Agri) (10 prs.)	Class room lecture	1. Facilitator (Consultant) 2. Venue 3. Tea & lunch 4. Allowance (NGO) 5. Accommodation (NGO) 6. Stationary	1. Consultant 2. PMU (in the case of hotel) 3 & 6. PMU 4 & 5. NGO	Venue (WRD or Marketing board office if possible)	WRD or Marketing board	NGO staff (Team leader/WUA and Agriculture/FVC) confirm following points: ▪ Objectives and schedule of FIG formulation and following activities ▪ Method to select Cooperative demonstration groups Note: This TOT also aims at explaining other sub-components of FVC sector as kick-off.
1.2. Support for Cooperative demonstration groups								
1.2.1. Selection of Cooperative demonstration groups <u>Objectives:</u> To select potential groups to act as Cooperative demonstration groups	<u>In charge:</u> Consultant, NGO staff (Team leader/WUA) and (FVC) <u>Cooperated by:</u> NGO staff (Agriculture), PMU <u>Logistics:</u> Consultant <u>Venue:-</u> <u>Frequency:</u> Once/Sub-PMU/3 Stage	Farmers who have received training in Agriculture sector	▪ Discussion with NGO staff (Agriculture) to determine candidate farmers ▪ Field visit to explain to candidate farmers and confirm intention	Transportation (NGO)	NGO	-	-	Cooperative demonstration groups are selected (One group/Sub-PMU)
1.2.2. Guidance for demonstration group activities <u>Objectives:</u> To guide Cooperative demonstration group for cooperative activities	<u>In charge:</u> NGO staff (FVC) & (Agriculture) <u>Cooperated by:</u> Nearest local branch of bank, Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Cooperative demonstration sites <u>Frequency:</u> Once/Sub-PMU/ 3 Stages	1. Cooperative demonstration group members (10-20 prs.) 2. NGO staff (Community motivator) (2 prs.)	Class room lecture (1day)	1. Facilitator (NGO) 2. Lecturer (Bank manager) 3. Venue 4. Tea & lunch 5. Stationary 6. Transportation	1. NGO 2. No charge (bank's duty) 3-6. PMU	-	-	Cooperative demonstration groups discuss and agree with following points: ▪ Objectives, procedure and schedule for following activities ▪ Management members ▪ Group rules
1.2.3. Accessing loan <u>Objectives:</u> To promote and mentor accessing loan through opening bank account by a group (or a group representative) for agricultural input procurement	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:-</u> <u>Frequency:</u> Twice/Sub-PMU/3 stages	Cooperative demonstration group members (10-20 prs.)	Implementation	1. Mentor (NGO) 2. Advance cost for guarantee deposit to open bank account (only once)	1. NGO 2. PMU	-	-	Cooperative demonstration groups implement following activities: ▪ Open bank account ▪ Get a loan to procure agricultural inputs

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
1.2.4. Group procurement of agricultural inputs <u>Objectives:</u> To promote group procurement of agricultural inputs (seeds, fertilizers, pesticides, etc.) using a loan	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:-</u> <u>Frequency:</u> 3 times /Sub-PMU/3 stages	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for truck rental to transport agricultural produce_only once per implementation period	1. NGO 2. PMU	-	-	Cooperative demonstration groups implement following activities: ▪ Procure agricultural inputs for coming production season
1.2.5. Repairing/maintenance of common farm properties <u>Objectives:</u> To promote proper use of common farm properties (machinery, farm pond, etc.)	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:-</u> <u>Frequency:</u> Twice/Sub-PMU/3 stages	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for repairing existing properties, procurement of new machinery, maintenance and/or truck rental to transport machinery _only once per implementation period	1. NGO 2. PMU	-	-	Cooperative demonstration groups implement following activities: ▪ Repair common farm properties or purchase new farm properties for common use ▪ Maintain common farm properties for proper use in production activities
1.2.6. Collective marketing <u>Objectives:</u> To promote collective marketing by standardizing postharvest quality of agricultural produce	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue: -</u> <u>Frequency:</u> 3 times /Sub-PMU/3 stages	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for labor for grading/cleaning cereals, etc., weighing scale, plastic sheets, truck rental to transport agricultural produce)_only once per implementation period	1. NGO 2. PMU	-	-	Cooperative demonstration groups implement following activities: ▪ Work on postharvest conditioning for cereals/pulses/oilseeds/spices to meet quality standards to sell at higher prices ▪ Sell agricultural produce as a group to increase negotiation power ▪ Sell agricultural produce as a group to save transport cost
1.2.7. Review and planning for coming seasons <u>Objectives:</u> To provide Cooperative demonstration groups with a place to review and improve past activities and plan for coming season	<u>In charge:</u> NGO staff (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Cooperative demonstration sites <u>Frequency:</u> 4 times /Sub-PMU/3 Stages	ditto	Class-room lecture (1 day)	1. Facilitator (NGO) 2. Venue 3. Tea & lunch 4. Stationary	1. NGO 2-4. PMU	-	-	Cooperative demonstration groups discuss and agree with following points: ▪ Reasons for successful and unsuccessful cases of their cooperative activities ▪ Schedule of cooperative activities for coming season
1.2.8. Experience sharing with potential FIGs (same timing as 1.3.1 and 1.4.1) <u>Objectives:</u> To encourage other WUA members to formulate FIGs in the same	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> WUA sites <u>Frequency:</u>	Other WUA members in the same Sub-PMU (TC leaders, etc.)	Presentation at General meeting of WUA	1. Facilitator (NGO) 2. Lecturer (representatives of Cooperative demonstration groups) 3. Transportation	1&3. NGO 2. No charge	-	-	WUA members are encouraged to formulate FIGs Note: Only Stage 2 and Stage 3 for AFP/MFP sites, Stage1-Stage3 for other sites

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
Sub-PMU by sharing experiences by Cooperative demonstration groups	5 times/3 Stages (General meeting of WUA)							
1.3. FIG formulation and activities in other sites								
1.3.1. Request for FIG formulation (same timing as 1.2.8) <u>Objectives:</u> To formulate FIGs for cooperative activities	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> WUA sites <u>Frequency:</u> Once every other site of Sub-PMU/every Stage (General meeting of WUA)	WUA members (TC leaders, etc.)	<ul style="list-style-type: none"> ▪ Notification through General meeting of WUA ▪ Confirmation of intention and selection 	Facilitator (NGO)	NGO	-	-	FIGs are formulated in other sites (2 FIGs/WUA)
1.3.2. Guidance for group activities <u>Objectives:</u> To guide FIGs for cooperative activities	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> WUA sites <u>Frequency:</u> Once every other site of Sub-PMU / Stage	1. FIG leaders (max. 20 prs.) 2. NGO staff (Community motivator) (2 prs.)	Class-room lecture (1day)	1. Facilitator (NGO) 2. Lecturer (Bank manager) 3. Venue 4. Tea & lunch 5. Stationary 6. Transportation	1. NGO 2. No charge (part of bank's duty) 3-6. PMU	-	-	FIGs discuss and agree with following points: <ul style="list-style-type: none"> ▪ Objectives, procedure and schedule for following activities ▪ Management members ▪ Group rules
1.3.3. Exposure visit to Cooperative demonstration groups <u>Objectives:</u> To motivate FIGs for cooperative activities by showing good examples of Cooperative demonstration groups	<u>In charge:</u> NGO staff (FVC), (FVC/Agri) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:-</u> <u>Frequency:</u> Once/FIG/Stage	FIG members (50 prs, 25 FIGs)	<ul style="list-style-type: none"> ▪ Confirming good practices of cooperative activities (e.g. well-conditioned grains) ▪ Listening to traders of nearby market who buy from Coop. demo. groups 	1. Facilitator (NGO) 2. Tea & lunch 3. Transportation (bus)	1. NGO 2-3. PMU	-	-	FIGs are encouraged for group marketing and other cooperative activities
1.3.4. Accessing loan <u>Objectives:</u> To promote and mentor accessing loan through opening bank account by a group (or a group representative) for agricultural input procurement	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:-</u> <u>Frequency:</u> Once/FIG/Stage	FIGs	Implementation	1. Mentor (NGO) 2. Advance cost for guarantee deposit to open bank account (only once)	1. NGO 2. PMU	-	-	FIGs implement following activities: <ul style="list-style-type: none"> ▪ Open bank account ▪ Get a loan to procure agricultural inputs <p><i>Note: Financial assistance is only for serious FIGs with good performance to further motivate them</i></p>
1.3.5. Group procurement of agricultural inputs <u>Objectives:</u> To promote group	ditto	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for truck rental to transport	1. NGO 2. PMU	-	-	FIGs following activities: <ul style="list-style-type: none"> ▪ Procure agricultural inputs for coming production season

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
procurement of agricultural inputs (seeds, fertilizers, pesticides, etc.) using a loan				agricultural inputs _only once per implementation period				<i>Note: Financial assistance is only for serious FIGs with good performance to further motivate them</i>
1.3.6. Repairing/maintenance of common farm properties <u>Objectives:</u> To promote proper use of common farm properties (machinery, farm pond, etc.)	ditto	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for repairing existing properties, procurement of new machinery, maintenance and/or truck rental to transport machinery_only once per implementation period	1. NGO 2. PMU	-	-	FIGs implement following activities: <ul style="list-style-type: none"> ▪ Repair common farm properties or purchase new farm properties for common use ▪ Maintain common farm properties for proper use in production activities <i>Note: Financial assistance is only for serious FIGs with good performance to further motivate them</i>
1.3.7. Collective marketing <u>Objectives:</u> To promote collective marketing by standardizing postharvest quality of agricultural produce	ditto	ditto	ditto	1. Mentor (NGO) 2. Financial assistance for labor for grading/cleaning cereals, etc., weighing scale, plastic sheets, truck rental to transport agricultural produce	1. NGO 2. PMU	-	-	FIGs implement following activities: <ul style="list-style-type: none"> ▪ Work on postharvest conditioning for cereals/pulses/oilseeds/spices to meet quality standards to sell at higher prices ▪ Sell agricultural produce as a group to save transport cost <i>Note: Financial assistance is only for serious FIGs with good performance to further motivate them</i>
1.4. FIG formulation and activities in other sites (AFP/MFP sites)								
1.4.2. ~ 1.4.7. (refer to 1.3.2.-1.3.7.)								
1.5. Guidance for FPO formulation								
Guidance for FPO formulation <u>Objectives:</u> To guide FIGs for FPO formulation	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> WUA sites <u>Frequency:</u> Once/Sub-PMU/Stage	CDG leaders and FIG leaders (max. 30 prs)	Class-room lecture (1 day)	1. Facilitator (NGO) 2. Lecturer (SFAC) 3. Venue 4. Tea & lunch 5. Stationary 6. Transportation	1. NGO 2. No charge (part of SFAC's role) 3-6. PMU	-	-	FIGs are encouraged to develop in to FPOs after understanding procedure for FPO formulation

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
2. Connecting with large-size consumers (Matching meeting)								
2.1. Training of trainers (ToT) for Matching meetings <u>Objectives:</u> To train trainers for Matching meetings and relevant activities	<u>In charge:</u> Consultant <u>Cooperated by:</u> WRD or DoA/DoH, PMU <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur (WRD or DoA/DoH) <u>Frequency:</u> Once/every AFP_MFP sites/Stage	1. NGO staff (Team leader/WUA) (5 prs.) 2. NGO staff (FVC) & (FVC/Agri) (10 prs.)	Class-room lecture (1day) and simulation	1. Facilitator (Consultant) 2. Venue 3. Tea & lunch 4. Allowance (NGO) 5. Accommodation (NGO) 6. Stationary	1. Consultant 2. PMU (in the case of hotel) 3 & 6. PMU 4 & 5. NGO	Venue (WRD)	WRD if possible	NGO staff (Team leader/WUA and Agriculture/FVC) confirm following points: ▪ Objectives and schedule of Matching meetings and relevant activities
2.2. Information exchange between FIGs and processors <u>Objectives:</u> To guide FIGs and processors to grasp supply and demand between them	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP sites <u>Frequency:</u> Twice/every AFP_MFP sites/Stage	1. FIG leaders 2. Processors	▪ Distribution and collection of information collection sheet ▪ Exchanging information between FIGs and processors	1. Facilitator (NGO) 2. Transportation (NGO)	1-2. NGO			Information is shared between FIGs and processors on demand and supply as follows: ▪ Crops/quantity/timing to sell (FIGs) ▪ Raw materials/quantity/timing to buy (processors)
2.3. Information analysis <u>Objectives:</u> To guide FIGs to analyse information shared between processors (quantity/timing) and prepare for Matching meeting (1 st)	<u>In charge:</u> NGO staff (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP sites <u>Frequency:</u> Twice/every AFP_MFP site/ Stage	1. FIG leaders (max. 18 FIGs) 2. NGO staff (Community motivator) (2 prs.)	Class-room discussion (0.5 day)	1. Facilitator (NGO) 2. Lecturer (Unit owner association's president) 3. Venue 4. Tea & snack 5. Stationary	1. NGO 2-5. PMU	-	-	FIGs discuss how to have successful results in Matching meeting (1 st) and agree with timing to implement the meeting and following activities
2.4. Matching meeting (1 st) <u>Objectives:</u> To provide a place for FIGs and processors to make contract	<u>In charge:</u> NGO staff (FVC) & (FVC/Agri) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP <u>Frequency:</u> Twice/every AFP_MFP site/ Stage	1. FIG leaders /representative (max. 36 prs. /18 FIGs) 2. Processors (max. 20 prs.. at least 10 commodities)	Implementation (1 day)	1. Facilitator (NGO) 2. Venue 3. Tea & lunch 4. Stationary	1. NGO 2-4. PMU	-	-	Pre-harvest contracts are made based on quantity and timing
2.5. Review & improvement <u>Objectives:</u> To provide a place for FIGs to analyse reasons for unsuccessful cases in the Matching meeting (1 st) and prepare for Matching meeting (2 nd)	<u>In charge:</u> NGO staff (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP sites <u>Frequency:</u> Twice/every AFP_MFP site/ Stage	FIG leaders (max. 36 prs from 18 FIGs)	Class-room discussion (0.5 day)	1. Facilitator (NGO) 2. Venue 3. Tea & lunch 4. Stationary	1. NGO 2-4. PMU	-	-	FIGs who had no success in Matching meeting (1 st) understand how to prepare for Matching meeting (2 nd)

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
2.6. Matching meeting (2 nd) <u>Objectives:</u> To provide a place for unsuccessful FIGs to have another try on matching	<u>In charge:</u> NGO staff (FVC) & (FVC/Agri) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP <u>Frequency:</u> Twice/every AFP_MFP site/ Stage	1. FIG leaders /representative (max. 36 prs. /18 FIGs) 2. Processors (max. 20 prs.. at least 10 commodities)	Implementation (1 day)	1. Facilitator (NGO) 2. Venue 3. Tea & lunch 4. Stationary	1. NGO 2-4. PMU	-	-	Pre-harvest contracts are made based on quantity and timing
2.7. Gap filling training for postharvest quality <u>Objectives:</u> To train FIG members who made contract with processors to meet quantity and timing to sell required by processors	<u>In charge:</u> NGO staff (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> AFP/MFP sites <u>Frequency:</u> T/every AFP_MFP site/ Stage	1. FIG leaders (max. 36 prs from 18 FIGs)	Field training (postharvest quality improvement) (1 day)	1. Facilitator (NGO) 2. Lecturer (Purchasers x 6) 3. Venue 4. Plastic sheets 5. Weighing scale (one/FIG) 6. Tea & lunch	1. NGO 2-6. PMU	-	-	FIGs understand postharvest quality standard required by processors
3. Connecting with small-size consumers (Exotic vegetables)								
3.1. Training of trainers (ToT) for supporting exotic vegetables sales <u>Objectives:</u> To train trainers for supporting exotic vegetables sales	<u>In charge:</u> Consultant <u>Cooperated by:</u> WRD or DoA/DoH, PMU <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur (WRD or DoA/DoH) <u>Frequency:</u> Once/every tourist site/Stage	1. NGO staff (Team leader/WUA) (5 prs.) 2. NGO staff (FVC) & (FVC/Agri) (10 prs.)	Class-room lecture	1. Facilitator (Consultant) 2. Venue 3. Tea & lunch 4. Allowance (NGO) 5. Accommodation (NGO) 6. Stationary	1. Consultant 2. PMU (in the case of hotel) 3 & 6. PMU 4 & 5. NGO	Venue (WRD)	WRD if possible	NGO staff (Team leader/WUA and Agriculture/FVC) confirm following points: ▪ Objectives and schedule of supports for exotic vegetable sales
3.2. Demonstration								
3.2.1. Sales to public markets <u>Objectives:</u> To achieve creditable sales results to extend to farmers	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Agriculture Demonstration Farm <u>Frequency:</u> Constantly during Rabi harvest season (Nov.-Mar.)/three Stages	Target buyers: Public markets at Jaipur, etc.	Implementation by the Project	1. Mentor (NGO) 2. Cost for truck rental to transport vegetables 3. Cost for labour (harvesting, packaging, loading/unloading)	1. NGO 2&3. PMU	-	-	Exotic vegetables from Agriculture Demonstration farms are rather constantly sold to public markets

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
3.2.2. Door-to-door sales to hotels/restaurants <u>Objectives:</u> To achieve creditable sales results to extend to farmers	<u>In charge:</u> NGO staff (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Agriculture Demonstration Farm <u>Frequency:</u> Constantly during Rabi harvest season (Nov.-Mar.)/three Stages	Target buyers: Hotels/restaurants, etc.	Implementation by the Project	1. Mentor (NGO) 2. Cost for truck rental to transport vegetables 3. Cost for labour (harvesting, packaging, loading/unloading)	1. NGO 2&3. PMU	-	-	Exotic vegetables from Agriculture Demonstration farms are rather constantly sold to hotels and restaurants
3-3. Extension to farmers								
3.3.1. Sales to Market (same timing as 3.3.2) <u>Objectives:</u> To promote exotic vegetables farmers for sales through training and mentoring for implementation	<u>In charge:</u> NGO staff (FVC) & (FVC/Agri) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Agriculture Demonstration Farm <u>Frequency:</u> Constantly during Rabi harvest season (Nov.-Mar.) after the third year of the entire construction works	Exotic vegetable farmers who have received production training in Agriculture sector (only for those who want to be supported for sales)	1. Field training (0.5 day) (same timing as 3.3.2) 2. Implementation during harvest season (public markets at Jaipur, etc.)	<u>Training</u> 1. Facilitator (NGO) 2. Lecturer (Agri. Demo Farm owner/worker) 3. Venue 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO) 2. Financial assistance for truck rental to transport vegetables	1. NGO 2-5. PMU 1. NGO 2. PMU	-	-	Exotic vegetables from Agriculture Demonstration farms are rather constantly sold to public markets <i>Note: Financial assistance is only for serious farmers with good performance to further motivate them</i>
3.3.2. Door-to-door sales to hotels/restaurants (same timing as 3.3.1) <u>Objectives:</u> To promote exotic vegetables farmers for sales through training and mentoring for implementation	<u>In charge:</u> NGO staff (FVC) & (FVC/Agri) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Agriculture Demonstration Farm <u>Frequency:</u> Constantly during Rabi harvest season (Nov.-Mar.) after the third year of the entire construction works	Exotic vegetable farmers who have received production training in Agriculture sector (only for those who want to be supported for sales)	1. Field training (0.5 day) (same timing as 3.3.1) 2. Implementation during harvest season (hotels/restaurants, etc.)	<u>Training</u> 1. Facilitator (NGO) 2. Lecturer (Agri. Demo Farm owner/worker) 3. Venue 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO) 2. Financial assistance for truck rental to transport vegetables	1. NGO 2-5. PMU 1. NGO 2. PMU	-	-	Exotic vegetables from Agriculture Demonstration farms are rather constantly sold to hotels and restaurants <i>Note: Financial assistance is only for serious farmers with good performance to further motivate them</i>
4. Brand building for high-value added agricultural produce								
4.1. Coordination								
4.1.1. Formulation of Brand building working group <u>Objectives:</u> To formulate a group by relevant actors to intensively work on brand	<u>In charge:</u> Consultant <u>Cooperated by:</u> DoA/DoH <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur (WRD or DoA/DoH) <u>Frequency:</u> Once/3 Stages	Members (6 prs.): Consultant (2prs), NGO (FVC/Agri) & (Agriculture) (2prs.), DoA/DoH (2 prs)	Implementation	Facilitator (Consultant)	Consultant	-	-	Brand building working group is formulated and agree with the following points: ▪ Objectives and schedule of following activities

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
building								<ul style="list-style-type: none"> ▪ Plan for Market-oriented experimental plots (target sites, target buyers, management rules, etc.) ▪ RWSLIP's Quality standards ▪ Timing of regular meetings for the group
4.1.2. VC actors' evaluation forum <u>Objectives:</u> To obtain opinions from VC actors to review and improve branding strategies for coming seasons	<u>In charge:</u> Brand building working group <u>Cooperated by:-</u> DoA/DoH <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Jaipur (WRD or DoA/DoH) <u>Frequency:</u> Once/fiscal year	Participants: Brand building working group, farmers, consumer groups, restaurants, high-grade groceries, etc. (15-21 prs.)	Meeting (1 day)	1. Facilitator (Consultant) 2. Venue 3. Tea & lunch 4. Allowance 5. Accommodation 6. Stationary 7. Transportation	1. Consultant 2-7. PMU	-	-	Opinions on brand building activities are shared among different VC actors to improve for coming seasons
4.1.3. Online questionnaire survey <u>Objectives:</u> To obtain opinions from consumers on high-value added fruits/vegetables of the Project	<u>In charge:</u> Brand building working group <u>Cooperated by:-</u> <u>Logistics:</u> NGO (FVC) <u>Venue:-</u> <u>Frequency:</u> Once/fiscal year	Wider range of consumers	Implementation	No cost	-	-	-	Opinions are collected from wider range of consumers on high-value added fruits/vegetables of the Project distributed in markets
4.1.4. Preparation for leaflet <u>Objectives:</u> To prepare leaflet to widely advertise high-value added fruits/vegetables of the Project	<u>In charge:</u> Brand building working group <u>Cooperated by:-</u> <u>Logistics:</u> NGO (FVC) <u>Venue:-</u> <u>Frequency:</u> Once- necessary time/3 Stages	For present and potential buyers	<ul style="list-style-type: none"> ▪ Designing (by Brand building working group) ▪ Printing (order to printing company) 	Cost for printing	PMU	-	-	Contents will be discussed in a regular meeting of Brand building working group.
4.1.5. Preparation for poster <u>Objectives:</u> To prepare poster to advertise high-value added fruits/vegetables of the Project at following activities (antenna shops, farmers' fair, etc.)	<u>In charge:</u> Brand building working group <u>Cooperated by:-</u> <u>Logistics:</u> NGO (FVC) <u>Venue:-</u> <u>Frequency:</u> Once- necessary time/3 Stages	For potential buyers	<ul style="list-style-type: none"> ▪ Initial designing (by Brand building working group) ▪ Improving design and printing (order to printing company) 	1. Cost for designing 2. Cost for printing	1&2. PMU	-	-	Design will be discussed in a regular meeting of Brand building working group.
4.1.6. Preparation for logo sticker <u>Objectives:</u> To prepare logo sticker to prove quality of high-value added fruits/vegetables of the Project	<u>In charge:</u> Brand building working group <u>Cooperated by:-</u> <u>Logistics:</u> NGO (FVC) <u>Venue:-</u> <u>Frequency:</u> Once- necessary time/3 Stages	For farmers who meet quality standards of the Project	<ul style="list-style-type: none"> ▪ Initial designing (by Brand building working group) ▪ Improving design and printing (order to printing company) 	1. Cost for designing 2. Cost for printing	1&2. PMU	-	-	Design will be discussed in a regular meeting of Brand building working group.

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
4.2. Experiment for quality improvement (TSS/nutrients improvement and quality control)								
Market-oriented experimental plots (vegetables)								
4.2.1. Establishment of experimental plots <u>Objectives:</u> To establish farms to conduct experiments for increasing TSS/nutrients and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing vegetables farms <u>Frequency:</u> Once at the beginning of Stage 1	<ul style="list-style-type: none"> Existing vegetables farmers near Jaipur (0.4 ha) x 2 DoH farm near Jaipur (0.4ha) x 1 	Setting up farm (drip irrigation, mulching, fencing, etc.)	1. Cost for materials 2. Labour for setting up	1&2. PMU	-	-	<ul style="list-style-type: none"> 3 experimental plots are established and operated for experiment of TSS, marketing and quality standards system Experimental results are compiled into manual as Market-oriented approaches
4.2.2. Operation of experimental plots <u>Objectives:</u> To conduct experiments for TSS/nutrients improvement and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, State Agriculture Univ., Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing vegetables farms <u>Frequency:</u> Continuously throughout 3 Stages (Vegetables=Rabi, melon/watermelon=Zayed)	<ul style="list-style-type: none"> Existing vegetables farmers near Jaipur (0.4ha) x 2 DoH farm near Jaipur (0.4ha) x 1 	<ul style="list-style-type: none"> Application of cultivation techniques and TSS/nutrients lab test Application of quality standards system 	1. Resource person 2. Mentor (NGO) 3. Cost for agricultural inputs (seeds, fertilizer, pesticides, etc.) 4. Cost for TSS meter 5. Cost for lab test 6. Cost for labour	1. PMU or DoA/DoH 2. NGO 3-6. PMU	Resource person if possible	DoA/DoH if possible	<p>Higher TSS/nutrients are proved through lab test at State Agricultural University (Dept. of Horticulture, Dept. of Home Sciences)</p> <p>Note: Target crops include tomato, onion, cucumber, sweet potato, bell pepper, sweet corn, muskmelon, watermelon, etc.</p>
Market-oriented experimental plots (kinnow)								
4.2.3. Establishment of experimental plots <u>Objectives:</u> To establish farms to conduct experiments for increasing TSS and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing kinnow farms <u>Frequency:</u> Once at the beginning of Stage 1	<ul style="list-style-type: none"> Existing kinnow farms (1 ha) x 2 KVK (1ha) x 1 (Sri Ganganagar) 	Setting up farm (drip irrigation, mulching, fencing, etc.)	1. Cost for materials 2. Labour for setting up	1&2. PMU	-	-	<ul style="list-style-type: none"> 3 experimental plots are established and operated for experiment of TSS, marketing and quality standards system Experimental results are compiled into manual as Market-oriented approaches
4.2.4. Operation of experimental plots <u>Objectives:</u> To conduct experiments for TSS/nutrients improvement and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, State Agriculture Univ., Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing kinnow farms <u>Frequency:</u> Continuously throughout 3 Stages	<ul style="list-style-type: none"> Existing kinnow farms (1 ha) x 2 KVK (1ha) x 1 (Sri Ganganagar) 	<ul style="list-style-type: none"> Application of cultivation techniques and TSS/nutrients lab test Application of quality standards 	1. Resource person 2. Mentor (NGO) 3. Cost for agricultural inputs (fertilizer, pesticides, etc.) 4. Cost for refractometer 5. Cost for lab test	1. PMU or DoA/DoH 2. NGO 3-5. PMU	Resource person if possible	DoA/DoH if possible	Higher TSS/nutrients are proved through lab test at State Agricultural University (Dept. of Horticulture, Dept. of Home Sciences)
Market-oriented experimental plots (Santra orange)								
4.2.5 Establishment of experimental plots <u>Objectives:</u> To establish farms to conduct experiments for increasing TSS and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing Santra orange farms <u>Frequency:</u> Once at the beginning	<ul style="list-style-type: none"> Existing Santra orange farms (1 ha) x 2 KVK (1ha) x 1 (Kota or Jhalawar) 	Setting up farm (drip irrigation, mulching, fencing, etc.)	1. Cost for materials 2. Labour for setting up	1&2. PMU	-	-	<ul style="list-style-type: none"> 3 experimental plots are established and operated for experiment of TSS, marketing and quality standards system Experimental results are compiled into manual as Market-oriented approaches

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
	of Stage 1							
4.2.6. Operation of experimental plots <u>Objectives:</u> To conduct experiments for TSS/nutrients improvement and application of quality control	<u>In charge:</u> DoA/DoH, NGO (FVC) <u>Cooperated by:</u> DoA/DoH, State Agriculture Univ., Consultant/PMU <u>Logistics:</u> NGO (FVC) <u>Venue:</u> Existing Santra orange farms <u>Frequency:</u> Continuously throughout 3 Stages	<ul style="list-style-type: none"> Existing Santra orange farms (1 ha) x 2 KVK (1ha) x 1 (Kota or Jhalawar) 	<ul style="list-style-type: none"> Application of cultivation techniques and TSS/nutrients lab test Application of quality standards system 	<ol style="list-style-type: none"> Resource person Mentor (NGO) Cost for agricultural inputs (fertilizer, pesticides, etc.) Cost for TSS meter Cost for lab test 	<ol style="list-style-type: none"> PMU or DoA/DoH NGO 3-5. PMU 	Resource person if possible	DoA/DoH if possible	Higher TSS/nutrients are proved through lab test at State Agricultural University (Dept. of Horticulture, Dept. of Home Sciences)
4.3. Market development (customer acquisition and direct sales)								
4.3.1. Tasting events (catering style) – vegetables and citrus <u>Objectives:</u> To acquire customers to directly sell high-TSS vegetables and citrus	<u>In charge:</u> NGO (FVC) <u>Cooperated by:</u> PMU <u>Logistics:</u> Market development staff <u>Venue:</u> Working places of target groups <u>Frequency:</u> 28 places_time / Rabi season	<ul style="list-style-type: none"> Upper-middle-income class consumers (office workers) 	<ul style="list-style-type: none"> Tasting Questionnaire survey 	<ol style="list-style-type: none"> Facilitator (NGO) Salary for Market development staff Venue Advance fee for high-TSS produces Cost for preparation/ cooking 	<ol style="list-style-type: none"> NGO 2-5. PMU 	-	-	Sales contract or agreement is made between participants and the Project
4.3.2. Tasting events (catering style) – melon <u>Objectives:</u> To acquire customers to directly sell high-TSS melon	<u>In charge:</u> NGO (FVC) <u>Cooperated by:</u> PMU <u>Logistics:</u> Market development staff <u>Venue:</u> Working places of target groups <u>Frequency:</u> 8 places_time / Zayed season	ditto	ditto	ditto	ditto	-	-	ditto
4.3.3. Tasting events (invitation style) – vegetables and citrus <u>Objectives:</u> To acquire customers to directly sell high-TSS vegetables and citrus	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU <u>Logistics:</u> NGO(FVC)/Market development staff <u>Venue:</u> High-grade restaurants <u>Frequency:</u> 14 places_time / Rabi season	<ul style="list-style-type: none"> Upper-income class consumers (social services clubs, etc.) Vegetable delivery services 	<ul style="list-style-type: none"> Presentation for sales promotion Tasting Questionnaire survey 	<ol style="list-style-type: none"> Facilitator (Consultant) Facilitator (NGO) Venue Salary for Market development staff Venue Advance fee for high-TSS produces Cost for preparation/ cooking 	<ol style="list-style-type: none"> Consultant NGO 3-7. PMU 	-	-	ditto

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
4.3.4. Tasting events (invitation style) – melon <u>Objectives:</u> To acquire customers to directly sell high-TSS melon	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU <u>Logistics:</u> NGO(FVC)/Market development staff <u>Venue:</u> High-grade restaurants <u>Frequency:</u> 14 places_time / Rabi season	ditto	ditto	ditto	ditto	-	-	ditto
4.3.5. Sales visit with tasting samples – vegetables and citrus <u>Objectives:</u> To acquire customers to directly sell high-TSS vegetables and citrus	<u>In charge:</u> NGO (FVC) <u>Cooperated by:</u> PMU <u>Logistics:</u> Market development staff <u>Venue:</u> - <u>Frequency:</u> 112 set_week / Project	<ul style="list-style-type: none"> Any potential higher-income-class customers 	<ul style="list-style-type: none"> Visit individuals or organizations with tasting samples (walk-in or with appointment) for sales opportunities 	<ol style="list-style-type: none"> Mentor (NGO) Advance fee for high-TSS produces Transportation (car rental) Salary for Market development staff 	<ol style="list-style-type: none"> NGO PMU 	-	-	Sales contract or agreement is made between consumers who are visited and the Project
4.3.6. Sales visit with tasting samples – melon <u>Objectives:</u> To acquire customers to directly sell high-TSS melon	<u>In charge:</u> NGO (FVC) <u>Cooperated by:</u> PMU <u>Logistics:</u> Market development staff <u>Venue:</u> - <u>Frequency:</u> 32 set_week / Project	ditto	ditto	ditto	ditto	-	-	ditto
4.3.7. Delivery to customers – vegetables incl. melon <u>Objectives:</u> To deliver high-TSS produces to customers by the Project and build trust for brand	<u>In charge:</u> NGO (FVC) <u>Cooperated by:</u> PMU <u>Logistics:</u> Market development staff <u>Venue:</u> - <u>Frequency:</u> Continuously during harvest season	<ul style="list-style-type: none"> Customers who made agreement or contract as a result of sales visit and/or tasting events 	<ul style="list-style-type: none"> Direct delivery by truck Delivery through parcel delivery services (if possible) 	<ol style="list-style-type: none"> Mentor (NGO) Packaging materials Truck rental to collect and transport vegetables Salary for Market development staff 	<ol style="list-style-type: none"> NGO PMU 	-	-	Trust for brand is gradually build through actual sales
4.3.8 Delivery to customers – <i>kinnow</i> <u>Objectives:</u> To deliver high-TSS produces to customers by the Project and build trust for brand	ditto	ditto	ditto	ditto	ditto	-	-	ditto
4.3.9 Delivery to customers – Santra orange <u>Objectives:</u> To deliver high-TSS produces to customers by the Project and build trust for brand	ditto	ditto	ditto	ditto	ditto			ditto
4.4. Application of experimental results to farmers (Vegetables, <i>Kinnow</i> , Santra orange, respectively)								
Market-oriented experimental plots (vegetables)								
Vegetables at Rabi season								

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
4.4.1. TSS/nutrients improvement <u>Objectives:</u> To train farmers to technically increase TSS/nutrients in the field using drip irrigation and mulching	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (vegetables) <u>Frequency:</u> One-day training at the beginning of cultivation and continuous mentoring in Stage 3	Farmers who are interested in brand building activities after receiving training for exotic vegetable production at Agriculture sector	<ul style="list-style-type: none"> Field training for vegetables (1 day at Rabi season) Implementation 	<u>Field training</u> 1. Facilitator (NGO) 2. Resource persons (Agriculture sector) 3. Venue 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO)	1. NGO 2. PMU or DoA/DoH 3-5. PMU	Resource person if possible	DoA/DoH if possible	Farmers acquire and apply cultivation techniques for TSS/nutrients improvement to meet quality standards required by the Project Note: Farmers are supposed to have originally used drip irrigation system and mulching materials
4.4.2. Quality control (same timing as 4.4.3) <u>Objectives:</u> To train farmers for quality control system of the Project	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (vegetables) <u>Frequency:</u> One-day training at the beginning of cultivation and continuous mentoring in Stage 3	ditto	<ul style="list-style-type: none"> Field training for vegetables (1 day at Rabi season) Implementation (application of quality control system of the Project) 	<u>Field training</u> 1. Facilitator (Consultant) 2. Lecturer (DoA/DoH) 3. Tea & lunch 4. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO) 2. Refractometer for farmers (partially financed)	1. Consultant 2. PMU or DoA/DoH 3-4. PMU	Resource person if possible	DoA/DoH if possible	Farmers understand objectives of postharvest quality control by the Project and apply quality standards <i>Note: Partial financial assistance is given to farmers to purchase TSS meters only for those who have not received refractometer at 4.4.5</i>
4.4.3. Sales/packaging (same timing as 4.4.2) <u>Objectives:</u> To train farmers for packaging and selling to individual consumers (directly or through vegetable delivery services)	ditto	ditto	<ul style="list-style-type: none"> Field training for vegetables (1 day at Rabi season) Implementation (collection of harvests at experimental farms and delivery to consumers) 	<u>Field training</u> 1. Facilitator (NGO) 2. Tea & lunch 3. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO) 2. Packaging cost (partly financed) 3. Truck rental to transport agricultural produce (partly financed) 4. Cost for parcel delivery (Jaipur to Delhi)	1. Consultant 2&3. PMU	-	-	Delivery system is established in the Project with collection points (= Market-oriented experimental farms)
Melon at Zayed season								
4.4.4. TSS/nutrients improvement <u>Objectives:</u> To train farmers to technically increase TSS/nutrients in the field using drip irrigation and mulching	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (vegetables) <u>Frequency:</u> One-day training at the beginning of cultivation and	Farmers who are interested in brand building activities after receiving training for exotic vegetable production at Agriculture sector	<ul style="list-style-type: none"> Field training for melon (1 day at Zayed season) Implementation 	<u>Field training</u> 1. Facilitator (NGO) 2. Resource persons (Agriculture sector) 3. Venue 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u>	1. NGO 2. PMU or DoA/DoH 3-5. PMU	Resource person if possible	DoA/DoH if possible	Farmers acquire and apply cultivation techniques for TSS/nutrients improvement to meet quality standards required by the Project

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
	continuous mentoring in Stage 3			2. Mentor (NGO)				
4.4.5. Quality control (same timing as 4.4.6) <u>Objectives:</u> To train farmers for quality control system of the Project	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (vegetables) <u>Frequency:</u> One-day training at the beginning of cultivation and continuous mentoring in Stage 3	ditto	<ul style="list-style-type: none"> Field training for melon (1 day at Zayed season) Implementation (application of quality control system of the Project) 	<u>Field training</u> 1. Facilitator (Consultant) 2. Lecturer (DoA/DoH) 3. Tea & lunch 4. Transportation (farmers)	1. Consultant 2. PMU or DoA/DoH 3-4. PMU	Resource person if possible	DoA/DoH if possible	Farmers understand objectives of postharvest quality control by the Project and apply quality standards <i>Note: Partial financial assistance is given to farmers to purchase TSS meters only for those who have not received refractometer at 4.4.2</i>
4.4.6. Sales/packaging (same timing as 4.4.5) <u>Objectives:</u> To train farmers for packaging and selling to individual consumers (directly or through vegetable delivery services)	ditto	ditto	<ul style="list-style-type: none"> Field training for melon (1 day at Zayed season) Implementation (collection of harvests at experimental farms and delivery to consumers) 	<u>Field training</u> 1. Facilitator (NGO) 2. Tea & lunch 3. Transportation (farmers)	1. Consultant 2. PMU or DoA/DoH 3. PMU	-	-	Delivery system is established in the Project with collection points (= Market-oriented experimental farms)
<u>Market-oriented experimental plots (kinnow)</u>								
4.4.7. TSS/nutrients improvement <u>Objectives:</u> To train farmers to technically increase TSS/nutrients in the field using drip irrigation and mulching	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (kinnow) <u>Frequency:</u> One-day training for once at the beginning of cultivation and mentoring and continuous mentoring in Stage 3	Farmers who are interested in brand building activities after receiving training for exotic kinnow production at Agriculture sector	<ul style="list-style-type: none"> Field training (1 day) Implementation 	<u>Field training</u> 1. Facilitator (NGO) 2. Resource persons (Agriculture sector) 3. Venue 4. Tea & lunch 5. Transportation (farmers)	1. NGO 2. PMU or DoA/DoH 3-5. PMU	Resource person if possible	DoA/DoH if possible	Farmers acquire and apply cultivation techniques for TSS/nutrients improvement to meet quality standards required by the Project <i>Note: Farmers are supposed to have originally used drip irrigation system and have used mulching materials provided at production training by Agriculture sector</i>
4.4.8. Quality control (same timing as 4.4.9) <u>Objectives:</u> To train farmers for quality control system of the Project	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (kinnow) <u>Frequency:</u> One-day training for once before harvesting and continuous mentoring in Stage 3	ditto	<ul style="list-style-type: none"> Field training for (1 day) Implementation (application of quality control system of the Project) 	<u>Field training</u> 1. Facilitator (Consultant) 2. Lecturer (DoA/DoH) 3. Refractometer for farmers (partially financed) 4. Tea & lunch 5. Transportation (farmers)	1. Consultant 2. PMU or DoA/DoH 3-5. PMU	Resource person if possible	DoA/DoH if possible	Farmers understand objectives of postharvest quality control by the Project and apply quality standards <i>Note: Partial financial assistance is given to farmers to purchase refractometer</i>
				<u>Implementation</u> 1. Mentor (NGO)	1. NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
				1. Mentor (NGO)				
4.4.9. Sales/packaging (same timing as 4.4.5) <u>Objectives:</u> To train farmers for packaging and selling to individual consumers (directly or through vegetable delivery services)	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (<i>kinnow</i>) <u>Frequency:</u> One-day training for once before harvesting and continuous mentoring in Stage 3	ditto	<ul style="list-style-type: none"> ▪ Field training (1 day) ▪ Implementation (collection of harvests at experimental farms and delivery to consumers) 	<u>Field training</u> 1. Facilitator (NGO) 2. Tea & lunch 3. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO) 2. Packaging cost (partly financed) 3. Truck rental to transport agricultural produce (partly financed) 4. Cost for parcel delivery service (Jaipur to Delhi)	1. NGO 2&3. PMU	-	-	Delivery system is established in the Project with collection points (= Market-oriented experimental farms)
Market-oriented experimental plots (Santra orange)								
4.4.10. TSS/nutrients improvement <u>Objectives:</u> To train farmers to technically increase TSS/nutrients in the field using drip irrigation and mulching	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (Santra orange) <u>Frequency:</u> One-day training for once at the beginning of cultivation and mentoring and continuous mentoring in Stage 3	Farmers who are interested in brand building activities after receiving training for exotic Santra orange production at Agriculture sector	<ul style="list-style-type: none"> ▪ Field training (1 day) ▪ Implementation 	<u>Field training</u> 1. Facilitator (NGO) 2. Resource persons (Agriculture sector) 3. Venue 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO)	1. NGO 2. PMU or DoA/DoH 3-5. PMU	Resource person if possible	DoA/DoH if possible	Farmers acquire and apply cultivation techniques for TSS/nutrients improvement to meet quality standards required by the Project Note: Farmers are supposed to have originally used drip irrigation system and have used mulching materials provided at production training by Agriculture sector
4.4.11. Quality control (same timing as 4.4.12) <u>Objectives:</u> To train farmers for quality control system of the Project	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented experimental plot (Santra orange) <u>Frequency:</u> One-day training for once before harvesting and continuous mentoring in Stage 3	ditto	<ul style="list-style-type: none"> ▪ Field training (1 day) ▪ Implementation (application of quality control system of the Project) 	<u>Field training</u> 1. Facilitator (Consultant) 2. Lecturer (DoA/DoH) 3. Refractometer for farmers (partially financed) 4. Tea & lunch 5. Transportation (farmers) <u>Implementation</u> 1. Mentor (NGO)	1. Consultant 2. PMU 3-5. PMU of DoA/DoH	Resource person if possible	DoA/DoH if possible	Farmers understand objectives of postharvest quality control by the Project and apply quality standards <i>Note: Partial financial assistance is given to farmers to purchase Refractometer</i>
4.4.12. Sales/packaging (same timing as 4.4.11) <u>Objectives:</u> To train farmers for packaging and selling to individual consumers	<u>In charge:</u> NGO (FVC) and (Community motivator) <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Every Market-oriented	ditto	<ul style="list-style-type: none"> ▪ Field training (1 day) ▪ Implementation (collection of harvests at 	<u>Field training</u> 1. Facilitator (NGO) 2. Tea & lunch 3. Transportation (farmers) <u>Implementation</u>	1. NGO 2&3. PMU	-	-	Delivery system is established in the Project with collection points (= Market-oriented experimental farms)

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
(directly or through vegetable delivery services)	experimental plot (Santra orange) <u>Frequency:</u> One-day training for once before harvesting and continuous mentoring in Stage 3		experimental farms and delivery to consumers	1. Mentor (NGO) 2. Packaging cost (partly financed) 3. Truck rental to transport agricultural produce (partly financed) 4. Cost for parcel delivery service (Jaipur to Delhi)	2-4. PMU			
4.5. Antenna shops/corners								
4.5.1. Establishment and operation of shops at airports/railway stations <u>Objectives:</u> To advertise and sell high-value added fruits/ vegetables produced by the Project farmers	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU <u>Logistics:</u> NGO <u>Venue:</u> Airports and railway stations in tourist sites <u>Frequency:</u> 5 month/year during Rabi harvest season (starting from Stage 2)	Airport/railway station users (tourists, etc.)	<ul style="list-style-type: none"> ▪ Stall establishment and continuous operation ▪ Questionnaire survey after tasting 	<u>Stall establishment</u> 1. Cost for materials 2. Cost for space rental 3. Cost for labour <u>Operation</u> 1. Shop staff 2. Banners/shop decoration materials	1-3. PMU	-	-	High-value added fruits/ vegetables are known by larger number of consumers
4.5.2. Operation of antenna corners at high-grade groceries <u>Objectives:</u> To advertise and sell high-value added fruits/ vegetables produced by the Project farmers	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU <u>Logistics:</u> NGO <u>Venue:</u> Airports and railway stations in tourist sites <u>Frequency:</u> 5 month/year during Rabi harvest season (starting from Stage 2)	Consumers at high-grade groceries at large cities in Rajasthan (Jaipur, Jodhpur, Udaipur, etc.)	<ul style="list-style-type: none"> ▪ Sales at antenna corner ▪ Periodical tasting events and questionnaire survey 	1. Staff for tasting events 2. Banners/shop decoration materials 3. Packaging cost.	1-3. PMU	-	-	High-value added fruits/vegetables are known by larger number of consumers
4.6. Farmers' fairs								
4.6.1. Participation in State-level Farmers' fairs <u>Objectives:</u> To advertise and sell high-value added fruits/ vegetables produced by the Project farmers	<u>In charge:</u> NGO <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Farmers' fairs sites (Rajasthan) <u>Frequency:</u> twice or 3 times/year during Rabi harvest season (starting from Stage 2)	<ul style="list-style-type: none"> ▪ Buyers (traders, etc.) ▪ Consumers ▪ Farmers outside the Project 	<ul style="list-style-type: none"> ▪ Exhibition of high TSS vegetables at State/National farmers' fairs ▪ Competition show for higher TSS among project farmers ▪ Tasting events and questionnaire survey 	1. Facilitator 2. Application fee 3. Stall establishment 4. Staff 5. Awards for competition	1. NGO 2-4. PMU	-	-	High-value added fruits/vegetables are known by larger number of buyers, consumers and farmers in Rajasthan
4.6.2. Participation in National-level Farmers' fairs <u>Objectives:</u> To advertise and sell high-value	<u>In charge:</u> NGO <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Farmers' fairs sites (Delhi,	<ul style="list-style-type: none"> ▪ Buyers (traders, exporters, etc.) ▪ Consumers ▪ Farmers outside 	<ul style="list-style-type: none"> ▪ Exhibition of high TSS vegetables at State/National farmers' fairs 	1. Facilitator 2. Application fee 3. Stall establishment 4. Staff	1. NGO 2. DoA/DoH 3-5. PMU	Application fee	DoA/DoH if possible	High-value added fruits/ vegetables are known by larger number of buyers, consumers and farmers in India

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project Fund		Input by Other Fund		Remarks (Outputs)
		Target Group/ persons/trainees	Activities/ contents	Inputs	Paid by	Inputs	Paid by	
added fruits/vegetables produced by the Project farmers	etc.) <u>Frequency:</u> twice/year during Rabi harvest season (starting from Stage 3)	the Project	<ul style="list-style-type: none"> Competition show for higher TSS among project farmers Tasting events and questionnaire survey 	5. Awards for competition				Note: After several participation in state-level fairs, national-level fairs can be focused on
4.7. Multimedia advertising								
4.7.1. TV commercial 4.7.2. Newspaper 4.7.3. Gourmet magazine 4.7.4. Public transportation <u>Objectives:</u> To widely advertise high-value added fruits/vegetables produced by the Project farmers	<u>In charge:</u> Brand building working groups <u>Cooperated by:</u> Consultant/PMU <u>Logistics:</u> Consultant <u>Venue:-</u> <u>Frequency:</u> 5 month/year during Rabi harvest season (starting from Stage 2)	Wider range of consumers	<ul style="list-style-type: none"> Designing of advertisement Advertising (national level)_TV commercial, newspaper, gourmet magazine Advertising (state level)_public transportation 	1. Designing cost 2. Advertising cost	1&2. PMU	-	-	High-value added fruits/vegetables are known by wider range of consumers
4.7.5. DoA/DoH's website <u>Objectives:</u> To widely advertise high-value added fruits/vegetables produced by the Project farmers	<u>In charge:</u> Brand building working groups <u>Cooperated by:</u> DoA/DoH, PMU <u>Logistics:</u> NGO (FVC) <u>Venue:-</u> <u>Frequency:</u> Continuously during Stage 2-3 (starting from middle of Stage 2)	Website accessors	<ul style="list-style-type: none"> Designing of advertisement Advertising 	Cost for web designing	PMU	-	-	High-value added fruits/vegetables are known by wider range of consumers
4.8. Extension to outside the Project								
Workshop for government officials outside the Project <u>Objectives:</u> To extend the whole brand building activities outside the Project	<u>In charge:</u> Brand building working groups <u>Cooperated by:</u> PMU <u>Logistics:</u> Consultant <u>Venue:</u> DoA/DoH or hotel <u>Frequency:</u> 3 times/Stage 3	DoA/DoH officials outside the Project (in Rajasthan)	Class-room lecture (1day)	1. Facilitator (Consultant) 2. Lecturer (DoA/DoH) 3. Venue 4. Tea & Lunch 5. Allowance 6. Accommodation 7. Transportation	1. Consultant 2. DoA/DoH 3-7. PMU	<ul style="list-style-type: none"> Venue (DoA/DoH office) Resource person 	DoA/DoH	Results of Brand building activities are shared and activities are extended to outside the Project sites

Note: Target areas/ districts/ sub-projects and additional data are summarized in another sheet.

Source: JICA Survey Team

Attachment 5.6.1
Summary of Project Activity for
Gender Sector

Attachment 5.6.1 Summary of Project Activity for Gender Sector

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management								
1.1. Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act								
1.1.1. Follow-up of Approval Process of Additional Clauses on PIM Act <u>Objectives:</u> To effect additional clauses on PIM Act in time	<u>In charge:</u> PMU (WRD,WCD) <u>Cooperated by:</u> Consultant <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Frequency:</u> beginning of the Project and at the end of the Project		1. follow-up progress of approval on additional clauses to PIM Act 2. If there is delay, find out the reason and take necessary action to proceed	1. consultant 2. PMU (WRD, WCD)	consultant PMU			
1.1.2. Promoting and Monitoring of Adaptation of the Additional Clauses <u>Objectives:</u> to promote adaptation of PIM Act through the Project activities and to monitor degree of adaptation of the clauses	<u>In charge:</u> PMU (WRD,WCD) <u>Cooperated by:</u> Consultant <u>Logistics:</u> PMU <u>Venue:</u> various <u>Frequency:</u> throughout the Project	1.WUA 2.WW	1. check the situation from NGO quarterly report 2. take opportunity of meeting and field visit, provide practical advice and take necessary action to achieve the target	1. PMU (WRD, WCD) 2.Sub-PMU (WRD, WCD) 3.TSG-SP (WRD, WCD) 4. consultant 5. NGO	PMU consultant NGO			
1.1.3. Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result <u>Objectives:</u> to submit further suggestion to be added in PIM Act based on result of the Project attempt	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WRD, WCD) <u>Logistics:</u> Consultant <u>Venue:</u> PMU <u>Frequency:</u> at the end of the Project		1. compile further suggestion based on result of the Project attempt 2. submit the suggestion to relevant organisation to add to PIM Act	1. consultant (gender) 2. PMU (WRD, WCD)	consultant			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.2. Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management								
1.2.1. Preparation of Gender Session for Training on Water Management and WUA Management <u>Objectives:</u> To develop gender session for training on water management and WUA management	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU(WCD), IMTI <u>Logistics:</u> consultant <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)	The following orientation/training has gender session 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO) 3. Training for NGO Community Motivator 4. Training for WUA/Managing Committee(MC) and Women Wing (WW) 5. Meeting cu training for WUA/MC, Territorial Constituency and WW	Need to develop session plan on the following topics 1.introduction to gender (Briefly) 2. introduction of gender mainstreaming: concept and actual status in Rajasthan, gender mainstreaming in water management 3. gender analysis: introduction of tools, how to use the tools and how to analyse the result 4, gender action plan: how to develop, how to set target	1. consultant (gender) 2. PMU (WCD) 3. IMTI	consultant PMU			
1.2.2. Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan (GAP) in WUA <u>Objectives:</u> To provide practical explanation and instruction on how to develop gender action plan in WUA	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU(WCD), IMTI <u>Logistics:</u> consultant <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)	explain in the following orientation/training 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO)	1. prepare session plan (A2-1) 2. explain what is gender action plan (long term and annual), show example of GAP, sample of indicators 3. group work to develop GAP in own work places (WRD, WCD, DoA/DoH, NGO) or activities 4. how to facilitate WUA to develop GAP with their work plan	1. facilitator (consultant: gender) For orientation 2. venue 3. food and tea/snacks 4. allowance/transportation of consultant, PMU, Sub-PMU For ToT 4. facilitator (IMTI) 6. venue 7. lodging and food 8. classroom 9. stationery 10. training materials developed by the project allowance/transportation of participants (TSG-SP)	consultant PMU			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				For ToT 10. allowance/transportation of NGO staff	NGO			
<p>1.2.3. Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting</p> <p><u>Objectives:</u> To develop 10 topics on gender issues to use for meeting cum training in the field</p>	<p><u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU(WCD) <u>Logistics:</u> consultant <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)</p>	<p>Explain in the following training</p> <ol style="list-style-type: none"> ToT for TSG-SP and NGO staff Training for Com. Motivator <p>Use in the following meeting cum training</p> <ol style="list-style-type: none"> monthly meeting cum training in WUA/MC monthly meeting cum training in TC monthly meeting cum training in WW 	<p>Prepare short session on gender issues related to rural life suitable for sharing in meeting cum training of WUA/MC, TC and WW</p> <p>Example:</p> <ul style="list-style-type: none"> - Using gender analysis tools and discuss on the result (Roles and responsibilities on farm work, Roles and responsibilities on house and social work, daily activities from morning to evening, decision making on resources (access and control), etc.) - family planning and women's health - men and women life cycle (preventing child marriage) 	<ol style="list-style-type: none"> consultant (gender) PMU (WCD) 	consultant			- Gender consultant need to prepare 10 topics on gender for WUA/MC and TC meeting cum training: in total 40 -45 with water management, agriculture/marketing and environment, so that TSG-SP/NGO can choose suitable topics for that area and the season
<p>1.2.4. Support to Coordinate between WUA and Women Wing A</p> <p><u>Objectives:</u> To support Women Wing members to participate in WUA activities To promote understanding of WUA/MC members to women's participation</p>	<p><u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WRD, WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> throughout the Project <u>Frequency:</u> throughout the Project</p>	<ol style="list-style-type: none"> WUA WW 	<ol style="list-style-type: none"> encourage WW members to participate in WUA and TC meeting and activities facilitate WUA/MC members to understand importance of women's participation and coordinate to work with WW 	<ol style="list-style-type: none"> NGO team leader and com. motivator allowance/transportation of NGO staff. TSG-SP (WRD, WCD) allowance/transportation of NGO staff. 	<p>NGO</p> <p>PMU</p>			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.3. Establishment of Gender Disaggregated Data Collection System								
1.3.1. Preparing and Finalizing List of Sector-wise Gender Disaggregated Data <u>Objectives:</u> To finalize list of sector-wise gender disaggregated data to be collected in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)		1.list up necessary and related data to be collected in each sector 2. finalize the list with concerned organization and confirm how to collect data * Gender concerned activities are as follows: 1. Irrigation - Gender ratio of training participants and trainers; - Gender ratio of employers/workers on construction work; -Equal pay for equal work for the workers, etc 2. WUA Strengthening - Gender ratio of training participants and trainers; - Indicator of gender-responsive rules or guidelines of PIM Act 3. Agriculture/marketing - Gender-responsive training materials - Gender ratio of exposure tours - Gender ratio of FIGs and FPOs - Gender ratio of farmers and buyers involved 4. Gender Mainstreaming - Monitoring all the above data - Monitoring all the data in gender component	1. PMU (WCD) 2. consultant (gender)	PMU consultant			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.3.2. Establishment of Monitoring System on Gender Concerned Activities <u>Objectives:</u> To confirm monitoring system on gender concerned activities in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage, during the Project orientation for PMU and Sub-PMU (Need to be reviewed in each stage)	1. PMU members (20 person) 2. Sub-PMU member (7-10 person per Sub-PMU)	1. propose monitoring system on gender concerned activities in the Project 2. finalize the monitoring system with concerned organization and confirm timing, responsible person, how to monitor and so on.	1. PMU members 2. Sub-PMU members 4. consultant	PMU consultant			
1.3.3. Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data <u>Objectives:</u> To monitor gender concerned activities and collect gender disaggregates data	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> consultant (gender), PMU (WCD), TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> field <u>Duration:</u> <u>Frequency:</u> Throughout the Project		1. monitor gender concerned activities through field visit 2. collect gender disaggregates data regularly	1. consultant 2. allowance/transportation of consultant 3. PMU (WCD) 4. Sub-PMU (WCD) 5. TSG-SP members 6. allowance/transportation of PMU, sub-PMU and TSG-SP member 7. NGO Team leader 8. NGO Sector expert 9. NGO Community Motivator 10. allowance/transportation of NGO staff	consultant PMU NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.3.4. Analysing Collected Data and Compile in Annual Report <u>Objectives:</u> To analyse collected gender disaggregated data and compile in annual reoprt	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> annual		1. analyse collected data 2. compile data and the result in annual report	1. PMU (WCD) 2. consultant (gender)	PMU consultant			
1.3.5. Conduct Stage-wise Baseline t survey <u>Objectives:</u> To conduct stage wise baseline survey on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all)	PMU			
1.3.6. Conduct Stage-wise Assessment <u>Objectives:</u> To conduct stage wise assessment on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender) 5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	PMU consultant NGO			- in the report, advices from gender perspectives are given
1.3.7. Evaluation of the Impact and Result of RWSLIP <u>Objectives:</u> To evaluate impact and result of RWLIP form the gender perspective	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach for compiling	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender)	PMU consultant			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
			further suggestion on PIM Act	5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	NGO			
2. Enhancement of Women's Capability and Participation in WUA								
2.1. Formulation of WUA Women Wing								
2.1.1. General Meeting for water users at same time of formation of WUA <u>Objectives:</u> To provide necessary information on forming Women Wing	<u>In charge:</u> TSG-SP(WRD, WCD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. invite women to participate in coming TC orientation	1. Sub-PMU member (WRD Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member	PMU			
				6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO			
2.1.2.Orientation for Territorial Constituency at same time of formation of WUA <u>Objectives:</u> To provide detail information on Women Wing activities	<u>In charge:</u> TSG-SP(WRD, WCD)) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 50 person of the territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. discuss selection of Women Wing committee member: 2 each from every TC 3. inform date for Women Wing formation	1. TSG-SP members 2. allowance/transportation of TSG-SP member	PMU			
				6. NGO Team leader or Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.1.3. Formulation of Woman Wing per WUA <u>Objectives:</u> To form Women Wing	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1 days <u>Frequency:</u> After Orientation for Territorial Constituency, before WUA election	1. female water users 2 each from every TC (in total 8-12 person) form Women Wing committee	1. form WW committee 2. fix the date for orientation	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. allowance/transportation of Sub-PMU and TSG-SP member	PMU			
				6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO			
2.1.4. Orientation on WW activities <u>Objectives:</u> To provide orientation on WW activities to start Women Friendly Activities immediately	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed	1. WW committee member (8-12)	1. Share information on WW activities as well as WUA trainings 2. Develop work plan	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. venue 7. food and tea/snacks 8. stationery	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.2. Facilitating to Introduce the Women Friendly Activities								
2.2.1. Facilitating to Discuss and Finalize Women Friendly Activities <u>Objectives:</u> To finalize plan for Women Friendly Activities before the walk-through survey	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed, before walk-through survey	1. WW committee member (8-12)	1. discuss women's needs on irrigation facility 2. discuss preferable trees to plant along with canal	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
2.2.2. Support Women Wing to plan and implement Women Friendly Facilities <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the construction of facilities and to implement by themselves	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor construction works 2. develop work plan for throughout the construction and for short term (1-3months), indicating timing and responsible person 3. support WW members to implement the activities (reminding, accompanying and facilitating them)	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.2.3. Support Women Wing to plan and implement Women Friendly Trees <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the tree plantation and to implement by themselves	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor tree plantation (including hands-on training on how to plant and manage trees) 2. develop work plan for throughout the plantation work and for short term (1-3months), indicating timing and responsible person 3. support WW members to implement the activities (reminding, accompanying and facilitating them)	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
2.3. Encouraging Women to Participate in WUA Activities								
2.3.1. Support WW Members to conduct WW Monthly Meeting <u>Objectives:</u> To support WW members to conduct monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW members (around 10 person)	1. remind WW members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month, related issues and plan for the month	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery 7. tea	PMU NGO			
2.3.2. Support WW Members to Participate and Report in WUA/MC Monthly Meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA/MC monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to voice their opinion 3. facilitate WUA/MC members to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			- WUA members are also sensitised to accept WW members participation and to cooperate with WW

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	NGO			
2.3.3. Support to WW Members to Participate in WUA Fund Management <u>Objectives:</u> To increase women's involvement in WUA activities	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	In the beginning WW will learn from monitoring of NGO and TSG-SP on WUA financial management. Then WW is expected to request or comment on fund management in the WUA/MC meeting. If possible, WW is encouraged to involve in water charge collection and/or auditing of account report	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			- fund management training is also provided to WW
2.3.4. Support WW members to participate Territorial Constituency monthly meeting cum training <u>Objectives:</u> To encourage women to participate in water management in surrounding area	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (at least 10 members in the TC)	1. remind WW members to participate in the meeting 2. encourage husband of WW members to accept his wife's participation in the meeting 3. highlight numbers of women's participation in the meeting as well as her husband's understanding	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
2.3.5. Support WW members to participate in weekly progress meeting in monthly basis <u>Objectives:</u> To encourage WW members to participate in weekly progress meeting in monthly basis	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (2-3 members)	1. prepare for the meeting, if there is any issues to ask or to share 2. accompany them and encourage them to voice their opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.3.6. Support WW members to participate in WUA general meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA general meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 day <u>Frequency:</u> half yearly April and October: before Rabi and Kharif)	1. WW (at least 10 members per TC)	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to report their activities progress and to voice their opinion 3. facilitate male participants to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
2.4. Providing Trainings and Exposure Activities on Water Management and Organizational Management								
2.4.1. Support WW members to participate in Training on Water Management at Sub-PMU Level with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 day <u>Frequency:</u> at the beginning of the stage	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. KVK 4. allowance/transportation of Sub-PMU, TSG-SP member and KVK 5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 7.. allowance/transportation of NGO staff	PMU NGO			- the training is arranged under WUA component

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.4.3. Exposure Visit (Sub-PMU wise) <u>Objectives:</u> To visit well performing WW and other women's organization	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> Sub-PMU, IMTI, other Sub-PMU area <u>Duration:</u> 3 day <u>Frequency:</u> once in the stage	1. WW main members (3 person per WW)	1. collect information on suitable organization/place to visit 2. arrange schedule 3. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the tour 4. conduct the tour 5. In the first WW monthly meeting after the tour, ask participants to share their experiences	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. transportation 9. stationery 10. travel cost for the participants	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.4.5. Support WW members to participate in Annual WUA/MCs Review Meeting at Sub-PMU Level <u>Objectives:</u> To encourage WW members to participate in WUAMC annual review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 1 day (continue from previous day: WW review meeting) <u>Frequency:</u> annually (end of the year)	1. WW members (3 person per WUA)	1. facilitate WW members to listen WUA's report and discussion 2. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. KVK	PMU			The meeting is arranged under WUA component
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.4.6 Support WW members to participate in Stage-wise WUA Review Meeting at State Level in IMTI with WUA <u>Objectives:</u> To encourage WW members to participate in stage wise WUAMC review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 2 days <u>Frequency:</u> once at the end of the stage	Selected WW's member (2 WW per Sub-PMU, 3 person per WW)	Preparation 1. arrange venue and schedule 2. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the meeting In the meeting 4. share experiences on management of WW and Women Friendly Activities 5. award best perform WW 6. provide update information on the Project 7. provide update information on water management, agriculture, gender and environment 8. facilitate WW members to listen WUA's report and discussion 9. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. IMTI	PMU			The meeting is arranged under WUA component
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
2.4.7. Support WW members to participate in Follow-up Training for Main Members on Water Management with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at the end of the stage (at least 6 months after completion of rehabilitation)	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. IMTI	PMU			The training is arranged under WUA component
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			
3. Capacity Building on Agricultural Technologies through SHGs								
3.1. Selection of the Group								
3.1.1. Developing work plan on the activity in SP level <u>Objectives:</u> To plan for agriculture program for SHGs with concerned staff and to confirm necessary action and responsible person	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP, Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once, 6 months after starting of the stage	1. TSG-SP, 2. NGO 3. Sub-PMU	1. discuss procedure and criteria to select target group 2. develop format for group application 3. make a plan for preparation and implementation of the program	1. TSG-SP (WRD, DoA/DoH, WCD) 2. Sub-PMU (DoA/DoH, WCD)	PMU			Technical criteria are provided by agriculture consultant
				allowance/transportation of TSG-SP, Sub-PMU 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff 6. food and tea/snacks	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.1.2. Providing Information to Women Members of the SP on Agriculture Program under Women Wing <u>Objectives:</u> To Providing Information to Women Members of the SP on Agriculture Program for selecting target group	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA, TC <u>Duration:</u> 1 month <u>Frequency:</u> once	1. WW members in Sub-project	1. explain about the program 2. explain about criteria to select target group	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	NGO			
3.1.3. Collecting Proposal from Groups <u>Objectives:</u> To collect proposal from groups	<u>In charge:</u> NGO (com. motivator) <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA <u>Duration:</u> 1 month <u>Frequency:</u> once, after providing information to Women Members of the SP on Agriculture Program		1. support to fill in the application format properly	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP (DoA/DoH, WCD)	PMU			
				3. NGO community motivator 4.. allowance/transportation of NGO staff	NGO			
3.1.4. Selection of group <u>Objectives:</u> To select groups for the program	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WRD, DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 day <u>Frequency:</u> once, TSG-SP monthly meeting		1. select target group based on the criteria 2. report to Sub-PMU for approval	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.1.5. Conducting Orientation to Selected Groups <u>Objectives:</u> To	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> once, within 1 month after selection of the group	1. two groups for nutrition 2. two groups for cash		1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
3.2. Strengthening Capacity on Group Management								
3.2.1. Providing Training on Group Management <u>Objectives:</u> To provide training on basic group management and record keeping	<u>In charge:</u> NGO (team leader) <u>Cooperated by:</u> Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, District <u>Duration:</u> 2 days <u>Frequency:</u> Within 3 month after selection of the group	1. 3 members each from the group	Preparation 1. arrange venue and schedule (women friendly environment: beby-sitting) 2. explain the schedule to groups and ask them to select participants who can share the experience to other members and can involve in the group activity actively 3. convince the participants' family to allow them to participate in the training	1. Sub-PMU (DoA/DoH, WCD) 2. allowance/transportation of Sub-PMU 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. stationery 9. training materials 10. baby-sitting facility 11. travel cost for the participants	PMU NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.2.2. Support to Conduct Monthly Group Meeting <u>Objectives:</u> To support group members to conduct monthly meeting	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. two groups for nutrition 2. two groups for cash	1. remind group members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month and plan for the month 4. monitor condition in the demo-plot	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
3.3. Strengthening Capacity on Agricultural Technique								
3.3.1 ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators <u>Objectives:</u> To train TSG-SP members (DoA/DoH, NGO sector expert and community motivator) on basic vegetables cultivation techniques for providing training to the target group	<u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days <u>Frequency:</u> once per the stage, one month before conducting training for the target groups	1. TSG-SP (DoA/DoH) 2. NGO (sector expert, com. motivator)		1. TSG-SP (DoA/DoH) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU 4. facilitator: consultant 5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery 12. training materials 13. baby-sitting facility	PMU consultant NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>3.3.2. ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers</p> <p><u>Objectives:</u> To train TSG-SP members (DoA/DoH, WCD), NGO (sector expert and community motivator) on nutritious vegetables cultivation techniques for providing training to the target group</p>	<p><u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days <u>Frequency:</u> one month before conducting training for the target groups</p>	<p>1. TSG-SP (DoA/DoH, WCD) 2. NGO (sector expert, com. motivator)</p>		<p>1. TSG-SP (DoA/DoH, WCD) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU</p>	PMU			
				4. facilitator: consultant	consultant			
				5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery 12. training materials 13. baby-sitting facility	NGO			
<p>3.3.3 Health check for Nutritious Vegetable Cultivation group members</p> <p><u>Objectives:</u> To see the impact of nutritious vegetable promotion</p>	<p><u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> at the beginning of the program and at the end of the program</p>	Nutritious vegetable cultivation group		<p>1. TSG-SP member (WCD) 2 allowance/transportation of TSG-SP members (WCD)</p>	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>3.3.4. Training on Basic Vegetables Cultivation Techniques to target group (Tomato, Onion and Chillies)</p> <p>Objectives: To train basic vegetable cultivation group members on Tomato, Onion and Chilli cultivation technique</p>	<p><u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	<p>1) Basic vegetable cultivation group (10 person per group) 2) Two non-member progressive women farmers per group</p>	<p>1) Lecture type training 2) provision of multi sheet</p>	<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials</p>	PMU			For dissemination purpose, the Project provides multi sheet to non-member women; two progressive farmers per group
<p>3.3.5. Establishing Demonstration Plot for hands-on training for Basic Vegetables Cultivation group</p> <p>Objectives: To provide hands-on training on preparation of nursery and demonstration of cultivation technique using demo plot</p>	<p><u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU, NGO <u>Venue:</u> demo plot <u>Duration:</u> <u>Frequency:</u> twice in the second year (seed sowing time in Kharif and Rabi)</p>	<p>Basic vegetable cultivation group</p>	<p>Preparation for nursery 1. shade net/insect net 2.. low tunnel</p> <p>Preparation of demo plot 1. tilling 2. weeding 3. application of basal manure 4. levelling 5. bed making</p> <p>Conduct hands-on training through above mentioned preparation on: 1. nursery preparation 2.. making bed and application of mulching 3. transplant of seedlings</p>	<p>1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)</p>	PMU			
				<p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.3.6. Establishing Demonstration Plot for Nutritious Vegetables Cultivation group <u>Objectives:</u> To conduct technical training and demonstrate nutritious vegetable cultivation	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> demo plot <u>Duration:</u> <u>Frequency:</u> one week before the seed sowing time	Nutritious vegetable cultivation group	1. tilling 2. weeding 3. application of basal manure 4. levelling 5. bed making 6.	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	NGO			
3.3.7. Training in demo plot on Nutritious Vegetables Cultivation Techniques (Swiss Chard, Kale and Amaranth) <u>Objectives:</u> To train Nutritious Vegetables Cultivation group members on Swiss Chard, Kale and Amaranth	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Nutritious vegetable cultivation group (10 person per group)	1. how to sow the seeds, 2. how to apply water and fertilizer 3. proper weeding 4. blood test for Anemia, CBC (complete blood count)	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. food and tea 4. stationery 5. training materials	PMU			
				6. NGO sector expert 7. NGO Com. Motivator 8. allowance/transportation of NGO staff	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>3.3.8. Lecture on nutrition for women's health</p> <p><u>Objectives:</u> To disseminate output of activity on nutritious vegetable cultivation (how to cultivate, how to cook)</p>	<p><u>In charge:</u> Anganwadi <u>Cooperated by:</u> KVK, NGO <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project level <u>Duration:</u> 1/2 day <u>Frequency:</u> twenty times per year from 4th year for five years</p>	Women farmers in the Project area	<ol style="list-style-type: none"> 1. prepare handout 2. provide lecture on nutrition and how to improve their diet through nutritious vegetable cultivation 3. seed distribution 	<ol style="list-style-type: none"> 1. TSG-SP members (Anganwadi) 2. KVK staff (Home scientist and/or related lecturer) 3. allowance/transportation of TSG-SP members (Anganwadi) and KVK staff 3. tea and snack 4. stationery 5. training materials 	PMU			Start from 4 th year of the project based on the result of the activity on nutritious vegetable cultivation
				<ol style="list-style-type: none"> 6. NGO sector expert 7. NGO Com. Motivator 8.. allowance/transportation of NGO staff 	NGO			
<p>3.3.9. Training on how to cook Nutritious Vegetables (Swiss Chard, Kale and Amaranth)</p> <p><u>Objectives:</u> To train nutritious vegetable cultivation group members on how to cook Swiss Chard, Kale and Amaranth</p>	<p><u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	Nutritious vegetable cultivation group (10 person per group)		<ol style="list-style-type: none"> 1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials 	PMU			
				<ol style="list-style-type: none"> 7. NGO sector expert 8. NGO Com. Motivator 9.. allowance/transportation of NGO staff 	NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.3.10. Booklet for cooking <u>Objectives:</u> To disseminate appropriate recipe to improve nutrition status of rural area	<u>In charge:</u> WCD <u>Cooperated by:</u> KVK <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-PMU, PMU <u>Duration:</u> 1/2 day <u>Frequency:</u> 1 time publication, meeting 10 times in 4 th year of the Project	1. WCD staff (related to nutrition program) 2. KVK 3. universities	1. compilation of recipe book (meeting 10 times) 2. Publish and distribute the book	1. WCD staff 2 KVK 3. University allowance/transportation of WCD, KVK and Universities staff 3. NGO sector expert 4. allowance/transportation of NGO staff	PMU NGO			
3.3.11. Support to sell productions <u>Objectives:</u> To support to sell produced vegetable	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Basic vegetable cultivation group	1. introduction of simple postharvest technology: bundling, packing 2. promote to record keeping	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH) 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	PMU NGO			
3.3.12. Seed collection and distribution of Nutritious Vegetable Cultivation group <u>Objectives:</u> To continue the program with other SHGs	<u>In charge:</u> TSG-SP (WCD) <u>Cooperated by:</u> NGO (sector expert, com. motivator) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Nutritious vegetable cultivation group	1. provide instruction to produce seed (necessary amount and how to produce) 2. collect seed from members	1. TSG-SP member (WCD) 2 allowance/transportation of TSG-SP members (WCD) 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	PMU NGO			

Activities / Objectives	Executing Body, Venue & Frequency	Contents		Input by Project fund		Input by OtherFund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
3.4. Monitoring and Mentoring the Groups for Sustainable Activities								
3.4.1. Regular Monitoring and Provide Necessary Support to Groups <u>Objectives:</u> To monitor group activities and demonstration plot regularly to provide necessary support in time	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly (at least every 2 weeks during the demonstration)	1. two groups for nutrition 2. two groups for cash	1. visit group and monitor group activities and demonstration plot regularly to provide necessary support in time, especially during the demonstration	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)	PMU			
				3. NGO sector expert 4. NGO Com. Motivator 5..allowance/transportation of NGO staff	NGO			

Source) JICA Survey Team

Attachment 5.6.2
Gender Friendly Training Practices

Attachment 5.6.2 Gender Friendly Training Practices

1. **Hard Component**

Since there are series of trainings during the Project, training institutes such as IMTI and KVK are expected to utilising the training cost to improve facilities in the institutes in order to provide safe and clean environment to female participants as well as male participants.

Checkpoints

- i Classrooms and corridors are light enough.
- ii There are separate bathroom/toilet for male and female which is clean and light enough.
- iii If possible, area for female participants in a hostel should be separated from area for male and the area should be constantly vigilant of the people going in and out.

2. **Soft Component**

To provide safe learning environments for female participants, the institutes need to consider the following facilities.

- i At least 2 female trainers need to be in each training to facilitate open discussion on the lecture as well as environment in the institute for female participants.
- ii Training materials need to be developed farmer friendly as well as gender friendly.
- iii It is necessary to provide baby-sitting service per training.

Attachment 5.6.3
Sample Questionnaire for Baseline Survey
on Gender Aspects

1. General Information

S.No	Village Name	Farmer's Name	Age	Male/Female
Presence of Water User's Association		Membership		Membership Fee
Total owned land by family (area)	Irrigated (ha)	Non irrigated(ha)	Owned by women (type, ha)	

2. Gender Aspects**2-1. Question to Male Interviewee or husband of the interviewee**

1. Background information					
a.	Involved in agriculture or not?: Full-time farmer, Part-time farmer, Not farmer having another job ()				
b.	Age:				
c.	Education/literacy: Can read, Just literate, Class (), Others ()				
d.	Land ownership				
	1) Owned land Area:				
	Irrigated (unit: ha or Bigha)	Not irrigated (unit: ha or Bigha)			
	2) Reasons why you own land:				
	3) Who will succeed your land?:				
2. Do you attend community meeting?					
a.	If yes, how often and which meeting?				
b.	If no, why?				
3. Roles and responsibilities on farm work			Male	Female	
0: Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do					
a.	Name of crop: Veg () or Mustard or Wheat				
b.	Land preparation (cleaning)				
c.	Land preparation (plowing) by hand or by machine, by animal				
d.	Fertilizer application				
e.	Seed sowing by hand or by machine				
f.	Transplanting, if required				
g.	Watering				

h.	Weeding by hand or by machine		
i.	Spraying		
j.	Harvesting by hand or by machine		
k.	Post-harvest/processing (dry)		
l.	Post-harvest/processing (packing) by hand or by machine		
m.	Post-harvest/processing (cleaning) by hand or by machine		
n.	Transportation (field to house) by private transportation or by public transportation		
o.	Transportation (house to market) by private transportation or by public transportation		
p.	Sales (place: _____)		
4. Roles and responsibilities on house and social work		Male	Female
0: Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do			
a.	Cooking		
b.	Cleaning		
c.	Fetching water		
d.	Fetching firewood		
e.	Washing clothes		
f.	Caring for children (if you have)		
g.	Caring for elder (if you have)		
h.	Caring for sick (if you have)		
i.	Caring for goat (if you have)		
j.	Caring for cattle (if you have)		
k.	Maintenance of house		
l.	Networking with neighbors		
m.	Attending community meeting		
5. Please briefly explain about your daily activities from morning to evening			
	Time	Activity	
		Wake up	

6. Please briefly explain about decision making on the following items					
0: Not at all, 1: Only sometimes, 2: Often, 3: Mainly					
Resources/property		Who can use it? (Access)		Who decide on it? (Control)	
		Male	Female	Male	Female
a.	Farm land				
b.	House				
c.	Farming tools				
d.	Agri. machineries				
e.	Farm input (seed, fertilizer, etc.)				
f.	Cattle/buffalo/camel				
g.	Chicken/duck				
h.	Goat/sheep				
i.	Farm products				
j.	House expenditure				
k.	School fee				
l.	Cash/income				
7. Have you ever received any training in gender?					
a.	When				
b.	How long				
c.	Where				
d.	By whom (organization, project, etc.)				
e.	Contents:				
f.	Changes resulting from the training(if any):				
8. Agricultural Extension Services (Have you ever get any agricultural extension services?)					
a.	Types (Technical, Financial, management etc.:				
b.	Public/Private and location of their office(s):				
c.	The names of DAO and FEOs (Frontline Extension Officers):				
d.	Availability (frequency of the agent/officer's visit):				
9. Marketing information					
a.	Experience on using market information: Yes (how often? _____), No				
b.	Means to get information:				

2-2. Question to Female Interviewee or wife of the interviewee who is involved in agriculture

1. Background information	
a.	Involved in agriculture or not?: Full-time farmer, Part-time farmer, Not farmer having another job ()

b.	Age:				
c.	Education/literacy: Can read, Just literate, Class (), Others ()				
d.	Land ownership				
	1) Owned land Area:				
	Irrigated (unit: ha or Bigha)	Not irrigated (unit: ha or Bigha)			
	2) Reasons why you own land:				
	3) Who will succeed your land?:				
2. Do you attend community meeting?					
a.	If yes, how often and which meeting?				
b.	If no, why?				
3. Roles and responsibilities on farm work			Male	Female	
0:Not at all, 1: Support occasionally, 2:Support every time, 3: Mainly do					
a.	Name of crop (same as VI-3a):				
b.	Land preparation (cleaning)				
c.	Land preparation (plowing) by hand or by machine, by animal				
d.	Fertilizer application				
e.	Seed sowing by hand or by machine				
f.	Transplanting, if required				
g.	Watering				
h.	Weeding by hand or by machine				
i.	Spraying				
j.	Harvesting by hand or by machine				
k.	Post-harvest/processing (dry)				
l.	Post-harvest/processing (packing) by hand or by machine				
m.	Post-harvest/processing (cleaning) by hand or by machine				
n.	Transportation (field to house) by private transportation or by public transportation				
o.	Transportation (house to market) by private transportation or by public transportation				
p.	Sales (place:)				
4. Roles and responsibilities on house and social work			Male	Female	
0:Not at all, 1: Support occasionally, 2 Support every time, 3: Mainly do					
a.	Cooking				
b.	Cleaning				

c.	Fetching water		
d.	Fetching firewood		
e.	Washing clothes		
f.	Caring for children (if you have)		
g.	Caring for elder (if you have)		
h.	Caring for sick (if you have)		
i.	Caring for goat (if you have)		
j.	Caring for cattle (if you have)		
k.	Maintenance of house		
l.	Networking with neighbors		
m.	Attending community meeting		

5. Please briefly explain about your daily activities from morning to evening

	Time	Activity
		Wake up

6. Please briefly explain about decision making on the following items

0: Not at all, 1: Only sometimes, 2: Often, 3: Mainly

	Resources/property	Who can use it? (Access)		Who decide on it? (Control)	
		Male	Female	Male	Female
a.	Farm land				
b.	House				
c.	Farming tools				
d.	Agri. machineries				
e.	Farm input (seed, fertilizer, etc.)				
f.	Cattle				
g.	Chicken				
h.	Goat				

i.	Farm products				
j.	House expenditure				
k.	School fee				
l.	Cash/income				
7. Have you ever received any training in gender?					
a.	When:				
b.	How long:				
c.	Where:				
d.	By whom (organization, project, etc.):				
e.	Contents:				
f.	Changes resulting from the training(if any):				
8. Agricultural Extension Services (Have you ever get any agricultural extension services?)					
a.	Types (Technical, Financial, management etc.:				
b.	Public/Private and location of their office(s):				
c.	The names of DAO and FEOs (Frontline Extension Officers):				
d.	Availability (frequency of the agent/officer's visit):				
9. Marketing information					
a.	Experience on using market information: Yes (how often? _____), No				
b.	Means to get information:				

Attachment 5.6.4
Concept of WW

Attachement 5.6.4 Concept Women Wing

1. Concept of Women Wing

To promote women's participation in WUA and water management, the Project suggests forming Women Wing (WW) in same area of WUA. It is similar organization to WUA and the WW gains experience and improve knowledge on how to plan and manage activities as well as organization through the following activities.

- i) Women Friendly Activities
- ii) Involvement in WUA fund management
- iii) Participating in WUA monthly meeting to report progress of WW's activities and to discuss issues concerned
- iv) Participating in Territorial Constituency (TC) monthly meeting to discuss common issues in their irrigation area
- v) Sharing experiences in WW's annual review meeting and WUA's annual review meeting organized in Sub-PMU level
- vi) Training on water management, group management and fund management

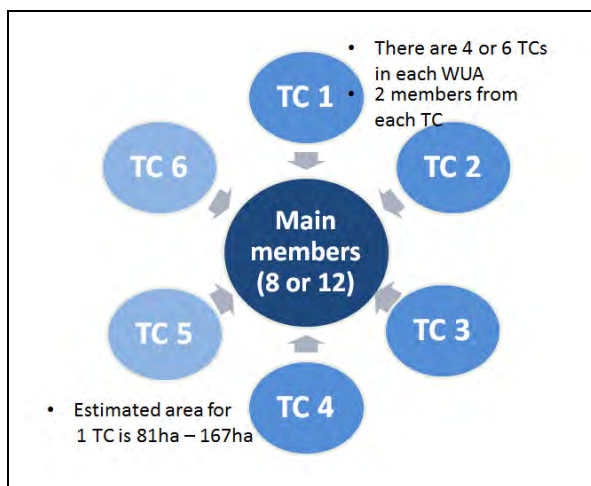
2. Formation of Women Wing

As with WUA, WW is also voluntary organization consisting of main members and general members: main members are a group of selected members from each TC and general members are loosely linked water users in the same TC area.

In the Project, there are 4 or 6 TCs in a WUA according to its irrigation area¹. In the beginning of the each stage, information on formation and its process of WW as well as WUA are broadly announced in different level of community: Sub-project, WUA and TCs.

Firstly, women water users are organized

in TC level. There in no limitation of size of the group since it is a voluntary



Source: JICA Survey Team

Figure 1 Formation of WW

¹ Every WUA area has been divided into territorial constituencies (TCs) on the basis of following norms: Area up to 500 ha=4 TCs, Area from 501 ha to 1000 ha=6 TCs. In this report, number of WUA is calculated by dividing CCA by 1000 (ha). Example for sub-project of 6,500 CCA, number of WUA is estimated as 7 (=6500/1000). Area of each WUA is estimated 928.57 ha (=6500/7). Thus, number of TCs is supposed to be 6.

group, but the members are expected to participate in TC monthly meeting regularly, if not monthly. In TC level, members select 2 representatives per TC as main members of WW who have responsibility to plan and implement WW activities representing other members. While WUA managing committee (MC) members need to be elected by the water users, WW's main members are selected by mutual consensus of women water users.

3. Activities

3-1 Formulation of WUA Women Wing

1) General Meeting for water users at same time of formation of WUA

- During the general meeting for water users at the beginning of the stage, information on WW formation is also provided to the public.
- To encourage women to participate the meeting, TSG-SP members as well as NGO staff explain the objectives of the meeting to women water users individually and ask their family to allow her to participate in the meeting explaining that it is to their benefit, too.

2) Orientation for Territorial Constituency at same time of formation of WUA

- In the orientation for TC, information on WW formation should be provided in detail because more women participation can be expected in TC level since it is close to their house.
- This time also TSG-SP members and NGO staff need to encourage women's participation by talking individually and securing agreement from their family.

3) Formulation of Woman Wing per WUA

- Before forming WW in WUA level, it is important to recognise each other interested and capable women water users in TC level to be a main member as well as a volunteer. For this purpose, another meeting with women water users should be organized in TC level shortly after the orientation for TC to select their representative and other active volunteers.
- A list of selected WW main members is compiled after series of meeting with women water users in TC level, and the list is disseminated broadly. To avoid possible conflict, TSG-SP members and NGO staff need to pay attention to community's reaction on the selection.

4) Orientation on WW activities

- It is for main members to explain activities and its schedule in detail and to develop simple work plan with them. This time, it is not necessarily required to make a long term plan because WW members don't have enough time since they need to finalize Women Friendly Activities (WFA) as soon as possible.
- TSG-SP members and/or NGO staff need to provide detail information on WFA and set the date for TC level meeting for further discussion.

3-2 Facilitating to Introduce the Women Friendly Activities

1) Facilitating to Discuss and Finalize Women Friendly Activities (WFA)

- Although there used to be washing steps and/or washing platform in the irrigation canal, it was not concerned enough women's needs. Thus, the Project brings this program under WW's activity as Women Friendly Facilities (WFF) so that women can discuss and decide design and type of facility by themselves.
- Originally, the tree plantation is a part of environmental protection by planting trees along with the canal. The Project proposes to bring this program under WW's activity as Women Friendly Trees (WFT) because trees are more used by women.
- Sub project level WRD, WCD and NGO staff visit each TC and have meeting with women water users to discuss WFA. To facilitate discussion, example of facilities and trees should be given, but do not lead the discussion to an easy conclusion. If women water users demands ideas seem to be impossible, TSG-SP and NGO staff need to consult with the consultant before reject it. But if it is obviously impossible or not reasonable, TSG-SP and NGO staff can reject it on the spot.
- Especially WRD staff needs to support WW members to draw their exact needs on facilities or on necessary specification affecting design of the infrastructure.
- Demands of women water users are prioritized and collected from TCs to WUA level. WW main members, with support of TSG-SP members and NGO staff, finalize the activities under WFA.
- The result is shared to WUA as well as communities to confirm that there is no any serious dispute related to the activities.

2) Support Women Wing to plan and implement Women Friendly Facilities (WFF)

- Once their demands are finalized, TSG-SP members and NGO staff support WW main members to make a plan and implement the activity.
- If it is possible for women water users to work at construction site and they desire to work for, TSG-SP and NGO staff need to coordinate with constructor.
- Main purpose for making plan is confirming frequency of construction site visit and arranging work schedule at construction site if it is agreed.

3) Support Women Wing to plan and implement Women Friendly Trees (WFT)

- Similar to WFF, once their demands are finalized, TSG-SP members and NGO staff support WW main members to make a plan and implement the activity.
- WRD staff needs to confirm nature of activity whether women water users need to do anything voluntary or not.
- Based on that information, WW main members make a work plan to manage and implement the activity including plantation site visit and negotiation with vested interests.

3-3 Encouraging Women to Participate in WUA Activities

1) Support WW Members to conduct WW Monthly Meeting

- WW main members conduct monthly meeting just before the WUA monthly meeting so that they can prepare report and agendas for the WUA monthly meeting.
- TSG-SP and NGO staff support to conduct the meeting: remind members of meeting date, put important agendas to discuss, show them how to chair the meeting and how to maintain meeting minutes.

2) Support WW Members to Participate and Report in WUA/MC Monthly Meeting

- Based on the discussion in the WW monthly meeting, TSG-SP and NGO staff encourages WW members to report and to put agendas.
- At the same time, staff needs to encourage male members to accept women's participation and to take their suggestion/motion seriously.

3) Support to WW Members to Participate in WUA Fund Management

- "Fund management" has broad meanings: accounting, collect water charges, auditing and so on.

- The Project provide accounting training as well as auditing training so that WW members be able to participate in daily financial management of WUA and to examine WUA's financial record before reporting it in WUA general meeting.
- Possible activities differ from WUA to WUA, and from WW to WW. It should be discussed with WUA and WW what they can and want to do.

4) Support WW members to participate Territorial Constituency monthly meeting cum training

- In TC level, monthly meeting cum training is conducted monthly basis to encourage water users both men and women to participate in water management and to provide useful information on agriculture, environment and gender. The Project expects at least 10 women participating the meeting regularly and 30% of participants is women.
- To achieve this, TSG-SP and NGO staff need to disseminate information about TC monthly meeting and encourage people to participate.

5) Support WW members to participate in weekly progress meeting in monthly basis

- During the construction period, weekly progress meeting is conducted at the site with WRD and the contractor. WW members do not need to participate the meeting weekly but TSG-SP and NGO staff assist WW members to come to the meeting monthly basis.
- It is good opportunity to know progress of the construction of WFF and also ask questions on construction before it completes.

6) Support WW members to participate in WUA general meeting

- WUA general meeting is conducted twice in a year at the beginning of Rabi and Kharif. At the same time to support WUA to organize the meeting, TSG-SP and NGO staff needs to support WW main members to compile their report to share in the meeting.

3-4 Providing Trainings and Exposure Activities on Water Management and Organizational Management

1) Support WW members to participate in Training on Water Management at Sub-PMU Level with WUA

- Training on water management is conducted jointly for WUA and WW members in KVK located in Sub-PMU centre for 3 days. TSG-SP and NGO staff needs to encourage suitable WW members for the training to participate and to convince their family to allow them to go.
- The Project proposes to provide baby-sitter during the training, but if there is any other requirement, such as wheel chair or specific food and so on, TSG-SP and NGO staff need to consult with Sub-PMU.

2) Fund Management Training (auditing) at Sub-PMU Level

- To encourage WW members to involve in WUA's fund management, auditing training is conducted in KVK located in Sub-PMU centre for 2days.
- As same as the training on water management, TSG-SP and NGO staff create good environment for WW members to participate in the training.

3) Exposure Visit (Sub-PMU wise)

- 3 days exposure visit is conducted once in the stage. 3 members each from all the WW in Sub-PMU are divided in a group of 30 people and visit good performance WW and WUA in other districts.
- The Project proposes to provide baby-sitter during the training, but if there is any other requirement, such as wheel chair or specific food and so on, TSG-SP and NGO staff need to consult with Sub-PMU.

4) Annual WW's Review Meeting at Sub-PMU Level

- Sub-PMU WW's review meeting is conducted annually, but twice in the stage (end of 2nd year and 3rd year).
- 1st day is for WW members only to report their achievement and to share their experience. 2nd day is with WUA members to know other WUA's activities.

5) Support WW members to participate in Annual WUA/MCs Review Meeting at Sub-PMU Level

- As mentioned above, WW members join in the 1st day of WUA annual review meeting. WW members can learn from other WUA with different culture.
- TSG-SP and NGO staff need to link WW members to other WUA members who have good experiences to share with and can encourage WW members to move forward.

6) Support WW members to participate in Stage-wise WUA Review Meeting at State Level in IMTI with WUA

- At the end of the stage, 2 best performed WW from each Sub-PMU are selected and invited to the stage-wise review meeting in IMTI for 2 days.
- As same as other trainings, TSG-SP and NGO staff create good environment for WW members to participate in the training. And if there is any other requirement except baby-sitter, such as wheel chair or specific food and so on, TSG-SP and NGO staff need to consult with Sub-PMU.

7) Support WW members to participate in Follow-up Training for Main Members on Water Management with WUA

- The follow-up training is conducted in IMTI. Since this is end of the stage, the Project expects that the most of WW main member and their family get used to go out of the village for functions. But as same as other trainings, TSG-SP and NGO staff create good environment for WW members to participate in the training. And if there is any other requirement except baby-sitter, such as wheel chair or specific food and so on, TSG-SP and NGO staff needs to consult with Sub-PMU.
- At the same time, TSG-SP and NGO need to select suitable members to participate in the training based on their performance.

Attachment 5.6.5
Implementation Process of SHG Activity

Attachment 5.6.5 Concept of Implementation Process of “Agricultural Technologies through SHG Activities” (Sub-component 3)

Timing to start the activity: the end of 1st year of the construction stage

1. Selection of the group

1-1 Develop Work Plan on the Activity in SP Level

- For this sub-component, TSG-SP members need to work as a team because the target group is selected sub project basis.
- Since ToT on vegetable cultivation is planned to conduct in the beginning of 2nd year of the construction stage, TSG-SP members with concerned NGO staff develop work plan for the activity at the end of 1st year of the construction stage.
- The plan covers timing, method and responsible person for each activities below explained.
- Group selection schedule and its criteria also need to be confirmed before giving information to public. See **1-4 Selection of group** for setting criteria.

Example:

Activity	Timing	Method	Responsible person
Provide information on the activity	February, 20XX	1) inform about the activity, selection schedule and criteria in WUA/MC monthly meeting 2) same in WW monthly meeting 3) same in TC monthly meeting	1) Agriculture Supervisor, Anganwadi, Satin and NGO Sector Expert 2) do 3) Community Motivator
Collection of proposal	Mid Feb – Mid March	1) monthly meetings 2) Anganwadi	1) same as above 2) Anganwadi staff

1-2 Providing Information to Women Members of the Sub-Projects on Agriculture Program under Women Wing

- Taking opportunities of monthly meeting, TSG-SP members as well as NGO staff (TSG-SP team) provided information on the activity, selection schedule and criteria to WUA, Women Wing and Territorial Constituency at least.
- Besides the monthly meetings, TSG-SP can use *Anganwadi* Nutrition day program, put up the information on a notice board and/or function of Gram

Panchayat.

- Need to mention about proposal format: where to get and how to submit

1-3 Collecting Proposal from Groups

- Based on provided information, TSG-SP team collect the proposal from groups through the next meeting, *Anganwadi* and/or personal contact.

1-4 Selection of Group

1) Common Criteria

- Number of members: up to 20 members (1 demonstrator and 19 followers)
- Group member should
 - be a female farmer cultivating within the irrigation area
 - have land to cultivate vegetable
 - be able to participate in series of activities for more than 1 year
 - have family members' understanding
- The demonstrator should
 - take responsibility to display the technology in the demo plot throughout the season
 - be able to share her experience to other members

2) Criteria for the Group for Cash

Group member should

- have experience to cultivate vegetable
- have land to expand vegetable cultivation after the demonstration
- have a desire to learn cultivation techniques on Tomato, Onion and Chilies using modern technique such as nursery production and mulching

3) Criteria for the Group for Nutrition

Group member should

- have small but enough land to cultivate vegetable
- not necessarily required experience of vegetable cultivation
- have a desire to learn how to cultivate Nutritious Vegetables such as Swiss chard, Kale and Amaranth
- have a desire to improve her and her family's nutritional status through learning nutritional value of each vegetable, and how to cook them
- select one demo plot nearby Anganwadi for group member's training

1-5 Conducting Orientation to Selected Groups

- Immediately after group selection, TSG-SP team provide orientation to group members on the activity and its schedule group by group.
- In the orientation coming activity, its timing and requirement are explained and the members agree on that. Especially demonstrator's roles and responsibility and site of the demo plot should be confirmed.

2. Strengthening Capacity on Group Management

2-1 Providing Training on Group Management

- Before starting group activity, training on group management is provided to 3 members of each group.
- The training is conducted in KVK at Sub-PMU level. There should be women friendly facility such as baby-sitter and safe and clean environment.
- Program is for 2 days and for 30 participants per training.
- Participants from same group should participate in same training.

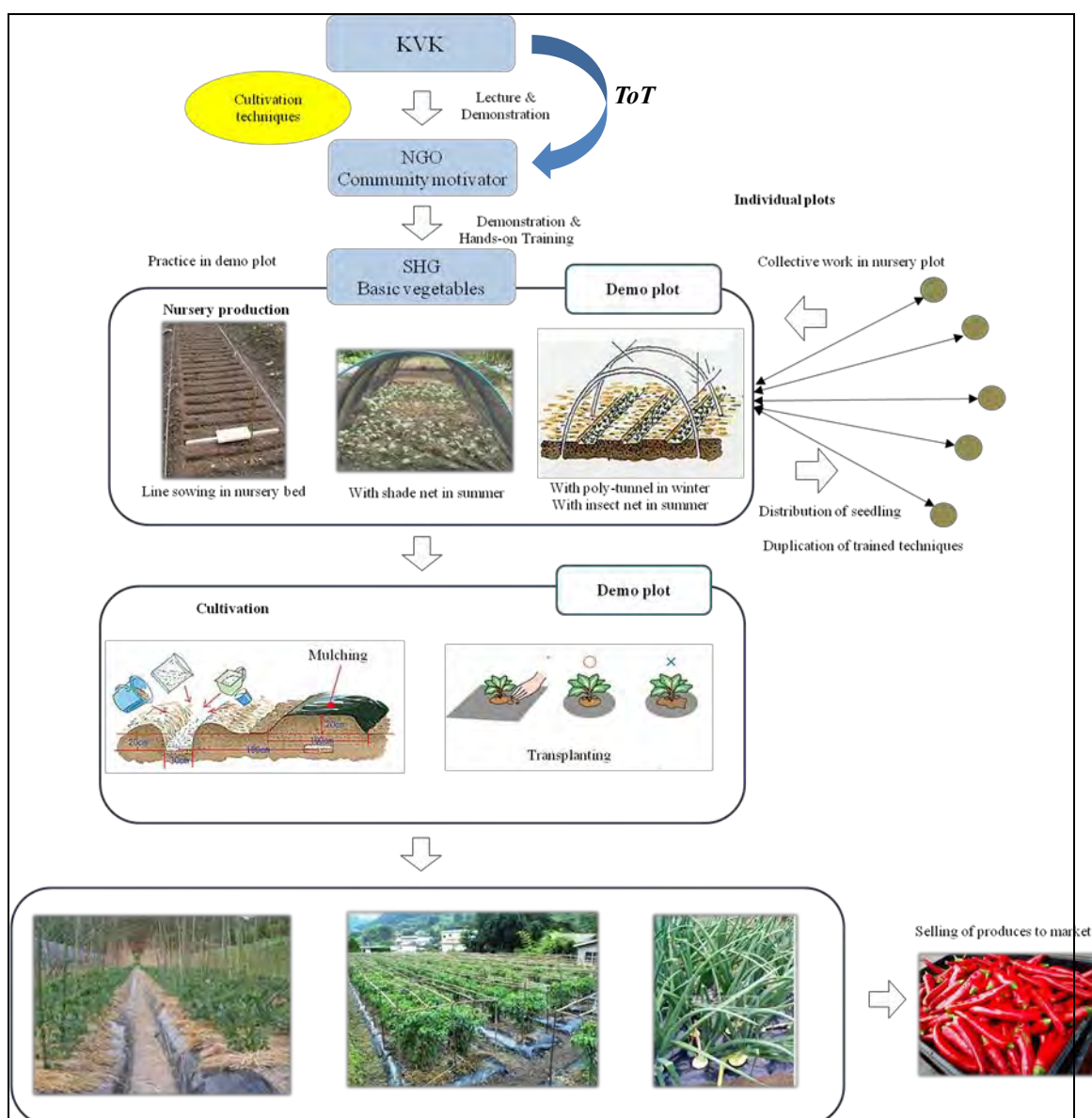
2-2 Support to Conduct Monthly Group Meeting

- To prepare demo plot and implement the activity, TSG-SP team support group members to conduct monthly group meeting.
- Main objectives of the meeting is preparation for coming activity, but *Satin* and/or *Anganwadi* staff can use this opportunity to share useful information for them s and to discuss household issue.

3. Strengthening Capacity on Agricultural Technique

3-1. Vegetable Cultivation Group for Cash

The following figure shows series of activities for vegetable cultivation group for cash.



Source: JICA Survey Team

Figure 1 Activities for Vegetable Cultivation Group for Cash

1) Training of Trainers (ToT)

- ToT on vegetable cultivation for cash will be conducted for 2 days in KVK, sub-PMU wise, for 40 people per training: Once for Rabi and once for Kharif.
- Related TSG-SP members (DoA/DoH, NGO Sector Expert and Community Motivator) are trained of cultivation techniques on nursery production and use of mulch for basic vegetables (Tomato, Chillies and onion).
- The timing should be one month in advance to training of SHG members.

2) Training of SHG Member for Nursery Production and Cultivation (Lecture type training)

- Training of SHG members should be conducted one week before sowing of nursery in Kharif and Rabi season.
- It is lecture type training for 1 day in sub-project site group bet group.
- Necessary agricultural inputs, such as seed, mulch, nursery kit and so on, are provided at time with explanation on how to use.

3) Preparation of Nursery (Hands-on training)

- In the demo plot, small space for nursery production should be prepared.
- Especially preparation of nursery of onion needs much care.
- For Rabi season, it is still hot and full of insects and diseases in September. Shade net or insect net should be used for protection.
- For tomato and chilli nursery production, early nursery is more profitable. Use of low tunnel is recommendable.

4) Preparation of Demo Plot (Hand-on training)

- Before transplanting, one plot should be fully prepared: Tilling, weeding and application of basal manure should be done at least two weeks in advance.
- Then levelling, making beds and application of mulch should be done 2, 3 days before transplanting.

5) Demonstration to Group Members in Demo Plot (Hands-on training)

- All the member need to participate the demonstration in demo plot.
- DoA Agriculture Supervisor and/or NGO Sector Expert provide technical information based on the ToT to the participants while NGO Community Motivator makes arrangement of place, materials, refreshment and so on.
- Each member needs to duplicate the trained techniques in their own field in time. Other members need to help each other when they place mulch on the beds.

6) Monitoring the Progress

- Community Motivator with DoA Agriculture Supervisor and/or NGO Sector Expert should visit the demo plot and individual field at least once two weeks to support their activities.

7) Support to Selling

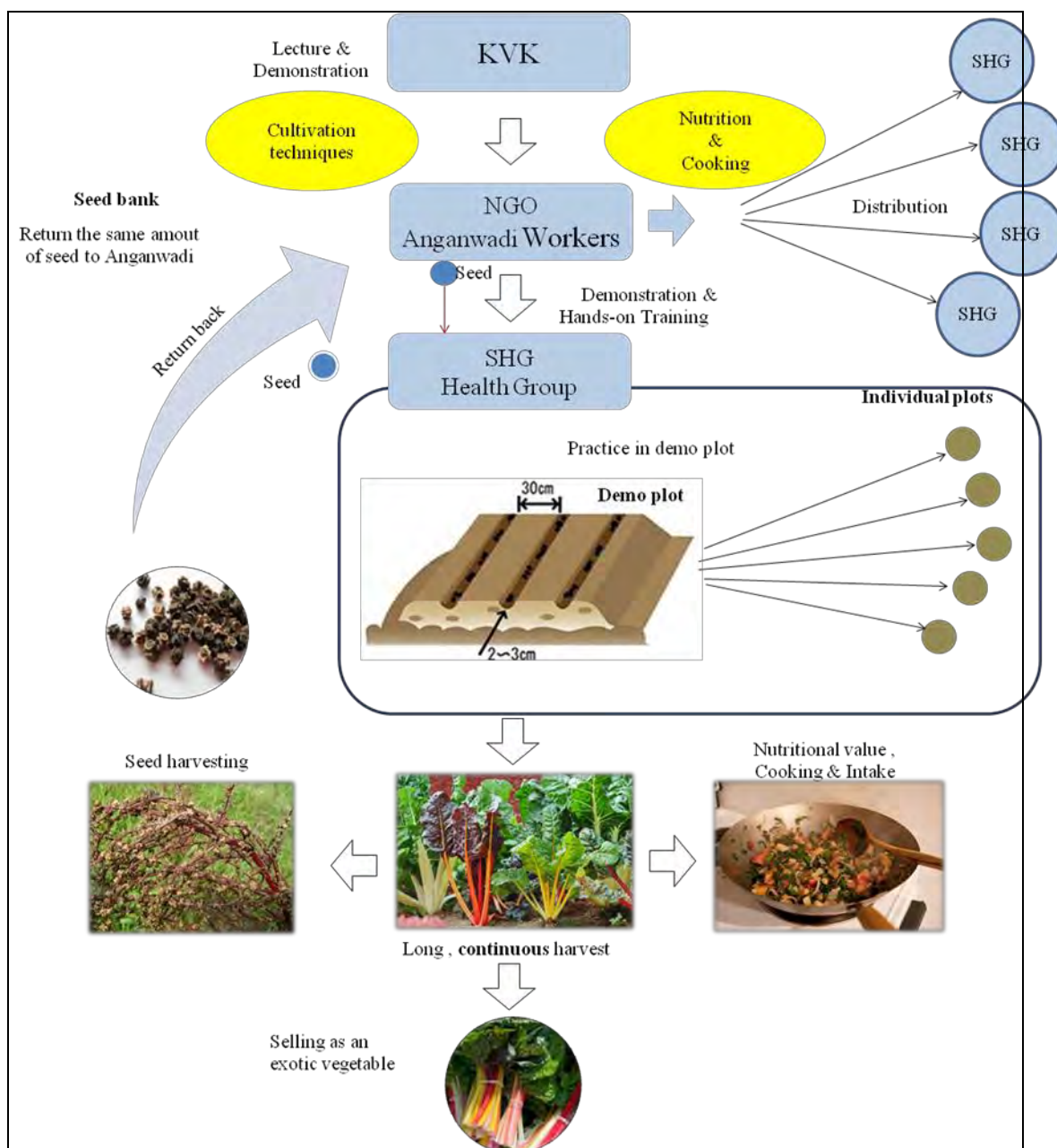
- When harvesting season comes, NGO Sector Expert and Community Motivator need to promote selling of produces. Bundling and packing techniques should be given.
- After selling, bookkeeping should be done by each member with Community Motivator's help.

8) Way Forward

- DoA Agriculture Supervisor and/or NGO Sector Expert need to plan how to expand vegetable cultivation in the area. ATMA program and/or NABARD scheme can be utilized.

3.2 Vegetable Cultivation Group for Nutrition

The following figure shows series of activities for vegetable cultivation group for nutrition.



Source: JICA Survey Team

Figure 2 Activities for Vegetable Cultivation Group for Nutrition

1) Training of Trainers (ToT)

- ToT on vegetable cultivation for nutrition will be conducted for 2 days in KVK, sub-PMU wise, for 40 people per training: Once for Rabi and once for Kharif.
- Related TSG-SP members (DoA/DoH, Anganwadi staff and NGO Sector Expert) are trained of cultivation techniques on nutritious vegetables, nutritional value of each vegetable and how to cook them.

2) Health Check of Group Members

- To know health status by themselves and to see the impact of the activity, health check is conducted in the beginning and at the end of the activity.
- Item to check is as follows: blood pressure, blood test, obesity rate (BMI(%) = weight /height x height)

* BMI (Body Mass Index): A measure of body fat based on height and weight that applies to adult men and women.

Bodyweight in kilograms divided by height in meters squared

*Example for 175 cm height und 70 kg weight: BMI = 70 / (1.75 * 1.75) = 22.86*

BMI Table WHO:

<i>Meaning</i>	<i>BMI</i>
<i>Normal weight</i>	<i>19–24,9</i>
<i>Overweight</i>	<i>25–29,9</i>
<i>Obesity level I</i>	<i>30–34,9</i>
<i>Obesity level II</i>	<i>35–39,9</i>
<i>Obesity level III</i>	<i>≥ 40</i>

3) Preparation of Demo Plot

- Before SHG member's training, one plot should be fully prepared: Tilling, weeding and application of basal manure should be done at least two weeks in advance.
- Levelling and bed making should be done 1,2 days before sowing.

4) Training on Nutritious Vegetable Cultivation in Demo Plot

- The training is conducted group wise and for all the members.
- TSG-SP members guide farmers how to sow the seeds, how to apply water and fertilizer. Weeding should be done properly.
- It is important to instruct them how to harvest: When harvesting the nutritious vegetables, cut each leaf one by one. Do not uproot at once. They can continuously harvest the leaves.
- Each member of the group needs to duplicate the demonstration in the demo plot.

5) Training on How to Cook Nutritious Vegetable in *Anganwadi*

- If harvesting started, lecture on nutritional value and demonstration of cooking should be done in *Anganwadi* venue.
- *Anganwadi* staff and Community Motivator need to arrange a place for cooking

6) Monitoring

- Related TSG-SP members need to visit the demo plot and individual field sometimes (at least once two weeks to monitor the activity to see and provide necessary advices.




7) Seed Collection and Distribution (Seed Bank in *Anganwadi*)

- The Project considers to adopt seed bank system for the nutrition group; owner of demonstration plot will be asked to produce certain amount of seeds and hand over to *Anganwadi* so that *Anganwadi* can expand the activities to other SHGs by using the seed.

8) Health Check

- The same items are check again and compare the result.
- Explain meaning of changes and impact to group members, if any.

Table 1 Nutritional Value and Expected Effects of Concerned Vegetables

Name of Vegetable	Nutritional Value	Positive Effects
 Swiss chard	Rich in Vitamin A, Calcium and Folic acid	Good for health of hair, eye-sight, skin and health preservation. This vegetable is effective as an Anti-cancer agents and improvement of immunopotentiative action. Usually it is used for cooking instead of spinach in summer.
 Kale	Rich in Vitamin C, Vitamin A, Vitamin E. Iron, Pottasium and calcium are also rich. The presence of Ruthin and Folic acid are prominent	Anti-aging, good to eye. Protection from life-style diseases like arteriosclerosis, high blood pressure and diabetes. It is very common to make juice from the leaves since this vegetable are full of vitamin and minerals.
 Amaranth	Rich in calcium, iron, protein and Vitamin A. This vegetable is more nutritious than spinach. It contains twice protein, 7 times calcium and 2.4 times iron of spinach.	Reduction of bad cholesterol. Good to anaemia. This vegetable is good source of folic acid, iron and zinc that tend to lack during pregnant period.

Note: Folic acid is good for pregnant woman to increase number of red blood cells and effective for anemia prevention.

Source: Compiled by JICA survey team

4. Monitoring and Mentoring the Groups for Sustainable Activities

As mentioned earlier, regular monitoring is conducted by TSG-SP team and provide necessary support to groups.

Chapter 6
Attachment

Attachment 6.2.1
Draft Terms of Reference for Consulting
Services on RWSLIP

Attachment 6.2.1 Draft Terms of Reference for Consulting Services on RWSLIP

1. Background

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in activities in order to foster better livelihood of people dwelling in the project target area.

In order to solve challenges as mentioned above, the Government of India receives a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Rajasthan Water Sector Livelihood Improvement Project (RWSLIP), hereinafter referred to as "the Project") in the Rajasthan State. The Government of India intends to use part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued.

(1) Project Objectives

The development objectives of the Project are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on Water Users Associations (WUAs);
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

From the implementation of the Project, the following benefits and social economic impact could be expected.

(2) Project Components

The project comprises of the following 8 components, of which the top seven components will be financed by JICA, with terms and conditions set forth in the Loan Agreement and the rest shall be totally funded by the Government of India.

Table 1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring

Component No	Component Items
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

(3) Scope of the Project

The major items of scope in the Project is as stated below and the details are given in Table 2.

Table 2 Project Scopes

No	Scopes of Works
1	Participatory Irrigation Rehabilitation Works
1.1	Rehabilitation of Irrigation Facilities
1.2	Micro Irrigation
1.3	Introduction of Water Users Association (WUA) Constructive Facilities
1.4	Support to Women Friendly Activities
2	Fostering and Capacity Enhancement of Water Users Organizations
2.1	Establishment of WUA Support Mechanism
2.2	Capacity Building of WUA Management
2.3	Improvement of Agriculture Linkage
3	Irrigated Agriculture Intensification and Diversification
3.1	Training of Trainers for Agriculture
3.2	Exposure Visit for Agriculture Trainers
3.3	Improvement of Agriculture Support System
3.4	Agriculture Farmers' training
3.5	Agriculture Demonstration farm
4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
4.1	FIG formulation for cooperative activities
4.2	Connecting with large-size consumers (Matching meeting)
4.3	Connecting with small-size consumers (exotic vegetables)
4.4	Brand building for high-value agro produces
5	Gender Mainstreaming in Agriculture and Water Sector
	Supporting the institutionalization of gender mainstreaming in water management
5.2	Enhancement of women's capability and participation in WUA
5.3	Capacity building on agricultural technologies through SHGs
6	Project Management and Monitoring
6.1	Procurement of Office Equipment
6.2	NGO Services
6.3	Monitoring & Training for Environmental and social aspect

(4) Implementation Schedule

The project implementation period is about 8 years from the effective date of Loan Agreement. The Project will start from January 2017 (establishment of implementation structure, including Project Steering Committee (PSC), Project Management Unit (PMU) and Sub-PMU formulation) and complete all project works by June 2024 as shown below.

Table 3 Overall Implementation Schedule

Item	Expected Time Schedule
Loan Agreement	December 2016
Establishment of PMU	January 2017 to March 2017 (3 months)
Selection Process of Consultants	January 2017 to December 2017 (12 months)
Consulting Services	January 2018 to June 2024 (78 months)
Selection Process of NGO	January 2018 to June 2018 (6 months)
NGO's Services	July 2018 to June 2024 (72 months)
Selection Process of Survey Investigate and Design (SID) Consultant	January 2017 to June 2017 (6 months)
SID works for sub-projects in Stage-1	July 2017 to December 2017 (6 months)
Selection Process of Contractors	January 2018 to December 2018 (12 months)
Component-1: Participatory Irrigation Rehabilitation Works	January 2019 to December 2023 (60 months)
Component-2: Fostering and Capacity Enhancement of Water Users Organizations	January 2019 to June 2024 (66 months)
Component-3: Irrigated Agriculture Intensification and Diversification	January 2019 to December 2023 (60 months)
Component-4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	January 2019 to December 2023 (60 months)
Component-5: Gender Mainstreaming in Agriculture and Water Sector	January 2019 to December 2023 (60 months)
Component-6: Project Management and Monitoring	January 2019 to December 2023 (60 months)
Project Completion	June 2024
Loan Closing	December 2024

(5) Location of the Project

The target districts of the Project are 27 districts in the State as shown in the Project Location Map.

(6) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and PMU will be set up for coordinating and monitoring the project activities at the 3 levels.

(7) Implementation Structure

Coordination Committees: There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the PMU level, and the Sub-PMU Coordination Committee at sub-PMU level as described in the following figure.

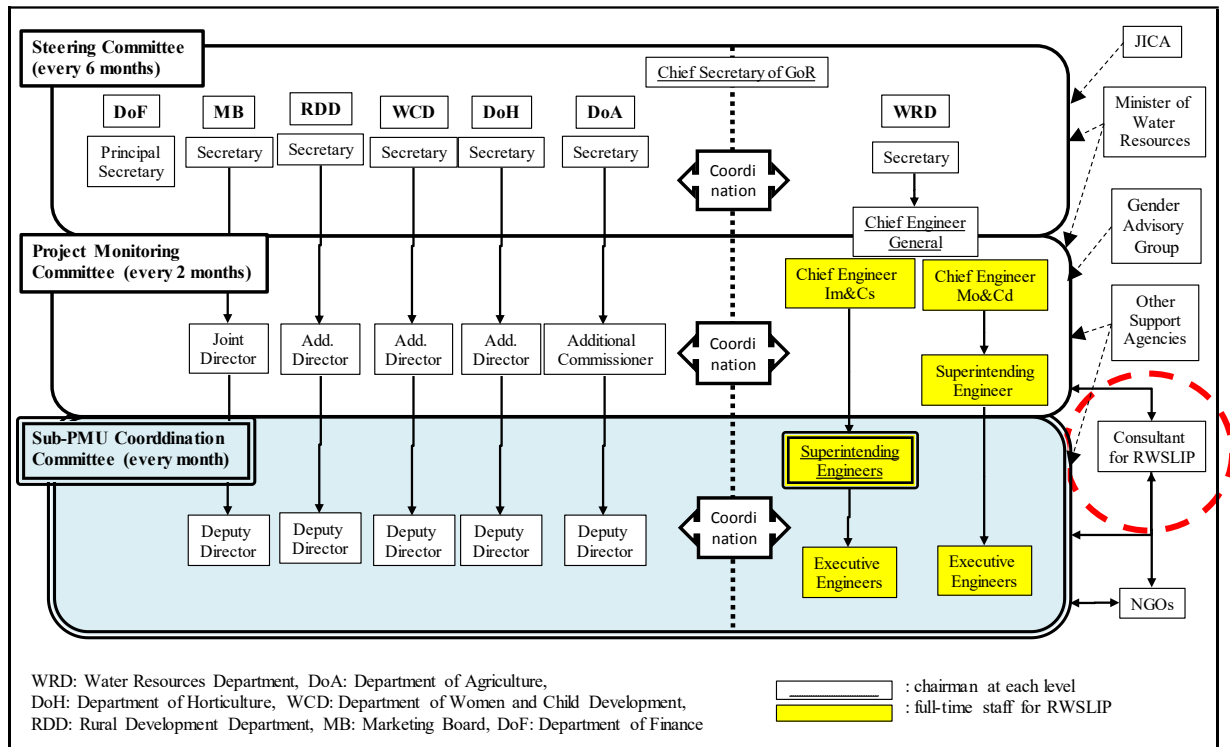


Figure 1 Implementation Structure of Steering Committee and Project Monitoring Committee

Project Management Unit (PMU): As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 Sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur Sub-PMU region),
- (ii) Kota zone (Kota Sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur Sub-PMU region),
- (iv) Ganganagar and West Hanumangarh area in North zone (Hanumangarh-1 Sub-PMU region), and
- (v) East Hanumangarh area in North zone (Hanumangarh-2 Sub-PMU region)

Those 5 Sub-PMU offices play a significant role in supervising construction works and controlling all the other project works on the ground. Each Superintending Engineer of WRD will be fully responsible for all the project works including activities for soft components as well as construction works.

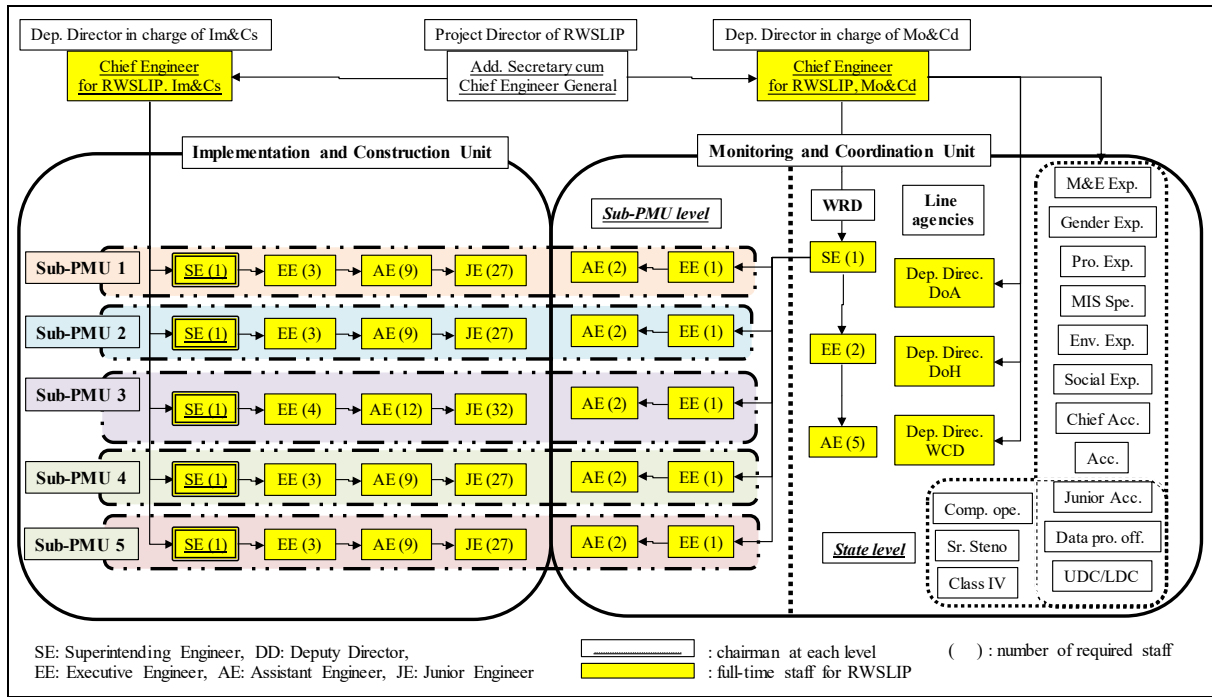


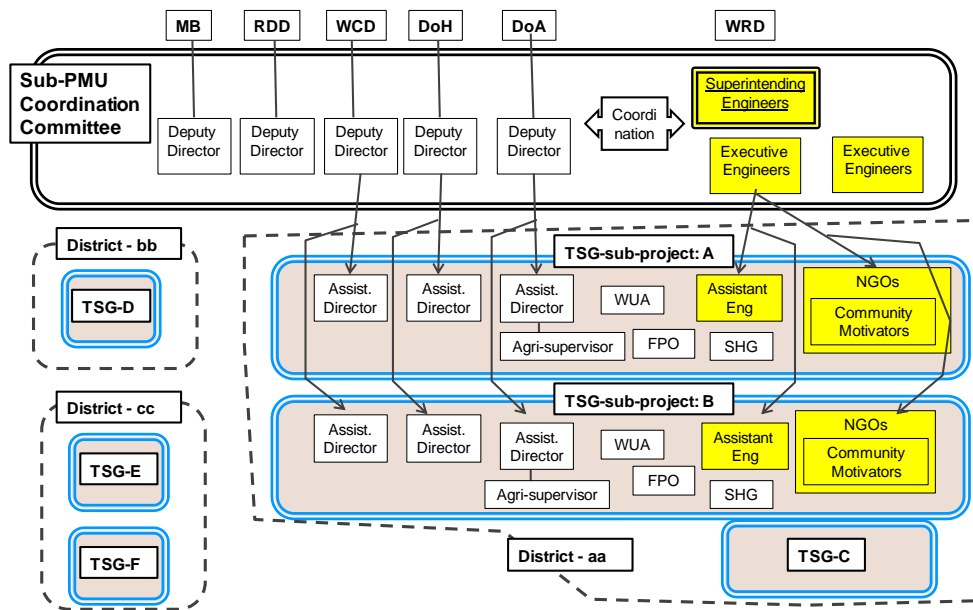
Figure 2 Implementation Structure of Project Management Unit (PMU)

Technical Support Group at Sub-project Level (TSG-SP): The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- i) Department of Agriculture,
- ii) Department of Horticulture,
- iii) Women and Child Development Department,
- iv) Water Resource Department (WRD),
- v) Regional NGO,
- vi) WUAs
- vii) FIG / Farmer Producers Organization (FPO), and
- viii) Self-help Group (SHG).

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure 3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

(8) Technical Information

Construction works for minor and medium irrigation projects; materials, products and designs of agriculture infrastructures shall be compliant with the Indian Standards (IS).

2. Objectives of Consulting Services

The consulting services shall be provided by an international consulting firm (hereinafter referred to as "the consultant") in association with national consultants in compliance with Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012. The objective of the consulting services is to assist PMU in the efficient and proper preparation and implementation of the Project through the following works:

- Overall project management
- Constuction management works of Participatory Irrigation Rehabilitation Works
- Fostering and Capacity Enhancement of Water Users Organizations
- Irrigated Agriculture Intensification and Diversification
- Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
- Gender Mainstreaming in Agriculture and Water Sector

The implementation structure of the consultant is described in the following figure.

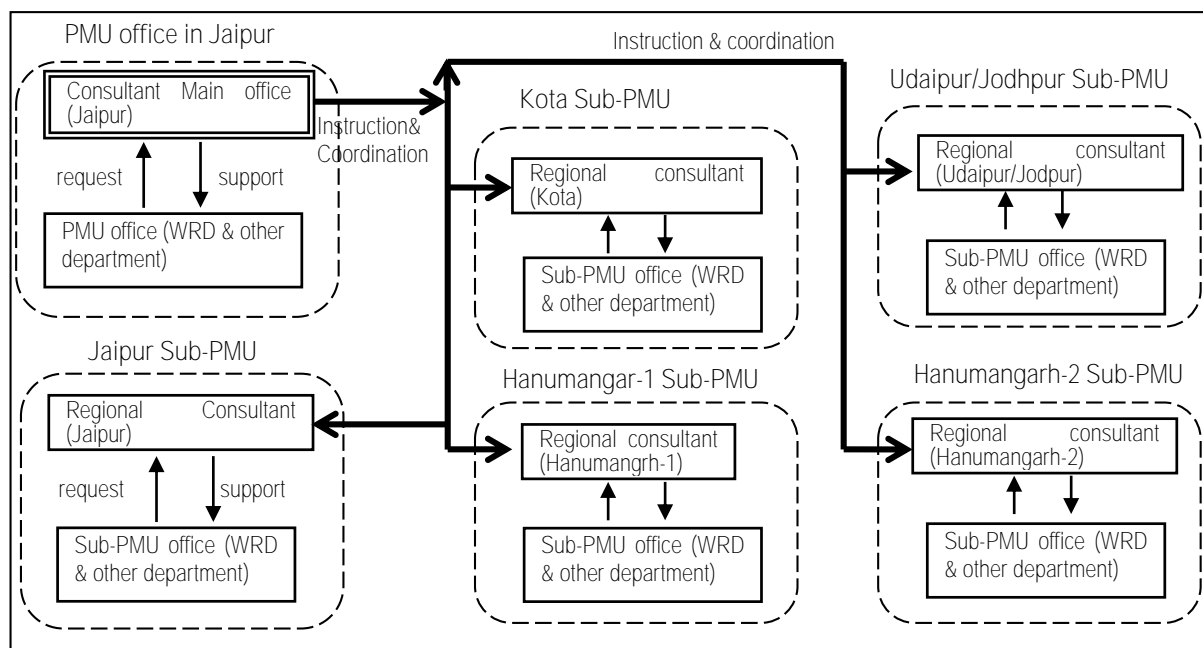


Figure 4 Implementation Structure of Consultant's Support

3. Scope of Consulting Services

The Consultant shall perform his duties during the construction period in accordance with the contracts to be executed between the Employer and the contractors. FIDIC MDB Harmonized Edition (2010) complemented with the Specific Provisions as included in the Standard Bidding Documents under Japanese ODA Loans for Procurement of Works will be applied to the civil works of the Project.

The scope of the project consultant is to assist the PMU/Sub-PMU in the following activities:

Table 4 Consultant's Scope of Works in RWSLIP

No	Activities	
Component-0	Overall Management	
	1) Preparation of Overall Project Management Plan; 2) Preparation of Annual Work Plan and Budget Estimate; 3) Monitoring and evaluation of physical and financial progress; 4) Preparation of Monthly, Annual Progress Reports and Stage-wise Review Report; 5) Technical guidance to PMU/Sub-PMU and the relevant departments; 6) Baseline Survey and Follow-up Evaluation on annual basis, and Terminal Impact Assessment; 7) Technical Reports related to the project if any; 8) Preparation of the Project Completion Report; 9) Coordination between PMU/Sub-PMU and the relevant departments; and 10) Coordination between PMU and JICA.	
Component-1	Participatory Irrigation Rehabilitation Works	
1.1	Rehabilitation of Irrigation Facilities	1) To assist PMU to provide trainings on Preparation and Review of DPRs to field officers under Sub-PMUs 2) To provide trainings on Construction Supervision and Contract Management to PMU and Sub-PMU staff as well as Contractor Staff 3) To assist PMU to execute detail design works through SID subletting works 4) To assist PMU to supervise irrigation rehabilitation works as planned 5) To assist PMU and Sub-PMU to call regular construction meeting 6) To assist PMU to provide trainings on Operation and Maintenance to Sub-PMU and WUA

No	Activities	
1.2	Micro Irrigation	<ol style="list-style-type: none"> 1) To provide awareness program regarding promotion of micro irrigation to Sub-PMU, NGO and farmers in sub-project site. 2) To assist PMU to provide orientation to farmers for their participation to this scheme 3) To assist PMU to select beneficiary group/individuals and make MOU with them 4) To assist PMU to provide micro irrigation system and capacity building for using the facilities 5) To assist Sub-PMU and NGO to conduct follow-up visit
1.3	Introduction of Water Users Association (WUA) Constructive Facilities	<ol style="list-style-type: none"> 1) To plan and design the WUA constructive facilities 2) To assist PMU to construct the WUA constructive facilities
1.4	Support to Women Friendly Activities	<ol style="list-style-type: none"> 1) To plan the women friendly facilities and the women friendly trees 2) To assist PMU to construct the women friendly facilities, and to plant the women friendly trees
Component-2 Fostering and Capacity Enhancement of Water Users Organizations		
2.1	Establishment of WUA Support Mechanism	<ol style="list-style-type: none"> 1) To develop project materials for WUA establishment 2) To provide orientation and ToT trainings in different level for WUA establishment 3) To establish monitoring system through project management activities
2.2	Capacity Building of WUA Management	<ol style="list-style-type: none"> 1) To assist PMU to formulate WUA at each subproject 2) To assist PMU to provide capacity development training 3) To assist PMU to support WUA regular and ad-hoc activities, like regular meeting, stage-wise review meetings, etc. 4) To support and facilitate WUA Support Taskforce to monitor WUA Support Activities and collect relevant data of WUA
2.3	Improvement of Agriculture Linkage	<ol style="list-style-type: none"> 1) To assist PMU to strengthen linkage between farmers and Agriculture organization 2) To assist PMU to conduct agriculture demonstration
Component-3 Irrigated Agriculture Intensification and Diversification		
3.1	Training of Trainers for Agriculture	<p>Following activities shall be implemented in cooperation with PMU:</p> <ol style="list-style-type: none"> 1) To provide workshop for high-rank officers 2) To provide ToT training on general agriculture techniques, 3) To provide ToT training on specific cultivation techniques on cereals, pulses and oilseeds, 4) To provide ToT training on specific cultivation techniques on spices and medicinal plants, 5) To provide ToT training on exotic vegetables, 6) To provide ToT training on oranges/citrus, and 7) To provide ToT training on quality improvement for TSS
3.2	Exposure Visit for Agriculture Trainers	<ol style="list-style-type: none"> 1) To assess needs for exposure visit and plan 2) To implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation
3.3	Improvement of Agriculture Support System	<ol style="list-style-type: none"> 1) To assist PMU to formulate a task team for farmers' friendly manuals and prepare sample materials (compilation of 10 visual manuals for farmers) 2) To create detailed development plan of the strengthening agriculture information centre based on DoA's proposal 3) To support PMU and DoA to set-up strengthened multi-communication services (Call Centre) as well as SMS services
3.4	Agriculture Farmers' training	<p>To assist NGOs and PMU in the following activities:</p> <ol style="list-style-type: none"> 1) To provide farmers training on general agriculture techniques, 2) To provide farmers training on specific cultivation techniques on cereals, pulses and oilseeds, 3) To provide farmers training on specific cultivation techniques on spices and medicinal plants, 4) To provide farmers training on exotic vegetables, 5) To provide farmers training on oranges/citrus, and 6) To provide farmers training on quality improvement for TSS 7) To provide marketing survey

No	Activities	
3.5	Agriculture Demonstration farm	Following activities shall be implemented in cooperation with PMU: <ol style="list-style-type: none"> 1) To assist PMU to establish orange demonstration farm (4 farmers) 1ha 2) To assist PMU to establish exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha 3) To mentor demonstration farm (oranges and exotic vegetables) (11 farmers) 4) To monitor demonstration farm's activities
Component-4 Agro-processing, Marketing, and Promotion of High Value Agriculture Produces		
4.1	FIG formulation for cooperative activities	To assist NGOs and PMU in the following activities: <ol style="list-style-type: none"> 1) To select target group 2) To provide guidance 3) To provide training for accessing loan 4) To implement group procurement activities 5) To implement group maintenance & accessing services (machinery, farm pond, etc.) 6) To implement collective marketing activities 7) To conduct review meeting 8) To provide experience sharing meeting with potential FIGs 9) To provide guidance for FPO formulation
4.2	Connecting with large-size consumers (Matching meeting)	Following activities shall be implemented in cooperation with PMU: <ol style="list-style-type: none"> 1) To provide guidance and info compiling for matching meeting 2) To assist PMU to implement 1st matching meeting 3) To assist PMU to provide 1st gap filling training (quantity, timing) 4) To assist PMU to review and improvement 5) To assist PMU to provide 2nd matching meeting 6) To assist PMU to provide 2nd gap filling training (postharvest quality) 7) To assist PMU to monitor sales after matching meetings
4.3	Connecting with small-size consumers (exotic vegetables)	Following activities shall be implemented in cooperation with PMU: <ol style="list-style-type: none"> 1) To confirm and assess current productivity and marketability 2) To provide guidance for sales activities 3) To assist PMU to assist farmers' sales to market (Jaipur, etc.) 4) To assist PMU to provide sales visit to hotels/restaurants 5) To assist PMU to have demonstration <ol style="list-style-type: none"> 5.1 Confirming productivity and marketability 5.2 Sales to Market (Jaipur, etc.) 5.3 Sales visit to hotels/restaurants
4.4	Brand building for high-value agro produces	Following activities shall be implemented in cooperation with PMU: <ol style="list-style-type: none"> 1) To assist PMU to provide ToT training 2) To assist PMU to Coordinate activity groups 3) To assist PMU to implement experimental farm for increasing sugar content 4) To assist PMU to provide special training for quality improvement (sugar content, packaging, sales, quality standards) 5) To assist PMU to operate antenna shops 6) To assist PMU to provide tasting events, Farmers' Fai, and Multimedia advertising
Component-5 Gender Mainstreaming in Agriculture and Water Sector		
5.1	Supporting the institutionalization of gender mainstreaming in water management	<ol style="list-style-type: none"> 1) To assist PMU to develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act, including insertion of gender-responsive clause into the ACT, as an amendment 2) To incorporate gender perspectives into existing capacity building activities in water management 3) To establish gender disaggregated data collection system
5.2	Enhancement of women's capability and participation in WUA	To assist NGOs and PMU in the following activities: <ol style="list-style-type: none"> 1) To formulate WUA Women Wing 2) To introduce and facilitate the Women Friendly activities, such as women friendly facilities and women friendly trees 3) To encourage women participation in WUA activities 4) To provide trainings and exposure activities

No	Activities	
5.3	Capacity building on agricultural technologies through SHGs	Following activities shall be implemented in cooperation with PMU: 1) To conduct orientation to SHG 2) To select the target groups 3) To provide training for group management 4) To provide training for agricultural technique 5) To monitor and mentor the groups for sustainable activities
Component-6	Project Management and Monitoring	
6.1	Procurement of Office Equipment	To assist PMU in the following activities: 1) To procure vehicles for daily operation 2) To procure office furniture 3) To procure office equipment, e.g. personal computers, copiers, UPS, etc. 4) To procure survey equipment
6.2	NGO Services	1) To assist PMU to procure 5 NOGs for supporting to (a) WUA establishment, (b) agriculture & marketing, and (c) gender mainstreaming activities
6.3	Monitoring and Training for Environmental and Social Aspect	1) To provide trainings to project staff at the sub-PMU level 2) To monitor the soil and water qualities, pollution testing during construction 3) To execute annual environmental assessments (in-house) for ten sub-projects for five years 4) To conduct third party environmental assessment
6.4	Monitoring and Evaluation	The Consultant should support PMU to procure a 3 rd party monitoring and evaluation consultant who has the following duties; 1) Carrying out a review of the project preparation documents with regard to project monitoring and evaluation (ME) and drawing attention to changes which may have necessary since their preparation; 2) Set up M&E frameworks for overall project activities; 3) Prepare selection and appraisal manual and plans; 4) Prepare evaluation criteria for each activity, and role and tasks of the agencies.
6.5	Transportation cost for the project management consultant	1) Rent a car charge for project management consultant.

Note: Direct costs of the above mentioned scopes & activities should be arranged by PMU, since the contract of the consultancy services does not include such direct costs.

4. Expected Time Schedule

The total duration of consulting services will be 78 months; starting on 1st January 2018 and ending on 30th June 2024.

5. Staffing (Expert Requirement)

The minimum man-month (M/M) input of the consultants is estimated at 239 M/M of Professional (A) and 650 M/M of Professional (B), and 1,850 M/M of supporting staff for the contract period of 78 months. The following experts would be assigned to the consultant team. A detailed schedule of consulting services and a distribution of man-months is shown in **Attachment-6.2.1a**.

Table 5 Allocation of Man-Month of the Consulting Services

Designation	No.	Total Input in Months (M/M)
Professional (A) : International Expert		
Team Leader	A-1	73.00
Sr. Planning and Design Expert	A-2	48.00
Sr. Construction Expert	A-3	20.00
Sr. Irrigated Agriculture Development Expert	A-4	33.00

Sr. Gender Mainstreaming Expert	A-5	23.00
Sr. Food Value Chain Expert	A-6	28.00
Sr. Procurement Eng.	A-7	2.00
Sr. Water Management & institutional Expert	A-8	4.00
Sub-total (A)		224.00
Professional (B): National Expert		
Co-Team Leader	B-1	79.00
Regional Management Expert-1	B-2	74.00
Regional Management Expert-2	B-3	74.00
Regional Management Expert-3	B-4	63.00
Regional Management Expert-4	B-5	63.00
Regional Management Expert-5	B-6	63.00
Agriculture & Food Value Chain Expert-1	B-7	64.00
Agriculture & Food Value Chain Expert-2	B-8	29.00
Gender Mainstreaming Expert	B-9	65.00
Procurement Expert	B-10	13.00
Water Management & institutional Expert	B-11	28.00
Environmental Expert	B-12	12.00
Sub-total (B)		628.00

5.1 Qualification of Experts

The minimum qualification of key team members is shown in the table below.

Table 6 Minimum Qualification of Key Experts of the Consulting Services

Designation	Qualification
Professional (A): International Expert	
Team Leader	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation or civil engineering. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 15 years' work experience in irrigation-related projects; • 2 comprehensive irrigation-related projects in which he/she served as team leader or co-team leader; • 2 irrigation-related projects in South Asian countries, preferably India; and • 10 years' work experience in Japanese ODA projects, • 5 years's work experience in Japanese ODA loan projects.
Sr. Planning and Design Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation or civil engineering. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 8 years' work experience in planning, design and construction supervision of irrigation-related projects or similar; • 1 irrigation-related project in South Asian countries, preferably India.
Sr. Irrigated Agriculture Development Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in agriculture. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 8 years' work experience in agriculture development, preferably vegetable and fruit cultivation; • 1 agriculture development project in South Asian countries, especially India is preferable; • 5 years' work experience in Japanese ODA projects.
Sr. Gender Mainstreaming Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in gender issue, rural development, social consideration, or other relevant fields for this task <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 5 years' work experience in gender issue, rural development, social consideration, or other relevant fields for this task

Designation	Qualification
	<ul style="list-style-type: none"> • 1 development project in South Asian countries, especially India is preferable; • 5 years' work experience in Japanese ODA projects.
Sr. Food Value Chain Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in agriculture, rural development, economics, or other relevant fields for this task <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 8 years' work experience in agriculture development, preferably food value chain, marketing, agro-processing; • 1 rural development project in South Asian countries, especially India is preferable; • 3 years' work experience in Japanese ODA projects.
Professional (B): National Expert	
Co-team Leader	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation or civil engineering. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 15 years' work experience in irrigation-related projects; • 2 comprehensive irrigation-related projects in which he/she served as team leader or co-team leader; • 3 years' experience in foreign funded projects.
Regional Management Expert-1-5	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation, civil engineering, rural development, or any relevant field for the tasks. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 10 years' work experience in planning, design and construction supervision of irrigation-related projects or rural development project as project management; • 3 years' experience in foreign funded projects, preferably.

Consultant may propose other experts and supporting staffs required to accomplish the tasks outlined in the ToR. It is the consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the needs of RWSLIP.

5.2 Scope of Works for the respective personnel

The major tasks and duties of each member of the consultant team are described as followed.

Table 7 Major Tasks and Duties of Key Experts of the Consulting Services

No	Position	Major Tasks and Duties
A-1 B-1	Team Leader & Co-team Leader	<ol style="list-style-type: none"> 1) Setting-up an effective organizational structure for the consultant team. Preparing and implementing all administrative systems and procedures needed to ensure the effective implementation in accordance with the scope of works with acceptable international standards. 2) Being responsible for overall direction of the consultant Team, coordination of inputs, and management of individual experts. 3) Being responsible for the overall management of planning, design, construction supervision for agriculture infrastructure, institution building program, demonstration farm, food value chain improvement and any other farmers support program in the Project. 4) Having overall responsibility for the timely delivery and quality of all outputs. 5) Being responsible for managing the relationships with the government, PMU, JICA and all other stakeholders.

No	Position	Major Tasks and Duties
		<ol style="list-style-type: none"> 6) Advising on construction and contracting methods, and performing a comprehensive analysis of options, benefits, risks, mobilization and implementation schedules. 7) Assisting PMU to prepare invitation for tender; preparing bid evaluation criteria, initially evaluating and providing advice to the PMU on alternative proposals, and elaborating on recommendations with a ranking of all contractors concluding with a suggestion of the technically and economically qualified bidder. 8) Being responsible for identifying important technical and managerial issues which affect progress, safety, quality and compliance with safeguards. 9) Assisting PMU for reviewing mobilization of the Contractor's resources (experience of the personnel, equipment and tools, quality and quantity of material, funds, etc.) and recommending additional resources to be mobilized. 10) Being responsible for guiding, coordinating and supporting program activities and providing overall guidance and direction, and ensure that the consultant works in harmony with other ongoing and planned programs. 11) Advising PMU in coordinating the planning, management, monitoring and reporting of all project activities including supporting the development and implementation of progress monitoring systems. 12) Advising PMU with packaging contracts and finalizing tender documents. 13) Coordinating with and assisting PMU on any relevant activities in the Project.. 14) Being responsible for preparing monthly progress reports and quarterly progress reports in a form agreed with the PMU and JICA, and submit the reports. In particular progress and information about gender mainstreaming should be included without fail. 15) Being responsible for preparing a final report, which will be a compilation and condensation of the data presented in regular monthly progress reports, together with copies of as-built drawings within two months from the issuance of the defects liability certificate. 16) Being responsible for preparing a services completion report. 17) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary.
A-2	Sr. Planning and Design Expert	<ol style="list-style-type: none"> 1) Assisting PMU for reviewing and evaluating all the Detail Project Reports (DPRs) prepared by the SID contractors in order to obtain realistic project plan in each sub-projects. Request SID constructors to rework their works if necessary. 2) At the beginning of each construction stage, carrying out design review and providing technical advices on detail design data and drawings which are prepared by the SID contractors for civil works (Minor and medium irrigation projects) with sub-PMU engineers. Request SID constructors to rework their works if necessary. 3) On the course of construction works, assisting PMU for carrying out design review and technical advices on detail design data and drawings according to the actual site situation at construction site. Then request SID contractors to revise the drawings and calculation, if necessary. 4) Providing technical advices to the sub-PMU officers occasionally in terms of design and construction matters. 5) Advising on construction supervision works, if necessary, of civil works (Minor and medium irrigation projects) in line with designing or planning aspects. 6) Assisting the PMU in preparing monthly reports for procurement and contract awards, contract management and performance of each contract package; 7) Providing advice as required helping resolve contractual, design, and construction matters to sub-PMU officers; and 8) Supporting WUA strengthening activities done by PMU and NGOs.
A-3	Sr. Construction Quality Expert	<ol style="list-style-type: none"> 1) Assisting PMU for carrying out construction supervision of civil works (minor and medium irrigation projects) with the sub-PMU officers for the following works, pre-construction meeting, review and advice contractor's work plan, work progress control, quality control, safety control, etc;

No	Position	Major Tasks and Duties
		<ol style="list-style-type: none"> 2) Assisting the PMU/sub-PMU, at variation orders and modification of the contract, on contract negotiations, preparation of variation orders/contract documents; 3) Assisting PMU for managing complete and updated files on all contractual issues including submittals, securities, insurance, and related documents; 4) Assisting PMU for examining contractor's claims and support the PMU/sub-PMU with determination of need for contract variations, etc.; 5) Assisting the PMU/sub-PMU for updating, monitoring and evaluating the payment and disbursement of all packages in the project and identifying the causes of existing problems, delays and proposed remedial measures; 6) Assisting the PMU/sub-PMU in preparing monthly reports for procurement and contract awards, contract management and performance of each contract package; 7) Providing advice as required helping resolve contractual and construction matters; and 8) Supporting WUA strengthening activities done by PMU and NGOs.
<p>A-4 B7&8</p>	<p>Sr. Irrigated Agriculture Development Expert & Agriculture and FVC Expert-1&2</p>	<ol style="list-style-type: none"> 1) Being responsible for assessing training needs and design training programs to strengthen the officers of PMU/sub-PMU, NGO, DoA & DoH, and other relevant agencies in ToT training in collaboration with other experts; 2) Being responsible for preparing training modules and materials in relation to capacity building regarding all the aspect of agriculture practices; 3) Assisting to prepare, review and revised, if necessary Command Area Micro Plan (CAMP) of 5 sub-PMUs and discuss detail; 4) Being responsible for carry out ToT trainings to PMU/sub-PMU officers, NGO, DoA & DoH officers, and other relevant officers; 5) Being responsible for implementing (a) the demonstration farms and (b) the experimental farms for marketing purposes in cooperation with DoA and DoH officers; 6) Providing technical advices, if necessary, to all kind of demonstration farm plots in the Project. 7) Assisting various type of farmers trainings which are arranged by NGO in cooperation with DoA/DoH officers; 8) Assisting the PMU/sub-PMU in Supervising and advising capacity building trainings to farmers, WUAs and FIG/FPOs; 9) Provide advice and guidance to the PMU/sub-PMU on the implementation of the training program which may include exposure visits on inter-blocks and inter-districts; 10) Assist the PMU/sub-PMU with implementing the training program by providing logistical support; and 11) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary.

No	Position	Major Tasks and Duties
A-5 B9	Sr. Gender Mainstreaming Expert & Gender Mainstreaming Expert	<ol style="list-style-type: none"> 1) Being responsible for assessing training needs and design training programs to strengthen the officers of PMU/sub-PMU, WCD officers, and other relevant agencies in training in collaboration with other experts; 2) Being responsible for prepare training modules and materials for ToT training of WUA in cooperation with WCD officers to capacity building regarding all the aspect of gender mainstreaming sector; 3) Assisting to prepare, review and revised, if necessary Command Area Micro Plan (CAMP) of 5 sub-PMUs and discuss detail; 4) Assisting to implement all the required trainings in cooperation with WCD officers and NGOs. 5) Being responsible for supervising and advising capacity building trainings made by NGOs to farmers, WUAs and FIG/FPOs; 6) Being responsible for supervising and advising SHGs' activities organised by NGOs, DoA, and WCD; 7) Provide advice and guidance to the PMU/sub-PMU on the implementation of the collection of disaggregated data for gender mainstreaming; 8) Assist the PMU/sub-PMU with implementing the training program by providing logistical support. 9) Being responsible for monitoring, assisting and mentoring NGO's activities for gender mainstreaming sectors and WUA strengthening sector, in particular regarding gender issues, e.g. WUA Women Wing, the Gender Action Plan and so on. Provide advice and guidance to the PMU/sub-PMU on the implementation of the training program which may include exposure visits on inter-blocks and inter-districts; 10) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary; and 11) Being responsible for assisting WUA Women Wing's activities executed by NGO, PMU and others.
A-6 B7&8	Sr. Food Value Chain Expert & Agriculture and FVC Expert-1&2	<ol style="list-style-type: none"> 1) Being responsible for assessing training needs and design training programs to strengthen the officers of PMU/sub-PMU, NGO, DoA & DoH, and other relevant agencies in ToT training in collaboration with other experts; 2) Being responsible for preparing training modules and materials in relation to capacity building regarding all the aspect of food value chain practices in particular FIG/FPO formulation; 3) Assisting to prepare, review and revised, if necessary Command Area Micro Plan (CAMP) of 5 sub-PMUs and discuss detail; 4) Being responsible for carrying out ToT trainings to PMU/sub-PMU officers, NGO, DoA & DoH officers, and other relevant officers; 5) Being responsible for implementing the experimental farms for marketing purpose in cooperation with DoA and DoH officers; 6) Being responsible for supervising and advising various type of farmers trainings for FIG/FPOs which are arranged by NGO in cooperation with DoA/DoH officers; 7) Being responsible for implementing activities for strengthening linkage between producers and consumers, including identifying target consumers in Dehli or other big towns, introduction of the agro-products from the Market-oriented experimental plots to such target consumers through ; 8) Being responsible for implementing activities for strengthening linkage between producers and agro-processors/factories through the matching meeting method, including identifying, communicating, discussing with target agro-processors/factories in Dehli or other big towns; 9) Being responsible for implementing promotion activities for high value added agriculture procuses; 10) Provide advice and guidance to the PMU/sub-PMU on the implementation of the training program which may include exposure visits on inter-blocks and inter-districts; 11) Assist the PMU/sub-PMU with implementing the training program by providing logistical support.

No	Position	Major Tasks and Duties
A-7 B-10	Sr. Procurement Expert & Procurement Expert	<p>12) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary for agriculture sectors.</p> <p>1) Being responsible for reviewing the procurement plan and contract packages with regard to procurement and financial management, and draw attention to changes which may have become necessary since their preparation;</p> <p>2) Assisting the PMU with procurement, review the progress, recommend adjustments and identify lessons learnt that can be applied to procurement of all other remaining packages in the procurement plan;</p> <p>3) Annually updating the procurement plan according to actual implementation schedule and agreed changes, accounting for content, schedule, resources, contract awards and disbursement;</p> <p>4) Being responsible for preparing a procurement handbook in accordance with JICA procurement policies and guidelines and government regulation. The handbook should include guidelines for effective implementation of the procurement, and providing guidance on bid notification and bid submission, bid evaluation and contract award, contract supervision and payment;</p> <p>5) Guiding, supporting and monitoring the PMU in procurement and financial management in accordance with the procurement guidelines;</p> <p>6) Assisting cost estimate, bill of quantities, disbursement plan;</p> <p>7) Being responsible for preparing standard criteria and checklists for evaluation of the tenders and assist the PMU in preparation of the bid evaluation reports, and assist them in reviewing the selection process of bidders;</p> <p>8) Assisting the PMU/sub-PMU with contract negotiations, preparation of contracts and contract awards;</p> <p>9) Managing complete and updated files on all contractual issues including submittals, securities, insurance, and related documents;</p>
A-8 B-11	Sr. Water Management & institutional Expert & Management & institutional Expert	<p>1) Being responsible for assessing training needs and design training programs to strengthen the officers of PMU/sub-PMU, NGO, DoA & DoH, and other relevant agencies in ToT training for WUA in collaboration with other experts;</p> <p>2) Being responsible for prepare training modules and materials in relation to institution capacity building of the PMU in collaboration with IMTI officers;</p> <p>3) Being responsible for carrying out ToT trainings for WUA to PMU/sub-PMU officers, NGO, DoA & DoH officers, and other relevant officers;</p> <p>4) Being responsible for supervising and advising capacity building trainings to WUAs which are conducted by NGO;</p> <p>5) Provide advice and guidance to the PMU/sub-PMU on the implementation of the training program which may include exposure visits on inter-blocks and inter-districts;</p> <p>6) Assist the PMU/sub-PMU with implementing the training program by providing logistical support.</p> <p>7) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary for agriculture sectors.</p>
B12	Environmental Expert	<p>1) Being responsible for reviewing the frameworks, other manual and instructions which were prepared in the project formulating period in order to seize precise requirement in terms of environmental monitoring and management;</p> <p>2) Support the Team Leader and PMU/sub-PMU in ensuring that the Project is implemented in accordance with the environmental development plan;</p> <p>3) Being responsible for reviewing the environmental part in each Detail Project Report in order to confirm the actual influence of sub-project at field level;</p> <p>4) Assist PMU and sub-PMU by providing guidances to monitor and manage environmental issues during construction period;</p> <p>5) Assist PMU for formulating Environmental Management Plan and Environmental Monitoring Plan at required number of sub-projects as sample monitoring;</p> <p>6) Assist the PMU/sub-PMU with implementing the training program by providing technical support.</p>

No	Position	Major Tasks and Duties
		7) Assist PMU in establishing the Environmental and Social Management System in the Project (Integration of environmental and social aspects in Project Monitoring System). 8) Assist PMU and sub-PMUs in annual environmental assessments of selected sub-projects. 9) Assist PMU in developing detailed ToR for Third Party Environmental Assessments/ Audits, and assist in conducting Third Party Environmental Assessments.
B2,3,4,5,& 6	Regional Management Expert-1 to 5	1) Assist for reviewing and evaluating all the Detail Project Reports (DPRs) prepared by the SID contractors in order to obtain realistic project plan in each sub-projects. Request SID constructors to rework their works if necessary. 2) At the beginning and on the course of each construction stage, carrying out design review and providing technical advices on detail design data and drawings which are prepared by the SID contractors for civil works (Minor and medium irrigation projects) with sub-PMU engineers. Request SID constructors to rework their works if necessary. 3) Assist for providing technical advices to the sub-PMU officers occasionally in terms of design and construction matters. 4) Assist for carrying out construction supervision of civil works with the sub-PMU officers for the following works, pre-construction meeting, review and advice contractor's work plan, work progress control, quality control, safety control, etc. 5) Assisting the Sr. Planning and Design Expert and Sri Construction Quality Engineer in several activities at design and construction stages. 6) Assist for carrying out overall project management of soft-components, such as agriculture, WUA empowerment, food value chain improvement, gender mainstreaming as well as rehabilitation of irrigation facilities in cooperation with other experts. 7) Assisting the PMU/sub-PMU, at variation orders and modification of the contract, on contract negotiations, preparation of variation orders/contract documents. 8) Assisting the PMU/sub-PMU in controlling NGOs in order to implement several activities in each component. 9) Assisting the PMU in preparing monthly reports for procurement and contract awards, contract management and performance of each contract package. 10) Being responsible for monitoring and supporting NGO's activities to accomplish NGO's duties, including progress monitoring, instruction and provision of advices, if necessary for agriculture sectors.

6. Reporting

Within the scope of consulting services, the consultant shall prepare and submit reports and documents to PMU as shown in table below. The consultant shall provide the both hard copy and electronic copy of each of these reports.

Table 8 Summary of Reports to be Submitted by PMC

Category	Type of Report	Timing	No. of Copies
Consultancy Services	Inception Report	Within 5 month after commencement of the Services	5
	Monthly Progress Report	Monthly, by the 7 th of each following month	5
	Quarterly Progress Report	Quarterly, by the 15 th of the following month	5
	Annual Work Plan	Annually, by the 15 th of the following month	5
	Services Completion Report	At the end of Services	10

Category	Type of Report	Timing	No. of Copies
Bidding	Bid document in Stage-1 as a sample Bid Documents for stage-2 and stage-3 for selection of contractors	At appropriate timing in accordance with bid schedule	5
	Sample Bid Evaluation Report for Bid evaluation report in Stage-1 as a sample bid evaluation reports for stage-2 and stage-3 for selection of contractors	At appropriate timing in accordance with bid schedule	5
Construction Supervision	Construction check list for irrigation project and Manual/guideline for Safety Control	Within 6 month after commencement of the Services	5
	Completion Report	At the end of each contract period	5
Training	Annual Training Programme	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Environment and Social Management System	Environmental Management Plan	Annually, by the 15 th of the following month	5
	Environmental Monitoring Plan	Annually, by the 15 th of the following month	5
Screening and Evaluation Report for Selecting sub-projects	For Stage-1	At appropriate timing in accordance with implementation schedule	5
	For Stage-2		5
	For Stage-3		5
Project Evaluation	Baseline Survey Report	Within 12 months after commencement of the Services	5
	Stage-wise Review Report	At the end of Stage-1 and Stage-2	
	Terminal Impact Assessment Report	Before the completion of services	5
Other Report	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

(1) Inception Report (5 sets)

Inception report, to be submitted within 3 months after the commencement of the services, shall contain overall work schedule, work plan, administrative arrangement, results of review of available data and information, relevant to the project during the inception period, and so on.

(2) Monthly Progress Report and Quarterly Progress Report (5 sets)

Monthly progress report and quarterly progress report, to be prepared monthly by the 7th of the following month and quarterly by the 15th of the following month, shall contain detailed information of physical and financial progress of the project components, issues and problems, consultant's input and activities, and schedule of works for the next period. In addition, each report should also include progress and information about gender mainstreaming activities; e.g. disbursement progress, periodical detailed progress monitoring results for gender mainstreaming activities; independently in order to seize the its current situation promptly.

(3) Annual Work Plan (5 sets)

Annual work plan, to be prepared annually by the 15th of the following month, shall contain detailed information of packaging plan, activities, schedule and budget estimate for the next physical year. In particular, annual report should also include precisely progress and information about gender mainstreaming activities, being apart from other items, in order to seize the its current situation promptly.

(4) Services Completion Report (10 sets)

Based on the monitoring and evaluation records of the project activities, the consultant shall prepare and

submit the services completion report which covers the results of all the project components at the end of the services.

(5) Sample Bid Documents of Modernisation of Irrigation Project (5 sets)

Sample bid documents, to be prepared after the completion of design review/modification of irrigation facilities, and if required PQ documents as well.

(6) Sample Bid Evaluation Report of Modernisation of Irrigation Project (5 sets)

Sample bid evaluation report, to be prepared after the completion of bid evaluation, and if required PQ evaluation report as well.

(7) Sample Construction Check list for Irrigation Project and Manual/Guideline for Safety Control

Sample construction check list, to be prepared in compliance with the government guideline within 3 months after the commencement of these services, shall contain invitation for tender, standard tender documents, criteria and checklist for evaluation, contract negotiations, preparation of contracts and contract awards, etc.

(8) Completion Report for Sample Irrigation Projects

Completion report, to be prepared by the respective contractors within 1 month after the completion of each contract package, shall be reviewed including contract amount and actual payment, contract amendment if any, scope of works, bills of quantities, work schedule and progress, and photographs, etc.

(9) Annual Training Programme

Annual training Programme report, to be prepared annually by the 15th of the following month, shall contain training details such as overall training plan, respective training subject, schedule, trainees, number of trainers and cost.

(10) Evaluation Report of Training Programme

Evaluation report for trainings, to be prepared annually by the 15th of the following month, shall contain list of training program, cost, number of participants, level of intelligibility, degree of satisfaction, etc.

(11) Environmental Management Plan (5 sets)

Environmental management plan, to be prepared by the JSLP within 6 months after the commencement of the project implementation, shall contain objectives, scope, inventory of natural resources, issues related to environmental conservation, risk and mitigation measures, roles of stakeholders, monitoring method, cost, etc..

(12) Environmental Monitoring Plan (5 sets)

Environmental monitoring plan, to be prepared by the JSLP annually by the 15th of the following month, shall contain water quality, soil condition, fertilizer application, usage of forest products, etc..

(13) Screening and Evaluation Report for Selecting sub-projects (5 sets)

Screening and Evaluation Report for Selecting sub-projects should be prepared for Stage 1, 2 and 3. Based on the results of those report, sub-projects should be selected and implemented.

(14) Baseline Survey Report (5 sets)

Baseline survey report, to be prepared annually within 1 month after the completion of selection of MDI farmers, shall contain basic information, cropping pattern and production, marketing and post-harvesting activities, social environmental background, water source and soil condition, to be used as benchmark for terminal impact assessment at the end of the project.

(15) Stage-wise Review Report (5 sets)

Stage-wise Review Report should be compiled after project assessment at the end of Stage-1 and Stage-2.

(16) Mid Term Evaluation Survey Report (5 sets)

Midterm evaluation survey report, to be prepared at midterm period, shall contain basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, etc. for the relevant year, to be used as a part of the terminal impact assessment at the end of the project.

(17) Terminal Impact Assessment Report (5 sets)

Terminal impact assessment report, to be prepared 3 months before the completion of the services, shall contain various aspects; basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, social environmental background, water source and soil condition to be used as benchmark for impact assessment at the end of the project.

(18) Other Technical Reports (5 sets)

Technical Reports, as required, should be prepared on the specific technical issues with the aim to enhance and upgrade technical understandings and skill of the executing agencies and managing agency concerned for the project implementation.

7. Obligation of the Executing Agency

A certain range of arrangements and services will be provided by the executing agency to the consultant for smooth implementation of the consulting services. In this context, the WRD will provide the followings:

(1) Report and data

Make available to the consultant existing reports and data related to the Project.

(2) Cooperation and counterpart staff

Appoint counterpart officials, agent and representative as may be necessary for effective implementation of the consulting services;

(3) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the cConsultant, in relation to

- work permit and such other documents;
- entry and exit visas, residence permits, exchange permits and such other documents
- clearance through customs;
- instructions and information to officials, agent and representatives of the borrower's government;
- exemption from any requirement for registration to practice their profession; and
- privilege pursuant to the applicable law in the borrower's country.

Attachment 6.2.2
Assignment Schedule of the Consultant

Attachment 6.2.3
Draft Terms of Reference for NGO's
Services in RWSLIP (Coordinating NGO
in Jaipur Sub-PMU Region)

Draft Terms of Reference for NGO's Services in RWSLIP (Coordinating NGO in Jaipur Sub-PMU Region)

This is a Terms of Reference for "Coordinating NGO" in Jaipur Sub-PMU Region for implementing NGO's services in RWSLIP.

1. Background

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in activities in order to foster better livelihood of people dwelling in the project target area.

In order to solve challenges as mentioned above, the Government of India receives a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Rajasthan Water Sector Livelihood Improvement Project (RWSLIP), hereinafter referred to as "the Project") in the Rajasthan State. The Government of India intends to use part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued.

(1) Project Objectives

The development objectives of the Project are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on Water Users Associations (WUAs);
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

From the implementation of the Project, the following benefits and social economic impact could be expected.

(2) Project Components

The project comprises of the following 8 components, of which the top seven components will be financed by JICA, with terms and conditions set forth in the Loan Agreement and the rest shall be totally funded by the Government of India.

Table 1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces

Component No	Component Items
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

(3) Scope of the Project

The major items of scope in the Project is as stated below and the details are given in Table 2.

Table 2 Project Scopes

No	Scopes of Works
1	Participatory Irrigation Rehabilitation Works
1.1	Rehabilitation of Irrigation Facilities
1.2	Micro Irrigation
1.3	Introduction of Water Users Association (WUA) Constructive Facilities
1.4	Support to Women Friendly Activities
2	Fostering and Capacity Enhancement of Water Users Organizations
2.1	Establishment of WUA Support Mechanism
2.2	Capacity Building of WUA Management
2.3	Improvement of Agriculture Linkage
3	Irrigated Agriculture Intensification and Diversification
3.1	Training of Trainers for Agriculture
3.2	Exposure Visit for Agriculture Trainers
3.3	Improvement of Agriculture Support System
3.4	Agriculture Farmers' training
3.5	Agriculture Demonstration farm
4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
4.1	Farmers Interest Group (FIG) formulation for cooperative activities
4.2	Connecting with large-size consumers (Matching meeting)
4.3	Connecting with small-size consumers (exotic vegetables)
4.4	Brand building for high-value agro produces
5	Gender Mainstreaming in Agriculture and Water Sector
5.1	Supporting the institutionalization of gender mainstreaming in water management
5.2	Enhancement of women's capability and participation in WUA
5.3	Capacity building on agricultural technologies through SHGs
6	Project Management and Monitoring
6.1	Procurement of Office Equipment
6.2	NGO Services
6.3	Monitoring & Training for Environmental and social aspect
6.4	Monitoring & Evaluation
6.5	Transportation for the Consultant

(4) Implementation Schedule

The project implementation period is about 8 years from the effective date of Loan Agreement. The Project will start from January 2017 (establishment of implementation structure, including Project Steering Committee (PSC), Project Management Unit (PMU) and Sub-PMU formulation) and complete all project works by June 2024 as shown below.

Table 3 Overall Implementation Schedule

Item	Expected Time Schedule
Loan Agreement	December 2016
Establishment of PMU	January 2017 to March 2017 (3 months)
Selection Process of Consultants	January 2017 to December 2017 (12 months)
Consulting Services	January 2018 to June 2024 (78 months)
Selection Process of NGO	January 2018 to June 2018 (6 months)
NGO's Services	July 2018 to June 2024 (72 months)
Selection Process of Survey Investigate and Design (SID) Consultant	January 2017 to June 2017 (6 months)
SID works for sub-projects in Stage-1	July 2017 to December 2017 (6 months)
Selection Process of Contractors	January 2018 to December 2018 (12 months)
Component-1: Participatory Irrigation Rehabilitation Works	January 2019 to December 2023 (60 months)
Component-2: Fostering and Capacity Enhancement of Water Users Organizations	January 2019 to June 2024 (66 months)
Component-3: Irrigated Agriculture Intensification and Diversification	January 2019 to December 2023 (60 months)
Component-4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	January 2019 to December 2023 (60 months)
Component-5: Gender Mainstreaming in Agriculture and Water Sector	January 2019 to December 2023 (60 months)
Component-6: Project Management and Monitoring	January 2019 to December 2023 (60 months)
Project Completion	June 2024
Loan Closing	December 2024

(5) Location of the Project

The target districts of the Project are 27 districts in the State as shown in the Project Location Map.

(6) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and PMU will be set up for coordinating and monitoring the project activities at the 3 levels.

(7) Implementation Structure

Coordination Committees: There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the PMU level, and the Sub-PMU Coordination Committee at Sub-PMU level as described in the following figure.

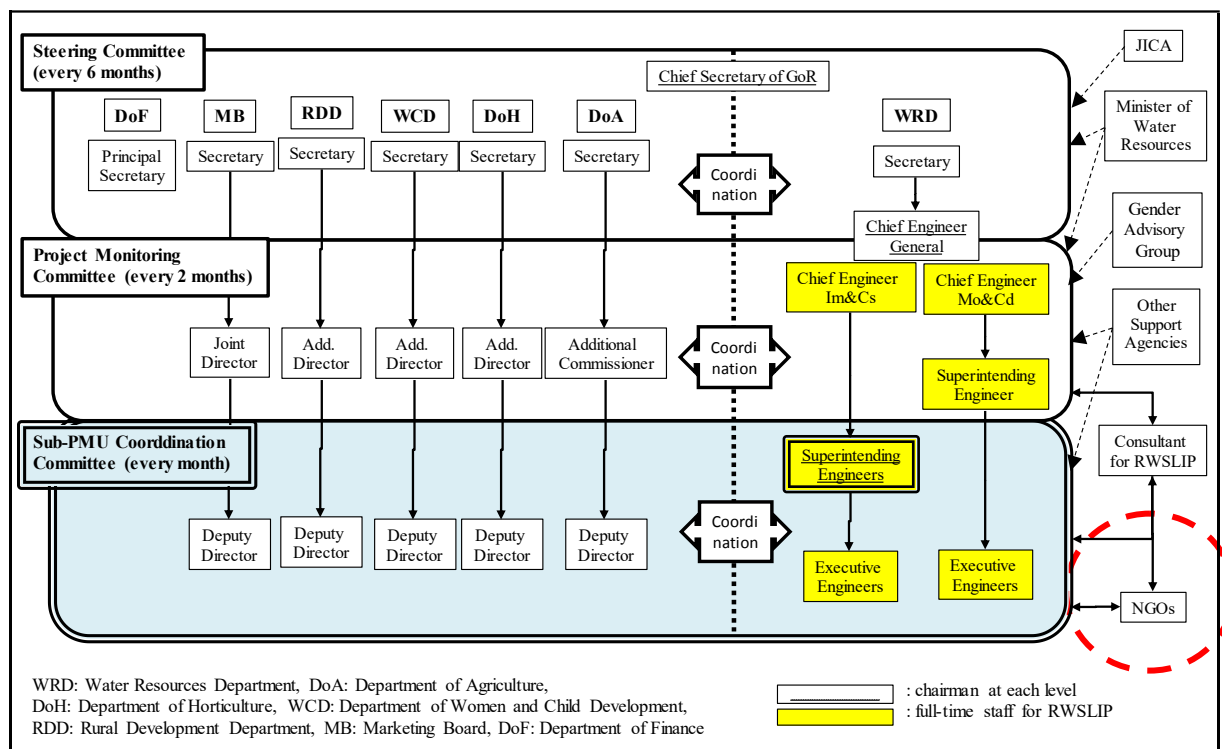


Figure 1 Implementation Structure of Steering Committee and Project Monitoring Committee

Project Management Unit (PMU): As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 Sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur Sub-PMU region),
- (ii) Kota zone (Kota Sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur Sub-PMU region),
- (iv) Ganganagar and West Hanumangarh area in North zone (Hanumangarh-1 Sub-PMU region), and
- (v) East Hanumangarh area in North zone (Hanumangarh-2 Sub-PMU region)

Those 5 Sub-PMU offices play a significant role in supervising construction works and controlling all the other project works on the ground. Each Superintending Engineer of WRD will be fully responsible for all the project works including activities for soft components as well as construction works.

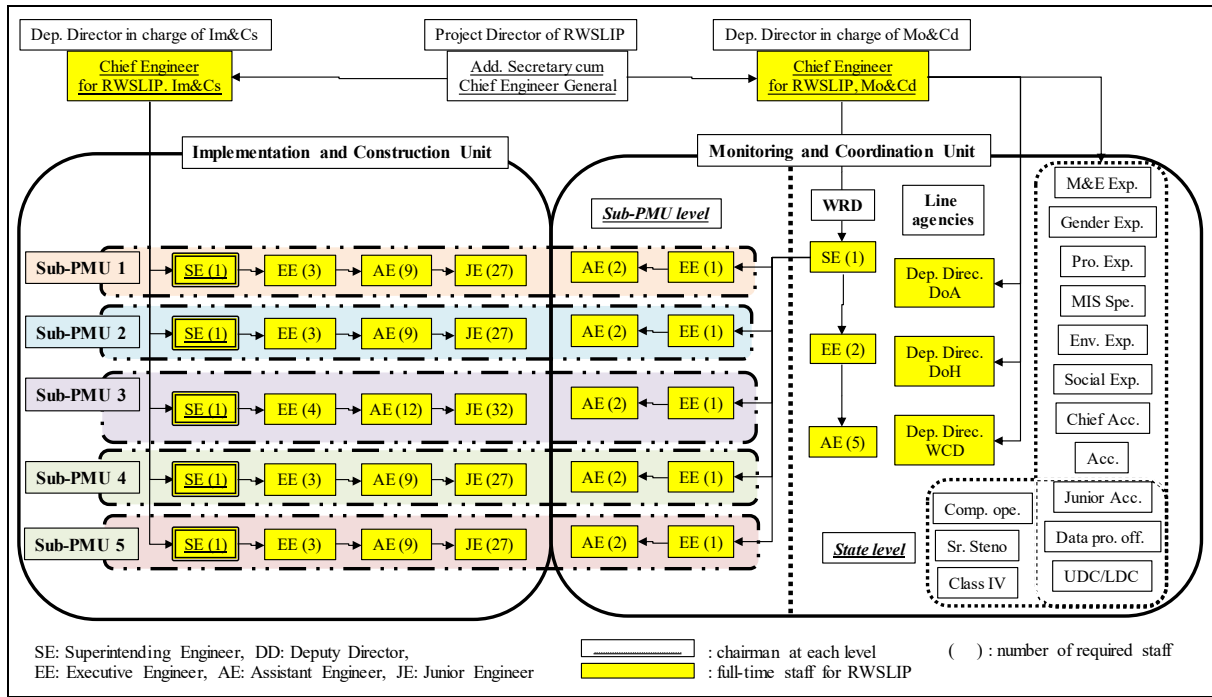


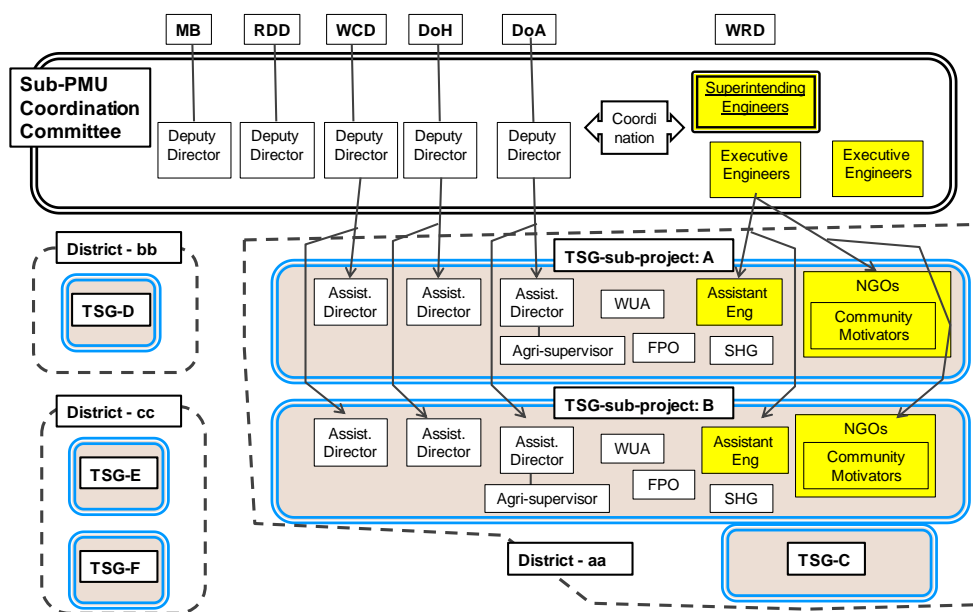
Figure 2 Implementation Structure of Project Management Unit (PMU)

Technical Support Group at Sub-project Level (TSG-SP): The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- i) Department of Agriculture,
- ii) Department of Horticulture,
- iii) Women and Child Development Department,
- iv) Water Resource Department (WRD),
- v) Regional NGO,
- vi) WUAs
- vii) FIG / Farmer Producers Organization (FPO), and
- viii) Self-help Group (SHG).

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure 3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

(8) Technical Information

Construction works for minor and medium irrigation projects; materials, products and designs of agriculture infrastructures shall be compliant with the Indian Standards (IS).

2. Objectives of the Coordinating NGO’s Services

The services of the Coordinating Non-Governmental Organization (hereinafter referred to as "the NGO" and "the NGO’s services") shall be provided by an single NGO or an association with several national NGOs. Selection of the NGO shall be made through a tender process in compliance with procurement procedure and regulation in the Rajasthan State.

The objective of the NGO’s services is to assist PMU and a consultant which will be employed by PMU (hereinafter, "the consultant") in the efficient and proper preparation and implementation of the Project through the following works:

- Overall project management
- Constuction management works of Participatory Irrigation Rehabilitation Works
- Fostering and Capacity Enhancement of Water Users Organizations
- Irrigated Agriculture Intensification and Diversification
- Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
- Gender Mainstreaming in Agriculture and Water Sector

In terms of coordination among related NGOs in 5 Sub-PMU regions, a structure shall be formulated

with the following parties so as to facilitate smooth implementation and controlling the activities in each the Sub-PMU:

- (a) 1 Coordinating NGO in Jaipur region and
- (b) 4 Regional NGOs (1 NGO per a Sub-PMU for 4 Sub-PMU).

In order to realize effective supports to farmers with effective internal linkage among NGOs, the Coordinating NGO, which covers Jaipur Sub-PMU region should be given the mandate of coordination and supporting function among the Regional NGOs as described in the following figure.

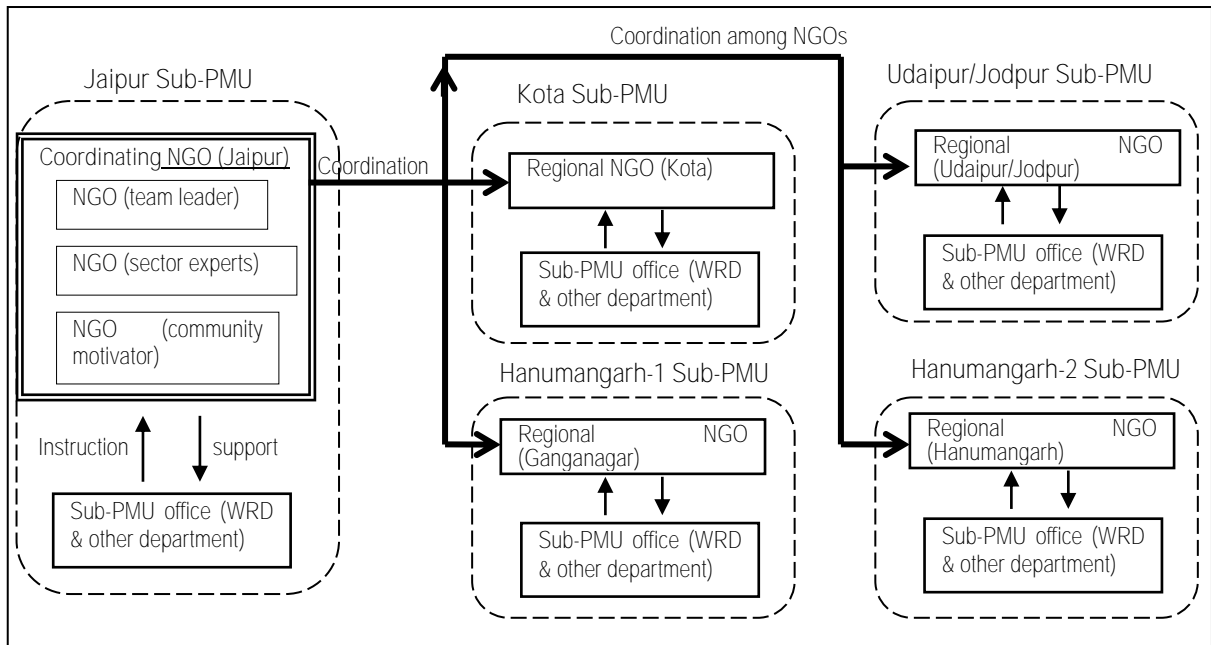


Figure 5 Implementation Structure of NGOs Support

3. Scope of NGO's services

The scope of the NGO's services is to assist the PMU/Sub-PMU and the consultant in the following activities:

Table 5 Consultant's Scope of Works in RWSLIP

No	Activities
Component-0	Overall Management
	1) Preparation of Overall Project Management Plan; 2) Preparation of Annual Work Plan and Budget Estimate; 3) Monitoring and evaluation of physical and financial progress; 4) Preparation of Monthly, Annual Progress Reports and Stage-wise Review Report; 5) Technical guidance to PMU/Sub-PMU and the relevant departments; 6) Baseline Survey and Follow-up Evaluation on annual basis, and Terminal Impact Assessment; 7) Technical Reports related to the project if any; 8) Preparation of the Project Completion Report; 9) Coordination between PMU/Sub-PMU and the relevant departments; and 10) Coordination between PMU and JICA. 11) Preparation of Command Area Micro Plan (CAMP: Detailed explanations are given in Attachment

No	Activities	
1.1, including a guideline for preparing CAMP and a sample CAMP).		
Component-1	Participatory Irrigation Rehabilitation Works	
1.1	Rehabilitation of Irrigation Facilities	<ol style="list-style-type: none"> 1) To assist PMU to execute detail design works through SID subletting works 2) To assist PMU to supervise irrigation rehabilitation works as planned
1.2	Micro Irrigation	<ol style="list-style-type: none"> 1) To assist awareness program regarding promotion of micro irrigation to Sub-PMU, NGO and farmers in sub-project site 2) To assist PMU to provide orientation to farmers for their participation to this scheme 3) To assist PMU to select beneficiary group/individuals and make MOU with them 4) To assist PMU to provide micro irrigation system and capacity building for using the facilities 5) To assist PMU to provide trainings on Operation and Maintenance to Sub-PMU and WUA
1.3	Introduction of Water Users Association (WUA) Constructive Facilities	<ol style="list-style-type: none"> 1) To assist PMU to plan and design the WUA constructive facilities 2) To assist PMU to construct the WUA constructive facilities
1.4	Support to Women Friendly Activities	<ol style="list-style-type: none"> 1) To plan the women friendly facilities and the women friendly trees 2) To assist PMU to construct the women friendly facilities, and to plant the women friendly trees
Component-2	Fostering and Capacity Enhancement of Water Users Organizations	
2.1	Establishment of WUA Support Mechanism	<ol style="list-style-type: none"> 1) To develop project materials for WUA establishment at each sub-project 2) To provide orientation and ToT trainings in different level for WUA establishment 3) To establish monitoring system through project management activities
2.2	Capacity Building of WUA Management	<ol style="list-style-type: none"> 1) To assist PMU to formulate WUA 2) To assist PMU to provide capacity development training 3) To assist PMU to support WUA regular and ad-hoc activities, like regular meeting, stage-wise review meetings, etc.
2.3	Improvement of Agriculture Linkage	<ol style="list-style-type: none"> 1) To assist PMU to strengthen linkage between farmers and Agriculture organization 2) To assist PMU to conduct agriculture demonstration
Component-3	Irrigated Agriculture Intensification and Diversification	
3.1	Training of Trainers for Agriculture	<p>Following activities shall be implemented in cooperation with PMU:</p> <ol style="list-style-type: none"> 1) To provide workshop for high-rank officers 2) To provide ToT training on general agriculture techniques, 3) To provide ToT training on specific cultivation techniques on cereals, pulses and oilseeds, 4) To provide ToT training on specific cultivation techniques on spices and medicinal plants, 5) To provide ToT training on exotic vegetables, 6) To provide ToT training on oranges/citrus, and 7) To provide ToT training on quality improvement for TSS
3.2	Exposure Visit for Agriculture Trainers	<ol style="list-style-type: none"> 1) To assess needs for exposure visit and plan 2) To implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation

No	Activities	
3.3	Improvement of Agriculture Support System	1) To assist PMU to formulate a task team for farmers' friendly manuals and prepare sample materials (compilation of 10 visual manuals for farmers) 2) To plan the strengthening agriculture information centre 3) To support PMU and DoA to set-up strengthened multi-communication services (Call Centre) as well as SMS services
3.4	Agriculture Farmers' training	To assist NGOs and PMU in the following activities: 1) To provide farmers training on general agriculture techniques, 2) To provide farmers training on specific cultivation techniques on cereals, pulses and oilseeds, 3) To provide farmers training on specific cultivation techniques on spices and medicinal plants, 4) To provide farmers training on exotic vegetables, 5) To provide farmers training on oranges/citrus, and 6) To provide farmers training on quality improvement for TSS 7) To provide marketing survey
3.5	Agriculture Demonstration farm	Following activities shall be implemented in cooperation with PMU: 1) To assist PMU to establish orange demonstration farm (4 farmers) 1ha 2) To assist PMU to establish exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha 3) To mentor demonstration farm (oranges and exotic vegetables) (11 farmers) 4) To monitor demonstration farm's activities.
Component-4 Agro-processing, Marketing, and Promotion of High Value Agriculture Produces		
4.1	FIG formulation for cooperative activities	To assist NGOs and PMU in the following activities: 1) To select target group 2) To provide guidance 3) To provide training for accessing loan 4) To implement group procurement activities 5) To implement group maintenance & accessing services (machinery, farm pond, etc.) 6) To implement collective marketing activities 7) To conduct review meeting 8) To provide experience sharing meeting with potential FIGs 9) To provide guidance for FPO formulation
4.2	Connecting with large-size consumers (Matching meeting)	Following activities shall be implemented in cooperation with PMU: 1) To provide guidance and info compiling for matching meeting 2) To assist PMU to implement 1st matching meeting 3) To assist PMU to provide 1 st gap filling training (quantity, timing) 4) To assist PMU to review and improvement 5) To assist PMU to provide 2 nd matching meeting 6) To assist PMU to provide 2 nd gap filling training (postharvest quality) 7) To assist PMU to monitor sales after matching meetings
4.3	Connecting with small-size consumers (exotic vegetables)	Following activities shall be implemented in cooperation with PMU: 1) To confirm and assess current productivity and marketability 2) To provide guidance for sales activities 3) To assist PMU to assist farmers' sales to market (Jaipur, etc.) 4) To assist PMU to provide sales visit to hotels/restaurants 5) To assist PMU to have demonstration 5.1 Confirming productivity and marketability 5.2 Sales to Market (Jaipur, etc.) 5.3 Sales visit to hotels/restaurants

No	Activities	
4.4	Brand building for high-value agro produces	Following activities shall be implemented in cooperation with PMU: 1) To assist PMU to provide ToT training 2) To assist PMU to Coordinate activity groups 3) To assist PMU to implement experimental farm for increasing sugar content 4) To assist PMU to provide special training for quality improvement (sugar content, packaging, sales, quality standards) 5) To assist PMU to operate antenna shops 6) To assist PMU to provide tasting events, Farmers' Fai, and Multimedia advertising
Component-5	Gender Mainstreaming in Agriculture and Water Sector	
5.1	Supporting the institutionalization of gender mainstreaming in water management	1) To assist PMU to develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act 2) To incorporate gender perspectives into existing capacity building activities in water management 3) To establish gender disaggregated data collection system
5.2	Enhancement of women's capability and participation in WUA	To assist PMU in the following activities: 1) To formulate WUA Women Wing 2) To introduce and facilitate the Women Friendly activities, such as women friendly facilities and women friendly trees 3) To encourage women participation in WUA activities 4) To provide trainings and exposure activities
5.3	Capacity building on agricultural technologies through SHGs	Following activities shall be implemented in cooperation with PMU: 1) To conduct orientation to SHG 2) To select the target groups 3) To provide training for group management 4) To provide training for agricultural technique 5) To monitor and mentor the groups for sustainable activities

Note: Direct costs of the above mentioned scopes & activities should be arranged and paid by PMU, since the contract of the NGO's services does not include such direct costs.

4. Expected Time Schedule

The total duration of NGO's services will be 72 months; starting on 1st July 2017 and ending on 30th June 2023.

5. Expert Requirement

The minimum man-month (M/M) input of the consultants is estimated at ??? M/M for the contract period of 72 months. The following experts would be assigned to a NGO team. A detailed schedule of NGO's services and a distribution of man-months is shown in figure.

Table 6 Allocation of Man-Month of the NGO's services

Designation	No.	Total Input in Months (M/M)
Team Leader/WUA expert	A-1	72 MM= 12month * 6 years * (a) person =12 * 6 * 1
Sector Expert (Agriculture/Marketing)	A-2	72 MM = 12month * 6 years * 1 person
Sector Expert (Agriculture)	A-3	216 MM= 12month * 2 years * (5 - 1) person + 12month * 2 years * (4 - 1) person + 12month * 2 years * (3 - 1) person
Community Motivator (50% male & 50% female)	A-4	1,413 MM = 12month * 3 years * 17 person + 12month * 3 years * 14 person + 12month * 2.75 years * 9 person
Total		1,773 MM

Note: - Input MM should be calculated based on the the following table.

- At least 1 Expert (Agriculture/Marketing) should be assigned in any stage.

If Number of Expert (Agri/Market) plus Expert (Agri) is only 1 person in some stage, number of Expert (Agri)

will be 0 person.

Table 7 Number of WUA and Allocated Officers of the NGO's services

	WUA no. (CCA / 1,000ha)			Number of Person (persons)						
				Team Leader /WUA	Expert (Agri/Market) + Expert (Agri)			Community motivators		
	Stage-1 2 years	Stage-2 2 years	Stage-3 2 years	Stage 1-3 (a) for 6 years	Stage-1 (b) 2 for years	Stage-2 (c) 2 for years	Stage-3 (d) 2 for years	Stage-1 (e) 3 for years	Stage-2 (f) 3 for years	Stage-3 (g) 2.75 for years
Jaipur	17	14	9	1	5	4	3	17	14	9
Kota	31	38	13	1	5	5	4	31	38	13
Udaipur/Jodpur	22	36	47	1	5	5	5	22	36	47
Hanumangarh-1	41	18	6	1	5	5	2	41	18	6
Hanumangarh-2	39	37	30	1	5	5	5	39	37	30

Note: (Number of WUA) = CCA(ha) / 1,000 ha,

(Number of Experts-Agri&Market) = bigger number of "roundup(WUA / 4)" or "5 persons"

(Number of Community Motivators) = WUA * 1 person

5.1 Qualification of Experts

The minimum qualification of key team members is shown in the table below.

Table 8 Minimum Qualification of Key Experts of the NGO's services

Designation	Qualification
Professional (A): International Expert	
Team Leader / WUA	<u>Education:</u> <ul style="list-style-type: none"> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> <ul style="list-style-type: none"> • 10 years' work experience in rural development projects; • 2 comprehensive rural development projects in which he/she served as team leader or co-team leader;
Sector Expert (Agro-processing & marketing/Agriculture)	<u>Education:</u> <ul style="list-style-type: none"> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> <ul style="list-style-type: none"> • 7 years' work experience in rural development, preferably agriculture, and vegetable & fruit cultivation;
Sector Expert (Agriculture)	<u>Education:</u> <ul style="list-style-type: none"> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> <ul style="list-style-type: none"> • 4 years' work experience in rural development, preferably agriculture, and vegetable & fruit cultivation;
Community Motivator	<u>Education:</u> <ul style="list-style-type: none"> • No specified (at least good for basic communication in English is required) <u>Experience:</u> <ul style="list-style-type: none"> • Preferably work experiences as a community animator or any other community/public servant <u>Domicile:</u> <ul style="list-style-type: none"> • within the project target area, preferably place where major number of WUA members dwell.

The NGO may propose other experts and supporting staffs required to accomplish the tasks outlined in the ToR. It is the NGO's responsibility to select the optimum team and to propose the officers which he believes best meets the needs of the project implementation.

5.2 Scope of Works for the Respective Personnel

The major tasks and duties of each member of the consultant team are described as followed.

Table 9 Major Tasks and Duties of Key Experts of the NGO's services

No	Position	Major Tasks and Duties
A-1	Team Leader / WUA/ Gender	<ol style="list-style-type: none"> 1) Setting-up an effective organizational structure for the NGO team. Preparing and implementing all administrative systems and procedures needed to ensure the effective implementation in accordance with the scope of works with acceptable international standards. 2) Being responsible for overall direction of the NGO team, coordination of inputs, and management of individual experts. 3) Being responsible for the overall management of planning, design for institution building program, demonstration farm, food value chain improvement and any other farmers support program in the Project. 4) Having overall responsibility for the timely delivery and quality of all outputs. 5) Managing the relationships with the PMU/sub^PMU, the consultant and all other stakeholders.
		<ol style="list-style-type: none"> 6) Advicing PMU/Sub-PMU in coordinating the planning, management, monitoring and reporting of all project activities including supporting the developemnt and implementation of progress monitoring systems. 7) Coordinating with and assisting PMU on any relevant activities in the Project.. 8) Preparing monthly progress reports, quarterly progress reports, and any other required reports in a form agreed in the contract. 9) Preparation and compilation of CAMP in cooperation with other experts. <p><u>For Coordinating NGO</u></p> <ol style="list-style-type: none"> 10) Planning, arranging, and implementing an initial standardarization trainings to the 5 selected NGOs in prior to project implementation; 11) Planning, arranging, and implementing annual coordinating meetings with the 5 selected NGOs; 12) Preparing several NGO activities reports for overall project as compiling all the regional NGO activity reports from other 4 regional NGOs; 13) Arranging, coordinating and holding regular meetings among the 5 NGOs; 14) Sharing necessary information among all the 5 NGOs; 15) Assisting PMU for facilitating smooth implementation of the project works <p>To execute following activities with the Community Motivators who live at villages:</p> <p><u>WUA/ WUA Women Wing</u></p> <ol style="list-style-type: none"> 16) To formulate WUA 17) To provide capacity development training 18) To support WUA regular activities, like regular meeting etc. 19) To strengthen linkage between farmers and Agriculture organization 20) To conduct agriculture demonstration in cooperation with DoA/DoH/PMU/consultant 21) To assist WUA Women Wing activities conducted by NGOs and PMU <p><u>Gender for Nutricious Vegetable Cultivation</u></p> <ol style="list-style-type: none"> 22) To conduct orientation to SHG for nutritious vegetable cultivation 23) To select the target groups for nutritious vegetable cultivation 24) To provide training for group management for nutritious vegetable cultivation 25) To provide training for agricultural technique for nutritious vegetable cultivation 26) To monitor and mentor the groups for sustainable activities for nutritious vegetable cultivation
A-2	Sector Expert (Agro-processing & marketing/Agriculture)	<p><u>Agro-processing and Marketing</u></p> <ol style="list-style-type: none"> 1) <u>FIG formulation for cooperative activities:</u> To formulate FIGs and facilitate cooperative activities (collective marketing, etc.) to increase profit of individual farmers 2) <u>Connecting with large-size consumers (Matching meeting:</u> To assist PMU/the consultant to hold matching meetings between FIGs and large-size consumers (processors etc) to give options of direct marketing for higher profit for both

No	Position	Major Tasks and Duties
		<p>value-chain players</p> <p>3) <u>Connecting with small-size consumers (exotic vegetables)</u>: To assist PMU/the consultant to support exotic vegetables farmers for sales to market traders and hotels/restaurants</p> <p>4) <u>Brand building for high-value agro produces</u>: To assist PMU/the consultant to promote high-value agro produces production and marketing toward future brand building after the Project</p> <p><u>Agriculture</u></p> <p>5) To attend several ToT trainings as stipulated in the sub-component 3.2 of the Table2 “the Scope of Works”.</p> <p>6) To assist PMU/the consultant to implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation</p> <p>7) To implement the agriculture farmers’ trainings stipulated in the sub-component 3.4 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p>8) To assist PMU/the consultant to implement the agriculture demonstration activities stipulated in the sub-component 3.5 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p><u>Gender for Basic Vegetable Cultivation</u></p> <p>9) To conduct orientation to SHG for the basic vegetable cultivation</p> <p>10) To select the target groups for the basic vegetable cultivation</p> <p>11) To provide training for group management for the basic vegetable cultivation</p> <p>12) To provide training for agricultural technique for the basic vegetable cultivation</p> <p>13) To monitor and mentor the groups for sustainable activities for the basic vegetable cultivation</p>
A-3	Sector Expert (Agriculture)	<p><u>Agriculture</u></p> <p>1) To attend several ToT trainings as stipulated in the sub-component 3.2 of the Table2 “the Scope of Works”.</p> <p>2) To assist PMU/the consultant to implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation</p> <p>3) To implement the agriculture farmers’ trainings stipulated in the sub-component 3.4 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p>4) To assist PMU/the consultant to implement the agriculture demonstration activities stipulated in the sub-component 3.5 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p><u>Gender for Basic Vegetable Cultivation</u></p> <p>5) To conduct orientation to SHG for the basic vegetable cultivation</p> <p>6) To select the target groups for the basic vegetable cultivation</p> <p>7) To provide training for group management for the basic vegetable cultivation</p> <p>8) To provide training for agricultural technique for the basic vegetable cultivation</p> <p>9) To monitor and mentor the groups for sustainable activities for the basic vegetable cultivation</p>
A-4	Community Motivator	<p>1) To support all the above activities which will be executed by the NGO’s officers at village level.</p> <p>2) To facilitate communication between PMU/the consultant/NGO offices and beneficiaries, and among beneficiaries for smooth project implementation</p> <p>3) To attend some ToT trainings as trainees.</p> <p>4) To collect beneficiaries to several trainings which will be provided by NGO, PMU, and the consultant.</p> <p>5) To provide technical supports for WUA strengthening, agriculture, agro-marketing, gender mainstreaming as local resource persons.</p> <p>6) To connect between beneficiaries and technical resource persons in the Project, if the community motivators could not solve problems technically.</p> <p>7) To monitor and supervise daily or regularly activities by beneficiaries at</p>

No	Position	Major Tasks and Duties
		community sites 8) To provide WUA Women Wing activities at field level 9) To facilitate and attend WUA meetings at several level, e.g. TSG-sub-project level, territorial constituency level, etc..

6. Reporting

Within the scope of NGO's services, the NGO shall prepare and submit reports and documents to PMU as shown in table below. The NGO shall provide the both hard copy and electronic copy of each of these reports.

Table 10 Summary of Reports to be submitted by NGO

Category	Type of Report	Timing	No. of Copies
Provision of Services	Inception Report	Within 5 month after commencement of the Services	5
	Monthly Progress Report	Monthly, by the 7 th of each following month	5
	Quarterly Progress Report	Quarterly, by the 15 th of the following month	5
	Annual Work Plan	Annually, by the 15 th of the following month	5
	Services Completion Report	At the end of Services	10
Command Area Micro Plan (CAMP)	Command Area Micro Plan (CAMP) report	At beginning of each stage	5
Training (Agriculture)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Training (WUA empowerment)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Training (Geder mainstreaming)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Other Report	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

(1) Inception Report (5 sets)

Inception report, to be submitted within 3 months after the commencement of the services, shall contain overall work schedule, work plan, administrative arrangement, results of review of available data and information, relevant to the project during the inception period, and so on.

(2) Monthly Progress Report and Quarterly Progress Report (5 sets)

Monthly progress report and quarterly progress report, to be prepared monthly by the 7th of the following month and quarterly by the 15th of the following month, shall contain detailed information of physical and financial progress of the project components, issues and problems, consultant's input and activities, and schedule of works for the next period.

(3) Annual Work Plan (5 sets)

Annual work plan, to be prepared annually by the 15th of the following month, shall contain detailed information of packaging plan, activities, schedule and budget estimate for the next physical year.

(4) Services Completion Report (10 sets)

Based on the monitoring and evaluation records of the project activities, the consultant shall prepare and submit the services completion report which covers the results of all the project components at the end of the services.

(5) Command Area Micro Plan (CAMP) Report

Command Area Micro Plan (CAMP) should be prepared by NGO at beginning stage of each stage per 1 Sub-PMU. Detailed explanations are given in Annex XXX, including a guideline for preparing CAMP and a sample CAMP.

(6) Annual Training Programme (for each component)

Annual training Programme report, to be prepared annually by the 15th of the following month, shall contain training details such as overall training plan, respective training subject, schedule, trainees, number of trainers and cost.

(7) Evaluation Report of Training Programme (for each component)

Evaluation report for trainings, to be prepared annually by the 15th of the following month, shall contain list of training program, cost, number of participants, level of intelligibility, degree of satisfaction, etc.

(8) Other Reports (5 sets)

Technical Reports, as required, should be prepared on the specific technical issues with the aim to enhance and upgrade technical understandings and skill of the executing agencies and managing agency concerned for the project implementation.

7. Obligation of the Executing Agency

A certain range of arrangements and services will be provided by the executing agency to the consultant for smooth implementation of the NGO's services. In this context, the WRD will provide the followings:

(1) Required Information, Reports and data

Make available to the consultant existing reports and data related to the Project.

(2) Cooperation

Appoint counterpart officials, agent and representative as may be necessary for effective implementation of the NGO's services.

Attachment 6.2.4
Draft Terms of Reference for NGO's
Services in RWSLIP (Regional NGO in
Kota, Udaipur/Jodpur, Ganganagar, and
Hanumangar Sub-PMU Regions)

Draft Terms of Reference for NGO's Services in RWSLIP (Regional NGO in Jaipur Sub-PMU Region)

This is a Terms of Reference for "Regional NGO" in 4 sub-PMU Regions for implementing NGO's services in RWSLIP.

1. Background

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in activities in order to foster better livelihood of people dwelling in the project target area.

In order to solve challenges as mentioned above, the Government of India receives a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Rajasthan Water Sector Livelihood Improvement Project (RWSLIP), hereinafter referred to as "the Project") in the Rajasthan State. The Government of India intends to use part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued.

(1) Project Objectives

The development objectives of the Project are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on Water Users Associations (WUAs);
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

From the implementation of the Project, the following benefits and social economic impact could be expected.

(2) Project Components

The project comprises of the following 8 components, of which the top seven components will be financed by JICA, with terms and conditions set forth in the Loan Agreement and the rest shall be totally funded by the Government of India.

Table 1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces

Component No	Component Items
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

(3) Scope of the Project

The major items of scope in the Project is as stated below and the details are given in Table 2.

Table 2 Project Scopes

No	Scopes of Works
1	Participatory Irrigation Rehabilitation Works
1.1	Rehabilitation of Irrigation Facilities
1.2	Micro Irrigation
1.3	Introduction of Water Users Association (WUA) Constructive Facilities
1.4	Support to Women Friendly Activities
2	Fostering and Capacity Enhancement of Water Users Organizations
2.1	Establishment of WUA Support Mechanism
2.2	Capacity Building of WUA Management
2.3	Improvement of Agriculture Linkage
3	Irrigated Agriculture Intensification and Diversification
3.1	Training of Trainers for Agriculture
3.2	Exposure Visit for Agriculture Trainers
3.3	Improvement of Agriculture Support System
3.4	Agriculture Farmers' training
3.5	Agriculture Demonstration farm
4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
4.1	Farmers Interest Group (FIG) formulation for cooperative activities
4.2	Connecting with large-size consumers (Matching meeting)
4.3	Connecting with small-size consumers (exotic vegetables)
4.4	Brand building for high-value agro produces
5	Gender Mainstreaming in Agriculture and Water Sector
5.1	Supporting the institutionalization of gender mainstreaming in water management
5.2	Enhancement of women's capability and participation in WUA
5.3	Capacity building on agricultural technologies through SHGs
6	Project Management and Monitoring
6.1	Procurement of Office Equipment
6.2	NGO Services
6.3	Monitoring & Training for Environmental and social aspect
6.4	Monitoring & Evaluation
6.5	Transportation for the Consultant

(4) Implementation Schedule

The project implementation period is about 8 years from the effective date of Loan Agreement. The Project will start from January 2017 (establishment of implementation structure, including Project Steering Committee (PSC), Project Management Unit (PMU) and Sub-PMU formulation) and complete all project works by June 2024 as shown below.

Table 3 Overall Implementation Schedule

Item	Expected Time Schedule
Loan Agreement	December 2016
Establishment of PMU	January 2017 to March 2017 (3 months)
Selection Process of Consultants	January 2017 to December 2017 (12 months)
Consulting Services	January 2018 to June 2024 (78 months)
Selection Process of NGO	January 2018 to June 2018 (6 months)
NGO's Services	July 2018 to June 2024 (72 months)
Selection Process of Survey Investigate and Design (SID) Consultant	January 2017 to June 2017 (6 months)
SID works for sub-projects in Stage-1	July 2017 to December 2017 (6 months)
Selection Process of Contractors	January 2018 to December 2018 (12 months)
Component-1: Participatory Irrigation Rehabilitation Works	January 2019 to December 2023 (60 months)
Component-2: Fostering and Capacity Enhancement of Water Users Organizations	January 2019 to June 2024 (66 months)
Component-3: Irrigated Agriculture Intensification and Diversification	January 2019 to December 2023 (60 months)
Component-4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	January 2019 to December 2023 (60 months)
Component-5: Gender Mainstreaming in Agriculture and Water Sector	January 2019 to December 2023 (60 months)
Component-6: Project Management and Monitoring	January 2019 to December 2023 (60 months)
Project Completion	June 2024
Loan Closing	December 2024

(5) Location of the Project

The target districts of the Project are 27 districts in the State as shown in the Project Location Map.

(6) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and PMU will be set up for coordinating and monitoring the project activities at the 3 levels.

(7) Implementation Structure

Coordination Committees: There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the PMU level, and the Sub-PMU Coordination Committee at Sub-PMU level as described in the following figure.

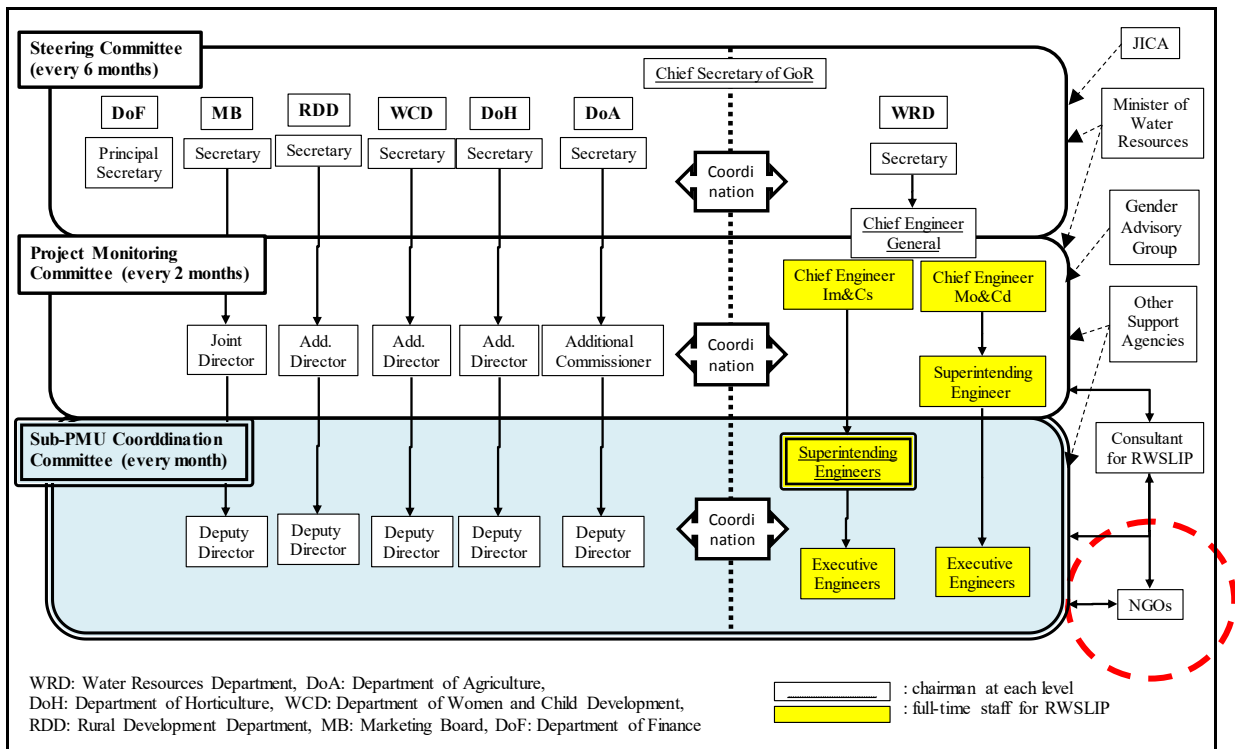


Figure 1 Implementation Structure of Steering Committee and Project Monitoring Committee

Project Management Unit (PMU): As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 Sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur Sub-PMU region),
- (ii) Kota zone (Kota Sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur Sub-PMU region),
- (iv) Ganganagar and West Hanumangarh area in North zone (Hanumangarh-1 Sub-PMU region), and
- (v) East Hanumangarh area in North zone (Hanumangarh-2 Sub-PMU region)

Those 5 Sub-PMU offices play a significant role in supervising construction works and controlling and all the other project works on the ground. Each Superintending Engineer of WRD will be fully responsible for all the project works including activities for soft components as well as construction works.

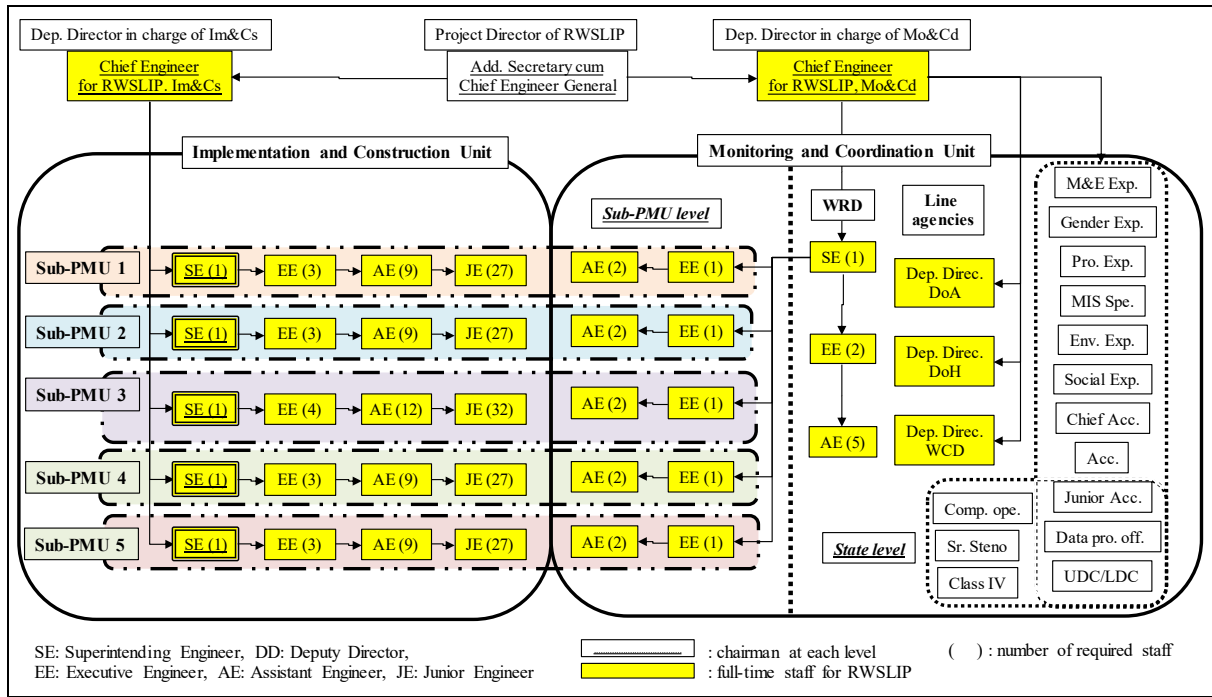


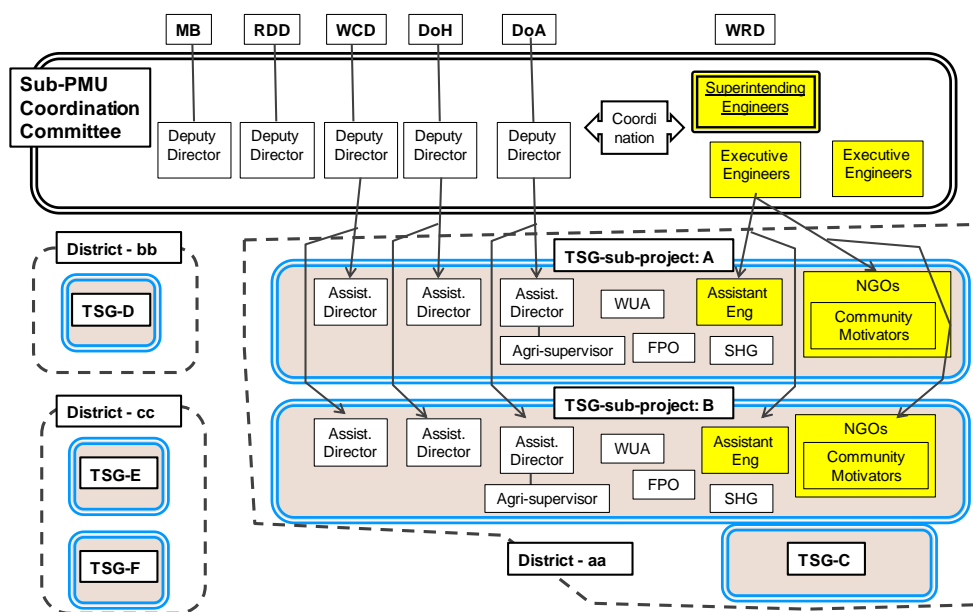
Figure 2 Implementation Structure of Project Management Unit (PMU)

Technical Support Group at Sub-project Level (TSG-SP): The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- i) Department of Agriculture,
- ii) Department of Horticulture,
- iii) Women and Child Development Department,
- iv) Water Resource Department (WRD),
- v) Regional NGO,
- vi) WUAs
- vii) FIG / Farmer Producers Organization (FPO), and
- viii) Self-help Group (SHG).

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure 3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

(8) Technical Information

Construction works for minor and medium irrigation projects; materials, products and designs of agriculture infrastructures shall be compliant with the Indian Standards (IS).

2. Objectives of the Coordinating NGO’s Services

The services of the Coordinating Non-Governmental Organization (hereinafter referred to as "the NGO" and "the NGO’s services") shall be provided by an single NGO or an association with several national NGOs. Selection of the NGO shall be made through a tender process in compliance with procurement procedure and regulation in the Rajasthan State.

The objective of the NGO’s services is to assist PMU and a consultant which will be employed by PMU (hereinafter, "the consultant") in the efficient and proper preparation and implementation of the Project through the following works:

- Overall project management
- Constuction management works of Participatory Irrigation Rehabilitation Works
- Fostering and Capacity Enhancement of Water Users Organizations
- Irrigated Agriculture Intensification and Diversification
- Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
- Gender Mainstreaming in Agriculture and Water Sector

In terms of coordination among related NGOs in 5 sub-PMU regions, a structure shall be formulated

with the following parties so as to facilitate smooth implementation and controlling the activities in each the sub-PMU:

- (a) 1 Coordinating NGO in Jaipur region and
- (b) 4 Regional NGOs (1 NGO per a Sub-PMU for 4 sub-PMU).

In order to realize effective supports to farmers with effective internal linkage among NGOs, the Coordinating NGO, which covers Jaipur sub-PMU region should be given the mandate of coordination and supporting function among the Regional NGOs as described in the following figure.

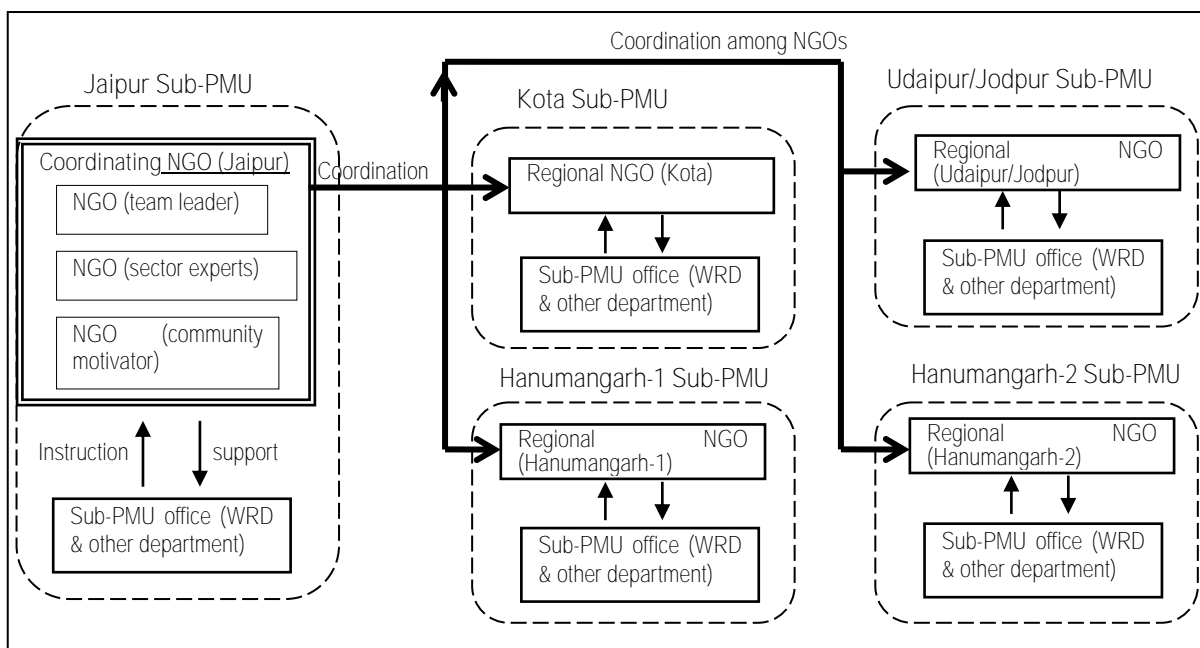


Figure 5 Implementation Structure of NGOs Support

3. Scope of NGO’s services

The scope of the NGO’s services is to assist the PMU/sub-PMU and the consultant in the following activities:

Table 5 Consultant’s Scope of Works in RWSLIP

No	Activities		
Component-0	Activities as the Regional NGO for Project Management		
	1) To plan, arrange, and implement all the required activities to ensure the project objectives in cooperation with PMU and the Consultant. 2) To assist PMU/sub-PMU in facilitating smooth implementation of the project works. 3) To prepare several NGO activities reports as stipulated in the Contract. 4) To assist PMU to coordinate activities with the related department and agencies. 5) Preparation of Command Area Micro Plan (CAMP: Detailed explanations are given in Attachment 1.1, including a guideline for preparing CAMP and a sample CAMP).		
Component-1	Participatory Irrigation Rehabilitation Works		
1.1	Rehabilitation of Irrigation Facilities <table border="1" style="display: inline-table; vertical-align: top;"> <tr> <td>1) To assist PMU to execute detail design works through SID subletting works</td> </tr> <tr> <td>2) To assist PMU to supervise irrigation rehabilitation works as planned</td> </tr> </table>	1) To assist PMU to execute detail design works through SID subletting works	2) To assist PMU to supervise irrigation rehabilitation works as planned
1) To assist PMU to execute detail design works through SID subletting works			
2) To assist PMU to supervise irrigation rehabilitation works as planned			

No	Activities	
1.2	Micro Irrigation	<ol style="list-style-type: none"> 1) To assist awareness program regarding promotion of micro irrigation to Sub-PMU, NGO and farmers in sub-project site 2) To assist PMU to provide orientation to farmers for their participation to this scheme 3) To assist PMU to select beneficiary group/individuals and make MOU with them 4) To assist PMU to provide micro irrigation system and capacity building for using the facilities 5) To assist PMU to provide trainings on Operation and Maintenance to Sub-PMU and WUA
1.3	Introduction of Water Users Association (WUA) Constructive Facilities	<ol style="list-style-type: none"> 1) To assist PMU to plan and design the WUA constructive facilities 2) To assist PMU to construct the WUA constructive facilities
1.4	Support to Women Friendly Activities	<ol style="list-style-type: none"> 1) To plan the women friendly facilities and the women friendly trees 2) To assist PMU to construct the women friendly facilities, and to plant the women friendly trees
Component-2 Fostering and Capacity Enhancement of Water Users Organizations		
2.1	Establishment of WUA Support Mechanism	<ol style="list-style-type: none"> 1) To develop project materials for WUA establishment at each sub-project 2) To provide orientation and ToT trainings in different level for WUA establishment 3) To establish monitoring system through project management activities
2.2	Capacity Building of WUA Management	<ol style="list-style-type: none"> 1) To assist PMU to formulate WUA 2) To assist PMU to provide capacity development training 3) To assist PMU to support WUA regular and ad-hoc activities, like regular meeting, stage-wise review meetings, etc.
2.3	Improvement of Agriculture Linkage	<ol style="list-style-type: none"> 1) To assist PMU to strengthen linkage between farmers and Agriculture organization 2) To assist PMU to conduct agriculture demonstration
Component-3 Irrigated Agriculture Intensification and Diversification		
3.1	Training of Trainers for Agriculture	<p>Following activities shall be implemented in cooperation with PMU:</p> <ol style="list-style-type: none"> 1) To provide workshop for high-rank officers 2) To provide ToT training on general agriculture techniques, 3) To provide ToT training on specific cultivation techniques on cereals, pulses and oilseeds, 4) To provide ToT training on specific cultivation techniques on spices and medicinal plants, 5) To provide ToT training on exotic vegetables, 6) To provide ToT training on oranges/citrus, and 7) To provide ToT training on quality improvement for TSS
3.2	Exposure Visit for Agriculture Trainers	<ol style="list-style-type: none"> 1) To assess needs for exposure visit and plan 2) To implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation
3.3	Improvement of Agriculture Support System	<ol style="list-style-type: none"> 1) To assist PMU to formulate a task team for farmers' friendly manuals and prepare sample materials (compilation of 10 visual manuals for farmers) 2) To plan the strengthening agriculture information centre 3) To support PMU and DoA to set-up strengthened multi-communication services (Call Centre) as well as SMS services
3.4	Agriculture Farmers' training	<p>To assist NGOs and PMU in the following activities:</p> <ol style="list-style-type: none"> 1) To provide farmers training on general agriculture techniques, 2) To provide farmers training on specific cultivation techniques on cereals, pulses and oilseeds, 3) To provide farmers training on specific cultivation techniques on spices and medicinal plants, 4) To provide farmers training on exotic vegetables,

No	Activities	
		5) To provide farmers training on oranges/citrus, and 6) To provide farmers training on quality improvement for TSS 7) To provide marketing survey
3.5	Agriculture Demonstration farm	Following activities shall be implemented in cooperation with PMU: 1) To assist PMU to establish orange demonstration farm (4 farmers) 1ha 2) To assist PMU to establish exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha 3) To mentor demonstration farm (oranges and exotic vegetables) (11 farmers) 4) To monitor demonstration farm's activities
Component-4 Agro-processing, Marketing, and Promotion of High Value Agriculture Produces		
4.1	FIG formulation for cooperative activities	To assist NGOs and PMU in the following activities: 1) To select target group 2) To provide guidance 3) To provide training for accessing loan 4) To implement group procurement activities 5) To implement group maintenance & accessing services (machinery, farm pond, etc.) 6) To implement collective marketing activities 7) To conduct review meeting 8) To provide experience sharing meeting with potential FIGs 9) To provide guidance for FPO formulation
4.2	Connecting with large-size consumers (Matching meeting)	Following activities shall be implemented in cooperation with PMU: 1) To provide guidance and info compiling for matching meeting 2) To assist PMU to implement 1st matching meeting 3) To assist PMU to provide 1 st gap filling training (quantity, timing) 4) To assist PMU to review and improvement 5) To assist PMU to provide 2 nd matching meeting 6) To assist PMU to provide 2 nd gap filling training (postharvest quality) 7) To assist PMU to monitor sales after matching meetings
4.3	Connecting with small-size consumers (exotic vegetables)	Following activities shall be implemented in cooperation with PMU: 1) To confirm and assess current productivity and marketability 2) To provide guidance for sales activities 3) To assist PMU to assist farmers' sales to market (Jaipur, etc.) 4) To assist PMU to provide sales visit to hotels/restaurants 5) To assist PMU to have demonstration 5.1 Confirming productivity and marketability 5.2 Sales to Market (Jaipur, etc.) 5.3 Sales visit to hotels/restaurants
4.4	Brand building for high-value agro produces	Following activities shall be implemented in cooperation with PMU: 1) To assist PMU to provide ToT training 2) To assist PMU to Coordinate activity groups 3) To assist PMU to implement experimental farm for increasing sugar content 4) To assist PMU to provide special training for quality improvement (sugar content, packaging, sales, quality standards) 5) To assist PMU to operate antenna shops 6) To assist PMU to provide tasting events, Farmers' Fai, and Multimedia advertising
Component-5 Gender Mainstreaming in Agriculture and Water Sector		
5.1	Supporting the institutionalization of gender mainstreaming in water management	1) To assist PMU to develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act 2) To incorporate gender perspectives into existing capacity building activities in water management 3) To establish gender disaggregated data collection system
5.2	Enhancement of women's capability and participation in	To assist PMU in the following activities: 1) To formulate WUA Women Wing

No	Activities	
	WUA	2) To introduce and facilitate the Women Friendly activities, such as women friendly facilities and women friendly trees 3) To encourage women participation in WUA activities 4) To provide trainings and exposure activities
5.3	Capacity building on agricultural technologies through SHGs	Following activities shall be implemented in cooperation with PMU: 1) To conduct orientation to SHG 2) To select the target groups 3) To provide training for group management 4) To provide training for agricultural technique 5) To monitor and mentor the groups for sustainable activities

Note: Direct costs of the above mentioned scopes & activities should be arranged and paid by PMU, since the contract of the NGO's services does not include such direct costs.

4. Expected Time Schedule

The total duration of NGO's services will be 72 months; starting on 1st July 2018 and ending on 30th June 2024.

5. Expert Requirement

The minimum man-month (M/M) input of the consultants is estimated at ??? M/M for the contract period of 72 months. The following experts would be assigned to a NGO team. A detailed schedule of NGO's services and a distribution of man-months is shown in figure.

Table 6 Allocation of Man-Month of the NGO's services

Designation	No.	Total Input in Months (M/M)
Team Leader/WUA expert	A-1	72 MM= 12month * 6 years * (a) person =12 * 6 * 1
Sector Expert (Agriculture/Marketing)	A-2	72 MM = 12month * 6 years * 1 person
Sector Expert (Agriculture)	A-3	?? MM= 12month * 2 years * ((b)-1) person + 12month * 2 years * ((c)-1) person + 12month * 2 years * ((d)-1) person
Community Motivator (50% male & 50% female)	A-4	?? MM = 12month * 3 years * (e) person + 12month * 3 years * (f) person + 12month * 2.75 years * (g) person
Total		????MM

Note: - Input MM should be calculated based on the the following table.

- At least 1 Expert (Agriculture/Marketing) should be assigned in any stage.

If Number of Expert (Agri/Market) plus Expert (Agri) is only 1 person in some stage, number of Expert (Agri) will be 0 person.

Table 7 Number of WUA and Alocated Officers of the NGO's services

	WUA no. (CCA / 1,000ha)			Number of Person (persons)						
				Team Leader /WUA	Expert (Agri/Market) + Expert (Agri)			Community motivators		
	Stage-1 2 years	Stage-2 2 years	Stage-3 2 years	Stage 1-3 (a) for 6 years	Stage-1 (b) 2 for years	Stage-2 (c) 2 for years	Stage-3 (d) 2 for years	Stage-1 (e) 3 for years	Stage-2 (f) 3 for years	Stage-3 (g) 2.75 for years
Jaipur	17	14	9	1	5	4	3	17	14	9
Kota	31	38	13	1	5	5	4	31	38	13
Udaipur/Jodpur	22	36	47	1	5	5	5	22	36	47
Hanumangarh-1	41	18	6	1	5	5	2	41	18	6
Hanumangarh-2	39	37	30	1	5	5	5	39	37	30

Note: (Number of WUA) = CCA(ha) / 1,000 ha,

(Number of Experts-Agri&Market) = bigger number of "roundup(WUA / 4)" or "5 persons"

(Numeber of Community Motivators) = WUA * 1 person

5.1 Qualification of Experts

The minimum qualification of key team members is shown in the table below.

Table 8 Minimum Qualification of Key Experts of the NGO's services

Designation	Qualification
Professional (A): International Expert	
Team Leader / WUA	<u>Education:</u> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> • 10 years' work experience in rural development projects; • 2 comprehensive rural development projects in which he/she served as team leader or co-team leader;
Sector Expert (Agro-processing & marketing/Agriculture)	<u>Education:</u> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> • 7 years' work experience in rural development, preferably agriculture, and vegetable & fruit cultivation;
Sector Expert (Agriculture)	<u>Education:</u> • BS in gender issue, irrigation, agriculture, rural development, social consideration, or other relevant fields for this task <u>Experience:</u> • 4 years' work experience in rural development, preferably agriculture, and vegetable & fruit cultivation;
Community Motivator	<u>Education:</u> • No specified (at least good for basic communication in English is required) <u>Experience:</u> • Preferably work experiences as a community animator or any other community/public servant <u>Domicile:</u> • within the project target area, preferably place where major number of WUA members dwell.

The NGO may propose other experts and supporting staffs required to accomplish the tasks outlined in the ToR. It is the NGO's responsibility to select the optimum team and to propose the officers which he believes best meets the needs of the project implementation.

5.2 Scope of Works for the Respective Personnel

The major tasks and duties of each member of the consultant team are described as followed.

Table 9 Major Tasks and Duties of Key Experts of the NGO's services

No	Position	Major Tasks and Duties
A-1	Team Leader / WUA/ Gender	1) Setting-up an effective organizational structure for the NGO team. Preparing and implementing all administrative systems and procedures needed to ensure the effective implementation in accordance with the scope of works with acceptable international standards. 2) Being responsible for overall direction of the NGO team, coordination of inputs, and management of individual experts. 3) Being responsible for the overall management of planning, design for institution building program, demonstration farm, food value chain improvement and any other farmers support program in the Project. 4) Having overall responsibility for the timely delivery and quality of all outputs. 5) Managing the relationships with the PMU/sub^PMU, the consultant and all other stakeholders.

No	Position	Major Tasks and Duties
		<p>6) Advicing PMU/sub-PMU in coordinating the planning, management, monitoring and reporting of all project activities including supporting the developemnt and implementation of progress monitoring systems.</p> <p>7) Coordinating with and assisting PMU on any relevant activities in the Project..</p> <p>8) Preparing monthly progress reports, quarterly progress reports, and any other required reports in a form agreed in the contract.</p> <p>9) Preparation and compilation of CAMP in cooperation with other experts.</p> <p>To execute following activities with the Community Motivators who live at villages: <u>WUA/ WUA Women Wing</u></p> <p>10) To formulate WUA</p> <p>11) To provide capacity development training</p> <p>12) To support WUA regular activities, like regular meeting etc.</p> <p>13) To strengthen linkage between farmers and Agriculture organization</p> <p>14) To conduct agriculture demonstration in cooperation with DoA/DoH/PMU/consultant</p> <p>15) To assist WUA Women Wing activities conducted by NGOs and PMU</p> <p><u>Gender for Nutricious Vegetable Cultivation</u></p> <p>16) To conduct orientation to SHG for nutritious vegitable cultivation</p> <p>17) To select the target groups for nutritious vegitable cultivation</p> <p>18) To provide training for group management for nutritious vegitable cultivation</p> <p>19) To provide training for agricultural technique for nutritious vegitable cultivation</p> <p>20) To monitor and mentor the groups for sustainable activities for nutritious vegitable cultivation</p>
A-2	Sector Expert (Agro-processing & marketing/Agriculture)	<p><u>Agro-processing and Marketing</u></p> <p>1) <u>FIG formulation for cooperative activities:</u> To formulate FIGs and facilitate cooperative activities (collective marketing, etc.) to increase profit of individual farmers</p> <p>2) <u>Connecting with large-size consumers (Matching meeting:</u> To assist PMU/the consultant to hold matching meetings between FIGs and large-size consumers (processors etc) to give options of direct marketing for higher profit for both value-chain players</p> <p>3) <u>Connecting with small-size consumers (exotic vegetables):</u> To assist PMU/the consultant to support exotic vegetables farmers for sales to market traders and hotels/restaurants</p> <p>4) <u>Brand building for high-value agro produces:</u> To assist PMU/the consultant to promote high-value agro produces production and marketing toward future brand building after the Project</p> <p><u>Agriculute</u></p> <p>5) To attend several ToT trainings as stipulated in the sub-component 3.2 of the Table2 “the Scope of Works”.</p> <p>6) To assist PMU/the consultnat to implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation</p> <p>7) To implement the agricluture farmers’ trainings stipulated in the sub-component 3.4 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p>8) To assist PMU/the consultant to implement the agricluture demonstration activities stipulated in the sub-component 3.5 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant</p> <p><u>Gender for Basic Vegetable Cultivation</u></p> <p>9) To conduct orientation to SHG for the basic vegitable cultivation</p> <p>10) To select the target groups for the basic vegitable cultivation</p> <p>11) To provide training for group management for the basic vegitable cultivation</p> <p>12) To provide training for agricultural technique for the basic vegitable cultivation</p> <p>13) To monitor and mentor the groups for sustainable activities for the basic</p>

No	Position	Major Tasks and Duties
		vegetable cultivation
A-3	Sector Expert (Agriculture)	<p>Agriculture</p> <ol style="list-style-type: none"> 1) To attend several ToT trainings as stipulated in the sub-component 3.2 of the Table2 “the Scope of Works”. 2) To assist PMU/the consultant to implement exposure visit to advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation 3) To implement the agriculture farmers’ trainings stipulated in the sub-component 3.4 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant 4) To assist PMU/the consultant to implement the agriculture demonstration activities stipulated in the sub-component 3.5 in Table 2 “the Scope of Works” as a main executing body and as facilitators/trainers in cooperation with PMU/the consultant <p>Gender for Basic Vegetable Cultivation</p> <ol style="list-style-type: none"> 5) To conduct orientation to SHG for the basic vegetable cultivation 6) To select the target groups for the basic vegetable cultivation 7) To provide training for group management for the basic vegetable cultivation 8) To provide training for agricultural technique for the basic vegetable cultivation 9) To monitor and mentor the groups for sustainable activities for the basic vegetable cultivation
A-4	Community Motivator	<ol style="list-style-type: none"> 1) To support all the above activities which will be executed by the NGO’s officers at village level. 2) To facilitate communication between PMU/the consultant/NGO offices and beneficiaries, and among beneficiaries for smooth project implementation 3) To attend some ToT trainings as trainees. 4) To collect beneficiaries to several trainings which will be provided by NGO, PMU, and the consultant. 5) To provide technical supports for WUA strengthening, agriculture, agro-marketing, gender mainstreaming as local resource persons. 6) To connect between beneficiaries and technical resource persons in the Project, if the community motivators could not solve problems technically. 7) To monitor and supervise daily or regularly activities by beneficiaries at community sites 8) To provide WUA Women Wing activities at field level 9) To facilitate and attend WUA meetings at several level, e.g. TSG-sub-project level, territorial constituency level, etc..

6. Reporting

Within the scope of NGO’s services, the NGO shall prepare and submit reports and documents to PMU as shown in table below. The NGO shall provide the both hard copy and electronic copy of each of these reports.

Table 10 Summary of Reports to be submitted by NGO

Category	Type of Report	Timing	No. of Copies
Provision of Services	Inception Report	Within 5 month after commencement of the Services	5
	Monthly Progress Report	Monthly, by the 7 th of each following month	5
	Quarterly Progress Report	Quarterly, by the 15 th of the following month	5
	Annual Work Plan	Annually, by the 15 th of the	5

Category	Type of Report	Timing	No. of Copies
		following month	
	Services Completion Report	At the end of Services	10
Command Area Micro Plan (CAMP)	Command Area Micro Plan (CAMP) report	At beginning of each stage	5
Training (Agriculture)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Training (WUA empowerment)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Training (Geder mainstreaming)	Annual Training Report	Annually, by the 15 th of the following month	5
	Evaluation Report of Training Programme	Annually, by the 15 th of the following month	5
Other Report	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

(1) Inception Report (5 sets)

Inception report, to be submitted within 3 months after the commencement of the services, shall contain overall work schedule, work plan, administrative arrangement, results of review of available data and information, relevant to the project during the inception period, and so on.

(2) Monthly Progress Report and Quarterly Progress Report (5 sets)

Monthly progress report and quarterly progress report, to be prepared monthly by the 7th of the following month and quarterly by the 15th of the following month, shall contain detailed information of physical and financial progress of the project components, issues and problems, consultant's input and activities, and schedule of works for the next period.

(3) Annual Work Plan (5 sets)

Annual work plan, to be prepared annually by the 15th of the following month, shall contain detailed information of packaging plan, activities, schedule and budget estimate for the next physical year.

(4) Services Completion Report (10 sets)

Based on the monitoring and evaluation records of the project activities, the consultant shall prepare and submit the services completion report which covers the results of all the project components at the end of the services.

(5) Command Area Micro Plan (CAMP) Report

Command Area Micro Plan (CAMP) should be prepared by NGO at beginning stage of each stage per 1 Sub-PMU. Detailed explanations are given in Annex XXX, including a guideline for preparing CAMP and a sample CAMP.

(6) Annual Training Programme (for each component)

Annual training Programme report, to be prepared annually by the 15th of the following month, shall contain training details such as overall training plan, respective training subject, schedule, trainees, number of trainers and cost.

(7) Evaluation Report of Training Programme (for each component)

Evaluation report for trainings, to be prepared annually by the 15th of the following month, shall contain list of training program, cost, number of participants, level of intelligibility, degree of satisfaction, etc.

(8) Other Reports (5 sets)

Technical Reports, as required, should be prepared on the specific technical issues with the aim to enhance and upgrade technical understandings and skill of the executing agencies and managing agency concerned for the project implementation.

7. Obligation of the Executing Agency

A certain range of arrangements and services will be provided by the executing agency to the consultant for smooth implementation of the NGO's services. In this context, the WRD will provide the followings:

(1) Required Information, Reports and data

Make available to the consultant existing reports and data related to the Project.

(2) Cooperation

Appoint counterpart officials, agent and representative as may be necessary for effective implementation of the NGO's services.

Attachment 6.2.5
Draft Terms of Reference for Project
Monitoring and Evaluation Expert

Attachment 6.2.5 Draft Terms of Reference for Project Monitoring and Evaluation Consultant

1. Background

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in activities in order to foster better livelihood of people dwelling in the project target area.

In order to solve challenges as mentioned above, the Government of India receives a loan from the Japan International Cooperation Agency (hereinafter referred to as "JICA") to finance the Rajasthan Water Sector Livelihood Imprlvment Project (RWSLIP), hereinafter referred to as "the Project") in the Rajasthan State. The Government of India intends to use part of the proceeds of the loan for eligible payments for consulting services for which this ToR is issued.

(1) Project Objectives

The development objectives of the Project are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on Water Users Associations (WUAs);
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

From the implementation of the Project, the following benefits and social economic impact could be expected.

(2) Project Components

The project comprises of the following 8 components, of which the top seven components will be financed by JICA, with terms and conditions set forth in the Loan Agreement and the rest shall be totally funded by the Government of India.

Table 1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring

Component No	Component Items
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

(3) Scope of the Project

The major items of scope in the Project is as stated below and the details are given in Table 2.

Table 2 Project Scopes

No	Scopes of Works
1	Participatory Irrigation Rehabilitation Works
1.1	Rehabilitation of Irrigation Facilities
1.2	Micro Irrigation
1.3	Introduction of Water Users Association (WUA) Constructive Facilities
1.4	Support to Women Friendly Activities
2	Fostering and Capacity Enhancement of Water Users Organizations
2.1	Establishment of WUA Support Mechanism
2.2	Capacity Building of WUA Management
2.3	Improvement of Agriculture Linkage
3	Irrigated Agriculture Intensification and Diversification
3.1	Training of Trainers for Agriculture
3.2	Exposure Visit for Agriculture Trainers
3.3	Improvement of Agriculture Support System
3.4	Agriculture Farmers' training
3.5	Agriculture Demonstration farm
4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
4.1	Farmers Interest Group (FIG) formulation for cooperative activities
4.2	Connecting with large-size consumers (Matching meeting)
4.3	Connecting with small-size consumers (exotic vegetables)
4.4	Brand building for high-value agro produces
5	Gender Mainstreaming in Agriculture and Water Sector
5.1	Supporting the institutionalization of gender mainstreaming in water management
5.2	Enhancement of women's capability and participation in WUA
5.3	Capacity building on agricultural technologies through SHGs
6	Project Management and Monitoring
6.1	Procurement of Office Equipment
6.2	NGO Services
6.3	Monitoring & Training for Environmental and social aspect
6.4	Monitoring & Evaluation
6.5	Transportation for the Consultant

(4) Implementation Schedule

The project implementation period is about 8 years from the effective date of Loan Agreement. The

Project will start from January 2017 (establishment of implementation structure, including Project Steering Committee (PSC), Project Management Unit (PMU) and Sub-PMU formulation) and complete all project works by June 2024 as shown below.

Table 3 Overall Implementation Schedule

Item	Expected Time Schedule
Loan Agreement	December 2016
Establishment of PMU	January 2017 to March 2017 (3 months)
Selection Process of Consultants	January 2017 to December 2017 (12 months)
Consulting Services	January 2018 to June 2024 (78 months)
Selection Process of NGO	January 2018 to June 2018 (6 months)
NGO's Services	July 2018 to June 2024 (72 months)
Selection Process of Survey Investigate and Design (SID) Consultant	January 2017 to June 2017 (6 months)
SID works for sub-projects in Stage-1	July 2017 to December 2017 (6 months)
Selection Process of Contractors	January 2018 to December 2018 (12 months)
Component-1: Participatory Irrigation Rehabilitation Works	January 2019 to December 2023 (60 months)
Component-2: Fostering and Capacity Enhancement of Water Users Organizations	January 2019 to June 2024 (66 months)
Component-3: Irrigated Agriculture Intensification and Diversification	January 2019 to December 2023 (60 months)
Component-4: Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	January 2019 to December 2023 (60 months)
Component-5: Gender Mainstreaming in Agriculture and Water Sector	January 2019 to December 2023 (60 months)
Component-6: Project Management and Monitoring	January 2019 to December 2023 (60 months)
Project Completion	June 2024
Loan Closing	December 2024

(5) Location of the Project

The target districts of the Project are 27 districts in the State as shown in the Project Location Map.

(6) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and PMU will be set up for coordinating and monitoring the project activities at the 3 levels.

(7) Implementation Structure

Coordination Committees: There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the PMU level, and the Sub-PMU Coordination Committee at sub-PMU level as described in the following figure.

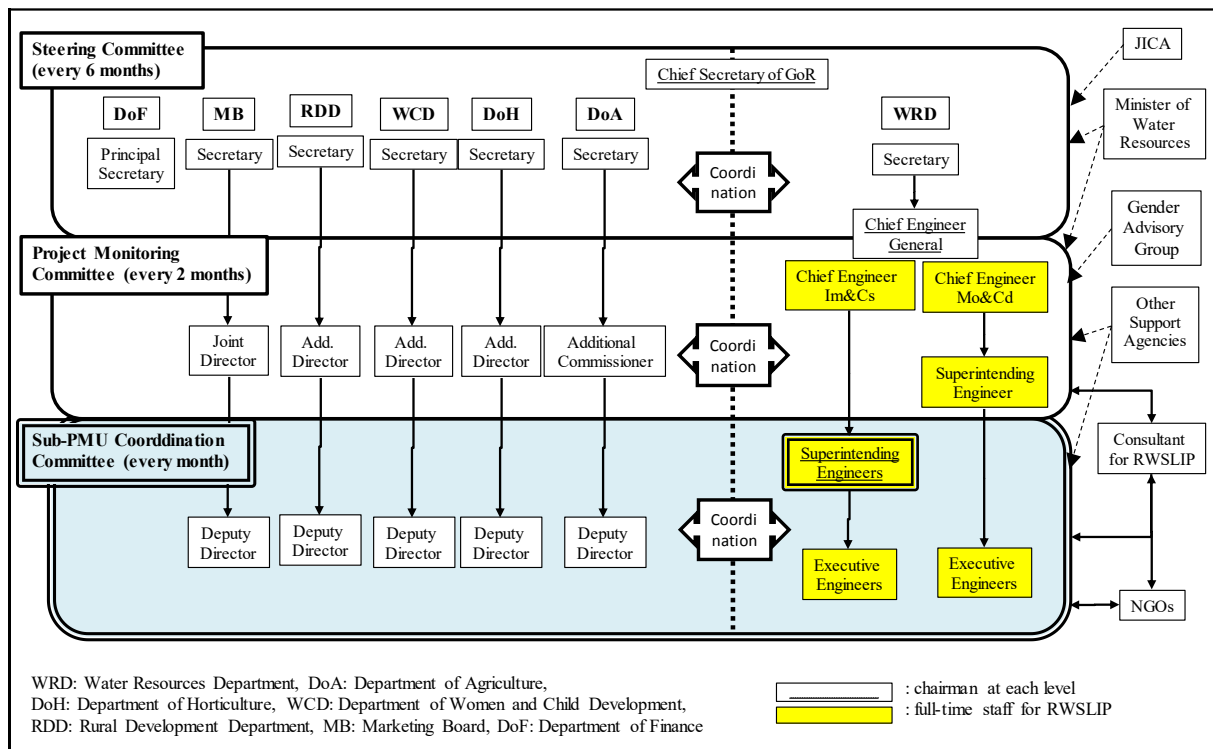


Figure 1 Implementation Structure of Steering Committee and Project Monitoring Committee

Project Management Unit (PMU): As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 Sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur Sub-PMU region),
- (ii) Kota zone (Kota Sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur Sub-PMU region),
- (iv) Ganganagar and West Hanumangarh area in North zone (Hanumangarh-1 Sub-PMU region), and
- (v) East Hanumangarh area in North zone (Hanumangarh-2 Sub-PMU region)

Those 5 Sub-PMU offices play a significant role in supervising construction works and controlling and all the other project works on the ground. Each Superintending Engineer of WRD will be fully responsible for all the project works including activities for soft components as well as construction works.

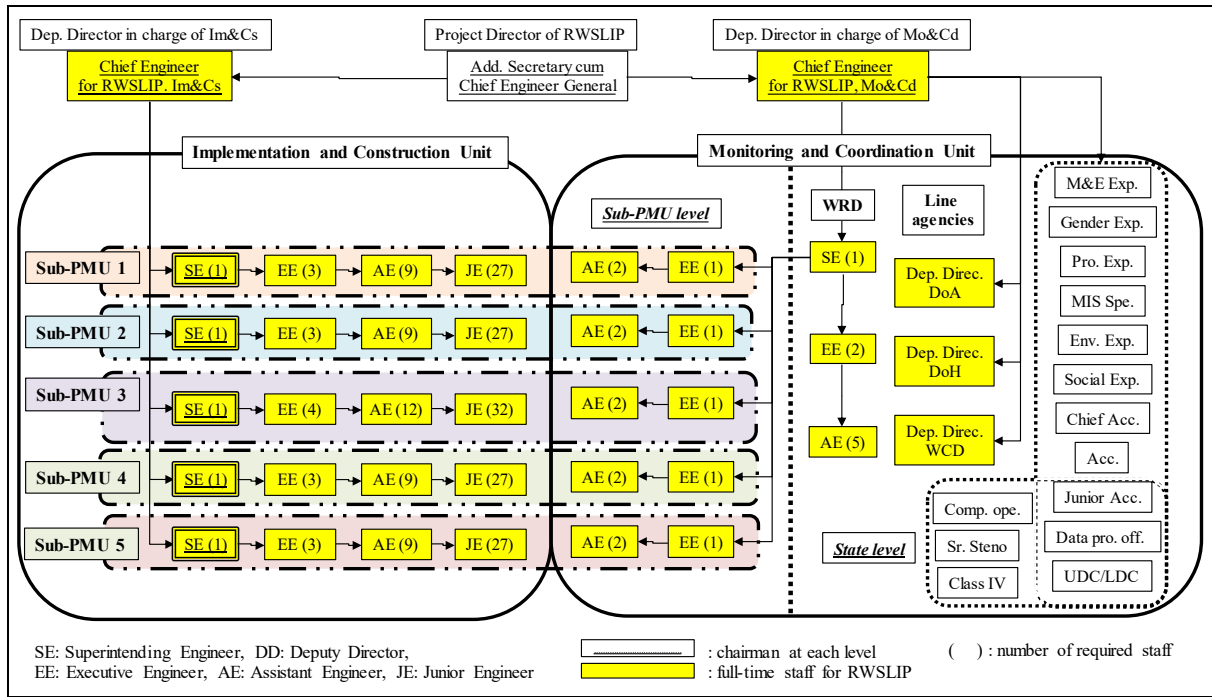


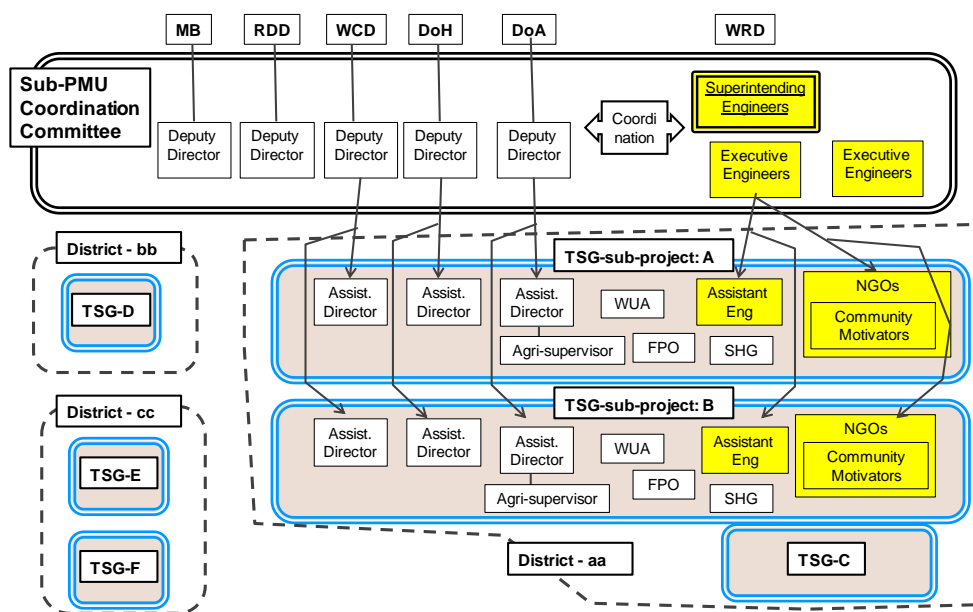
Figure 2 Implementation Structure of Project Management Unit (PMU)

Technical Support Group at Sub-project Level (TSG-SP): The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- i) Department of Agriculture,
- ii) Department of Horticulture,
- iii) Women and Child Development Department,
- iv) Water Resource Department (WRD),
- v) Regional NGO,
- vi) WUAs
- vii) FIG / Farmer Producers Organization (FPO), and
- viii) Self-help Group (SHG).

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure 3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

2. Objectives of Monitoring and Evaluation Consulting Services

The monitoring and evaluation consulting services shall be provided by local experts. The objective of the consulting services is to monitor and evaluate the project activities and performances periodically.

3. Scope of Consulting Services

The scope of the project consultant is to assist the PMU/sub-PMU in the following activities:

Table 2 Consultant’s Scope of Works in RWSLIP

No	Activities	
Component-6	Project Management and Monitoring	
6.4	Monitoring and Evaluation	1) Carrying out a review of the project preparation documents with regard to project monitoring and evaluation (ME) and drawing attention to changes which may have necessary since their preparation; 2) Set up M&E frameworks for overall project activities; 3) Prepare selection and appraisal manual and plans; 4) Prepare evaluation criteria for each activity, and role and tasks of the agencies. 5) Conduct monitoring and evaluation works periodically.

4. Expected Time Schedule

The total duration of consulting services will be in a project period; starting on 1st January 2018 and ending on 30th June 2024.

5. Expert Requirement

The minimum man-month (M/M) input of the consultants is estimated at 30 M/M of Professional (B). The following experts would be assigned as evaluation team. A detailed schedule of consulting services and a distribution of man-months is shown in Figure 5 at the end of this document.

Table 4 Allocation of Man-Month of the Consulting Services

Designation	No.	Total Input in Months (M/M)
Monitoring and Evaluation Expert-1	1	8.00
Monitoring and Evaluation Expert-2	1	22.00
Sub-total (B)		30.00

5.1 Qualification of Experts

The minimum qualification of key team members is shown in the table below.

Table 5 Minimum Qualification of Key Experts of the Consulting Services

Designation	Qualification
Monitoring and Evaluation Expert -1	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation engineering or agriculture. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 8 years' work experience in monitoring and evaluation, planning, design and construction supervision of irrigation-related projects or similar.
Monitoring and Evaluation Expert -2	<p><u>Education:</u></p> <ul style="list-style-type: none"> • BS in irrigation engineering or agriculture. <p><u>Experience:</u></p> <ul style="list-style-type: none"> • 5 years' work experience in monitoring and evaluation, planning, design and construction supervision of irrigation-related projects or similar.

Consultant may propose other experts and supporting staffs required to accomplish the tasks outlined in the ToR. It is the consultant's responsibility to select the optimum team and to propose the professionals which he believes best meets the needs of RWSLIP.

5.2 Scope of Works for the respective personnel

The major tasks and duties of each member of the consultant team are described as followed.

Table 6 Major Tasks and Duties of Key Experts of the Consulting Services

No	Position	Major Tasks and Duties
1 2	Monitoring and Evaluation Expert 1 & 2	<ol style="list-style-type: none"> 1) Carrying out a review of the project preparation documents with regard to project monitoring and evaluation (ME) and drawing attention to changes which may have necessary since their preparation; 2) Support the PMU/sub-PMU in ensuring that the Project is implemented in accordance with the development plan; 3) Set up M&E frameworks for overall project activities; 4) Prepare selection and appraisal manual and plans; 5) Prepare evaluation criteria for each activity, and role and tasks of the agencies; 6) Work with PMU to develop (i) operation and effect indicators, (ii) method for evaluation and analysis, and (iii) procedure for audit and control; 7) Prepare the necessary reports and guidelines for M&E consistency services with project documents; 8) Set up standards, contents and schedules for assistance to the PMU for M&E to ensure the project components are implemented as scheduled and outputs are as specified in the development plan; 9) Prepare M&E manual for monitoring and assesment; 10) Develop a community participation process within the M&E system; 11) Collect necessary data, monitor and routinely evaluate project implementation results; 12) Conduct baseline survey, stage-wise survey, terminal assessment based on the M & E system 13) Consect regular monitoring & evaluation at every 6 months and provide information for PMU for monitoring purposes.

6. Reporting

Within the scope of consulting services, the consultant shall prepare and submit reports and documents to PMU as shown in table below. The consultant shall provide the both hard copy and electronic copy of each of these reports.

Table 7 Summary of Reports to be submitted by PMC

Category	Type of Report	Timing	No. of Copies
Project Evaluation	Baseline Survey Report	Within 12 months after commencement of the Services	5
	Stage-wise Review Report	At the end of Stage-1 and Stage-2	5
	Terminal Impact Assessment Report	Before the completion of services	5
Other Report	Technical Report	As required or upon request	As required

Contents to be included in each report are as follows:

(1) Baseline Survey Report (5 sets)

Baseline survey report, to be prepared annually within 1 month after the completion of selection of MDI farmers, shall contain basic information, cropping pattern and production, marketing and post-harvesting activities, social environmental background, water source and soil condition, to be used as benchmark for terminal impact assessment at the end of the project.

(2) Stage-wise Review Report (5 sets)

Stage-wise Review Report, to be prepared at the end of the stage-1 and the stage-2, shall contain basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, etc. for the relevant year, to be used as a part of the terminal impact assessment at the end of the project.

(3) Terminal Impact Assessment Report (5 sets)

Terminal impact assessment report, to be prepared 3 months before the completion of the services, shall contain various aspects; basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, social environmental background, water source and soil condition to be used as benchmark for impact assessment at the end of the project.

(4) Other Technical Reports (5 sets)

Technical Reports, as required, should be prepared on the specific technical issues with the aim to enhance and upgrade technical understandings and skill of the executing agencies and managing agency concerned for the project implementation.

7. Obligation of the Executing Agency

A certain range of arrangements and services will be provided by the executing agency to the consultant for smooth implementation of the consulting services. In this context, the WRD will provide the followings:

(1) Report and data

Make available to the consultant existing reports and data related to the Project.

(2) Cooperation and counterpart staff

Appoint counterpart officials, agent and representative as may be necessary for effective implementation of the consulting services;

(3) Assistance and exemption

Use its best efforts to ensure that the assistance and exemption, as described in the Standard Request for Proposal issued by JICA, will be provided to the cConsultant, in relation to

- work permit and such other documents;
- entry and exit visas, residence permits, exchange permits and such other documents
- clearance through customs;
- instructions and information to officials, agent and representatives of the borrower's government;
- exemption from any requirement for registration to practice their profession; and
- privilege pursuant to the applicable law in the borrower's country.

Figure 5 Schedule of the Monitoring and Evaluation Consultant

Particular	Quantity	3rd year												4th year												5th year												6th year												7th year												8th year																							
		A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Procurement of Consultant		█																																																																																			
Preparatory works		█																																																																																			
Stage-1														█																																																																							
Stage-2																										█																																																											
Stage-3																																						█																																															
Defect Liability Period																																																														█																							
Consulting Services																																																																																					
1 Sr. Monitoring and Evaluation Expert	8.0													█												█												█												█												█												█											
2 Monitoring and Evaluation Expert	22.0													█												█												█												█												█												█											
Sub-total	30.0													█												█												█												█												█												█											
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		A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M

Attachment 6.2.6
Gender Action Plan (GAP)

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks
Component-1 Participatory Irrigation Rehabilitation Works					
1.1 Rehabilitation of Irrigation Facilities					
	1) To execute detail design works through SID subletting works	-			
	2) To rehabilitate irrigation facilities as planned	- Women labour get equal wages for equal work - At least 10% of construction workers are women	WRD, contractor	During construction stage of each stage	Need to monitor the following points; - possibility and availability of women worker by type and stage of works (Most of women worker may work as unskilled labor, so women worker can work for water course rehabilitation than head works rehabilitation.) - negative impact of 'same wage' approach (Contractor may prefer male worker if wage is same.) - ask the contractors to mention
1.2 Promotion of Micro Irrigation System					
	1) To provide orientation to farmers for their participation to this scheme	At least 33% of the participants in the orientation are female.	WRD, NGO	Beginning of each stage	
	2) To select beneficiary group/individuals and make MOU with them	The following group/individuals are encouraged	WRD	Beginning of each stage	
	3) To provide micro irrigation system and capacity building for using the facilities and water saving	- groups including more women members - woman headed household	WRD	Beginning of each stage	
1.3 Introduction of WUA Constructive Facilities					
	1) To plan and design the WUA constructive facilities	At least 33% of participants in the orientation are female.	WRD	2nd to 4th year of the Project	
	2) To construct the WUA constructive facilities	- Women labour get equal wages for equal work - At least 10% of construction workers are women	WRD, contractor	During construction stage of each stage	Same as 1.1 2)
1.4 Support for Gender-responsive Activities					
	1) To plan and design gender-responsive facilities and plant women-friendly trees	Gender-responsive activities are discussed and finalized by WW	TSG-SP/ NGO	Beginning of each stage	
		Gender-responsive activities are planned and implemented	TSG-SP/ NGO	Throughout the construction period	
	2) To construct gender-responsive facilities, and plant women-friendly trees	Gender-responsive activities are planned and implemented by WW	TSG-SP/ NGO	Throughout the construction period	
Component-2 Fostering and Capacity Enhancement of Water Users Organizations					
2.1 Establishment of WUA Support Mechanism					
	1) To develop project materials for WUA establishment	Project materials are developed with gender-responsive	PMU/ Consultant	Beginning of the Project/each stage	
	2) To provide orientation and ToT trainings in different level for WUA establishment	At least 2 sessions on gender awareness and analysis per orientation and TOT training are provided.	Consultant/ Sub-PMU/ IMTI	Beginning of the Project/each stage	
		At least 2 lecturers are female	Consultant/ Sub-PMU/	Beginning of the Project/each stage	
	3) To establish monitoring system through project management activities	Gender indicators are adopted for all the relevant activities from the beginning and gender disaggregated data is collected for all the relevant indicators.	Consultant/ Sub-PMU/ TSG-SP/NGO	Throughout the Project	
2.2 Capacity Building of WUA Management					
	1) To formulate WUA	At least 33% of participants in the orientation/meeting are	Sub-PMU/ NGO/TSG-SP	Beginning of each stage	If possible, it should aim for 50:50 gender balance.
		At least 33% of WUA MC members are female.	Sub-PMU/ NGO/TSG-SP	Beginning of each stage 1st and 2nd stage: at least 1 female member (14-20%) 3rd stage: at least 2 (29-40%) female member	If possible, it should aim for 50:50 gender balance.
	2) To provide capacity development activities, like training, OJT etc.	At least 33% of participants in the training/meeting are female.	Sub-PMU/ NGO/TSG-SP	Throughout the Project	If possible, it should aim for 50:50 gender balance.

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks
	3) To support WUA regular activities, like regular meeting etc.	At least 33% of participants in the meetings are female.	Sub-PMU/ NGO/TSG-SP	Throughout the Project	If possible, it should aim for 50:50 gender balance.
		Representative(s) of the Women Wing should be included as a member of WUA Managing Committees.			
		Gender Action Plan (long-term and annual) is developed in each WUA	Sub-PMU/ NGO/TSG-SP	Throughout the Project	
2.3 Improvement of Agriculture Linkage					
	1) To strengthen linkage between farmers and Agriculture organization	At least 33% of participants of linkage development activities are female.	NGO/TSG-SP	Second year and third year of the stage	If possible, it should aim for 50:50 gender balance.
	2) To conduct agriculture demonstration	At least 33% of participants of the Field Day are female (M:20, F:10)	NGO/TSG-SP	Second year and third year of the stage	If possible, it should aim for 50:50 gender balance.
2.4 Corpus Fund for WUAs					
	1) Providing corpus fund to	-			
	2) Monitoring corpus fund management	Representative(s) of the Women Wing should be included as a member of corpus fund management team.	WRD, NGO	End of the construction stage	
Component-3 Irrigated Agriculture Intensification and Diversification					
3.1 Training of Trainers for Agriculture					
	1) To provide workshops for high-rank officers (state level) and field level officers (sub-PMU level)	At least 10% of officials to be trained are female by the 3rd stage of the Project	PMU, DoA/DoH	By 3rd stage	- Need to confirm and increase the number of female officers in PMU and sub-PMU level
	2) To provide ToT training on cultivation and quality improvement techniques for cereals, pulses, oilseeds, spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables	At least 10% of the participants of TOT are female by the 3rd stage of the Project	DoA/DoH, NGO	By 3rd stage	- Need to confirm and increase the number of female officers in PMU and sub-PMU level
3.2 Exposure Visit for Agriculture Trainers					
	1) To provide opportunity to visit advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation	At least 10% of the participants of study tour are female. Otherwise, it can be arranged separately between male and female, if necessary.	DoA/DoH, NGO	By 3rd stage	- Need to confirm and increase the number of targeted female officers to reach 50:50 gender balance.
3.3 Improvement of Agriculture Support System					
	1) To compile farmer friendly manuals with visual aide	Manuals are developed with gender-responsive manner (Eg. More pictures than letters, pictures of more women, asking and reflecting views of women, etc.)	DoA/DoH, NGO	By 3rd stage	
	2) To strengthen agriculture information center	At least 33% of the registrations of agricultural information centers are female.	DoA/DoH, NGO	2nd year of each stage	- The activity is to provide technical information through Short Message Services (SMS) to registered famers.
3.4 Agriculture Farmers' training					
	1) To provide farmers training on cultivation and quality improvement techniques for cereals, pulses, oilseeds, spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables	At least 33% of participants in the training are female in accordance with the DoA/DoH Gender Policy.	DoA/DoH, NGO	2nd year of each stage (During registration period)	
	2) To provide marketing survey	At least 10% of participants in the survey visit are female.	DoA/DoH, NGO	3rd year of each stage	- 4days visit, 30 participants per sub-PMU. If possible, it should aim for 50:50 gender balance.
3.5 Agriculture Demonstration farm					
	1) To establish and maintain orange demonstration farm (4 farmers) 1ha	-			- The activity is provided family-wise but need to record beneficiaries by sex
	2) To establish and maintain exotic vegetable demonstration farm (7 farmers in focal area)	-			- The activity is provided family-wise but need to record beneficiaries by sex
3.6 Innovation Fund for DoA and DoH					

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks
Component-4 Agro-processing, Marketing, and Promotion of High Value Agriculture Produces					
4.1 FIG formulation for cooperative activities					
	1) To formulate FIGs and facilitate cooperative activities (collective marketing, etc.) to increase profit of individual	At least 33% of members are female in accordance with the DoA/DoH Gender Policy.	NGO	End of 2nd year of each stage	If possible, it should aim for 50:50 gender balance.
4.2 Connecting with large-size consumers (Matching meeting)					
	1) To hold matching meetings between FIGs and processors to give options of direct marketing for higher profit for both value-chain players	At least 33% of participants in the activities are female in accordance with the DoA/DoH Gender Policy	NGO	2nd and 3rd year of each stage	If possible, it should aim for 50:50 gender balance.
4.3 Connecting with small-size consumers (exotic vegetables)					
	1) To support exotic vegetables farmers for sales to public markets and hotels/restaurants	At least 33% of participants in the activities are female in accordance with the DoA/DoH Gender Policy	NGO	2nd to 5th year of each stage	If possible, it should aim for 50:50 gender balance.
4.4 Brand building for high-value agricultural produces					
	1) To promote high-value fruits/vegetables produces production and marketing toward future brand building after the Project	At least 33% of participants in the activities are female in accordance with the DoA/DoH Gender Policy	Brand building working group	From 4th year of the Project	If possible, it should aim for 50:50 gender balance.
Component-5 Gender Mainstreaming in Agriculture and Water Sector					
5.1 Supporting the institutionalization of gender mainstreaming in water management					
	1) To develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act	Additional clauses related to gender mainstreaming is approved.	WRD/ Consultant	Year 1	
	2) To incorporate gender perspectives into existing capacity building activities in water management	Gender sessions are included for the Training on Water Management and WUA Management. (The contents of gender session need to be developed first.)	WRD/ Consultant/ WCD	Beginning of each stage	
		Necessary information for developing Genders Action Plan in WUA is provided during Orientation and ToT	Consultant/ WCD	Beginning of each stage	
		Gender sessions/topics are included in the Regular Awareness Program in WUA/MC Meetings, Territorial Constituency(TC) Meetings and General	Consultant/ WCD	Beginning of each stage	
	3) To establish gender disaggregated data collection system	List of sector-wise gender disaggregated data is prepared and finalized	Consultant/ WCD	Beginning of each stage	
		Monitoring system on gender concerned activities is	Consultant/ WCD	Beginning of each stage	
		Activities are monitored through field visits and gender disaggregated data is collected	Consultant/ WCD	Throughout the Project	
		Collected data is analyzed and compiled in Annual Reports	Consultant/ WCD	End of the year	
		Stage-wise gender-responsive baseline survey is conducted	Consultant/ WCD	Beginning of each stage	
		Stage-wise gender-responsive assessment is conducted	Consultant/ WCD	End of each stage	
		Impact and results of RWSLIP are evaluated with a gender perspective.	Consultant/ WCD	End of the Project	
5.2 Enhancement of women's capability and participation in WUA					
	1) To formulate WUA Women Wing (WW)	Women Wing is formed in each WUA	TSG-SP/ NGO	Beginning of each stage	
	2) To facilitate to introduce the gender-responsive activities, such as women friendly facilities and women friendly trees	Gender-responsive activities are discussed and finalized by WW	TSG-SP/ NGO	Beginning of each stage	
		Gender-responsive activities are planned and implemented	TSG-SP/ NGO	Throughout the construction period	

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks
3)	To encourage women's participation in WUA activities	WW meeting is conducted every month	TSG-SP/ NGO	Throughout the Project	
		At least 3 WW members per WUA participate and report in WUA/Management Committees monthly meetings	TSG-SP/ NGO	Throughout the Project	
		WW members participate in WUA Fund Management	TSG-SP/ NGO	Throughout the Project	
		At least 10 WW members participate in Territorial Constituency (TC) monthly meeting cum training every	TSG-SP/ NGO	Throughout the Project	
		At least 10 WW members per Territorial Constituency to participate in WUA general meeting	TSG-SP/ NGO	Throughout the Project	
4)	To provide trainings and exposure activities on water management and organizational management	Intensive supports are provided to make WW members participate in the Project activities (Eg. talk to their family, baby-sitting for	Sub-PMU/ NGO	Throughout the Project	
		At least 3 main members per WW participate in training on Water Management at Sub-PMU Level with WUA	TSG-SP/ NGO	Beginning of each stage	In total 50% of participants should be female.
		At least 3 main members per WW participate in Fund Management Training (auditing) at Sub-PMU Level	TSG-SP/ NGO	Beginning of each stage	In total 50% of participants should be female.
		At least 3 main members per WW participate in Exposure	TSG-SP/ NGO	Middle of each stage	In total 50% of participants should be female.
		At least 3 main members per WW participate in Annual WW's Review Meeting at Sub-PMU Level	TSG-SP/ NGO	End of the second year and the third year of each stage	In total 50% of participants should be female.
		At least 3 main members per WW participate in Annual WUA/MCs Review Meeting at Sub-PMU Level	TSG-SP/ NGO	End of the second year and the third year of each stage	In total 50% of participants should be female.
		At least 2 main members of selected WW participate in Stage-wise WUA Review Meeting at State Level in IMTI	TSG-SP/ NGO	End of the stage	In total 50% of participants should be female.
		At least 3 main members per WW participate in Follow-up Training on Water Management with WUA	TSG-SP/ NGO	End of the stage	In total 50% of participants should be female.
5.3 Capacity building on agricultural technologies through Self Help Groups (SHGs)					
1)	To conduct orientation to women farmers in target area	At least 20 women participate in Territorial Constituency (TC) level orientation	TSG-SP/ NGO	End of the first year of each stage	This activity is for women farmers
2)	To select the target groups	2 SHGs each per sub-project are selected	TSG-SP/ NGO	End of the first year of each stage	In total 4 SHGs per sub-project (2 SHGs for Basic Veg and 2 SHGs for
3)	To provide training for group management	3 members from each target SHGs participate in the	TSG-SP/ NGO	End of the first year of each stage	This activity is for women farmers
4)	To provide training for agricultural technique	All members of the target SHGs participated in the	TSG-SP/ NGO	Second year of the activity	
5)	To monitor and mentor the groups for sustainable activities	All target SHGs are visited by TSG-SP (DoA/DoH) and/or Anganwadi staff once every two weeks	TSG-SP/ NGO	Second year of the activity	
5.4 Innovation Fund for Department of Women and Child Development (WCD)					
Component-6 Project Management and Monitoring					
6.1 Procurement of Office Equipment					
1)	To procure vehicles for daily operation	-			
2)	To procure office furniture	-			
3)	To procure office equipment, e.g. personal computers, copiers, UPS, etc.	-			
4)	Survey equipment	-			
6.2 NGO Services					

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks
1)	To procure 5 NGOs for supporting to (a) WUA establishment, (b) agriculture & marketing, and (c) gender mainstreaming activities	At least one of Sub-PMU level staff (Team Leader and Sector Expert) is female	Sub-PMU/ NGO	Year 2	
		At least 50% of Community Motivator is female	Sub-PMU/ NGO	Each stage	

Attachment 6.2.6 Gender Action Plan (GAP)

	Activity	Indicators/Targets	Responsibility	Time Schedule	Remarks	
6.3	Monitoring & Training for Environmental and social aspect					
	1)	To provide trainings to Project Staff at the sub-PMU level	Sessions on gender and environment, as well as gender and society should be included in trainings.	PMU, Consultant	Beginning of the Project/each stage	
	2)	To monitor the soil and water qualities, pollution testing during construction	At least 33% of monitoring personnel are female.	PMU, Consultant	Beginning of the Project/each stage	If possible, it should aim for 50:50 gender balance.
	3)	To execute annual Environmental Assessments (in-house) for 10 sub-projects for 5 years	-Make an Environmental Assessment from a gender perspective. At least 33% of the evaluators are female.	PMU, Consultant	Beginning of the Project/each stage	If possible, it should aim for 50:50 gender balance.
	4)	To conduct third party environmental assessment	Make third party environment assessment from a gender perspective. At least 33% of the evaluators are female.	PMU, Consultant	Beginning of the Project/each stage	If possible, it should aim for 50:50 gender balance.

2 Impact of the activities

	Item	Indicator	Means of verification
1	Stereotyped perception for gender roles is changed among farmers in target area	30% of participants of the gender training/session change their behavior on farm work and/or house work	Baseline survey (stage wise and end of the Project)
2	Number of women in leader position is increased	Number of women in leader position (WUA, gram panchayat, Community/Farmers group,	Baseline survey (stage wise and end of the Project)
3	IMTI incorporates gender session in their regular training	All the regular training courses have gender session in IMTI	IMTI training report

Attachment 6.3.1
Overall Project Management Activities on
RWSLIP

Attachment 6.3.1 Overall Project Management Activities on RWSLIP

1. General

In order to implement the project activities efficiently and smoothly, the Project plans to execute several overall project management activities as mentioned below:

- i) Pre-arrangement Works
- ii) Procurement of the Consultant
- iii) Procurement of the NGOs
- iv) Procurement of the SID Consultants
- v) Screening and Selection of Sub-projects
- vi) Procurement of the Civil Contractors and Construction Periods
- vii) Monitoring and Evaluation Survey

A tentative implementation schedule of those overall project management activities is shown in the following figure.

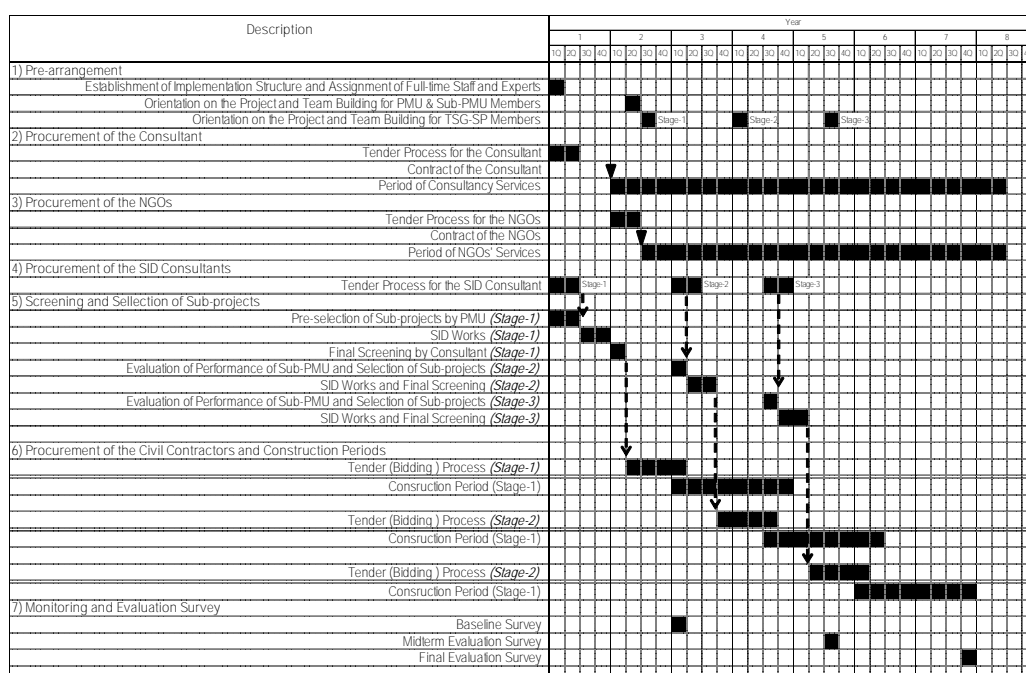


Figure 1 Implementation Schedule for Overall Project Management

2. Special Consideration and Explanation on the Activities

2.1 Pre-arrangement Works

Pre-arrangement works consist following activities:

- Establishment of Implementation Structure and Assignment of Full-time Staff and Experts:
PMU and sub-PMU should be established as soon as possible after settlement of the Loan Agreement to facilitate prompt project implementation.

- Orientation on the Project and Team Building for PMU & Sub-PMU Members:
Orientation of the Project, PMU and sub-PMU should be made only once at the beginning stage of the Project.
- Orientation on the Project and Team Building for TSG-SP Members:
Since TSG-sub-project (TSG-SP) will be formulated at each stage, orientation on the project and team building should be made 3 times when the Project start activities at each stage.

2.2 Procurement of the Consultant, the NGOs, and SID Consultants

Salient feature and significant remarks of the procurement works of the consultant are given in the following table.

Table 1 Salient Feature the Procurement Works for the f the Consultant, the NGOs, and SID Consultants

	The Consultant	The NGOs	The SID Consultant
Number of procured bodies	1 consultant	5 NGOs (1 Coordinating NGO and 4 Regional NGO) at each sub-PMU	15 SID consultants (= 3stages x 5 SID consultants), i.e. 5 SID consultants at each stage for 5 sub-PMU.
Period of the contract	78 months	72 months	4 – 6 months for 1 contract, depending on the work volumes
Proposed schedule of conclusion of the contract settlement	The 1 st month in the 2 nd year	The 6 th month in the 2 nd year	Stage-1: 7 th month in the 1 st year Stage-2: 4 th month in the 2 nd year, preferably Stage-3: 10 th month in the 4 th year, preferably
Main executive body for procurement	PMU without assistance of the consultant	PMU with assistance of the consultant	PMU without assistance of the consultant
TOR	To be prepared by PMU (Refer to Attachment 6.2.5a as a draft TOR)	To be prepared by PMU (Refer to Attachment to Attachment 6.2.5b & 6.2.5c as a draft TORs)	To be prepared by PMU

Source: JICA Survey Team

The followings are special consideration to be required or recommended for efficient implementation of the Project.

- i) It is strongly recommended that a specific input of man-power for supporting the procurement process of the consultant and the SID consultant should be provided by the WRD or JICA, if possible, on an appropriate timing and quantity in order to expedite immediate project commencement at the beginning stage of the Project. Because it is preferable that tender documents for bidding of the consultant and SID consultant should be duly prepared in prior to conclusion of the Loan Agreement between the Government of Rajasthan State and the Government of Japan.
- ii) If possible, it is preferable that the SID works of Stage-1 may be commenced in prior to the conclusion of the Loan Agreement by a special arrangement between WRD and JICA under which WRD can employ the SID consultant without waiting the conclusion of the Loan Agreement then its cost will be refunded by JICA after the Loan Agreement is duly valid.
- iii) Work volume of the SID works should be precisely reviewed after the selection works of the sub-projects is completed.
- iv) There are 2 kinds of NGO in the Project: the Coordinating NGO and the Regional NGO. Coordinating NGO has following additional tasks as well as the task for the Regional NGOs:
 - To plan, arrange, and implement an initial standardization trainings to the 5 selected

- NGOs in prior to project implementation;
- To plan, arrange, and implement annual coordinating meetings with the 5 selected NGOs;
- To prepare several NGO activities reports for overall project as compiling all the regional NGO activity reports from other 4 regional NGOs;
- To arrange, coordinate and hold regular meetings among the 5 NGOs;
- To share necessary information among all the 5 NGOs; and
- To assist PMU for facilitating smooth implementation of the project works.

2.3 Screening and Selection of Sub-projects

Special considerations to be noted for this activities are given as follow:

- As explained in Section 6.1.2, the Project introduces “the performance based budget allocation system”. Under this allocation system, performance of each sub-PMU shall be evaluated in prior to the time of allocation of project budget for each sub-PMU. Due to limitation of work schedule for preparing Stage-2’s SID works, however, the evaluation works of sub-PMU for Stage-2, i.e. the evaluation of performance in Stage-1 at each sub-PMU should be made in the 1st quarter of the 3rd year. At this timing, it seems that the construction of Stage-1 may start but not significant results of works could be observed. Thus performance evaluation of each sub-PMU office should be made based on the activities which has been completed by that time. Thus the Project may evaluate the following performance: procurement process/procedure of SID consultant, instruction and performance control of SID works itself, procurement process/procedure of the contractor for irrigation rehabilitation, management/control achievement of regional NGO, and so on.
- Evaluation of performance on the 5 sub-PMU should be made by PMU officers basicall with assistance with the evaluation and monitoring expert of the consultant.
- Monitoring index and detail schedule of evaluation works should be planned and proposed by PMU with assistance with the evaluation and monitoring expert of the consultant. After acceptance of PMU, regular monitoring works should be executed by PMU/sub-PMU and NGO officers on demand.

2.4 Procurement of the Civil Contractors and Construction Periods

Explanation of the procurement of the civil contractors shall be given in Section 6.5.2 “Procurement Plan for Civil Works” in the draft final report.

2.5 Monitoring and Evaluation Survey

There are 3 times of monitoring of the stuation of the project sites:

- i) Baseline Survey
- ii) Midterm Evaluation Survey
- iii) Final Evaluation Survey

Description	Year																																				
	1				2				3				4				5				6				7				8								
	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40					
Monitoring and Evaluation Survey																																					
1. Baseline Survey																																					
Field Survey																																					
Compilation of Data and Report																																					
2. Midterm Evaluation Survey																																					
Field Survey																																					
Compilation of Data and Report																																					
3. Final Evaluation Survey																																					
Field Survey																																					
Compilation of Data and Report																																					

Figure 2 Implementation Schedule for Monitoring and Evaluation Survey

(1) Field Survey Works

Field survey should be implemented with temporary data collecting staff hired by PMU at each evaluation at site. Arrangement and supervision of the works, including formulation of monitoring index, collection format, and so on, should be made by PMU with assistance of the consultant.

(2) Reports

Following report should be compiled with collected data and analysis of each evaluation.

a) Baseline Survey Report

Baseline survey report, to be prepared annually within 1 month after the completion of selection of farmers, shall contain basic information, cropping pattern and production, marketing and post-harvesting activities, social environmental background, water source and soil condition, to be used as benchmark for terminal impact assessment at the end of the project.

b) Mid Term Evaluation Survey Report

Midterm evaluation survey report, to be prepared in the middle of the project period, shall contain basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, etc. for the relevant year, to be used as a part of the terminal impact assessment at the end of the project.

c) Terminal Impact Assessment Report

Terminal impact assessment report, to be prepared 3 months before the completion of the services, shall contain various aspects; basic information, cropping pattern and production, incomes, marketing and post-harvesting activities, social environmental background, water source and soil condition to be used as benchmark for impact assessment at the end of the project.

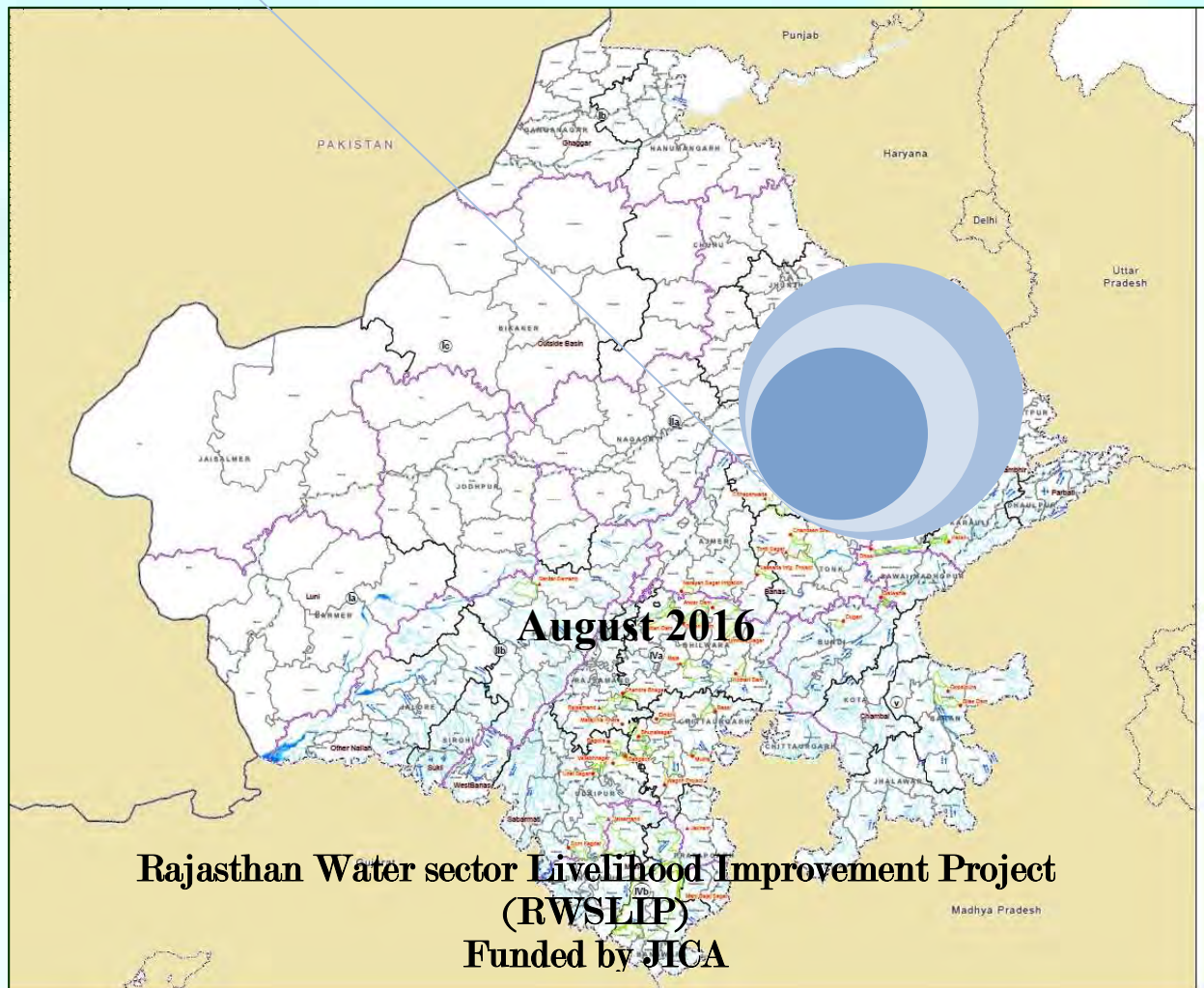
Attachment 6.6.1
CAMP Manual and Sample

Attachment 6.6.1 Command Area Micro Plan (CAMP)

1) The Guideline for Preparation of CAMP

2) A Sample CAMP for Jaipur Sub-PMU

Guideline for Preparation of Command Area Micro Plan (CAMP)



GUIDELINE FOR PREPARATION OF CAMP

This is a guideline for preparing CAMP (hereinafter so called “the Guideline”).

The project planner should refer the Guideline when he/she prepare CAMP at any stage of RWSLIP implementation. The followings are instructions for compilation of CAMP.

Table of Contents of CAMP	Works to be made by Planner / Comments
CHAPTER 1 INTRODUCTION 1.1 GENERAL	No special modification is required. If necessary, please revised it.
CHAPTER 2 OUTLINE OF RWSLIP 2.1 Project Outline	Project outline should be modified. Especially if the following items are changed on the course of the project implementation, without failing those modification should reflect to the description in CAMP: (1) Project Objectives (2) Executing Agency (3) Project Location (4) Project Component (5) Project Scopes (6) Long List of Candidate Sub-Projects

Table of Contents of CAMP	Works to be made by Planner / Comments
	NOTE: The long list of the candidate sub-project could be changed based on the necessity of the Project. Thus the planner should obtain the latest long list and attach it on CAMP.
2.2 General and Specific Approach in the Project	<p>The both the general approach in the Project and the specific approaches in the Project are significantly important for the Project. The Planners should, therefore, scrutinise and understand deeply the current project approach in RWSLIP. The initial project approach can be obtained in the Final Report of the preparatory survey of RWSLIP prepared by JICA Preparatory Survey Team.</p> <p>If project approaches are modified, please reflect it to CAMP precisely.</p>
2.3 Overall Implementation Structure 2.3.1 Committees for Project Coordination, and Monitoring 2.3.2 Project Management Unit (PMU) 2.3.3 Technical Support Group at Sub-project level	<p>Implementation structure of (a) the entire project management and (b) the project management on a sub-PMU basis also should be checked and confirmed whether there is any change of condition, in particular:</p> <ul style="list-style-type: none"> - the number of officers of WRD at main office in Jaipur and at the sub-PMU office, - the number of full-time officers from DoA, DoH and WCD, and - responsibility structure of the sub-PMU, <p>in prior to compile CAMP.</p> <p>Since the project coordination is one of important focal issues in the project implementation, Figure A 2.3.1 “Implementation Structure of Steering Committee and</p>

Table of Contents of CAMP	Works to be made by Planner / Comments										
	<p>Project Monitoring Committee”, Table B 2.3.1 “Roles and Responsibility of Each Coordination Committee”, and Figure A 2.3.2 “Implementation Structure of Project Management Unit (PMU)” should be scrutinised with the actual situation. If necessary modification of the structure should be mentioned in CAMP.</p>										
<p>2.5 Implementation Schedule</p>	<p>In prior to compile CAMP, present overall schedule should be checked and modified, if necessary.</p> <p>If CAMP for Stage-2 or Stage-3, the progress of the Project also should be described. If any delay is observed, the reasons, period of delays, its countermeasures should be compiled in the following sample format.</p> <table border="1"> <tbody> <tr> <td>Delay of the work</td> <td></td> </tr> <tr> <td>Delayed period</td> <td></td> </tr> <tr> <td>Reason and cause of delay</td> <td></td> </tr> <tr> <td>Countermeasures for preventing another delay</td> <td></td> </tr> <tr> <td>Countermeasure to catch-up and recover its delay to the original schedule</td> <td></td> </tr> </tbody> </table>	Delay of the work		Delayed period		Reason and cause of delay		Countermeasures for preventing another delay		Countermeasure to catch-up and recover its delay to the original schedule	
Delay of the work											
Delayed period											
Reason and cause of delay											
Countermeasures for preventing another delay											
Countermeasure to catch-up and recover its delay to the original schedule											

Table of Contents of CAMP	Works to be made by Planner / Comments
CHAPTER 3 ACTION PLAN FOR THE PROPOSED SUB-PROJECTS IN JAIPUR SUB-PMU 3.1 Generals 3.1.1 Demarcation of the Project Activities	<p>“Demarcation of the Project Activities” is described in Table A3.1.1 and Figure A3.1.1 in in Section 3.1 precisely. Since this is the most important part of the compilation of CAMP, the Planner should understand well about this demarcation.</p> <p>In preparation of CAMP, the activities of the Project-level can be neglected and only the lower levels, such as activities of the sub-PMU-level and sub-project-level should be dealt with.</p>
3.2 <u>CAMP at the Sub-PMU Level</u> 3.2.1 The Sub-projects in the Sub-PMU in This Stage 3.2.2 Locations of Activities 3.2.3 Determination of Activities of the Sub-PMU	<p>In Section 3.2, only the activities <u>at Sub-PMU level</u> will be dealt with. Activities at Sub-project level should be included in Section 3.3.</p> <p>The Planner should identify the actual project activities in the sub-PMU with following steps:</p> <p><u>STEP-1:</u> Table A 3.2.1” List of Sub-Projects in Jaipur sub-PMU” should be definitely prepared. This table should be sorted and described by the District for further works.</p> <p><u>STEP-2:</u> The contents of the following Attachment in the Guideline should be confirmed whether there is any modification or not, in particular alternation of “Category”, with the Project Main Office.</p> <p>If any modifications are reported, at first those tables should be revised in prior to proceed to go to the next step.</p> <ul style="list-style-type: none"> ▪ Attachment GL3.2.1a Category and District of the Project Works (Component-2:

Table of Contents of CAMP	Works to be made by Planner / Comments
	<p>WUA)</p> <ul style="list-style-type: none"> ▪ Attachment GL3.2.1b Category and District of the Project Works (Component-3: Agriculture) ▪ Attachment GL3.2.1c Category and District of the Project Works (Component-4: Marketing) ▪ Attachment GL3.2.1d Category and District of the Project Works (Component-5: Gender) <p>Those attachments provide matrices: vertical column shows all the works to be done by (1) Project-level, (2) sub-PMU-level, or (3) sub-project-level and horizontal row give all the works to be done in each District. <u>If you refer to those matrices, you can know which District has what kind of activities at which level.</u></p> <p><u>STEP-3:</u> To identify all the activities by District and at which level, Attachment 3.2.1a - Attachment 3.2.1d should be prepared using the following data:</p> <ul style="list-style-type: none"> (i) Table A3.2.1 in CAMP, (ii) Attachment GL 3.2.1a - Attachment GL 3.2.1d in the Guideline, and (iii) Format GL 3.2.1a - Format GL 3.2.1d, <p>Attachment 3.2.1a - Attachment 3.2.1d should be attached to CAMP.</p> <p><u>In preparation of Attachment 3.2.1a – 3.2.1d, only you have to do is to fill-up the top row “Number of Sub-project” by District referring Table A3.2.1 in CAMP.</u></p>

Table of Contents of CAMP	Works to be made by Planner / Comments
	<p>STEP-4: In this step, <u>only the activities at “Sub-PMU level”</u> should be clarified, and shown in Attachment 3.2.2a - Attachment 3.2.2d.</p> <p>In Attachment 3.2.1a – 3.2.1d, you can easily find out such activities, because those activities are <u>in the rows with yellow colour</u>.</p> <p>Once activities are identified, using the following data, Attachment 3.2.2a - Attachment 3.2.2d should be prepared:</p> <p>(i) Attachment GL 3.2.2a - Attachment GL 3.2.2d in the Guideline, and</p> <p>(ii) Format GL 3.2.2a - Format GL 3.2.2a,</p> <ul style="list-style-type: none"> - “Work volumes” in the formats should be estimated and written in the formats based on the instructions given by Attachment GL 3.2.2a - Attachment GL 3.2.2d in the Guideline. Quantities should be estimated based on the number of WUA, the number of the sub-projects in the sub-PMU, the number of participants, or any other basic data. - “Unit Costs” shall be calculated in STEP-5. - Some cells in the formats has a description “no cost”. It mean such activity does not need any specific expenses but the common expenses, such as personal fee, ordinal office expenses, common transportation fee etc. In such case, “work volume” should be estimated and described for further references. <p>STEP-5: Using Format GL 3.2.3a - Format GL 3.2.3a, “Unit Cost” should be estimated</p>

Table of Contents of CAMP	Works to be made by Planner / Comments
	<p>and compiled in Attachment 3.2.3a - Attachment 3.2.3d. As mentioned in STEP-4, those “Unit Costs” should be used in Attachment 3.2.2a - Attachment 3.2.2d as well. <u>Attachment 3.2.2a - Attachment 3.2.2d</u> and <u>Attachment 3.2.3a - Attachment 3.2.3d</u> should be compiled and attached in CAMP.</p> <p>Quantities provided in Format GL3.2.3a – GL3.2.3d are just examples for your reference. Those figures should be examined and revised if necessary.</p> <p>STEP-6: Using the following format and data, detailed activity sheets for specific works at the Sub-PMU level should be prepared and attached in CAMP as Attachment 3.2.4a – 3.2.4d.</p> <ul style="list-style-type: none"> - Attachment 2.2.1a - Attachment 2.2.1d, and - Format GL 3.2.4 “Format of Detailed Activity Sheet” in the Guideline. <p>NOTE) Since the activities at sub-project level should be prepared in Section 3.3, <u>ONLY activities at sub-PMU level</u> should be prepared.</p> <p>Project activity sheets <u>at the Project level</u> shall be prepared by PMU office. CAMP does not cover those activities at the project level.</p> <p>Although the Planner might not fill up all the information at the timing of CAMP, at least all the activity sheet <u>by sub-project</u> should be prepared even with a lot of blank cells.</p>




Table of Contents of CAMP	Works to be made by Planner / Comments
	<p> <u>IMPORTANT</u> Those activity sheets should be revised on all such occasions and maintained with the latest data by implementers with monitoring purpose throughout the implementation period.</p> <p> Note: When the unit prices are calculated based on Format GL3.2.3, all the “quantity date” should be reviewed at first. Those data in quantity are just for your reference only. Final quantities should be decided by the planner by himself under his responsibility.</p>
<p>3.3 CAMP at the Sub-project Level</p> <p>3.3.1 Determination of Activities of the Sub-Project</p>	<p>In Section 3.3, only the activities <u>at Sub-project level</u> will be dealt with. Activities at Sub-PMU level has been included in Section 3.2.</p> <p>The Planner should identify the actual project activities at the Sub-project level as follows:</p> <p>Attachment 3.3.1 and others should be prepared by planner for each Sub-project, using Format GL3.3.1 provided in the Guideline.</p> <p>Procedures are the same as steps in Section 3.2.</p>

Table of Contents of CAMP	Works to be made by Planner / Comments
	<p>In Attachment 3.3.1 and others, 1 sub-project should have 1 attachment separately. Therefore, for instance, if you have 10 sub-projects, you should prepare 10 attachments, i.e. Attachment 3.3.1 to Attachment 3.3.10.</p> <p> Note: When the unit prices are calculated based on Format GL3.3.1(2), all the “quantity date” should be reviewed at first. Those data in quantity are just for your reference only. Final quantities should be decided by the planner by himself under his responsibility.</p>

Following table shows summary reference for the documents which should be prepared in CAMP and source of its references, as described in the above.

Table Summary Table for Attachment to be Prepared and its References

Materials to be prepared in CAMP	Reference for Preparation	
	Names	Documents
Table A 3.2.1		
Attachment 3.2.1a	➤ Table A3.2.1	CAMP
Attachment 3.2.1b	➤ Attachment GL3.2.1a	The Guideline
Attachment 3.2.1c	➤ Attachment GL3.2.1b	
Attachment 3.2.1d	➤ Attachment GL3.2.1c	
Attachment 3.2.1d	➤ Attachment GL3.2.1d	

Materials to be prepared in CAMP	Reference for Preparation	
	Names	Documents
	<ul style="list-style-type: none"> ➤ Format GL 3.2.1a ➤ Format GL 3.2.1b ➤ Format GL 3.2.1c ➤ Format GL 3.2.1d, 	The Guideline
Attachment 3.2.2a Attachment 3.2.2b Attachment 3.2.2c Attachment 3.2.2d	<ul style="list-style-type: none"> ➤ Attachment GL 3.2.2a ➤ Attachment GL 3.2.2b ➤ Attachment GL 3.2.2c ➤ Attachment GL 3.2.2d 	The Guideline
	<ul style="list-style-type: none"> ➤ Format GL 3.2.2a ➤ Format GL 3.2.2b ➤ Format GL 3.2.2c ➤ Format GL 3.2.2d 	The Guideline
	<ul style="list-style-type: none"> ➤ Attachment 3.2.3a ➤ Attachment 3.2.3b ➤ Attachment 3.2.3c ➤ Attachment 3.2.3d 	CAMP
Attachment 3.2.3a Attachment 3.2.3b Attachment 3.2.3c Attachment 3.2.3d	<ul style="list-style-type: none"> ➤ Format GL 3.2.3a ➤ Format GL 3.2.3b ➤ Format GL 3.2.3c ➤ Format GL 3.2.3d 	The Guideline
Attachment 3.2.4a Attachment 3.2.4b Attachment 3.2.4c Attachment 3.2.4d	<ul style="list-style-type: none"> ➤ Attachment 2.2.1a ➤ Attachment 2.2.1b ➤ Attachment 2.2.1c ➤ Attachment 2.2.1d, 	CAMP
	<ul style="list-style-type: none"> ➤ Format GL 3.2.4a ➤ Format GL 3.2.4b ➤ Format GL 3.2.4c ➤ Format GL 3.2.4d 	The Guideline

Materials to be prepared in CAMP	Reference for Preparation	
	Names	Documents
Attachment 3.3.1	➤ Format GL 3.3.1	The Guideline
Attachment 3.3.2	➤	
:		
:	➤ Attachment 2.2.1a	CAMP
:	➤ Attachment 2.2.1b	
:	➤ Attachment 2.2.1c	
(as required)	➤ Attachment 2.2.1d,	

ATTACHMENT:

- Attachment GL3.2.1a Category and District of the Project Works (Component-2: WUA)
- Attachment GL3.2.1b Category and District of the Project Works (Component-3: Agriculture)
- Attachment GL3.2.1c Category and District of the Project Works s (Component-4: Marketing)
- Attachment GL3.2.1d Category and District of the Project Works (Component-5: Gender)
- Attachment GL3.2.2a Activities and Work Volume/Frequency (Component-2: WUA)
- Attachment GL3.2.2b Activities and Work Volume/Frequency (Component-3: Agriculture)
- Attachment GL3.2.2c Activities and Work Volume/Frequency (Component-4: Marketing)
- Attachment GL3.2.2d Activities and Work Volume/Frequency (Component-5: Gender)

FORMATS:

- Format GL3.2.1a Category and District of the Project Works (Component-2: WUA)
- Format GL3.2.1b Category and District of the Project Works (Component-3: Agriculture)
- Format GL3.2.1c Category and District of the Project Works (Component-4: Marketing)

- Format GL3.2.1d Category and District of the Project Works (Component-5: Gender)
- Format GL3.2.2a Bill of Quantities (Component-2: WUA) at Sub-PMU Level
- Format GL 3.2.2b Bill of Quantities (Component-3: Agriculture) at Sub-PMU Level
- Format GL 3.2.2c Bill of Quantities (Component-4: Marketing) at Sub-PMU Level
- Format GL 3.2.2d Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-PMU Level
- Format GL 3.2.3a Unit Price Calculation (Component-2: WUA)
- Format GL 3.2.3b Unit Price Calculation (Component-3: Agriculture)
- Format GL 3.2.3c Unit Price Calculation (Component-4: Marketing)
- Format GL 3.2.3d Unit Price Calculation (Component-5: Gender Mainstreaming)
- Format GL 3.2.4a Detailed Activity Sheets (Component-2: WUA)
- Format GL 3.2.4b Detailed Activity Sheets (Component-3: Agriculture)
- Format GL 3.2.4c Detailed Activity Sheets (Component-4: Marketing)
- Format GL 3.2.4d Detailed Activity Sheets (Component-5: Gender Mainstreaming)
- Format GL 3.3.1 Sample of Detailed Activity Plan for Each Sub-Project

Attachment GL3.2.1a Category and District of the Project Works (Component-2: WUA)

Items	No.	Sub-PMU	Jaipur														Kota										North-1		North-2	
			District														Udaipur/Jodhpur													
			Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kola	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasamand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	
1. Establishment of WUA Support Mechanism	1) Development of project materials																													
	(a) Training materials	1.Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	(b) Leaflet on the project concept and activities	1.Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	2) Orientation and trainings in different level																													
	(a) TOT for TSG-SP members and NGO staff	1.Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	(b) Training for Community Motivator	2.Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	3) Project management activities																													
	(a) Planning workshop in Sub project	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	(b) Monthly Sub-PMU meeting	2.Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	(c) Monthly TSG-SP meeting	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	(d) Monitoring of the activity progress	1.Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
	2. Capacity Building of WUA Management	1) Formation of WUA																												
(a) 1st stage																														
1) Preparation for water users' meeting		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
2) Water users' meeting for Pre-WUA formation and to form Pre-WUA		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
3) Support to participate in walk-through survey (same as 3) - (a))		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
4) Conduct same activities under (b)		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(b) 2nd and 3rd stage																														
1) Orientation for villagers in Sub project area		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
2) General meeting of water users in WUA area		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
3) Orientation for Territorial Constituency		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
4) Election of President and managing Committee members of WUA		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
2) Capacity building activities																														
(a) Training for MC members on water management in Sub-PMU		2.Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(b) Orientation for WUA members organization management		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(c) Training for accountant of WUA on record keeping		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(d) MC monthly meeting cum training		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(e) Territorial constituency monthly meeting cum training		3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(f) Annual MCs' meeting in Sub-PMU		2.Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
(g) Stage wise WUA review meeting in IMTI	1.Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
(h) Follow-up training for MC members on water management in IMTI	2.Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
3) WUA management																														
(a) Support MC members to participate in walk-through survey	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
(b) Support to conduct general meeting of WUA	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
3. Strengthen linkage between farmers and Agriculture organization																														
	(a) Conduct monthly meeting	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o		

Improvement of Agriculture Linkage	1)	(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	2)	Conduct agricultural demonstration																												
		(a) Establish demonstration plot to promote seasonal technology	3.Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4. Corpus Fund for WUAs	1)	Providing corpus fund to WUAs	3.Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2)	Monitoring corpus fund management	3.Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Attachment GL3.2.1b Category and District of the Project Works (Component-3: Agriculture)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU	Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District	Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pralaggarh	Rajasmand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	
1 Training of Trainers for Agriculture	Category																											
1-1 State level workshop	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-2 Sub-PMU level workshop	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-3 General agriculture techniques in all area	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level	○	○	-	-	-	-	-	○	-	-	○	○	○	○	-	-	-	-	-	-	○	-	○	-	○	○	
1-5 Agriculture cultivation techniques on spices and medicinal plants (spices)	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	○	-	-	-	-	○	-	○	○	-	-
1-5 Agriculture cultivation techniques on spices and medicinal plants (medicinal plants)	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	○	○	-	-
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	-	○	-	○	-	-	-
1-8 Quality improvement of crops	2.Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	-	○	-	○	-	○	○
2 Exposure Visit for Agriculture Trainers																												
2-1 Exposure visit to advanced state	2.Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	-	○	-	○	-	○	○
3 Improvement of Agriculture Support System																												
3-1 Farmers' friendly manuals	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3-2 Strengthen of information center	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4 Agriculture Farmers' Training																												
4-1 General agriculture techniques in all area	3.Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level	○	○	-	-	-	-	-	○	-	-	○	○	○	○	-	-	-	-	-	-	-	○	-	○	-	○	○
4-3 Agriculture cultivation techniques on spices and medicinal plants (spice)	3.Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	○	-	-	-	-	○	-	○	○	-	-
4-4 Agriculture cultivation techniques on spices and medicinal plants (medicinal plants)	3.Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	○	○	-	-
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	-	○	-	○	-	-	-
4-6 Quality improvement of crops	3.Sub-PJT Level	○	○	-	-	-	-	-	-	-	-	○	○	○	○	-	-	○	-	-	-	-	○	-	○	-	○	○
4-7 Marketing survey to advanced area	3.Sub-PJT Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	-	○	-	○	-	○	○
5 Agriculture Demonstration Farm																												
5-1 Establishment of orange demonstration farm	1.Project Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
5-2 Establishment of exotic vegetable demonstration farm	1.Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	-	○	-	○	-	-	-
5-3 Mentoring of demonstration farm																												
5-3a Orange demonstration farm	1.Project Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
5-3b Exotic vegetables demonstration farm	1.Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	-	○	-	○	-	-	-
5-4 Monitoring of demonstration farm																												
5-4a Orange demonstration farm	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	○	○
5-4b Exotic vegetables demonstration farm	1.Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	-	○	-	○	-	-	-

Attachment GL3.2.1c Category and District of the Project Works (Component-4: Marketing)

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU		Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District		Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawal Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhikara	Chittorgarh	Dungarpur	Pratapgarh	Rajasamand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	Whole state
1	FIG formulation for cooperative activities	Category																											
1-1	Training of trainees (TOT) for FIG activities	1 Project Level																											
1-2	Support for Cooperative demonstration groups	2 Sub-PMU Level																											
	a Selection of Cooperative demonstration groups	2 Sub-PMU Level																											
	b Guidance for demonstration group activities	2 Sub-PMU Level																											
	c Accessing loan	2 Sub-PMU Level																											
	d Group procurement of agricultural inputs	2 Sub-PMU Level																											
	e Repairing/maintenance of common farm properties	2 Sub-PMU Level																											
	f Collective marketing	2 Sub-PMU Level																											
	g Review and planning for coming seasons	2 Sub-PMU Level																											
	h Experience sharing with potential FIGs	2 Sub-PMU Level																											
1-3	FIG formulation and activities in other sites	3 Sub-Project Level																											
	a Request for FIG formulation	2 Sub-PMU Level																											
	b Guidance for group activities	2 Sub-PMU Level																											
	c Exposure visit to cooperative demonstration groups	3 Sub-Project Level																											
	d Accessing loan	3 Sub-Project Level																											
	e Group procurement	3 Sub-Project Level																											
	f Repairing/maintenance of common farm properties	3 Sub-Project Level																											
	g Collective marketing	3 Sub-Project Level																											
1-4	FIG formulation and activities in other sites (AFP/MFP)	2 Sub-PMU Level																											
1-5	Guidance for FPO formulation	2 Sub-PMU Level																											
2	Connecting with large-size consumers (Matching meeting)	1 Project Level																											
2-1	Training of trainers (TOT) for Matching meetings	2 Sub-PMU Level																											
2-2	Information exchange between FIGs and processors	2 Sub-PMU Level																											
2-3	Information analysis	2 Sub-PMU Level																											
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											
2-4	Matching meeting (1st)	2 Sub-PMU Level																											
2-5	Review & Improvement	2 Sub-PMU Level																											
2-6	Matching meeting (2nd)	2 Sub-PMU Level																											
2-7	Gap filling training for postharvest quality	2 Sub-PMU Level																											
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											
3	Connecting with large-size consumers (exotic vegetables)	1 Project Level																											
3-1	Training of trainers (TOT) for supporting exotic vegetables sales	2 Sub-PMU Level																											
3-2	Demonstration	2 Sub-PMU Level																											
	a/b Sales to Market / Door-to-door sales to hotels/restaurants	2 Sub-PMU Level																											
	Fixed expenditure for one season (for 5 months)	2 Sub-PMU Level																											
	Other cost for sales	2 Sub-PMU Level																											
3-3	Extension to farmers	2 Sub-PMU Level																											
	a/b Sales to Market / Door-to-door sales to hotels/restaurants	2 Sub-PMU Level																											
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											

Attachment GL3.2.1c Category and District of the Project Works (Component-4: Marketing)

No.	Sub-PMU	Activities / District	Districts																											Whole State	
			Jaipur											Kota					Udaipur/Jodhpur										North-1		North-2
			Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasmand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh		
4		Brand building for high-value agricultural produces																													
4.1.		Coordination																													
	a	Formulation of Brand building working group																													
	b	VC actors' evaluation forum																													
	c	Online questionnaire survey																													
	d	Preparation for leaflet																													
	e	Preparation for poster																													
	f	Preparation for logo sticker																													
		Designing																													
		Printing																													
4.2.		Experiment for quality improvement (TSS and quality control)																													
		Market-oriented experimental plots (vegetables)																													
	a	Establishment of experimental plots																													
	b	Operation of experimental plots																													
		Market-oriented experimental plots (kinnow)																													
	a	Establishment of experimental plots																													
	b	Operation of experimental plots																													
		Market-oriented experimental plots (Santra orange)																													
		Establishment of experimental plots																													
		Operation of experimental plots																													
4.3.		Sales promotion																													
	a	Tasting events (catering style) - vegetables and citrus																													
	b	Tasting events (catering style) - melon																													
	c	Tasting events (invitation style) - vegetables and citrus																													
	d	Tasting events (invitation style) - melon																													
	e	Sales visit with tasting samples - vegetables and citrus																													
		Sales visit with tasting samples - melon																													
	g	Delivery to customers (MOE plots: vegetables incl. melon)																													
	h	Delivery to customers (MOE plots: kinnow)																													
		Delivery to customers (MOE plots: santra orange)																													
4.4.		Application of experimental results to farmers																													
		Market-oriented experimental plots (vegetables)																													
		<u>Vegetables at Rabi season</u>																													
	a	TSS/nutrients improvement																													
		Training																													
	b/c	Quality control, packaging/sales																													
		Training																													
		Implementation																													
		<u>Melon at Zayed season</u>																													
	d	TSS/nutrients improvement																													
		Training																													
	e/f	Quality control, packaging/sales																													
		Training																													
		Implementation																													
		Market-oriented experimental plots (kinnow)																													
	g	TSS/nutrients improvement																													
		Training																													
	h/i	Quality control, packaging/sales																													
		Training																													
		Implementation																													

Attachment GL3.2.1c Category and District of the Project Works (Component-4: Marketing)

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU		Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District		Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawal Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasamand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	Whole state
Market-oriented experimental plots (Santra orange)																													
j TSS/nutrients improvement																													
Training	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
k/i Quality control, packaging/sales																													
Training	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
Implementation	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
4-5. Antenna shops/corners	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Banner	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
a Establishment and operation of shops at airports/railway stations	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Airports	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Railway stations	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
b Operation of antenna corners at high-grade groceries	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-6. Farmers' fairs	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Banner	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
a Participation in State-level Farmers' fairs	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
b Participation in National-level Farmers' fairs	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-7. Multimedia advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
a TV commercial	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Designing	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
b Newspaper	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Designing	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
c Gourmet magazine	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Designing	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
d Public transportation	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Designing	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
e DoA/DoH's Website (designing)	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
Designing	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-8. Extension to outside the Project	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
a Workshop for government officials outside the Project	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○

Attachment GL3.2.1d Category and District of the Project Works (Component-5: Gender Mainstreaming)

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sub-PMU		Jaipur										Kota				
Activities / District		Almer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management	Category															
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act																
(a) Follow-up of Approval Process of Additional Clauses on PIM Act	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management																
(a) Preparation of Gender Session for Training on Water Management and WUA Management	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Developing Topics for Regular Awareness Program in WUAMC Meeting, TC Meeting and General Meeting	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Support to Coordinate between WUA and Women Wing	2 Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
3) Establishment of Gender Disaggregated Data Collection System																
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Establishment of Monitoring System on Gender Concerned Activities	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Analysing Collected Data and Compile in Annual Report	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(e) Conduct Stage-wise Assessment	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(f) Evaluation of the Impact and Result of RWSLIP	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
2. Enhancement of Women's Capability and Participation in WUA nt																
1) Formulation of WUA Women Wing																
(a) General Meeting for water users at same time of formation of WUA	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Orientation for Territorial Constituency at same time of formation of WUA	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Formulation of Woman Wing per WUA	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Orientation on WW activities	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
2) Facilitating to Introduce the Women Friendly Activities																
(a) Facilitating to Discuss and Finalize Women Friendly Activities	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support Women Wing to plan and implement Women Friendly Facilities	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Support Women Wing to plan and implement Women Friendly Trees	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
3) Encouraging Women to Participate in WUA Activities																
(a) Support WW Members to Participate and Report in WUAMC Monthly Meeting	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support WW Members to Participate and Report in WUAMC Monthly Meeting	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Support to WW Members to Participate in WUA Fund Management	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(e) Support WW members to participate in weekly progress meeting in monthly basis	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(f) Support WW members to participate in WUA general meeting	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4) Providing Trainings and Exposure Activities on Water and Organizational Management																
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Fund Management Training (auditing) at Sub-PMU Level	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Exposure Visit (Sub-PMU wise)	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Annual WW's Review Meeting at Sub-PMU Level	2 Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(e) Annual WUAMCs Review Meeting at Sub-PMU Level	2 Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(f) Stage-wise WUA Review Meeting at State Level in IMT with WUA	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(g) Follow-up Training for Main Members on Water Management with WUA	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
3. Capacity Building on Agricultural Technologies through SHGs																
1) Selection of the Group																
(a) Developing work plan on the activity in SP level	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Collecting Proposal from Groups	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Selection of group	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(e) Conducting Orientation to Selected Groups	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
2) Strengthening Capacity on Group Management	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(a) Providing Training on Group Management	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support to Conduct Monthly Group Meeting	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
3) Strengthening Capacity on Agricultural Technique																
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	1 Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4) Monitoring and Mentoring the Groups for Sustainable Activities																
(a) Regular Monitoring and Provide Necessary Support to Groups	3 Sub-Project Level	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

Attachment GL3.2.1d Category and District of the Pr

No.	16	17	18	19	20	21	22	23	24	25	26	27
Sub-PMU	Udaipur/Jodhpur										North-1	North-2
Activities / District	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasmand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management												
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act												
(a) Follow-up of Approval Process of Additional Clauses on PIM Act	o	o	o	o	o	o	o	o	o	o	o	o
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	o	o	o	o	o	o	o	o	o	o	o	o
(c) Compiling and Submitting Further Suggestion on Concept to be included in PIM Act based on the Project's Result	o	o	o	o	o	o	o	o	o	o	o	o
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management												
(a) Preparation of Gender Session for Training on Water Management and WUA Management	o	o	o	o	o	o	o	o	o	o	o	o
(b) Providing Necessary Information in Orientation and ToT for Developing Gender's Action Plan in WUA	o	o	o	o	o	o	o	o	o	o	o	o
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting	o	o	o	o	o	o	o	o	o	o	o	o
(d) Support to Coordinate between WUA and Women Wing	o	o	o	o	o	o	o	o	o	o	o	o
3) Establishment of Gender Disaggregated Data Collection System												
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	o	o	o	o	o	o	o	o	o	o	o	o
(b) Establishment of Monitoring System on Gender Concerned Activities	o	o	o	o	o	o	o	o	o	o	o	o
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	o	o	o	o	o	o	o	o	o	o	o	o
(d) Analysing Collected Data and Compile in Annual Report	o	o	o	o	o	o	o	o	o	o	o	o
(e) Conduct Stage-wise Assessment	o	o	o	o	o	o	o	o	o	o	o	o
(f) Evaluation of the Impact and Result of RWSLIP	o	o	o	o	o	o	o	o	o	o	o	o
2. Enhancement of Women's Capability and Participation in WUA nt												
1) Formulation of WUA Women Wing												
(a) General Meeting for water users at same time of formation of WUA	o	o	o	o	o	o	o	o	o	o	o	o
(b) Orientation for Territorial Constituency at same time of formation of WUA	o	o	o	o	o	o	o	o	o	o	o	o
(c) Formulation of Woman Wing per WUA	o	o	o	o	o	o	o	o	o	o	o	o
(d) Orientation on WW activities	o	o	o	o	o	o	o	o	o	o	o	o
2) Facilitating to Introduce the Women Friendly Activities												
(a) Facilitating to Discuss and Finalize Women Friendly Activities	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support Women Wing to plan and implement Women Friendly Facilities	o	o	o	o	o	o	o	o	o	o	o	o
(c) Support Women Wing to plan and implement Women Friendly Trees	o	o	o	o	o	o	o	o	o	o	o	o
3) Encouraging Women to Participate in WUA Activities												
(a) Support WW Members to Participate and Report in WUA/MC Monthly Meeting	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support WW Members to Participate and Report in WUA/MC Monthly Meeting	o	o	o	o	o	o	o	o	o	o	o	o
(c) Support to WW Members to Participate in WUA Fund Management	o	o	o	o	o	o	o	o	o	o	o	o
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	o	o	o	o	o	o	o	o	o	o	o	o
(e) Support WW members to participate in weekly progress meeting in monthly basis	o	o	o	o	o	o	o	o	o	o	o	o
(f) Support WW members to participate in WUA general meeting	o	o	o	o	o	o	o	o	o	o	o	o
4) Providing Trainings and Exposure Activities on Water and Organizational Management												
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	o	o	o	o	o	o	o	o	o	o	o	o
(b) Fund Management Training (auditing) at Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o
(c) Exposure Visit (Sub-PMU wise)	o	o	o	o	o	o	o	o	o	o	o	o
(d) Annual WW's Review Meeting at Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level	o	o	o	o	o	o	o	o	o	o	o	o
(f) Stage-wise WUA Review Meeting at State Level in IMT with WUA	o	o	o	o	o	o	o	o	o	o	o	o
(g) Follow-up Training for Main Members on Water Management with WUA	o	o	o	o	o	o	o	o	o	o	o	o
3. Capacity Building on Agricultural Technologies through SHGs												
1) Selection of the Group												
(a) Developing work plan on the activity in SP level	o	o	o	o	o	o	o	o	o	o	o	o
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	o	o	o	o	o	o	o	o	o	o	o	o
(c) Collecting Proposal from Groups	o	o	o	o	o	o	o	o	o	o	o	o
(d) Selection of group	o	o	o	o	o	o	o	o	o	o	o	o
(e) Conducting Orientation to Selected Groups	o	o	o	o	o	o	o	o	o	o	o	o
2) Strengthening Capacity on Group Management												
(a) Providing Training on Group Management	o	o	o	o	o	o	o	o	o	o	o	o
(b) Support to Conduct Monthly Group Meeting	o	o	o	o	o	o	o	o	o	o	o	o
3) Strengthening Capacity on Agricultural Technique												
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators	o	o	o	o	o	o	o	o	o	o	o	o
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	o	o	o	o	o	o	o	o	o	o	o	o
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies	o	o	o	o	o	o	o	o	o	o	o	o
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	o	o	o	o	o	o	o	o	o	o	o	o
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	o	o	o	o	o	o	o	o	o	o	o	o
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	o	o	o	o	o	o	o	o	o	o	o	o
4) Monitoring and Mentoring the Groups for Sustainable Activities												
(a) Regular Monitoring and Provide Necessary Support to Groups	o	o	o	o	o	o	o	o	o	o	o	o

Attachment GL3.2.2a Activities and Work Volume/Frequency (Component-2: WUA)

Items	Activities	Work Volume/ Frequency			Remarks	
		Level	Frequency	Unit		
1. Establishment of WUA Support Mechanism	1) Development of project materials					
	(a) Training materials	1.Project Level	1 time	/ Project	Total number = number of training participants (Consultant, PMU, Sub-PMU, TSG-SP, NGO (Management, Team Leader, Sector Expert, Community Motivator), 3 members from WUA and WW)	
	(b) Leaflet on the project concept and activities	1.Project Level	3 time	/ Project	stage wise, 100 copy each for Sub-PMU and WUA	
	2) Orientation and trainings in different level					
	(a) TOT for TSG-SP members and NGO staff	1.Project Level	?? times	/ sub-PMU	Frequency = (total no. of WUA in the sub-PMU) / 30 - 1 community motivator per WUA, - 1 training=30 community motivator	
	(b) Training for Community Motivator	2.Sub-PMU Level	?? times	/ sub-PMU	Frequency = (total no. of Community Motivator(=WUA) in the sub-PMU) / 30 - 1 community motivator per WUA, - 1 training=30 community motivator	
	3) Project management activities					
	(a) Planning workshop in Sub project	3.Sub-PJT Level	1 time	/ sub-project		
	(b) Monthly Sub-PMU meeting	2.Sub-PMU Level	72 time	/ sub-PMU	=6years x 12month x 1time/month	
	(c) Monthly TSG-SP meeting	3.Sub-PJT Level	72 time	/ sub-project	=6years x 12month x 1time/month	
	(d) Monitoring of the activity progress	1.Project Level	1 time	/ Project	including field activities: WUA meeting, demo plot	
	2. Capacity Building of WUA Management	1) Formation of WUA				
		(a) 1st stage				
1) Preparation for water users' meeting		3.Sub-PJT Level	1	/ WUA		
2) Water uses' meeting for Pre-WUA formation and to form Pre-WUA		3.Sub-PJT Level	1	/ WUA		
3) Support to participate in walk-through survey (same as 3) - (a))		3.Sub-PJT Level	1	/ WUA		
4) Conduct same activities under (b)		3.Sub-PJT Level				
(b) 1st, 2nd and 3rd stage						
1) Orientation for villagers in Sub project area		3.Sub-PJT Level	1	/ sub-project		
2) General meeting of water users in WUA area		3.Sub-PJT Level	1	/ WUA		
3) Orientation for Territorial Constituency		3.Sub-PJT Level	1	/ Territorial Constituency		
4) Election of President and managing Committee members of WUA		3.Sub-PJT Level	1	/ WUA		
2) Capacity building activities						
(a) Training for MC members on water management in Sub-PMU		2.Sub-PMU Level	?? times	/ sub-PMU	Frequency = (total no. of WUA in the sub-PMU) x 3 person / 30 - 3 participants per WUA, - 1 training=30 participants	
(b) Orientation for WUA members organization		3.Sub-PJT Level	1 time	/ WUA		
(c) Training for accountant of WUA on record keeping		3.Sub-PJT Level	1 time	/ WUA		
(d) MC monthly meeting cum training		3.Sub-PJT Level	36 time	/ WUA	=3 year x 12 month x 1 time/month each stage: 3 years	
(e) Territorial constituency monthly meeting cum training		3.Sub-PJT Level	36 time	/ Territorial Constituency	=3 year x 12 month x 1 time/month each stage: 3 years	
(f) Annual MCs' meeting in Sub-PMU		2.Sub-PMU Level	6 time		2 times per stage x 3 stage	
(g) Stage-wise WUA review meeting in IMTI		1.Project Level	3 time	/ Project	1 time x 3 stage	
(h) Follow-up training for MC members on water management in IMTI		2.Sub-PMU Level	?? times	/ sub-PMU	Frequency = (total no. of WUA in the sub-PMU) x 3 person / 48 - 3 participants per WUA, - 1 training=48 participants	
3) WUA management						
(a) Support MC members to participate in walk-through	3.Sub-PJT Level	1 time	/ WUA	once in the sub-project		
(b) Support to conduct general meeting of WUA	3.Sub-PJT Level	6 time	/ WUA	=3 years/stage x 2 times/year		
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level	24 time	/ WUA	= 2 years/cinstruction x 12 month x 1 time/month		
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture					
	(a) Conduct monthly meeting	3.Sub-PJT Level	36 time	/ WUA	= 3years/stage x 12 month x 1 time/month	
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level	36 time	/ WUA	= 3years/stage x 12 month x 1 time/month	
	(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level	72 time	/ sub-PMU	= 6 years x 12 month x 1 time/month	
	2) Conduct agricultural demonstration					
(a) Establish demonstration plot to promote seasonal	3.Sub-PJT Level	15 time	/ sub-project	= 5 time/stage x 3 stage		
(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level	15 time	/ sub-project	= 5 time/stage x 3 stage		
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3.Sub-PJT Level	1 time	/ WUA		
	2) Monitoring corpus fund management	3.Sub-PJT Level	6 time	/ WUA	= 6 month x 1 time/month	

Attachment GL3.2.2b Activities and Work Volume/Frequency (Component-3: Agriculture)

Activities	Work Volume/ Frequency			Remarks
	Level	Frequency	Unit	
1 Training of Trainers for Agriculture				
1-1 State level workshop	1.Project Level	5 training	/ Project	= 5 years x 1time/ year, 50 persons (PM consultant, Deputy director Of DoA/DoH,DoA/DoH higher officers, DPMU, 5 DSub-PMUs, Research officers, agronomists and lead NGO experts/PMU and 5 Sub-PMUs)
1-2 Sub-PMU level workshop	2.Sub-PMU Level	5 training	/ sub-PMU	= 5 years x 1time/ year, 50 persons (Consultant, PMU and Sub-PMU, DoA/DoH agriculture supervisors, NGO Sub-PMU, NGO agriculture experts)
1-3 General agriculture techniques in all area	2.Sub-PMU Level	3 training	/ sub-PMU	1 training / 1 stage, Participants (1 NGO-agri-expert/Sub-PMU, 1 each from DoA and DoH staffs/Sub-project, 1 each from community motivator/WUA), if the number exceeds 30 perons, add another class.
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level	3 training	/ sub-PMU	ditto
1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level	3 training	/ sub-PMU	ditto
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level	3 training	/ sub-PMU	dittp
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level	3 training	/ sub-PMU	ditto
1-8 Qulity improvement of crops	2.Sub-PMU Level	3 training	/ sub-PMU	ditto
2 Exposure Visit for Agriculture Trainers				
2-1 Exposure visit to advanced state	2.Sub-PMU Level	3 time	/ sub-PMU	1 time/stage x 3 stages, 1 NGO-agri expert/Sub-PMU, 1 each from DoA and DoH staffs/Sub-PMU, 1 each from community motivator/WUA
3 Improvement of Agriculture Support System				
3-1 Farmers' friendly manuals	1.Project Level	1 time	/ Project	1 team leader from extension staffs, 10 other working group members from field level officers of DoA and DoH Starting one year in advance since the farmers friendly manual will be used for farmers' training
3-2 Strengthen of information center	1.Project Level	1 time	/ Project	1 team leader from DoA, 10 other members from DoA and DoH officers, field level officers and NGO agriculture experts Starting half year in advance since it will take time to collect data (farmer's name and mobile number) and process and compile those information for SMS service
4 Agriculture Farmers' Training				
4-1 General agriculture techniques in all area except Kota sub-PMU	3.Sub-PJT Level	1 training	/ sub-project	1 training/stage, 1-2WUA:1 training, 3-5 WUA:2 trainings, 6-8 WUA: 3 trainings, over 9 WUA: 4 trainings/Sub-project, 40 persons
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level	1 training	/ sub-project	ditto
4-3 Agriculture cultivation techniques on spices and medicinal plants	3.Sub-PJT Level	1 training	/ sub-project	ditto
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level	1 training	/ sub-project	1 training/stage, 1-2WUA:1 training, 3-5 WUA:2 trainings, 6-8 WUA: 3 trainings, over 9 WUA: 4 trainings/Sub-project, 30 persons at KVK
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level	1 training	/ sub-project	ditto
4-6 Quality improvement of crops	3.Sub-PJT Level	1 training	/ sub-project	1 training/stage, 1-2WUA:1 training, 3-5 WUA:2 trainings, 6-8 WUA: 3 trainings, over 9 WUA: 4 trainings/Sub-project, 30 persons
4-7 Marketing survey to advanced area	3.Sub-PJT Level	1 training	/ sub-project	ditto
5 Agriculture Demonstration Farm				
5-1 Establishment of orange demonstration farm	1.Project Level	4 demo farms	/ Project	= 4 demo farms = 2 for kinnow & 2 for santra
5-2 Establishment of exotic vegetable demonstration farm	1.Project Level	7 demo farms	/ Project	= 7 demo farms, 1 farm / tourist place
5-3 Mentoring of demonstration farm				
5-3a Orange demonstration farm	1.Project Level	4 demo farms	/ Project	= 4 demo farm = 2 for kinnow & 2 for santra
5-3b Exotic vegetables demonstration farm	1.Project Level	7 demo farms	/ Project	= 7 demo farm, 1 farm / tourist place
5-4 Monitoring of demonstration farm				
5-4a Orange demonstration farm	1.Project Level	4 demo farms	/ Project	= 4 demo farms = 2 for kinnow & 2 for santra
5-4b Exotic vegetables demonstration farm	1.Project Level	7 demo farms	/ Project	= 7 demo farms, 1 farm / tourist place

Attachment GL3.2.2c Activities and Work Volume/Frequency (Component-4: Marketing)

Activities	Planned by	Work Volume/ Frequency		Remarks
		Frequency	Unit	
1 FIG formulation for cooperative activities				
1-1. Training of trainers (ToT) for FIG activities	1.Project Level	3 times	/ Project	3 times/Project = Once/Stage x 3 Stages/Project
1-2. Support for Cooperative demonstration groups				5 CDGs/Project =1CDG/Sub-PMU x 5 Sub-PMUs
a Selection of Cooperative demonstration groups	2.Sub-PMU Level	1 time	/Sub-PMU	10-20 members/CDG
b Guidance for demonstration group activities	2.Sub-PMU Level	1 time	/ Sub-PMU	ditto
c Accessing loan	2.Sub-PMU Level	2 sets	/Sub-PMU	ditto
d Group procurement of agricultural inputs	2.Sub-PMU Level	3 sets	/Sub-PMU	ditto
e Repairing/maintenance of common farm properties	2.Sub-PMU Level	2 sets	/ Sub-PMU	ditto
f Collective marketing	2.Sub-PMU Level	3 sets	/Sub-PMU	ditto
g Review and planning for coming seasons	2.Sub-PMU Level	4 times	/Sub-PMU	ditto
h Experience sharing with potential FIGs	2.Sub-PMU Level	5-10 times	/ Sub-PMU	* 3 CDG members/time * 5-10 times/Sub-PMU (5 times/other sites/Stage 1, 5 times/other sites/Stage 2, 5 times/AFP_MFP sites/Stage 2, 5 times/other sites/Stage 3, 5 times/AFP_MFP sites/Stage 3)
1-3. FIG formulation and activities in other sites				2 FIGs/ WUA, All WUAs/Project
a Request for FIG formulation	3.Sub-Project Level	1 time	/ WUA	through General meeting of WUA (for all WUAs)
b Guidance for group activities	2.Sub-PMU Level	1 time	/Sub-PMU	Average_20 FIG leaders/time
c Exposure visit to cooperative demonstration groups	2.Sub-PMU Level	1 time	/Sub-PMU	50 members from 25 FIGs/time
d Accessing loan	3.Sub-Project Level	1 set	/ FIG	10-20 members/FIG
e Group procurement	3.Sub-Project Level	1 set	/ FIG	ditto
f Repairing/maintenance of common farm properties	3.Sub-Project Level	1 set	/ FIG	ditto
g Collective marketing	3.Sub-Project Level	1 set	/ FIG	ditto
1-4. FIG formulation and activities in other sites (AFP/MFP sites)	2.Sub-PMU Level	1 set	/ FIG	ditto (only selected no. of FIGs at AFP/MFP sites)
1-5. Guidance for FPO formulation	2.Sub-PMU Level	1 time	/Sub-PMU	average 30 FIG leaders/time
2 Connecting with large-size consumers (Matching meeting)				
2-1. Training of trainers (ToT) for Matching meetings	1.Project Level	3 times	/ Project	Once/Stage, 3 training/Project = 1 training/Stage x 3 Stages/Project
2-2. Information exchange between FIGs and processors	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
2-3. Information analysis				
Training	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
2-4. Matching meeting (1st)	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
2-5. Review & improvement	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
2-6. Matching meeting (2nd)	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
2-7. Gap filling training for postharvest quality				
Training	2.Sub-PMU Level	2-5 times	/ Food park	average 18 FIGs (min. 4 FIGs - max. 24 FIGs) / Food park
Implementation	2.Sub-PMU Level	1 set	/ FIG	
3 Connecting with large-size consumers (exotic vegetables)				
3-1. Training of trainers (TOT) for supporting exotic vegetables sales	1.Project Level	3 times	/ Project	3 times/Project = Once/Stage x 3 Stages/Project
3-2. Demonstration				
a/t: Sales to Market / Door-to-door sales to hotels/restaurants				
Fixed expenditure for one season (5 months/season)	2.Sub-PMU Level	1-4 place_season	/Sub-PMU	7 agriculture demonstration farms (4 in Jaipur Sub-PMU, 2 in Udaipur Sub-PMU, 1 in Jodhpur Sub-PMU)
Other cost for sales	2.Sub-PMU Level	15-60 place_month	/Sub-PMU	7 agriculture demonstration farms (4 in Jaipur Sub-PMU, 2 in Udaipur Sub-PMU, 1 in Jodhpur Sub-PMU) x 5 months x 3 years
3-3. Extension to farmers				40% of trainees who received training for exotic vegetable production at Agriculture component
a/t: Sales to Market / Door-to-door sales to hotels/restaurants				
Training	2.Sub-PMU Level	15 times	/ Project	30 farmers/time (7times@Stage1, 4times@Stage2, 4times@Stage3)
Implementation	2.Sub-PMU Level	27 sets	/ Project	15 farmers/set (14sets@Stage1, 7sets@Stage2, 6sets@Stage3)
4 Brand building for high-value agricultural produces				
4-1. Coordination				
a Formulation of Brand building working group	1.Project Level	1 group	/ Project	
b VC actors' evaluation forum	1.Project Level	5 times	/ Project	
c Online questionnaire survey	1.Project Level	5 times	/ Project	
d Preparation for leaflet	1.Project Level	5 sets	/ Project	
e Preparation for poster	1.Project Level	4 sets	/ Project	
f Preparation for logo sticker				
Designing	1.Project Level	1 time	/ Project	
Printing	1.Project Level	6 sets	/ Project	
4-2. Experiment for quality improvement (TSS and quality control)				
Market-oriented experimental plots (vegetables)				
a Establishment of experimental plots	1.Project Level	3 places	/ Project	3 experimental plots in/near Jaipur district
b Operation of experimental plots	1.Project Level	9 place_year	/ Project	3 experimental plots (MOE plots)
Market-oriented experimental plots (kinnow)				
c Establishment of experimental plots	1.Project Level	3 places	/ Project	3 experimental plots in Ganganagar district
d Operation of experimental plots	1.Project Level	9 place_year	/ Project	3 experimental plots (MOE plots)
Market-oriented experimental plots (Santra orange)				
e Establishment of experimental plots	1.Project Level	3 places	/ Project	3 experimental plots in Jhalawar or Kota district
f Operation of experimental plots	1.Project Level	9 place_year	/ Project	3 experimental plots (MOE plots)
4-3. Sales promotion				
a Tasting events (catering style) - vegetables and citrus	1.Project Level	92 times	/ Project	
b Tasting events (catering style) - melon	1.Project Level	32 times	/ Project	

Activities	Planned by	Work Volume/ Frequency		Remarks
		Frequency	Unit	
c Tasting events (invitation style) - vegetables and citrus	1.Project Level	42 times	/ Project	
d Tasting events (invitation style) - melon	1.Project Level	12 times	/ Project	
e Sales visit with tasting samples - vegetables and citrus	1.Project Level	112 sets	/ Project	1 set = 10-20 places/week
f Sales visit with tasting samples - melon	1.Project Level	32 sets	/ Project	1 set = 10-20 places/week
g Delivery to customers (MOE plots: vegetables incl. melon)	1.Project Level	63 place_month	/ Project	3 expelmental plots (MOE plots) x 21 months
h Delivery to customers (MOE plots: kinnow)	1.Project Level	45 place_month	/ Project	3 expelmental plots (MOE plots) x 15 months
i Delivery to customers (MOE plots: santra orange)	1.Project Level	27 place_month	/ Project	3 expelmental plots (MOE plots) x 9 months
4-4. Application of experimental results to farmers				
Market-oriented experimental plots (vegetables)				
<u>Vegetables at Rabi season</u>				
a TSS/nutrients improvement				
Training	2.Sub-PMU Level	8 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 2times@Stage2 farmers, 2times@Stage3 farmers)
b/c Quality control, packaging/sales				
Training	2.Sub-PMU Level	8 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 2times@Stage2 farmers, 2times@Stage3 farmers)
Implementation	2.Sub-PMU Level	11 sets	/ Project	15 farmers/set (7sets@Stage1farmers, 4sets@Stage2 farmers)
Implementation	2.Sub-PMU Level	48 sets	/ Project	15 farmers/set (48sets@Stage3 farmers)
<u>Melon at Zayed season</u>				
d TSS/nutrients improvement				
Training	2.Sub-PMU Level	8 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 2times@Stage2 farmers, 2times@Stage3 farmers)
e/f Quality control, packaging/sales				
Training	2.Sub-PMU Level	8 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 2times@Stage2 farmers, 2times@Stage3 farmers)
Implementation	2.Sub-PMU Level	160 sets	/ Project	1 farmer/set (104sets@Stage1, 56sets@Stage2)
Implementation	2.Sub-PMU Level	3 sets	/ Project	15 farmers/set (3sets@Stage3 farmers)
Market-oriented experimental plots (<i>kinnow</i>)				
g TSS/nutrients improvement				
Training	2.Sub-PMU Level	17 times	/ Project	30 farmers / time (8times@Stage 1 farmers, 4times@Stage2 farmers, 5times@Stage3 farmers)
h/i Quality control, packaging/sales				
Training	2.Sub-PMU Level	17 times	/ Project	30 farmers / time (8times@Stage 1 farmers, 4times@Stage2 farmers, 5times@Stage3 farmers)
Implementation	2.Sub-PMU Level	32 sets	/ Project	15 farmers/set (15sets@Stage1 farmers, 7sets@Stage2 farmers, 10sets@Stage3 farmers)
Market-oriented experimental plots (Santra orange)				
j TSS/nutrients improvement				
Training	2.Sub-PMU Level	12 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 5times@Stage2 farmers, 3times@Stage3 farmers)
k/l Quality control, packaging/sales				
Training	2.Sub-PMU Level	12 times	/ Project	30 farmers / time (4times@Stage 1 farmers, 5times@Stage2 farmers, 3times@Stage3 farmers)
Implementation	2.Sub-PMU Level	20 sets	/ Project	15 farmers/set (7sets@Stage1 farmers, 9sets@Stage2 farmers, 4sets@Stage3 farmers)
4-5. Antenna shops/corners				
Banner	1.Project Level	1 set	/ Project	
a Establishment and operation of shops at airports/railway stations				
Airports	1.Project Level	46 shop_month	/ Project	2 shops x 23 months
Railway stations	1.Project Level	66 shop_month	/ Project	3 shops x 22 months
b Operation of antenna corners at high-grade groceries	1.Project Level	66 shop_month	/ Project	3 shops x 22 months
4-6. Farmers' fairs				
Banner	1.Project Level	1 set	/ Project	
a Participation in State-level Farmers' fairs	1.Project Level	7 times	/ Project	
b Participation in National-level Farmers' fairs	1.Project Level	3 times	/ Project	
4-7. Multimedia advertising				
a TV commercial				
Designing	1.Project Level	1 time	/ Project	
Advertising	1.Project Level	9 months	/ Project	
b Newspaper				
Designing	1.Project Level	1 time	/ Project	
Advertising	1.Project Level	9 months	/ Project	
c Gourmet magazine				
Designing	1.Project Level	1 time	/ Project	
Advertising	1.Project Level	9 months	/ Project	
d Public transportation				
Designing	1.Project Level	1 time	/ Project	
Advertising	1.Project Level	9 months	/ Project	
e DoA/DoH's Website (designing)				
Designing	1.Project Level	1 time	/ Project	
4-8. Extension to outside the Project				
a Workshop for government officials outside the Project	1.Project Level	3 times	/ Project	

Attachment GL3.2.2d Activities and Work Volume/Frequency (Component-5: Gender Mainstreaming)

Activities	Planned by	Work Volume/ Frequency		Remarks
		Frequency	Unit	
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management				
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act				
(a) Follow-up of Approval Process of Additional Clauses on PIM Act	1.Project Level	1 time	/ Project	
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	1.Project Level	1 time	/ Project	
(c) Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result	1.Project Level	1 time	/ Project	
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management				
(a) Preparation of Gender Session for Training on Water Management and WUA Management	1.Project Level	1 time	/ Project	
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	1.Project Level	1 time	/ Project	
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting	1.Project Level	1 time	/ Project	
(d) Support to Coordinate between WUA and Women Wing	2.Sub-PMU Level	1 time	/ sub-PMU	
3) Establishment of Gender Disaggregated Data Collection System				
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	1.Project Level	1 time	/ Project	
(b) Establishment of Monitoring System on Gender Concerned Activities	1.Project Level	1 time	/ Project	
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	1.Project Level	1 time	/ Project	
(d) Analysing Collected Data and Compile in Annual Report	1.Project Level	1 time	/ Project	
(e) Conduct Stage-wise Assessment	1.Project Level	1 time	/ Project	
(f) Evaluation of the Impact and Result of RWSLIP	1.Project Level	1 time	/ Project	
2. Enhancement of Women's Capability and Participation in WUA nt				1 WUA/ CCA 1,000ha
1) Formulation of WUA Women Wing				
(a) General Meeting for water users at same time of formation of WUA	3.Sub-Project Level	1 time	/ WUA	
(b) Orientation for Territorial Constituency at same time of formation of WUA	3.Sub-Project Level	1 time	/Territorial Constituency	Area of WUA=CCA (ha) / number of WUA Area of WUA 501 ha = 4 TCs Area of WUA < 1001 ha = 6 TCs
(c) Formulation of Woman Wing per WUA	3.Sub-Project Level	1 time	/ WUA	
(d) Orientation on WW activities	3.Sub-Project Level	1 time	/ WUA	Orientation per WW 12 members per orientation (2 members from each TCs (4 or 6, mostly 6))
2) Facilitating to Introduce the Women Friendly Activities				
(a) Facilitating to Discuss and Finalize Women Friendly Activities	3.Sub-Project Level	1 time	/ WUA	
(b) Support Women Wing to plan and implement Women Friendly Facilities	3.Sub-Project Level	24 time	/ WUA	monthly basis, construction period is 2 years 2 years x 12 months = 24 times
(c) Support Women Wing to plan and implement Women Friendly Trees	3.Sub-Project Level	24 time	/ WUA	monthly basis, construction period is 2 years 2 years x 12 months = 24 times
3) Encouraging Women to Participate in WUA Activities				
(a) Support WW Members to Conduct WW Monthly Meeting	3.Sub-Project Level	36 time	/ WUA	monthly basis, supporting period = 3 years (construction period 2years, follow-up 1 year) 3 years x 12 months =36 times
(b) Support WW Members to Participate and Report in WUA/MC Monthly Meeting	3.Sub-Project Level	36 time	/ WUA	monthly basis, supporting period = 3 years (construction period 2years, follow-up 1 year) 3 years x 12 months =36 times
(c) Support to WW Members to Participate in WUA Fund Management	3.Sub-Project Level	36 time	/ WUA	monthly basis, supporting period = 3 years (construction period 2years, follow-up 1 year) 3 years x 12 months =36 times
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	3.Sub-Project Level	36 time	/Territorial Constituency	monthly basis, supporting period = 3 years (construction period 2years, follow-up 1 year) 3 years x 12 months =36 times
(e) Support WW members to participate in weekly progress meeting in monthly basis	3.Sub-Project Level	24 time	/ WUA	monthly basis, construction period is 2 years 2 years x 12 months = 24 times
(f) Support WW members to participate in WUA general meeting	3.Sub-Project Level	6 time	/ WUA	half yearly, (2 times per year) x 3 years = 6 times
4) Providing Trainings and Exposure Activities on Water and Organizational Management				
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	1.Project Level	87 time	/ Project	under WUA component
(b) Fund Management Training (auditing) at Sub-PMU Level	1.Project Level	46 time	/ Project	"Frequency = (total no. of WW in the sub-PMU) x 3 person / 30 - 3 participants per WW, - 1 training=30 participants"
(c) Exposure Visit (Sub-PMU wise)	1.Project Level	46 time	/ Project	"Frequency = (total no. of WW in the sub-PMU) x 3 person / 30 - 3 participants per WW, - 1 training=30 participants"
(d) Annual WW's Review Meeting at Sub-PMU Level	2.Sub-PMU Level	6 time	/ sub-PMU	2 times per stage x 3 stage
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level	2.Sub-PMU Level	6 time	/ sub-PMU	under WUA component
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA	1.Project Level	3 time	/ Project	1 time per stage (baseline and evaluation)
(g) Follow-up Training for Main Members on Water Management with WUA	1.Project Level	56 time	/ Project	under WUA component

Activities	Planned by	Work Volume/ Frequency		Remarks
		Frequency	Unit	
3. Capacity Building on Agricultural Technologies through SHGs				4 SHGs/ sub-project, 2 for SHG-cash & 2 for SHG-nutrition
1) Selection of the Group				
(a) Developing work plan on the activity in SP level	3.Sub-Project Level	1 time	/sub-project	as TSG-SP team 7 staff per TSG-SP + 6 NGO staff (Team leader, Sector Expert, 4 Community Motivator) = 13
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	3.Sub-Project Level	1 time	/Territorial Constituency	
(c) Collecting Proposal from Groups	3.Sub-Project Level	1 time	/sub-project	
(d) Selection of group	3.Sub-Project Level	1 time	/sub-project	2 for SHG-cash & 2 for SHG-nutrition
(e) Conducting Orientation to Selected Groups	3.Sub-Project Level	4 SHGs	/sub-project	2 for SHG-cash & 2 for SHG-nutrition group basis, 20 members per group
2) Strengthening Capacity on Group Management	3.Sub-Project Level			
(a) Providing Training on Group Management	1.Project Level	39 time	/Project	"Frequency = (total no. of WW in the sub-PMU) x 3 person / 30 - 3 participants per WW, - 1 training=30 participants"
(b) Support to Conduct Monthly Group Meeting	3.Sub-Project Level	96 time	/sub-project	2 for SHG-cash & 2 for SHG-nutrition
3) Strengthening Capacity on Agricultural Technique				
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators	1.Project Level	40 time	/Project	"Frequency = (total no. basic veg group of in the sub-PMU) x 3 person / 40 - 3 staff per group, - 1 training=40 participants - 20 times per season"
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	1.Project Level	40 time	/Project	"Frequency = (total no. nutritious veg group of in the sub-PMU) x 3 person / 40 - 3 staff per group, - 1 training=40 participants - 20 times per season"
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies	3.Sub-Project Level	4 time	/sub-project	2 groups x 2 seasons (Rabi and Kharif)
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3.Sub-Project Level	8 time	/sub-project	2 groups x 2 type x 2 seasons 2 type: cultivation and cooking 2 season: Rabi and Kharif
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3.Sub-Project Level	4 time	/sub-project	2 groups x 2 seasons (Rabi and Kharif)
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3.Sub-Project Level	4 time	/sub-project	2 groups x 2 seasons (Rabi and Kharif)
4) Monitoring and Mentoring the Groups for Sustainable Activities				
(a) Regular Monitoring and Provide Necessary Support to Groups	3.Sub-Project Level	192 time	/sub-project	every 2 weeks (twice in a month) x 24 months x 4
4. Innovation fund				
1) Innovation fund	1.Project Level	1 time	/Project	

Format GL3.2.1a Category and District of the Project Works (Component-2: WUA)

No.	Sub-PMU	District	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
			Jaipur											Kota				Udaipur/Jodhpur											North-1	North-2
			Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalavar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasamand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	
Number of Sub-Project																														
Items	Activities	Category																												
1. Establishment of WUA Support Mechanism	1) Development of project materials																													
	(a) Training materials	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(b) Levelled on the project concept and activities	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2) Orientation and trainings in different level																													
	(a) TOT for TSG-SP members and NGO staff	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(b) Training for Community Motivator	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	3) Project management activities																													
	(a) Planning workshop in Sub project	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(b) Monthly Sub-PMU meeting	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(c) Monthly TSG-SP meeting	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Monitoring of the activity progress	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
2. Capacity Building of WUA Management	1) Formation of WUA																													
	(a) 1st stage																													
	1) Preparation for water users' meeting	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	2) Water users' meeting for Pre-WUA formation and to form Pre-WUA	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	3) Support to participate in walk-through survey (same as 3) - (a))	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	4) Conduct same activities under (b)	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	(b) 2nd and 3rd stage																													
	1) Orientation for villagers in Sub project area	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2) General meeting of water users in WUA area	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	3) Orientation for Territorial Constituency	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	4) Election of President and managing Committee members of WUA	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	2) Capacity building activities																													
	(a) Training for MC members on water management in Sub-PMU	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(b) Orientation for WUA members organization management	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(c) Training for accountant of WUA on record keeping	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(d) MC monthly meeting cum training	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(e) Territorial constituency monthly meeting cum training	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(f) Annual MCs' meeting in Sub-PMU	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(g) Stages wise WUA review meeting in IMT	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	(h) Follow-up training for MC members on water management in IMT	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3) WUA management																														
(a) Support MC members to participate in walk-through survey	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
(b) Support to conduct general meeting of WUA	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture organization																													
	(a) Conduct monthly meeting	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	(c) Coordinate with existing Farmers Organization	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	2) Conduct agricultural demonstration																													
(a) Establish demonstration plot to promote seasonal technology	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
(b) Conduct Farmers Field day in demonstration plot	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
	2) Monitoring corpus fund management	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

Format GL3.2.1b Category and District of the Project Works (Component-3: Agriculture)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU	Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District	Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajsamand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	
Number of Sub-Project																												
1 Training of Trainers for Agriculture	Category																											
1-1 State level workshop	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-2 Sub-PMU level workshop	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-3 General agriculture techniques in all area	2 Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2 Sub-PMU Level	○	○	-	-	-	-	-	○	-	-	○	○	○	-	-	-	-	-	-	-	○	-	○	-	○	○	
1-5 Agriculture cultivation techniques on spices and medicinal plants (spices)	2 Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	○	-	-	-	○	-	○	○	-	-	
1-5 Agriculture cultivation techniques on spices and medicinal plants (medicinal plants)	2 Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	○	○	-	-	
1-6 Agriculture cultivation techniques on kinnow and santra orange	2 Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	○	○	
1-7 Agriculture cultivation techniques on exotic vegetables	2 Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	○	-	○	-	-	-	
1-8 Quality improvement of crops	2 Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	○	-	○	-	○	○	
2 Exposure Visit for Agriculture Trainers	Category																											
2-1 Exposure visit to advanced state	2 Sub-PMU Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	○	-	○	-	○	○	
3 Improvement of Agriculture Support System	Category																											
3-1 Farmers' friendly manuals	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3-2 Strengthen of information center	1 Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4 Agriculture Farmers' Training	Category																											
4-1 General agriculture techniques in all area	3 Sub-PJT Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3 Sub-PJT Level	○	○	-	-	-	-	-	○	-	-	○	○	○	○	-	-	-	-	-	-	○	-	○	-	○	○	
4-3 Agriculture cultivation techniques on spices and medicinal plants (spice)	3 Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	○	-	-	-	○	-	○	○	-	-	
4-3 Agriculture cultivation techniques on spices and medicinal plants (medicinal plants)	3 Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	○	○	-	-	
4-4 Agriculture cultivation techniques on kinnow and santra orange	3 Sub-PJT Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	○	○	
4-5 Agriculture cultivation techniques on exotic vegetables	3 Sub-PJT Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	○	-	○	-	-	-	
4-6 Quality improvement of crops	3 Sub-PJT Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	○	-	○	-	○	○	
4-7 Marketing survey to advanced area	3 Sub-PJT Level	○	○	-	-	-	-	-	○	-	○	○	○	○	○	-	-	○	-	-	-	○	-	○	-	○	○	
5 Agriculture Demonstration Farm	Category																											
5-1 Establishment of orange demonstration farm	1 Project Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
5-2 Establishment of exotic vegetable demonstration farm	1 Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	○	-	○	-	-	-	
5-3 Mentoring of demonstration farm	Category																											
5-3a Orange demonstration farm	1 Project Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
5-3b Exotic vegetables demonstration farm	1 Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	○	-	○	-	-	-	
5-4 Monitoring of demonstration farm	Category																											
5-4a Orange demonstration farm	1 Project Level	-	-	-	-	-	-	-	-	-	-	○	○	○	○	-	-	-	-	-	-	-	-	-	-	-	○	○
5-4b Exotic vegetables demonstration farm	1 Project Level	○	○	-	-	-	-	-	○	-	○	-	-	-	-	-	-	○	-	-	-	○	-	○	-	-	-	

Format GL3.2.1c Category and District of the Project Works (Component-4: Marketing)

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU		Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District		Ajmer	Awar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasmand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	Whole state
	Number of Sub-Project																												
1	FIG formulation for cooperative activities	Category																											
1-1.	Training of trainers (ToT) for FIG activities	1 Project Level																											
1-2.	Support for Cooperative demonstration groups																												
a	Selection of Cooperative demonstration groups	2 Sub-PMU Level																											
b	Guidance for demonstration group activities	2 Sub-PMU Level																											
c	Accessing loan	2 Sub-PMU Level																											
d	Group procurement of agricultural inputs	2 Sub-PMU Level																											
e	Repairing/maintenance of common farm properties	2 Sub-PMU Level																											
f	Collective marketing	2 Sub-PMU Level																											
g	Review and planning for coming seasons	2 Sub-PMU Level																											
h	Experience sharing with potential FIGs	2 Sub-PMU Level																											
1-3.	FIG formulation and activities in other sites																												
a	Request for FIG formulation	3 Sub-Project Level																											
b	Guidance for group activities	2 Sub-PMU Level																											
c	Exposure visit to cooperative demonstration groups	2 Sub-PMU Level																											
d	Accessing loan	3 Sub-Project Level																											
e	Group procurement	3 Sub-Project Level																											
f	Repairing/maintenance of common farm properties	3 Sub-Project Level																											
g	Collective marketing	3 Sub-Project Level																											
1-4.	FIG formulation and activities in other sites (AFP/MFP sites)	2 Sub-PMU Level																											
1-5.	Guidance for FPO formulation	2 Sub-PMU Level																											
2	Connecting with large-size consumers (Matching meeting)																												
2-1.	Training of trainers (ToT) for Matching meetings	1 Project Level																											
2-2.	Information exchange between FIGs and processors	2 Sub-PMU Level																											
2-3.	Information analysis																												
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											
2-4.	Matching meeting (1st)	2 Sub-PMU Level																											
2-5.	Review & Improvement	2 Sub-PMU Level																											
2-6.	Matching meeting (2nd)	2 Sub-PMU Level																											
2-7.	Gap filling training for postharvest quality																												
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											
3	Connecting with large-size consumers (exotic vegetables)																												
3-1.	Training of trainers (TOT) for supporting exotic vegetables sa	1 Project Level																											
3-2.	Demonstration																												
a/b	Sales to market / Door-to-door Sales to hotels/restaurants																												
	Fixed expenditure for one season (for 5 months)	2 Sub-PMU Level																											
	Other cost for sales	2 Sub-PMU Level																											
3-3.	Extension to farmers																												
a/b	Sales to market / Door-to-door Sales to hotels/restaurants																												
	Training	2 Sub-PMU Level																											
	Implementation	2 Sub-PMU Level																											

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Sub-PMU		Jaipur											Kota				Udaipur/Jodhpur										North-1	North-2	
Activities / District		Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasmand	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh	Whole state
Market-oriented experimental plots (Santra orange)																													
g TSS/nutrients improvement																													
Training	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
hi Quality control / Advanced packaging/sales																													
Training	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
Implementation	2.Sub-PMU Level	-	-	-	-	-	-	-	-	-	-	-	-	-	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-
4-5. Antenna shops/corners	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-6. Farmers' fairs	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-7. Multimedia advertising	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○
4-8. Extension to outside the Project	1.Project Level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	○

Format GL3.2.1d Category and District of the Project Works (Component-5: Gender Mainstreaming)

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Sub-PMU		Jaipur											Kota			
Activities / District		Almer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	Baran	Bundi	Jhalawar	Kota
Number of Sub-Project																
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management	Category															
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act																
(a) Follow-up of Approval Process of Additional Clauses on PIM Act	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management																
(a) Preparation of Gender Session for Training on Water Management and WUA Management	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Developing Topics for Regular Awareness Program in WUA/ MC Meeting, TC Meeting and General Meeting	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Support to Coordinate between WUA and Women Wing	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3) Establishment of Gender Disaggregated Data Collection System																
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Establishment of Monitoring System on Gender Concerned Activities	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Analysing Collected Data and Compile in Annual Report	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(e) Conduct Stage-wise Assessment	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(f) Evaluation of the Impact and Result of RWSLIP	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2. Enhancement of Women's Capability and Participation in WUA nt																
1) Formulation of WUA Women Wing																
(a) General Meeting for water users at same time of formation of WUA	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Orientation for Territorial Constituency at same time of formation of WUA	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Formulation of Woman Wing per WUA	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Orientation on WW activities	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2) Facilitating to Introduce the Women Friendly Activities																
(a) Facilitating to Discuss and Finalize Women Friendly Activities	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support Women Wing to plan and implement Women Friendly Facilities	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Support Women Wing to plan and implement Women Friendly Trees	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3) Encouraging Women to Participate in WUA Activities																
(a) Support WW Members to Participate and Report in WUA/MC Monthly Meeting	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support WW Members to Participate and Report in WUA/MC Monthly Meeting	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Support to WW Members to Participate in WUA Fund Management	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(e) Support WW members to participate in weekly progress meeting in monthly basis	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(f) Support WW members to participate in WUA general meeting	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4) Providing Trainings and Exposure Activities on Water and Organizational Management																
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Fund Management Training (auditing) at Sub-PMU Level	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Exposure Visit (Sub-PMU wise)	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Annual WW's Review Meeting at Sub-PMU Level	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level	2.Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(g) Follow-up Training for Main Members on Water Management with WUA	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3. Capacity Building on Agricultural Technologies through SHGs																
1) Selection of the Group																
(a) Developing work plan on the activity in SP level	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Collecting Proposal from Groups	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Selection of group	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(e) Conducting Orientation to Selected Groups	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2) Strengthening Capacity on Group Management	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(a) Providing Training on Group Management	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support to Conduct Monthly Group Meeting	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
3) Strengthening Capacity on Agricultural Technique																
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4) Monitoring and Mentoring the Groups for Sustainable Activities																
(a) Regular Monitoring and Provide Necessary Support to Groups	3.Sub-Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4. Innovation fund																
(i) Innovation fund	1.Project Level	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Format GL3.2.1d Category and District of the Project

No.	16	17	18	19	20	21	22	23	24	25	26	27
Sub-PMU	Udaipur/Jodhpur										North-1	North-2
Activities / District	Banswara	Bhilwara	Chittorgarh	Dungarpur	Pratapgarh	Rajasthan	Udaipur	Jalore	Pali	Sirohi	Ganganagar	Hanumangarh
Number of Sub-Project												
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management												
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act												
(a) Follow-up of Approval Process of Additional Clauses on PIM Act	○	○	○	○	○	○	○	○	○	○	○	○
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	○	○	○	○	○	○	○	○	○	○	○	○
(c) Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result	○	○	○	○	○	○	○	○	○	○	○	○
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management												
(a) Preparation of Gender Session for Training on Water Management and WUA Management	○	○	○	○	○	○	○	○	○	○	○	○
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	○	○	○	○	○	○	○	○	○	○	○	○
(c) Developing Topics for Regular Awareness Program in WUAMC Meeting, TC Meeting and General Meeting	○	○	○	○	○	○	○	○	○	○	○	○
(d) Support to Coordinate between WUA and Women Wing	○	○	○	○	○	○	○	○	○	○	○	○
3) Establishment of Gender Disaggregated Data Collection System												
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	○	○	○	○	○	○	○	○	○	○	○	○
(b) Establishment of Monitoring System on Gender Concerned Activities	○	○	○	○	○	○	○	○	○	○	○	○
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	○	○	○	○	○	○	○	○	○	○	○	○
(d) Analysing Collected Data and Compile in Annual Report	○	○	○	○	○	○	○	○	○	○	○	○
(e) Conduct Stage-wise Assessment	○	○	○	○	○	○	○	○	○	○	○	○
(f) Evaluation of the Impact and Result of RWSLIP	○	○	○	○	○	○	○	○	○	○	○	○
2. Enhancement of Women's Capability and Participation in WUA nt												
1) Formulation of WUA Women Wing												
(a) General Meeting for water users at same time of formation of WUA	○	○	○	○	○	○	○	○	○	○	○	○
(b) Orientation for Territorial Constituency at same time of formation of WUA	○	○	○	○	○	○	○	○	○	○	○	○
(c) Formulation of Woman Wing per WUA	○	○	○	○	○	○	○	○	○	○	○	○
(d) Orientation on WW activities	○	○	○	○	○	○	○	○	○	○	○	○
2) Facilitating to Introduce the Women Friendly Activities												
(a) Facilitating to Discuss and Finalize Women Friendly Activities	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support Women Wing to plan and implement Women Friendly Facilities	○	○	○	○	○	○	○	○	○	○	○	○
(c) Support Women Wing to plan and implement Women Friendly Trees	○	○	○	○	○	○	○	○	○	○	○	○
3) Encouraging Women to Participate in WUA Activities												
(a) Support WW Members to Participate and Report in WUAMC Monthly Meeting	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support WW Members to Participate and Report in WUAMC Monthly Meeting	○	○	○	○	○	○	○	○	○	○	○	○
(c) Support to WW Members to Participate in WUA Fund Management	○	○	○	○	○	○	○	○	○	○	○	○
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	○	○	○	○	○	○	○	○	○	○	○	○
(e) Support WW members to participate in weekly progress meeting in monthly basis	○	○	○	○	○	○	○	○	○	○	○	○
(f) Support WW members to participate in WUA general meeting	○	○	○	○	○	○	○	○	○	○	○	○
4) Providing Trainings and Exposure Activities on Water and Organizational Management												
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	○	○	○	○	○	○	○	○	○	○	○	○
(b) Fund Management Training (auditing) at Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○
(c) Exposure Visit (Sub-PMU wise)	○	○	○	○	○	○	○	○	○	○	○	○
(d) Annual WW's Review Meeting at Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○
(e) Annual WUAMCs Review Meeting at Sub-PMU Level	○	○	○	○	○	○	○	○	○	○	○	○
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA	○	○	○	○	○	○	○	○	○	○	○	○
(g) Follow-up Training for Main Members on Water Management with WUA	○	○	○	○	○	○	○	○	○	○	○	○
3. Capacity Building on Agricultural Technologies through SHGs												
1) Selection of the Group												
(a) Developing work plan on the activity in SP level	○	○	○	○	○	○	○	○	○	○	○	○
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	○	○	○	○	○	○	○	○	○	○	○	○
(c) Collecting Proposal from Groups	○	○	○	○	○	○	○	○	○	○	○	○
(d) Selection of group	○	○	○	○	○	○	○	○	○	○	○	○
(e) Conducting Orientation to Selected Groups	○	○	○	○	○	○	○	○	○	○	○	○
2) Strengthening Capacity on Group Management												
(a) Providing Training on Group Management	○	○	○	○	○	○	○	○	○	○	○	○
(b) Support to Conduct Monthly Group Meeting	○	○	○	○	○	○	○	○	○	○	○	○
3) Strengthening Capacity on Agricultural Technique												
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators	○	○	○	○	○	○	○	○	○	○	○	○
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	○	○	○	○	○	○	○	○	○	○	○	○
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies	○	○	○	○	○	○	○	○	○	○	○	○
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	○	○	○	○	○	○	○	○	○	○	○	○
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	○	○	○	○	○	○	○	○	○	○	○	○
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	○	○	○	○	○	○	○	○	○	○	○	○
4) Monitoring and Mentoring the Groups for Sustainable Activities												
(a) Regular Monitoring and Provide Necessary Support to Groups	○	○	○	○	○	○	○	○	○	○	○	○
4. Innovation fund												
(a) Innovation fund	-	-	-	-	-	-	-	-	-	-	-	-

Format GL3.2.2a Bill of Quantities (Component-2: WUA) at Sub-PMU Level

		Name of Sub-PMU					
			Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.
Items	Activities						
1. Establishment of WUA Support Mechanism	1)	Development of project materials					
		(a) Training materials	1.Project Level				
		(b) Leaflet on the project concept and activities	1.Project Level				
	2)	Orientation and trainings in different level					
		(a) TOT for TSG-SP members and NGO staff	1.Project Level				
		(b) Training for Community Motivator	2.Sub-PMU Level		time		A-1
	3)	Project management activities					
		(a) Planning workshop in Sub project	3.Sub-PJT Level				
		(b) Monthly Sub-PMU meeting	2.Sub-PMU Level		time		A-2
		(c) Monthly TSG-SP meeting	3.Sub-PJT Level				
	(d) Monitoring of the activity progress	1.Project Level					
2. Capacity Building of WUA Management	1)	Formation of WUA					
		(a) 1st stage					
		1) Preparation for water users' meeting	3.Sub-PJT Level				
		2) Water users' meeting for Pre-WUA formation and to form Pre-WUA	3.Sub-PJT Level				
		3) Support to participate in walk-through survey (same as 3) - (a))	3.Sub-PJT Level				
		4) Conduct same activities under (b)	3.Sub-PJT Level				
		(b) 2nd and 3rd stage					
		1) Orientation for villagers in Sub project area	3.Sub-PJT Level				
		2) General meeting of water users in WUA area	3.Sub-PJT Level				
		3) Orientation for Territorial Constituency	3.Sub-PJT Level				
		4) Election of President and managing Committee members of WUA	3.Sub-PJT Level				
		2) Capacity building activities					
		(a) Training for MC members on water management in Sub-PMU	2.Sub-PMU Level		time		A-3
		(b) Orientation for WUA members organization management	3.Sub-PJT Level				
		(c) Training for accountant of WUA on record keeping	3.Sub-PJT Level				
		(d) MC monthly meeting cum training	3.Sub-PJT Level				
		(e) Territorial constituency monthly meeting cum training	3.Sub-PJT Level				
	(f) Annual MCs' meeting in Sub-PMU	2.Sub-PMU Level		time		A-4	
	(g) Stage-wise WUA review meeting in IMTI	1.Project Level					
	(h) Follow-up training for MC members on water management in IMTI	2.Sub-PMU Level		time		A-5	
	3) WUA management						
	(a) Support MC members to participate in walk-through survey	3.Sub-PJT Level					
	(b) Support to conduct general meeting of WUA	3.Sub-PJT Level					
	(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level					
3. Improvement of Agriculture Linkage	1)	Strengthen linkage between farmers and Agriculture organization					
		(a) Conduct monthly meeting	3.Sub-PJT Level				
		(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level				
		(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level		time	no cost	no cost
	2)	Conduct agricultural demonstration					
		(a) Establish demonstration plat to promote seasonal technology	3.Sub-PJT Level				
	(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level					
4. Corpus Fund for WUAs	1)	Providing corpus fund to WUAs	3.Sub-PJT Level				
	2)	Monitoring corpus fund management	3.Sub-PJT Level				

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.2.2b Bill of Quantities (Component-3: Agriculture) at Sub-PMU Level

	Name of Sub-PMU					
		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.
Activities						
1 Training of Trainers for Agriculture						
1-1 State level workshop	1.Project Level					
1-2 Sub-PMU level workshop	2.Sub-PMU Level		trainings			B-1
1-3 General agriculture techniques in all area	2.Sub-PMU Level		trainings			B-2
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level		trainings			B-3
1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level		trainings			B-4
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level		trainings			B-5
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level		trainings			B-6
1-8 Quality improvement of crops	2.Sub-PMU Level		trainings			B-7
2 Exposure Visit for Agriculture Trainers						
2-1 Exposure visit to advanced state	2.Sub-PMU Level					
3 Improvement of Agriculture Support System						
3-1 Farmers' friendly manuals	1.Project Level					
3-2 Strengthen of information center	1.Project Level					
4 Agriculture Farmers' Training						
4-1 General agriculture techniques in all area	3.Sub-PJT Level					
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level					
4-3 Agriculture cultivation techniques on spices and medicinal plants	3.Sub-PJT Level					
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level					
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level					
4-6 Quality improvement of crops	3.Sub-PJT Level					
4-7 Marketing survey to advanced area	3.Sub-PJT Level					
5 Agriculture Demonstration Farm	1.Project Level					

Format GL3.2.2c Bill of Quantities (Component-4: Marketing) at Sub-PMU Level

Name of Sub-PMU		Work Volume	Unit	Unit Cost	Amount
Activities					
1	FIG formulation for cooperative activities				
1-1	Training of trainers (ToT) for FIG activities	1.Project Level			
1-2	Support for Cooperative demonstration groups				
a	Selection of Cooperative demonstration groups	2.Sub-PMU Level	CDGs	no cost	no cost
b	Guidance for demonstration group activities	2.Sub-PMU Level	time/CDG		
c	Accessing loan	2.Sub-PMU Level	time/CDG		
d	Group procurement of agricultural inputs	2.Sub-PMU Level	time/CDG		
e	Repairing/maintenance of common farm properties	2.Sub-PMU Level	time/CDG		
f	Collective marketing	2.Sub-PMU Level	time/CDG		
g	Review and planning for coming seasons	2.Sub-PMU Level	time/CDG		
h	Experience sharing with potential FIGs	2.Sub-PMU Level	time/CDG		
1-3	FIG formulation and activities in other sites				
a	Request for FIG formulation	3.Sub-Project Level			
b	Guidance for group activities	2.Sub-PMU Level	training/20 FIGs		
c	Exposure visit to cooperative demonstration groups	2.Sub-PMU Level	training/25 FIGs		
d	Accessing loan	3.Sub-Project Level			
e	Group procurement	3.Sub-Project Level			
f	Repairing/maintenance of common farm properties	3.Sub-Project Level			
g	Collective marketing	3.Sub-Project Level			
1-4	FIG formulation and activities in other sites (AFPMFP sites)	2.Sub-PMU Level	training/20 FIGs		
1-5	Guidance for FPO formulation	2.Sub-PMU Level	training/30 FIGs		
2	Connecting with large-size consumers (Matching meeting)				
2-1	Training of trainers (ToT) for Matching meetings	1.Project Level	time		
2-2	Information exchange between FIGs and processors	2.Sub-PMU Level	FIG	no cost	no cost
2-3	Information analysis				
	Training	2.Sub-PMU Level	time/18 FIGs		
2-4	Matching meeting (1st)	2.Sub-PMU Level	time/18 FIGs		
2-5	Review & improvement	2.Sub-PMU Level	time/18 FIGs		
2-6	Matching meeting (2nd)	2.Sub-PMU Level	time/18 FIGs		
2-7	Gap filling training for postharvest quality	2.Sub-PMU Level			
	Training	2.Sub-PMU Level	time/18 FIGs		
	Implementation	2.Sub-PMU Level	set/FIG		
3	Connecting with large-size consumers (exotic vegetables)				
3-1	Training of trainers (TOT) for supporting exotic vegetables sales	1.Project Level	time		
3-2	Demonstration				
	a/t Sales to Market / Door-to-door sales to hotels/restaurants				
	Fixed expenditure for one season (for 5 months)	2.Sub-PMU Level	place/year		
	Other cost for sales	2.Sub-PMU Level	place/month		
3-3	Extension to farmers	2.Sub-PMU Level			
	a/t Sales to Market / Door-to-door sales to hotels/restaurants				
	Training	2.Sub-PMU Level	training/30 farmers		
	Implementation	2.Sub-PMU Level	set/15 farmers		
4	Brand building for high-value agricultural produces				
4-1	Coordination	1.Project Level			
4-2	Experiment for quality improvement (TSS and quality control)	1.Project Level			
4-3	Sales promotion	1.Project Level			
4-4	Application of experimental results to farmers				
	Market-oriented experimental plots (vegetables)				
	Vegetables at Rabi season				
a	TSS/nutrients improvement				
	Training	2.Sub-PMU Level	time		
	b/c Quality control / Advanced packaging/sales				
	Training	2.Sub-PMU Level	time		
	Implementation	2.Sub-PMU Level	sets/15 prs		
	Melon at Zayed season				
d	TSS/nutrients improvement				
	Training	2.Sub-PMU Level	time		
	e/f Quality control / Advanced packaging/sales				
	Training	2.Sub-PMU Level	time		
	Implementation	2.Sub-PMU Level	sets/prs		
	Market-oriented experimental plots (kinnow)				
d	TSS/nutrients improvement				
	Training	2.Sub-PMU Level	time		
	e/f Quality control / Advanced packaging/sales				
	Training	2.Sub-PMU Level	time		
	Implementation	2.Sub-PMU Level	sets/15 prs		
	Market-oriented experimental plots (Santra orange)				
g	TSS/nutrients improvement				
	Training	2.Sub-PMU Level	time		
	h/i Quality control / Advanced packaging/sales				
	Training	2.Sub-PMU Level	time		
	Implementation	2.Sub-PMU Level	sets/15 prs		
4-5	Antenna shops/corners	1.Project Level			
4-6	Farmers' fairs	1.Project Level			
4-7	Multimedia advertising	1.Project Level			
4-8	Extension to outside the Project	1.Project Level			

Note: "no cost" means activities with no requirement for specific expenses but only for basic common expenses in the office.

Format GL3.2.2d Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-PMU Level

Name of Sub-PMU		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management						
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act	1.Project Level					
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management						
(a) Preparation of Gender Session for Training on Water Management and WUA Management	1.Project Level					
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	1.Project Level					
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting	1.Project Level					
(d) Support to Coordinate between WUA and Women Wing	2.Sub-PMU Level		LS	no cost	no cost	no cost
3) Establishment of Gender Disaggregated Data Collection System	1.Project Level					
2. Enhancement of Women's Capability and Participation in WUA nt						
1) Formulation of WUA Women Wing	3.Sub-Project Level					
2) Facilitating to Introduce the Women Friendly Activities	3.Sub-Project Level					
3) Encouraging Women to Participate in WUA Activities	3.Sub-Project Level					
4) Providing Trainings and Exposure Activities on Water and Organizational Management						
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	1.Project Level					
(b) Fund Management Training (auditing) at Sub-PMU Level	1.Project Level					
(c) Exposure Visit (Sub-PMU wise)	1.Project Level					
(d) Annual WW's Review Meeting at Sub-PMU Level	2.Sub-PMU Level		time			D-1
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level	2.Sub-PMU Level		time			D-2
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA	1.Project Level					
(g) Follow-up Training for Main Members on Water Management with WUA	1.Project Level					
3. Capacity Building on Agricultural Technologies through SHGs						
1) Selection of the Group	3.Sub-Project Level					
2) Strengthening Capacity on Group Management	3.Sub-Project Level					
(a) Providing Training on Group Management	1.Project Level					
(b) Support to Conduct Monthly Group Meeting	3.Sub-Project Level					
3) Strengthening Capacity on Agricultural Technique						
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators	1.Project Level					
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	1.Project Level					
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies	3.Sub-Project Level					
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3.Sub-Project Level					
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3.Sub-Project Level					
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3.Sub-Project Level					
4) Monitoring and Mentoring the Groups for Sustainable Activities	3.Sub-Project Level					
4. Innovation fund						
	1.Project Level					

Format GL3.2.3a Unit Price Calculation (Component-2: WUA)

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)
I Establish WUA support mechanism				
A-1 Training on water management for NGO staff (Community Motivator), Sub-PMU wise (NGO(Sub-PMU)-wise, in KVK, 3days, 30 participants/training)	3	days	30 person	
Boarding and lodging charges for participants	person/day	90		
Registration kit, Supply of literature and training Ad. Etc.	head	30		
Honorarium to resource persons. (4 session per day)	session	12		
POL of field trip and T.A for participants	lump-sum	1		
Miscellaneous and supporting staff	lump-sum	1		
Institutional Charges 10%	lump-sum	1		
Baby-sitter (crèche) (2person /days)	person/day	6		
Sub-total = Unit cost per training	times			
A-2 Organize Sub-PMU meeting (Monthly, 1/2 day, Sub-PMU wise(WRD office or other office), for consultant(1), Sub PMU members, NGO staff (Team Leader, sector Expert), TSG-SP(WRD))	No of meeting (Sub-PMU 5 x 12 months)	10	persons	
Tea and snacks	times	10		
Travel cost for consultant	lump-sum	10		
Travel cost for TSG-SP (WRD)	lump-sum	10		
Sub-total = Unit cost per training	times			
A-3 Training on water management for WUA/MC and WW members (Sub-PMU wise, in KVK, 3 days, beginning of the stage, 3 each from WUA and WW, 30 participants each per training)	No. of trainings (30 participants each)	3	days	
Boarding and lodging charges for participants	person/day	90		
Registration kit, Supply of literature and training Ad. Etc.	head	30		
Honorarium to resource persons. (4 session per day)	session	12		
POL of field trip and T.A for participants	lump-sum	1		
Miscellaneous and supporting staff	lump-sum	1		
Institutional Charges 10%	lump-sum	1		
Baby-sitter (crèche) (2persons/day)	person/day	6		
transportation for participants	person/day	30		
Sub-total = Unit cost per training	times			
A-4 Annual MCs' meeting (Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 150 participants)	stage-wise, Sub-PMU	2	days	
Tea and snacks	person/day	300		
Lunch	person/day	300		
Boarding and lodging	head/day	300		
Misc. Exp (banner, stationery items, LCD, etc.)	lump-sum	1		
Institutional Charges 10%	lump-sum	1		
Rent for place	day	2		
Baby-sitter (crèche) (2persons/day)	person/day	4		
transportation for participants	person/day	150		
Sub-total = Unit cost per training	times			
A-5 Follow-up training on water management and organizational management (6 months after completion of construction work, IMTI, 3 days, 3members each from WUA and WW, 48 participants per training)	No. of participants	3	days	
Course material (participants 48 copies + sponsor agency 2)	kit	50		
Lodging for participants in Hostel No. 01	person/day	144		
Boarding for participants	person/day	144		
Mess hall for boarding (3days)	day	3		
Local transportation (IMTI to railway station) & photography etc.	lump-sum	1		
Bus charge for field visit (1day)	day	1		
Honorarium & travel charges for lecturers (1)	lump-sum	1		
Rent charges for class rooms (2days)	day	2		
Charges for IMTI faculty for organizing training (3)	each	3		
Charges for IMTI staff for organizing training (3)	each	3		
Misc. & unforeseen items (1)	lump-sum	1		
Add 20 % secretarial & overhead charges	lump-sum	1		
Baby-sitter (crèche) (2person x 2 days)	person/day	4		
To and Fro charges for WUA executives	per person	48		
Sub-total = Unit cost per training	times			

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Format GL3.2.3b Unit Price Calculation (Component-3: Agriculture)

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
B-1 Sub-PMU level workshop for agriculture officers, agriculture supervisors, DoH field level officers, NGO-PMU, NGO-sp staffs in each 5 sub PMU (5 sub-PMU x 2days for 50 persons x 5 times)					Once a year. One month before sowing of rabi season
Facilitator (PMU, PMC and NGO PMU)	persons	10			
Venue (SIAM)	hall	5			
Trainers (SIAM)		25			
Planning of implementation schedule	lump-some	100%			
Handheld refractometer (Erma Japan)	ls	5			
Sub total					
B-2 General agriculture techniques for DoA agriculture supervisors, DoH field level officers, NGO-sp staffs and community motivators in non-focal area (2 days for 30 persons)					Once a year. One month before sowing of rabi season
Facilitator (PMU and NGO-PMU)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	persons	60			
Trainers (KVK)	persons	8			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	persons	30			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					
B-3 Agriculture cultivation techniques on cereals, pulses and oilseeds for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 persons)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and NGO-PMU)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	head	60			
Trainers (KVK)	persons	8			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	head	30			
Materials (Black and white mulch for vegetables and fruits for 0.2ha each) for KVK experiment and demonstration		12			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
B-4 Agriculture cultivation techniques on spices and medicinal plants for DoA agriculture supervisors, DoH field level officers, NGO staffs and community motivators in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	head	60			
Trainers (KVK Ajmer/Jobner for spices, Udaipur for medicinal plants)	persons	8			
Travel allowance and daily allowance for resource persons		4			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	head	30			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					
B-5 Agriculture cultivation techniques on kinnow and santra orange for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	head	60			
Trainers (KVK)	persons	8			
Resource person from Punjab Agriculture University	persons	1			
person	persons	1			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	head	30			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					
B-6 Agriculture cultivation techniques on exotic vegetables for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	head	60			
Trainers (KVK)	persons	8			
Resource person from Punjab Agriculture University	persons	1			
Travel allowance and daily allowance	persons	1			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	head	30			
Materials (Black and white mulch for vegetables and fruits for 0.2ha each) for KVK experiment and		5			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Quality improvement for DoA agriculture supervisors, B-7 DoH field level officers, NGO staffs in focal area (2 days for 30 person)					
Facilitator (PMU and lead NGO)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	head	60			
Trainers (KVK)	persons	8			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	head	30			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Guideline GL3.2.3c Unit Price Calculation (Component-4: Marketing)

1 FIG formulation for cooperative activities

1-2. Support for Cooperative demonstration groups

b	Guidance for demonstration group activities			
	Trainees	22 prs.	Cooperative demonstration members + NGO (Comm. Motiv.)	
	Facilitator	2 prs.	NGO (FVC/Agri)+(Agri)	
	Lecturer	1 prs.	Bank manager No charge	
	Total	25 prs.		

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	25		
Stationary	set	25		
			Total	

time

c Accessing loan

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance cost for guarantee deposit for opening bank account (check book)	time	1		
			Total	

set

d Group procurement of agricultural inputs

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for loading/unloading	bag	100		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1		
			Total	

set

e Repairing/maintenance of common farm properties

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Financial assistance for repairing properties	set	1		
Labour for loading/unloading	set	1		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1		
			Total	

set

f Collective marketing

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labor for grading/cleaning cereals, etc.	prs/day	20		
Labour for loading/unloading	bag	100		
Weighing scale (hanging)	set	1		
Plastic sheets for postharvest activities	sheet	3		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	3		
			Total	

20 members/FIG

set

g Review and planning for coming seasons

	Trainees	20 prs.	Cooperative demonstration members	
	Facilitator	4 prs.	NGO (FVC/Agri)+(Agri) NGO (Comm. Motiv.)	
	Total	24 prs.		

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	24		
Stationary	set	24		
			Total	

time

h Experience sharing with potential FIGs (Joining General meeting of WUA)

Transportation				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Allowance	prs.	3		
Transportation	prs.	3		
			Total	

time

1-3. FIG formulation and activities in other sites

b	Guidance for group activities			
	Trainees	22 prs.	20 FIG leaders + NGO (Comm. Motiv.)	
	Facilitator	2 prs.	NGO (FVC/Agri)+(Agri)	
	Lecturer	1 prs.	Bank manager No charge	
	Total	25 prs.		

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	25		
Stationary	set	25		
			Total	

time

c Exposure visit to Cooperative demonstration groups

	Trainees	50 prs.	FIGs (2 members) x 25 groups	
	Facilitator	3 prs.	NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)	
	Cooperative demonstration group representatives	2 prs.		
	Total	55 prs.		

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	55		
Bus	bus/day	1		
Total				

1-4. Guidance for FPO formulation

Trainees	30 prs.	FIG leaders (30FIGs/time)
Facilitator	2 prs.	NGO (Commu. Motiv.)
Lecturer	1 prs.	SFAC No charge
Total		33 prs.

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	33		
Stationary	set	33		
Transportation (trainees)	prs.	30		
Total				

2 Connecting with large-size consumers (Matching meeting)

2-3. Information analysis

Training		
Trainees	0 prs.	FIG leaders (average 18 FIGs)
Trainees	2 prs.	NGO (Community motivator)
Facilitator	4 prs.	Consultant, NGO (FVC/Agri)+(Agri)
Lecturer	1 prs.	President of Unit owner association of AFP or MFP
Total		7 prs.

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Lecturer	prs.	1		
Tea & lunch	set	7		
Stationary	set	7		
Total				

Implementation				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Weighing scale (hanging) (1 set/FIG)	set	1		
Total				

2-4. Matching meeting (1st)

Trainees	0 prs.	FIG leaders/representative (average 36 members from 18 FIGs, min. 4 FIGs- max. 24 FIGs)
Unit owners	20 prs.	At least 10 commodities
President of Unit owner association of AFP or MFP	1 prs.	
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Total		27 prs.

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1		
Tea & lunch	set	27		
Stationary	set	27		
Transportation (trainees)	prs.	0		
Total				

2-5. Review & improvement

Trainees (maximum number)	0 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Lecturer	1 prs.	President of Unit owner association of AFP or MFP
Total		7 prs.

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1		
Tea & lunch	set	7		
Stationary	set	7		
Total				

2-6. Matching meeting (2nd)

refer to Matching meeting (1st)

2-7. Gap filling training for postharvest quality

Trainees (maximum number)	0 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Lecturer	6 prs.	Processors of AFP/MFP
Total		12 prs.

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1		
Lecturer	prs.	6		
Tea & lunch	set	12		
Transportation (trainees)	set	0		
Total				

Implementation				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Plastic sheets for postharvest activities (2 sheets/FIG)	sheet	2		
Total				

3 Connecting with small-size consumers (exotic vegetables)

3-2. Demonstration

a/b Sales to public markets / Door-to-door sales to hotels/restaurants

Period 1 month (5 months/year, 5 years)
 Area 1 acre
 Labour 5 prs.

Fixed expenditure for one season (5 months)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Weighing scale (hanging)	set	1		
Wheelbarrow	set	3		
Total				

set/place

Other cost for sales (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labor for harvesting/packing/loading/unloading (3 prs./acre)	prs./day	90		
Packing materials (Jute bags, shopping bags, plastic crates, etc.)	set	1		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	15		
Total				

place/month

3-3. Extension to farmers

a/b Sales to public markets / Door-to-door sales to hotels/restaurants

Training

Trainees 30 prs. Exotic vegetable farmers who receive production training at Agriculture sector
 Trainees 2 prs. NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC) & (FVC/Agri)
 Lecturer 2 prs. Agriculture Demonstration Farm owner/worker (to share experiences, no charge)

Total 36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36		
Total				

time

Implementation

Farmers

#REF! prs./set

Total expenditure (1month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Truck rental to transport agricultural produces (incl. driver, 35km/day)	set	5		
Total				

set

4 Brand building for high-value agricultural products

4-3. Application of experimental results to farmers

Market-oriented experimental plots (vegetables)

Vegetables at Rabi season

a TSS/nutrients improvement

Training

Trainees 30 prs. Exotic vegetable farmers who receive production training at Agriculture sector
 Trainees 2 prs. NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC) & (FVC/Agri)
 Lecturer 2 prs. Agriculture Demonstration Farm owner/worker (to share experiences, no charge)

Total 36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36		
Accommodation (farmers)	prs./night	30		
Allowance (farmers)	prs./day	30		
Transportation (farmers)	prs.	30		
Total				

time

b/c Quality control / Advanced packaging/sales

Training

Trainees 30 prs. Exotic vegetable farmers who receive production training at Agriculture sector
 Trainees 2 prs. NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC) & (FVC/Agri)
 Lecturer 2 prs. Agriculture Demonstration Farm owner/worker (to share experiences, no charge)

Total 36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set	1		
Tea & lunch	set	36		
Total				

time

Implementation

Total expenditure (for 15 farmers/set)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held refractometer B (75% financed for Rs. 2,000)	set/prs.	15		
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5		
Total				

set

Melon at Zayed season

- d TSS/nutrients improvement
 - Training refer to 4-3(a)
- e/f Quality control / Advaced packaging/sales
 - Training refer to 4-3(a)
 - Implementation
 - Implementation

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	1		
Total				

Market-oriented experimental plots (kinnow)

- g TSS/nutrients improvement
 - Training refer to 4-3(a)
- h/i Quality control / Advaced packaging/sales
 - Training refer to 4-3(a)
 - Implementation refer to 4-3(b)

Market-oriented experimental plots (Santra orange)

- j TSS/nutrients improvement
 - Training refer to 4-3(a)
- k/l Quality control / Advaced packaging/sales
 - Training refer to 4-3(a)
 - Implementation refer to 4-3(b)

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Format GL3.2.3d Unit Price Calculation (Component-5: Gender Mainstreaming)						
Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks	
D-1					Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 100	
Annual WW's Review Meeting at Sub-PMU Level	No. of participants	2	days			
Tea and snacks	person/day	200				
Lunch	person/day	200				
Boarding and lodging	head/day	200				
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1				
Institutional Charges 10%	lump-sum	1				
Rent for place	day	2				
Baby-sitter (creche) (2person/day)	person/day	4				
transportation for participants	person/day	100				
Sub-total = Unit cost per training	times					
D-2						Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 100
Annual WUA/MCs Review Meeting at Sub-PMU Level	No. of participants	2	days			
Tea and snacks	person/day	200				
Lunch	person/day	200				
Boarding and lodging	head/day	200				
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1				
Institutional Charges 10%	lump-sum	1				
Rent for place	day	2				
Baby-sitter (creche) (2person/day)	person/day	4				
transportation for participants	person/day	100				
Sub-total = Unit cost per training	times					

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Format GL3.2.4 Detailed Activity Sheets

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks	
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by		
A12. Training of farmers for general agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants <u>Objectives:</u> To provide improved cultivation techniques for water-wise crops	<u>In charge:</u> DoA/DoH, NGO agriculture expert <u>Cooperated by:</u> DoA/DoH, NGO agri-expert <u>Logistics:</u> NGO agri-expert and community motivators <u>Venue:</u> each WUA site <u>Frequency:</u> 2 times/year/WUA	<u>Target Group</u> 1. Farmers in non-focal area	One day training • Varieties and their features • Cropping pattern • Optimum use of water • On-time application of fertilizer • Plant protection • Harvest and post harvest • Cost and profit	1. Facilitator 2. Venue 3. Tea&lunch 4. Training materials 5. Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2. Resource persons	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting	
		Detailed Implementation Plan & Progress							
		Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring		
<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****) <u>Logistics:</u> NGO agri-expert and community motivators (Mr./Ms. *****) <u>Specific Venue:</u> (Address: *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (**** *) Contact Tel No. (**** *)	<u>Date of Event</u> <u>1st Event:</u> Date: ** of ****, 201* Time: from **** to **** <u>2nd Event:</u> Date: ** of ****, 201* Time: from **** to ****	<u>Name of Resource person, if any:</u> (Mr./Ms. *****) (Contact Tel No. *****) <u>Required Materials:</u> _***** * _***** * _***** * <u>Estimated Budget:</u> INR. *****	Contact person name: (Mr./Ms. *****) Contact e-mail (**** *) Contact Tel No. (**** *)	(***/***/201*) ***** * ** ***** * **** * (***/***/201*) ***** * ** ***** * **** *				

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Format GL3.3.1 Sample of Detailed Activity Plan for Each Sub-Project

ATTACHMENT 3.3.xxx

SUB-PROJECT: _____

DISTRICT: _____

- Attachment 3.3.1 (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.1 (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.1 (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.1 (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.1 (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.1 (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.1 (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.1 (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.1 (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.1 (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.1 (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.1 (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

Activity Cost	Total Cost (INR)
Component-2: WUA	
Component-3: Agriculture	
Component-4: Marketing	
Component-5: Gender Mainstreaming	
Total	

Format GL3.3.1(1)a Bill of Quantities (Component-2: WUA) at Sub-Project Level

Name of sub-Project:	
Sub-PMU	
District	

Items	Activities		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.
1. Establishment of WUA Support Mechanism	1) Development of project materials						
	(a) Training materials	1.Project Level	 	 	 	 	
	(b) Leaflet on the project concept and activities	1.Project Level	 	 	 	 	
	2) Orientation and trainings in different level						
	(a) TOT for TSG-SP members and NGO staff	1.Project Level	 	 	 	 	
	(b) Training for Community Motivator	2.Sub-PMU Level	 	 	 	 	
	3) Project management activities						
	(a) Planning workshop in Sub project	3.Sub-PJT Level		time			A-1
	(b) Monthly Sub-PMU meeting	2.Sub-PMU Level	 	 	 	 	
	(c) Monthly TSG-SP meeting	3.Sub-PJT Level		time			A-2
(d) Monitoring of the activity progress	1.Project Level	 	 	 	 	 	
2. Capacity Building of WUA Management	1) Formation of WUA						
	(a) 1st stage						
	1) Preparation for water users' meeting	3.Sub-PJT Level		time	no cost	no cost	
	2) Water uses' meeting for Pre-WUA formation and to form Pre-WUA	3.Sub-PJT Level		time	no cost	no cost	
	3) Support to participate in walk-through survey (same as 3) - (a))	3.Sub-PJT Level		time	no cost	no cost	
	4) Conduct same activities under (b)	3.Sub-PJT Level		time	no cost	no cost	
	(b) 2nd and 3rd stage						
	1) Orientation for villagers in Sub project area	3.Sub-PJT Level		time	no cost	no cost	
	2) General meeting of water users in WUA area	3.Sub-PJT Level		time	no cost	no cost	
	3) Orientation for Territorial Constituency	3.Sub-PJT Level		time	no cost	no cost	
	4) Election of President and managing Committee members of WUA	3.Sub-PJT Level		time	no cost	no cost	
	2) Capacity building activities						
	(a) Training for MC members on water management in Sub-PMU	2.Sub-PMU Level	 	 	 	 	
	(b) Orientation for WUA members organization management	3.Sub-PJT Level		time			A-3
	(c) Training for accountant of WUA on record keeping	3.Sub-PJT Level		time			A-4
	(d) MC monthly meeting cum training	3.Sub-PJT Level		time	no cost	no cost	
	(e) Territorial constituency monthly meeting cum training	3.Sub-PJT Level		time	no cost	no cost	
	(f) Annual MCs' meeting in Sub-PMU	2.Sub-PMU Level	 	 	 	 	
	(g) Stage-wise WUA review meeting in IMTI	1.Project Level	 	 	 	 	
	(h) Follow-up training for MC members on water management in IMTI	2.Sub-PMU Level	 	 	 	 	
3) WUA management							
(a) Support MC members to participate in walk-through survey	3.Sub-PJT Level		time	no cost	no cost		
(b) Support to conduct general meeting of WUA	3.Sub-PJT Level		time	no cost	no cost		
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level		time	no cost	no cost		
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture organization						
	(a) Conduct monthly meeting	3.Sub-PJT Level		time	no cost	no cost	
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level		time	no cost	no cost	
	(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level	 	 	 	 	
	2) Conduct agricultural demonstration						
(a) Establish demonstration plat to promote seasonal technology	3.Sub-PJT Level		time	no cost	no cost		
(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level		time			A-5	
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3.Sub-PJT Level		time			A-6
	2) Monitoring corpus fund management	3.Sub-PJT Level		time	no cost	no cost	
Total							

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.3.1(1)b Bill of Quantities (Component-3: Agriculture) at Sub-Project Level

Name of sub-Project:	
Sub-PMU	
District	

Activities		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.
1 Training of Trainers for Agriculture						
1-1 State level workshop	1.Project Level					
1-2 Sub-PMU level workshop	2.Sub-PMU Level					
1-3 General agriculture techniques in all area	2.Sub-PMU Level					
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level					
1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level					
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level					
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level					
1-8 Quality improvement of crops	2.Sub-PMU Level					
2 Exposure Visit for Agriculture Trainers						
2-1 Exposure visit to advanced state	2.Sub-PMU Level					
3 Improvement of Agriculture Support System						
3-1 Farmers' friendly manuals	1.Project Level					
3-2 Strengthen of information center	1.Project Level					
4 Agriculture Farmers' Training						
4-1 General agriculture techniques in all area	3 Sub-PJT Level		trainings			B-1
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3 Sub-PJT Level		trainings			B-2
4-3 Agriculture cultivation techniques on spices and medicinal plants	3 Sub-PJT Level		trainings			B-3
4-4 Agriculture cultivation techniques on kinnow and santra orange	3 Sub-PJT Level		trainings			B-4
4-5 Agriculture cultivation techniques on exotic vegetables	3 Sub-PJT Level		trainings			B-5
4-6 Quality improvement of crops	3 Sub-PJT Level		trainings			B-6
4-7 Marketing survey to advanced area	3 Sub-PJT Level		trainings			B-7
5 Agriculture Demonstration Farm		1.Project Level				
				Total		

Format GL3.3.1(1)c Bill of Quantities (Component-4: Marketing) at Sub-Project Level

Name of sub-Project:	
Sub-PMU	
District	

Activities		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.
1	FIG formulation for cooperative activities					
1-1.	Training of trainers (ToT) for FIG activities	1.Project Level				
1-2.	Support for Cooperative demonstration groups					
a	Selection of Cooperative demonstration groups	2.Sub-PMU Level				
b	Guidance for demonstration group activities	2.Sub-PMU Level				
c	Accessing loan	2.Sub-PMU Level				
d	Group procurement of agricultural inputs	2.Sub-PMU Level				
e	Repairing/maintenance of common farm properties	2.Sub-PMU Level				
f	Collective marketing	2.Sub-PMU Level				
g	Review and planning for coming seasons	2.Sub-PMU Level				
h	Experience sharing with potential FIGs	2.Sub-PMU Level				
1-3.	FIG formulation and activities in other sites					
a	Request for FIG formulation	3.Sub-Project Level	FIGs	no cost	no cost	
b	Guidance for group activities	2.Sub-PMU Level				
c	Exposure visit to cooperative demonstration groups	2.Sub-PMU Level				
d	Accessing loan	3.Sub-Project Level	set/FIG			C-1
e	Group procurement	3.Sub-Project Level	set/FIG			C-2
f	Repairing/maintenance of common farm properties	3.Sub-Project Level	set/FIG			C-3
g	Collective marketing	3.Sub-Project Level	set/FIG			C-4
1-4.	Guidance for FPO formulation	2.Sub-PMU Level				
2	Connecting with large-size consumers (Matching meeting)					
2-1.	Training of trainers (ToT) for Matching meetings	1.Project Level				
2-2.	Information exchange between FIGs and processors	2.Sub-PMU Level				
2-3.	Information analysis					
	Training	2.Sub-PMU Level				
	Implementation	2.Sub-PMU Level				
2-4.	Matching meeting (1st)	2.Sub-PMU Level				
2-5.	Review & improvement	2.Sub-PMU Level				
2-6.	Matching meeting (2nd)	2.Sub-PMU Level				
2-7.	Gap filling training for postharvest quality	2.Sub-PMU Level				
3	Connecting with large-size consumers (exotic vegetables)					
3-1.	Training of trainers (TOT) for supporting exotic vegetables sales	1.Project Level				
3-2.	Demonstration	2.Sub-PMU Level				
3-3.	Extension to farmers	2.Sub-PMU Level				
4	Brand building for high-value agricultural produces	1.Project Level				
				Total		

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.3.1(1)d Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level

Name of sub-Project:					
Sub-PMU					
District					
			Work Volume	Unit Cost	Amount
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management					
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act		1.Project Level			
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management					
(a) Preparation of Gender Session for Training on Water Management and WUA Management		1.Project Level			
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA		1.Project Level			
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting		1.Project Level			
(d) Support to Coordinate between WUA and Women Wing		2.Sub-PMU Level			
3) Establishment of Gender Disaggregated Data Collection System		1.Project Level			
2. Enhancement of Women's Capability and Participation in WUA nt					
1) Formulation of WUA Women Wing					
(a) General Meeting for water users at same time of formation of WUA		3.Sub-Project Level	WUAs	no cost	
(b) Orientation for Territorial Constituency at same time of formation of WUA		3.Sub-Project Level	TCs	no cost	
(c) Formulation of Woman Wing per WUA		3.Sub-Project Level	WUAs	no cost	
(d) Orientation on WW activities		3.Sub-Project Level	time		D-1
2) Facilitating to Introduce the Women Friendly Activities					
(a) Facilitating to Discuss and Finalize Women Friendly Activities		3.Sub-Project Level	WUAs	no cost	
(b) Support Women Wing to plan and implement Women Friendly Facilities		3.Sub-Project Level	WUAs	no cost	
(c) Support Women Wing to plan and implement Women Friendly Trees		3.Sub-Project Level	WUAs	no cost	
3) Encouraging Women to Participate in WUA Activities					
(a) Support WW Members to Participate and Report in WUA/MC Monthly Meeting		3.Sub-Project Level	WUAs	no cost	
(b) Support WW Members to Participate and Report in WUA/MC Monthly Meeting		3.Sub-Project Level	WUAs	no cost	
(c) Support to WW Members to Participate in WUA Fund Management		3.Sub-Project Level	WUAs	no cost	
(d) Support WW members to participate Territorial Constituency monthly meeting cum training		3.Sub-Project Level	TCs	no cost	
(e) Support WW members to participate in weekly progress meeting in monthly basis		3.Sub-Project Level	WUAs	no cost	
(f) Support WW members to participate in WUA general meeting		3.Sub-Project Level	WUAs	no cost	
4) Providing Trainings and Exposure Activities on Water and Organizational Management					
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA		1.Project Level			
(b) Fund Management Training (auditing) at Sub-PMU Level		1.Project Level			
(c) Exposure Visit (Sub-PMU wise)		1.Project Level			
(d) Annual WW's Review Meeting at Sub-PMU Level		2.Sub-PMU Level			
(e) Annual WUAMCs Review Meeting at Sub-PMU Level		2.Sub-PMU Level			
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA		1.Project Level			
(g) Follow-up Training for Main Members on Water Management with WUA		1.Project Level			
3. Capacity Building on Agricultural Technologies through SHGs					
1) Selection of the Group					
(a) Developing work plan on the activity in SP level		3.Sub-Project Level	time		D-2
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing		3.Sub-Project Level	TCs	no cost	
(c) Collecting Proposal from Groups		3.Sub-Project Level	sub-project	no cost	
(d) Selection of group		3.Sub-Project Level	sub-project	no cost	
(e) Conducting Orientation to Selected Groups		3.Sub-Project Level	SHG		D-3
2) Strengthening Capacity on Group Management					
(a) Providing Training on Group Management		1.Project Level			
(b) Support to Conduct Monthly Group Meeting		3.Sub-Project Level	SHG	no cost	
3) Strengthening Capacity on Agricultural Technique					
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators		1.Project Level			
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers		1.Project Level			
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies		3.Sub-Project Level	time		D-4
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth		3.Sub-Project Level	time		D-5
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation		3.Sub-Project Level	SHG	no cost	
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation		3.Sub-Project Level	SHG	no cost	
4) Monitoring and Mentoring the Groups for Sustainable Activities					
(a) Regular Monitoring and Provide Necessary Support to Groups		3.Sub-Project Level	time	no cost	
4. Innovation fund					
1) Innovation fund		1.Project Level			
			Total		

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

**Format GL3.3.1(2)a Unit Price Calculation
(Component-2: WUA)**

Name of sub-Project:	
Sub-PMU	
District	

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks
A-1 Planning workshop for TSG-SP and NGO staff (Sector Expert, Community Motivator), in SP level, 1 day, 12person	No of Participant per SP (TSG-SP (7 person), Community motivator (5 person in average))	12	person		1 day workshop, beginning of each stage, SP-wise, TSG-SP and NGO staff (Sector Expert, Community Motivator), facilitated by 1 Sub-PMU member and NGO staff (Sector Expert)
Travel cost for Sub-PMU staff (1 person)		12			
Travel allowance for NGO staff : Team leader	person/day	0			
Travel allowance for NGO staff :sector expert	person/day	0			
Tea and snacks	times	12			
Lunch	person/day	12			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1			
	times				
Sub-total = Unit cost per training					
A-2 Organize TSG-SP meeting	No of meeting (no	14	person		Monthly, 1/2 day, SP wise (Gov. office or outdoor), TSG-SP, NGO (Sector Expert and Community Motivator), WUA and WW MC member x6
Tea and snacks	head	14			1 time/meeting
	times				
Sub-total = Unit cost per training					
A-3 Orientation on organization management for WUA/MC members (5-7) + WW main member (2-3)	No. of WUA	1	days	10	WUA wise, after training on water management, 1 day open seminar, WUA members (5-7 person), WW members (2-3 person) in total 10 participants
Venue	day	1			
Tea and snacks	head	10			
Lunch	head	10			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1			
	times				
Sub-total = Unit cost per training					
A-4 Training on record keeping for WUA/MC members (5-7) + WW main member (2-3)	No. of WUA	1	days		
Venue	day	1			
Tea and snacks	head	10			
Lunch	head	10			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1			
	times				
Sub-total = Unit cost per training					
A-5 Conduct Farmers Field day in demonstration plot	1	days	30	person	Using demonstration plot (1 site per sub-project), half-yearly, 1 day, invite nearby farmers (30 participants)
Travel allowance NGO sector expert Agri	person/day	30			
Transportation for NGO (vehicle charge)	day	1			
Transportation for NGO (Fuel)	liter	0			
Tea and snacks	person	30			
Lunch	person	30			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1			
	times				
Sub-total = Unit cost per training					
A-6 Provide Corpus fund to WUAs	No. of WUA				
Corpus fund (after completion of the rehabilitation works)	WUA		200,000		200,000INR per WUA
Sub total					

**Format GL3.3.1(2)b Unit Price Calculation
(Component-3: Agriculture)**

Name of sub-Project:	
Sub-PMU	
District	

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
B-1 General agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants (1 days for 40 person x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (NGO sp level staff, community motivator)	persons	4			
Venue (sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO sp level staff, community motivator)	persons	4			
Miscellaneous expenses(Banner, stationeries)		2			
Transportation for participants		80			
Sub total					
B-2 Agriculture cultivation techniques on cereals, pulses and oilseeds in focal area (1 days for 40 persons x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (NGO sp level staff and community)	persons	4			
Venue (Sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO sub-project level staff)	persons	4			
Improved seed of Flax seed, (seed rate 5.65kg x 40)		266			
Miscellaneous expenses(Banner, stationeries)		2			
Transportation for participants		80			
Sub total					
B-3 Agriculture cultivation techniques on spices and medicinal plants in focal area (1 days for 40 persons x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (NGO)	persons	4			
Venue (sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO sub-project level staff)	persons	4			
Miscellaneous expenses(Banner, stationeries)		2			
Transportation for participants		80			
Linseed sample(8kg/person)(0.2ha for demonstration farm, 0.2ha for controlled)		67			
Sub total					

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
B-4 Agriculture cultivation techniques on kinnow and santra orange in focal area (2 days for 30 persons)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (DoA, DoH and NGO)	persons	4			
Venue (KVK)	hall	2			
Boarding and lodging charges	persons	60			
Trainers (KVK)	persons	8			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	persons	30			
Mulch sheet for 0.2ha (0.185 INR/g x 2000m ² x 60% x 93g/m ²)		10			For fruits orchard, the thickness of poly-sheet should be more than 100
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Sub total					
B-5 Agriculture cultivation techniques on exotic vegetables in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (DoA, DoH and NGO)	persons	2			
Venue (KVK)	hall				
Boarding and lodging charges	persons	60			
Trainers (KVK)	persons	8			
Cost of transportation for field trip and TA		1			
Materials (registration kit, supply of literature and training aid)	persons	30			
Miscellaneous and supporting staff		1			
Institutional charges(10%)		1			
Seed sample (cherry tomato, Broccoli, Leaf lettuce)		30			
Black and white mulch sheet for 0.2ha (0.185INR/g x 2000m ² x 80 % x 38g/m ²)		10			
Sub total					
B-6 Quality improvement in focal area (1 days for 40 personsx 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2			
Venue (sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO sub-project level staff)	persons	2			
Miscellaneous expenses(Banner, stationeries)		2			
Transportation for participants		80			
Sub total					
B-7 Marketing survey to advanced area (4 days for 30 persons)					Twice a year. One month before harvesting of kharif and rabi season
Facilitator (NGO and community motivator)	persons	2			
Venue (advanced farmers in the state)	place	2			
Boarding and lodging charges	persons	90			
Trainers (NGO, advanced farmers, traders)	persons	8			
Cost of transportation for field trip (bus)		1			
Miscellaneous and stationeries		1			
Sub total					

Format GL3.3.1 (2)c Unit Price Calculation (Component-4: Marketing)

1 FIG formulation for cooperative activities

Name of sub-Project:	
Sub-PMU	
District	

1-3. FIG formulation and activities in other sites

d Accessing loan

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance cost for guarantee deposit for opening bank account (check book)	time	1		
Total				set

e Group procurement of agricultural inputs

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for loading/unloading	bag	100		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1		
Total				set

f Repairing/maintenance of common farm properties

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Financial assistance for repairing properties	set	1		
Labour for loading/unloading	set	1		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1		
Total				set

g Collective marketing

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labor for grading/cleaning cereals, etc.	prs/day	20		
Labour for loading/unloading	bag	100		
Weighing scale (hanging)	set	1		
Plastic sheets for postharvest activities	sheet	3		
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	3		
Total				set

**Format GL3.3.1(2)d Unit Price Calculation
(Component-5: Gender Mainstreaming)**

Name of sub-Project:	
Sub-PMU	
District	

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks
D-1 Orientation on WW activities	No. of WW	1			in WUA level, 1 day, for maximum 12 members in each WW (2 each from TCs)
Venue	day	1			
Tea and snacks	person	12			
Lunch	person	12			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1			
Sub-total = Unit cost per training	times				
D-2 Develop work plan on the activities in SP level		13 person			Beginning of the stage, 1 day, Sub-PMU(DoA, DoH, WCDx2), TSG-SP(Agri, WCD), NGO staff (sector expert, WUA)
NGO staff (sector expert: Agriculture, Gender)		0			Included in monthly salary
NGO staff (WUAx2)		0			Included in monthly salary
TSG-SP		0			
Tea and snacks	person	13			
Lunch	person	13			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1			
Sub-total = Unit cost per training	times				
D-3 Conducting Orientation to Selected Groups (in the village, group-wise, 1 day, 20 person)	No of groups (SP x 4)	1 day			
venue	place	1			
Tea and snacks	person	20			
Lunch	person	20			
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1			
Sub-total = Unit cost per training	times				
D-4 Basic vegetables cultivation techniques on tomato, onion and chilies for SHG (1 day for 40 persons x 2))	No. of training (Sub-project wise)	1	1 fac/cm		Twice a year. One month before sowing of Kharif and rabi season for basic veg group
Facilitator (NGO)	persons	2			
Venue (Sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO, community motivator)	persons	2			
Use of mulching					
Optimum use of water					
On-time application of fertilizer					
Insects/diseases management					
Miscellaneous expenses(Banner, stationaries)		2			
Transportation for participants		80			
Seed		80			
Mulch sheet (100m2)		40			
Nursery kit (1 set/20person)		2			
cost per training (total)					
D-5 Nutritious vegetables cultivation techniques on Swiss chard, kale and amaranth for SHGs (1 days for 40 persons x 2))	2回分	1			Twice a year. One month before sowing of Kharif and rabi season for nutritious veg group
Facilitator (NGO)	persons	2			
Venue (sub-project site)	place	2			
Tea and snack		80			
Lunch		80			
Trainers (NGO, WCD)	persons	2			
Varieties and their feature					
Cultivation techniques					
Seed harvesting					
Nutritional value					
Miscellaneous expenses(Banner, stationaries)		2			
Transportation for participants		80			
Seed (Swiss chard, kale, amaranth)		80			
Fertilizer		2			
Insecticide, fungicide		2			
Water can		2			
Sprayer		2			
Shade net		2			
Poly-pots for nursery (1000pieces)		2			
cost per training (total)					

Format GL3.3.1(3) Detailed Activity Sheets

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks							
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by								
A12. Training of farmers for general agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants <u>Objectives:</u> To provide improved cultivation techniques for water-wise crops	<u>In charge:</u> DoA/DoH, NGO agriculture expert <u>Cooperated by:</u> DoA/DoH, NGO agri-expert <u>Logistics:</u> NGO agri-expert and community motivators <u>Venue:</u> each WUA site <u>Frequency:</u> 2 times/year/WUA	<u>Target Group</u> 1. Farmers in non-focal area	One day training • Varieties and their features • Cropping pattern • Optimum use of water • On-time application of fertilizer • Plant protection • Harvest and post harvest • Cost and profit	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5. Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2. Resource persons	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting							
									Detailed Implementation Plan & Progress						
									Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring	
<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****) <u>Logistics:</u> NGO agri-expert and community motivators (Mr./Ms. *****) <u>Specific Venue:</u> (Address: *****)	<u>Contact person name:</u> (Mr./Ms. *****) <u>Contact e-mail</u> (*****) <u>Contact Tel No.</u> (*****)	<u>Date of Event</u> 1 st Event: <u>Date:</u> *** of *****, 201* <u>Time:</u> from ***** to ***** 2 nd Event: <u>Date:</u> *** of *****, 201* <u>Time:</u> from ***** to *****	<u>Name of Resource person, if any:</u> (Mr./Ms. *****) (Contact Tel No. *****) <u>Required Materials:</u> - ***** - ***** - ***** - ***** <u>Estimated Budget:</u> INR. *****	<u>Contact person name:</u> (Mr./Ms. *****) <u>Contact e-mail</u> (*****) <u>Contact Tel No.</u> (*****)	(***/****/201*) ***** ***** ***** (***/****/201*) ***** ***** *****										

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Chapter 1 General

This is a report for the Command Area Micro Plan, hereinafter so-called CAMP, for the Jaipur sub-PMU in Stage-1.

It comprise 2 parts: those are Part-I and Part-II.

Part-I describes overall project information including ideas and approaches which were considered in the project formulation period by the JICA Survey Team.

Part-II shows detail activity plan for the Jaipur sub-PMU specifically, including detailed activity sheets and plans for each sub-project in this stage.

GOVERNMENT OF RAJASTHAN
WATER RESOURCES DEPARTMENT

Command Area Micro Plan (CAMP)
For
Jaipur Sub-PMU
In
Stage-1

August 2016

Rajasthan Water sector Livelihood Improvement Project
(RWSLIP)

Funded by JICA A

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A. PART-I: COMMON INFORMATION

Chapter 2 OUTLINE OF RWSLIP

2.1 Project Outlines

Brief summary of the Project outline is given below and the detailed explanations of the project component and activities will be mentioned in Chapter 3.

(1) Background

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in the Project activities in order to foster better livelihood of people dwelling in the project target area.

(2) Project Objectives

The development objectives of proposed Rajasthan Water Sector Livelihood Improvement Project (RWSLIP) are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on WUAs;
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

(3) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and Project Management Unit (PMU) will be set up for coordinating and monitoring the project activities at the 3 levels.

(4) Project Location

The Project covers 19 districts in the Rajasthan State as shown in a location map of the project area shown in the top of this report.

(5) Project Component

In order to meet the project objectives and in pursuance of Government policies the major components of the Project are envisaged as follows:

Table A 2.1.1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

Source: JICA Survey Team

(6) Project Scopes

The scope of works of each component is explained briefly.

Table A 2.1.2 Project Scopes

Component No	Scopes of Works	
Component-1	Participatory Irrigation Rehabilitation Works	
1.1	Rehabilitation of Irrigation Facilities	1) To execute detail design works through SID subletting works 2) Rehabilitate irrigation facilities as planned
1.2	Micro Irrigation	1) To provide orientation to farmers for their participation to this scheme 2) To select beneficiary group/individuals and make MOU with them 3) To provide micro irrigation system and capacity building for using the facilities
1.3		
1.4	Support to Women Friendly Activities	1) To plan and design the women friendly facilities and the women friendly trees 2) To construct the women friendly facilities, and to plant the women friendly trees
Component-2	Fostering and Capacity Enhancement of Water Users Organizations	
2.1	Establishment of WUA Support Mechanism	1) To develop project materials for WUA establishment 2) To provide orientation and ToT trainings in different level for WUA establishment 3) To establish monitoring system through project management activities
2.2	Capacity Building of WUA Management	1) To formulate WUA 2) To provide capacity development activities, like training, OJT etc. 3) To support WUA regular activities, like regular meeting etc.
2.3	Improvement of Agriculture Linkage	1) To strengthen linkage between farmers and Agriculture organization 2) To conduct agriculture demonstration
Component-3	Irrigated Agriculture Intensification and Diversification	
3.1	Training of Trainers for Agriculture	1) To provide workshops for high-rank officers (state level) and field level officers (sub-PMU level) 2) To provide ToT training on cultivation and quality improvement techniques for cereals, pulses, oilseeds,

Component No	Scopes of Works	
		spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables
3.2	Exposure Visit for Agriculture Trainers	1) To provide opportunity to visit advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation
3.3	Improvement of Agriculture Support System	1) To compile farmer friendly manuals with visual aide 2) To strengthen agriculture information centre
3.4	Agriculture Farmers' training	1) To provide farmers training on cultivation and quality improvement techniques for cereals, pulses, oilseeds, spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables 2) To provide marketing survey
3.5	Agriculture Demonstration farm	1) To establish and maintain orange demonstration farm (4 farmers) 1ha 2) To establish and maintain exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	
4.1	FIG formulation for cooperative activities	1) To formulate FIGs and facilitate cooperative activities (collective marketing, etc.) to increase profit of individual farmers
4.2	Connecting with large-size consumers (Matching meeting)	1) To hold matching meetings between FIGs and processors to give options of direct marketing for higher profit for both value-chain players
4.3	Connecting with small-size consumers (exotic vegetables)	1) To support exotic vegetables farmers for sales to market traders and hotels/restaurants
4.4	Brand building for high-value agricultural produces	1) To promote high-value fruits/vegetables produces production and marketing toward future brand building after the Project
Component-5	Gender Mainstreaming in Agriculture and Water Sector	
5.1	Supporting the institutionalization of gender mainstreaming in water management	1) To develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act 2) To incorporate gender perspectives into existing capacity building activities in water management 3) To establish gender disaggregated data collection system
5.2	Enhancement of women's capability and participation in WUA	1) To formulate WUA Women Wing 2) To facilitate to introduce the Women Friendly activities, such as women friendly facilities and women friendly trees 3) To encourage women participation in WUA activities 4) To provide trainings and exposure activities on water management and organizational management
5.3	Capacity building on agricultural technologies through SHGs	1) To conduct orientation to-SHG women farmers in target area 2) To select the target groups 3) To provide training for group management 4) To provide training for agricultural technique 5) To monitor and mentor the groups for sustainable activities
Component-6	Project Management and Monitoring	
6.1	Procurement of Office Equipment	1) To procure vehicles for daily operation 2) To procure office furniture 3) To procure office equipment, e.g. personal computers, copiers, UPS, etc. 4) Survey equipment
6.2	NGO Services	1) To procure 5 NOGs for supporting to (a) WUA establishment, (b) agriculture & marketing, and (c) gender mainstreaming activities
6.3	Monitoring & Training for Environmental and social aspect	1) To provide trainings to Project Staff at the sub-PMU level 2) To monitor the soil and water qualities, pollution testing during construction

Component No	Scopes of Works
	3) To execute annual Environmental Assessments (in-house) for 10 sub-projects for 5 years 4) To conduct third party environmental assessment

Source: JICA Survey Team

(7) Long List of Candidate Sub-Projects

As of the date of compilation of this CAMP, total candidate sub-projects are 156 sub-projects in total and detail information are given in Attachment 2.1.1.

2.2 General and Specific Approaches in the Project

There are the following 4 major approaches for overall project management. The details should be refer to the Final Report of preparatory survey of RWSLIP prepared by JICA Preparatory Survey Team.

- (1) Well-balanced Approach in Export and Domestic Consumption
- (2) Changing from the Weakness to the Strength with Project Implementation
- (3) Promotion of High-value Fruits/Vegetables
- (4) Proper Combination of Software Components and Hardware Components

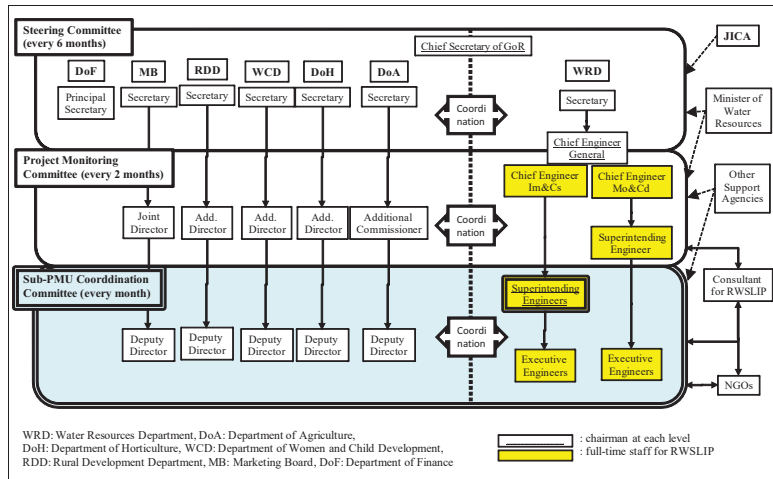
Summary tables of all the project activities in the Project are given in Attachment 2.2.1a - Attachment 2.2.1d.

Detailed approaches for implementation of each components should be refer to Attachment 2.2.2.

2.3 Overall Implementation Structure

2.3.1 Committees for Project Coordination, and Monitoring

There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the Project Management Unit (PMU) level, and the Sub-PMU Coordination Committee at sub-PMU level as described in the following figure.



Source: JICA Survey Team

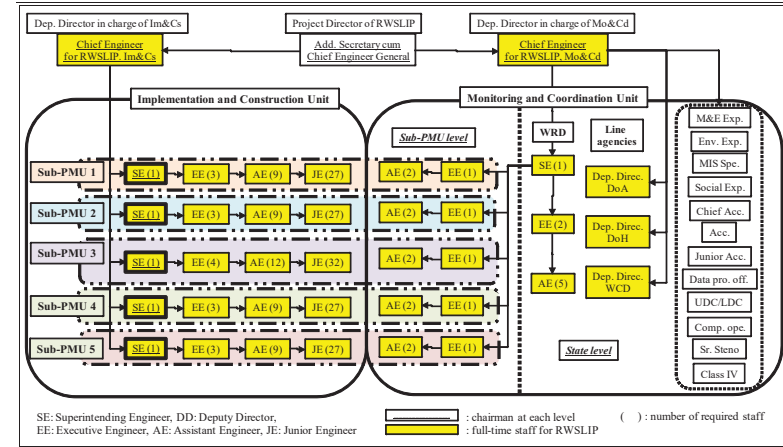
Figure A 2.3.1 Implementation Structure of Steering Committee and Project Monitoring Committee

2.3.2 Project Management Unit (PMU)

As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur sub-PMU region),
- (ii) Kota zone (Kota sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur sub-PMU region),
- (iv) Ganganagar area in North zone (Ganganagar sub-PMU region), and
- (v) Hanumangar area in North zone (Hanumangar sub-PMU region).

Those 5 sub-PMU offices play a significant role in supervising construction works and controlling all the other project works on the ground. Each Superintending Engineer of WRD will be fully responsible for all the project works including activities for soft components as well as construction works.



Source: JICA Survey Team

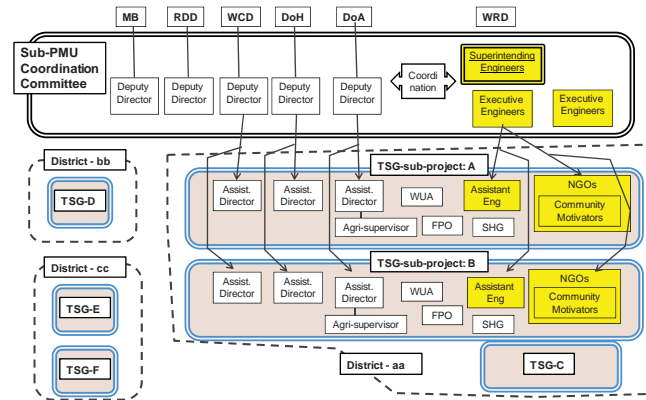
Figure A 2.3.2 Implementation Structure of Project Management Unit (PMU)

2.3.3 Technical Support Group at Sub-project level

The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- i) Department of Agriculture,
- ii) Department of Horticulture,
- iii) Women and Child Development Department,
- iv) Water Resource Department,
- v) regional NGO,
- vi) WUAs
- vii) FIG/FPO, and
- viii) SHG.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure A 2.3.3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

2.4 Implementation Schedule

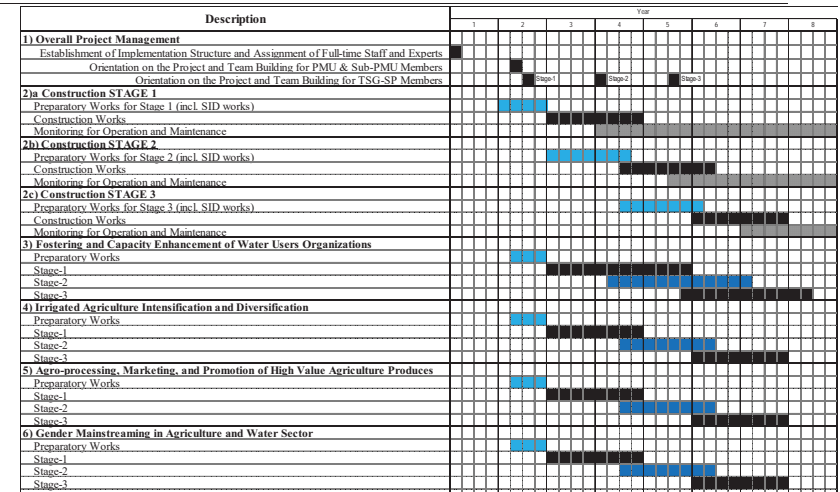
2.4.1 Overall Implementation Schedule for All the Components

Total project period for implementation of RWSLIP is 8 years, and actual construction of rehabilitation works, agriculture training, marketing activities and other most of activities will be started at 3rd years. As explained in the previous sections, construction works and other activities are split into 3 stages, such as Stage-1, Stage-2 and Stage-3.

Most of activities for soft components, such as (i) Fostering and Capacity Enhancement of Water Users Organizations, (ii) Irrigated Agriculture Intensification and Diversification, (iii) Agro-processing, Marketing, and Promotion of High Value Agriculture Produces, and (iv) Gender Mainstreaming in Agriculture and Water Sector will be simultaneously implemented at the same period of the construction works of irrigation facilities in each stage. An activity period of (i) Fostering and Capacity Enhancement of Water Users Organizations, however, has slightly longer activity period, in particular, regarding the timing of termination of the services. Because beneficiaries in Stage-3 need several supports for WUA strengthening for 6 months after transferring the irrigation facilities to WUA at the end of the construction period.

Overall implementation schedule is shown in the following figure and the detailed implementation schedule for each component is given in the following sections.

In order to expedite prompt project commencement at the beginning stage of the Project, it is strongly recommended that a specific input of man-power for supporting the procurement process of the consultant and the SID consultant should be provided by the WRD or JICA, if possible on an appropriate timing and quantity. Because it is preferable that tender documents for bidding of the consultant and SID consultant should be prepared in prior to conclusion of the Loan Agreement between the 2 government.



Source: JICA Survey Team

Figure A 2.4.1 Overall Implementation Schedule

PART-II: SPECIFIC CONDITION

CHAPTER 3 DETAILED ACTION PLANS

3.1 General

This is Part-II of the Command Area Micro Plan (CAMP). Part-II shall describe specific activities of the soft components exclusively within the controllable reach of Jaipur sub-PMU.

3.1.1 Demarcation of the Project Activities

The overall activities given in Chapter 2, i.e. Attachment 2.2.1a -2.2.1d, should be defined and categorised as follows for demarcating the responsibility of the project works between (i) overall management system by the Project office in Jaipur and (ii) sub-PMU management system by the sub-PMU offices.

Table A3.1.1 Demarcation of the Project Activities

Demarcation Category	Description	Example	Budget formulation by
(1). Controlled by the Project Main Office in Jaipur	1) Project-level Activities which covers overall area or personnel	- project overall meetings - a Training of Trainers (ToT) for high rank officers in Jaipur, which will be held only once at an entire project level.	Main project office will formulate and control
B. Controlled by sub-PMU office	2) Sub-PMU-level Activities which covers plural sub-projects, which could be managed within a reach of a personal in charge of a single sub-PMU.	- A training which is held with various participants from several sub-projects of a single sub-PMU. - An activity which will be held at sub-PMU level	The sub-PMU office should formulate draft budget with an assistant of the SID consultant when the SID consultant prepares CAMP as well as DPR.
	3) Sub-Project-level Activities which can be controlled within the sub-project., which could be managed within a reach of a person in charge of a sub-project.	- An activity which will be held at each WUA. - An activity which will be held within a single sub-Project level	

While the Project-level activities in the above table should be planned and controlled by the project Main Office in Jaipur as well as budget formulation, activities in the sub-PMU-level and sub-project level should be planned precisely in CAMP.

CAMP shall include the project cost which covers only the activities at the sub-PMU-level and sub-project level.

To facilitate understanding, the schematic image of those demarcations, category and the plans which should be prepared by SID consultants, i.e. DPR and CAMP, is depicted in the following figure precisely.

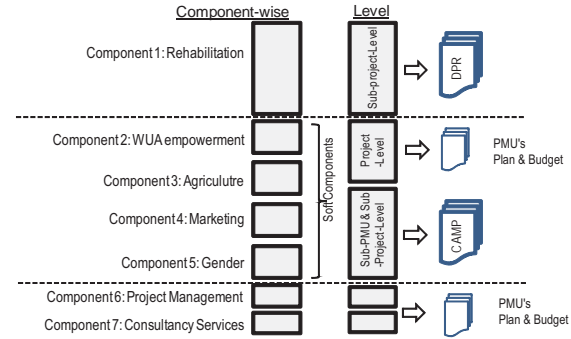


Figure A 3.1.1 Demarcation of Activities

The table below shows all the project activities in the entire project and its demarcation as explained above. The writer of CAMP should refer it and follows those categories when he prepare CAMP.

3.2 CAMP at the Sub-PMU Level

3.2.1 The Sub-projects in the Sub-PMU in This Stage

The Jaipur sub-PMU covers 12 sub-projects in Stage-1. The sub-projects are sorted by Districts and shown in the following table.

Table A 3.2.1 List of Sub-Projects in Jaipur Sub-PMU

District	Name of sub-project	CCA in ha	Estimated number of WUA*
1 Ajmer district	1-1 AAAAA sub-project	**** ha	***** WUAs
1 Ajmer district	1-2 BBBBB sub-project	**** ha	***** WUAs
1 Ajmer district	1-3 CCCCC sub-project	**** ha	***** WUAs
2 Alwar district	2-1 DDDDD sub-project	**** ha	***** WUAs
2 Alwar district	2-2 EEEEE sub-project	**** ha	***** WUAs
3 Jaipur district	3-1 FFFFF sub-project	**** ha	***** WUAs
3 Jaipur district	3-2 GGGGG sub-project	**** ha	***** WUAs
3 Jaipur district	3-3 HHHHH sub-project	**** ha	***** WUAs
3 Jaipur district	3-4 WWWWW sub-project	**** ha	***** WUAs
3 Jaipur district	3-5 TTTTT sub-project	**** ha	***** WUAs
3 Jaipur district	3-6 KKKKK sub-project	**** ha	***** WUAs
3 Jaipur district	3-7 LLLLL sub-project	**** ha	***** WUAs

Note: *Estimated WUA = CCA/1,000ha

3.2.2 Locations of Activities

Locations of activities are categorized as shown in the table below. Promotion of exotic vegetables will be implemented in/around 7 tourist places, Ajmer, Alwar, Sawai Madhopur, Jaipur, Jodhpur, Chittorgarh and Udaipur. One sub-project in concerned districts should be chosen as a demonstration farm. If not available in concerned district, the district nearby tourist place should be selected instead. In case of Agro Food Park, the districts near each Agro Food Park are also chosen. Agri Export Zones were demarked for setting up agriculture based processing industries, mainly for export.

Table A3.2.2 Districts Targeted to Activities in Agriculture and Marketing

Areas	Produces	No.	Location / variety	Targeted Districts
Tourist places	Exotic vegetables	1	Ajmer	Ajmer
		2	Alwar	Alwar
		3	Sawai Madhopur	Sawai Madhopur
		4	Jaipur	Jaipur, Tonk
		5	Jodhpur	Jodhpur, Pali
		6	Chittorgarh	Chittorgarh
		7	Udaipur	Udaipur
Citrus production Area	Kinnow mandarine	1	Hanumangar	Hanumangar
		2	Ganganagar	Ganganagar
	Santra orange	1	Jhalawar	Jhalawar
		2	Kota	Kota
Agro Food Park	Cereals, pulses, oilseeds	1	Ganganagar	Ganganagar, Hanumangar
		2	Jodhpur	Jodhpur, Pali
		3	Kota	Kota, Bundi, Baran, Jhalawar
Mega Food Park	Cereals, pulses, oilseeds	1	Ajmer	Ajmer, Sawai Madhopur
Agro Export Zone	Spice seeds	1	Coriander	Kota, Bundi, Baran, Jhalawar, Chittorgarh
		2	Cumin	Nagaur, Barmer, Jalore, Pali and Jodhpur

Source: JICA survey team

3.2.3 Determination of Activities of the Sub-PMU

(1) Activities by Districts and Number of the Sub-Projects in the Sub-PMU

Following the instruction of guideline of "GUIDELINE FOR PREPARATION OF CAMP", the proposed activities in each-PMU and the number of the sub-projects in each district were summarised as shown in Attachment 3.2.1a – Attachment 3.2.1d, as using Format GL3.2.1a - Format GL3.2.1d provided by the Guideline.

(2) Work Volume and Cost of Activities at the Sub-PMU-level

As referring (i) Attachment GL3.2.2a – Attachment GL3.2.2d, and (ii) Format GL3.2.2a - Format GL3.2.2d in the Guideline, work volumes, frequencies, and costs were estimated and summarised in Attachment 3.2.2a - Attachment 3.2.2d.

(3) Unit Cost of Activities at the Sub-PMU-level

Unit costs described in Attachment 3.2.2a - Attachment 3.2.2d are calculated based on the data given in Format GL3.2.3a - Format GL3.2.3d. Details should be referred to Attachment 3.2.3a - Attachment 3.2.3d.

(4) Detailed Activity Sheets at the sub-PMU-level

Attachment 3.2.4a - Attachment 3.2.4d show detailed activity sheets, using Format GL 3.2.4, based on Attachment 2.2.1a - Attachment 2.2.1d in the CAMP.

At the moment of this preparation for the CAMP, all the required data in those sheets could not be filled. Thus the planner and implementer should revised and update them time by time for controlling and monitoring the activities.

Table A 3.2.3 Cost of Activities in the Jaipur Sub-PMU

	Components	Activity Cost (INR)	Refer to Attachment No.	
			Total Costs	Unit Costs
1	Fostering and Capacity Enhancement of Water Users Organizations	????	Attachment 3.2.2a	Attachment 3.2.3a
2	Irrigated Agriculture Intensification and Diversification	????	Attachment 3.2.2b	Attachment 3.2.3b
3	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	????	Attachment 3.2.2c	Attachment 3.2.3c
4	Gender Mainstreaming in Agriculture and Water Sector	????	Attachment 3.2.2d	Attachment 3.2.3d

3.3 CAMP at the Sub-project Level

3.3.1 Determination of Activities of the Sub-Project

There are XXX subprojects in the sub-PMU. In each sub-project, detail activity plan, including detail activity sheets, its cost and any other required data, should be prepared.

Following the instruction of guideline of "GUIDELINE FOR PREPARATION OF CAMP", the costs for proposed activities in each-project were summarised in the following table, and the detailed cost breakdowns data and descriptions of the activity plan are also summarised in the following attachment.

Table A 3.3.1 List of Sub-Projects in the Jaipur Sub-PMU

District		Name of sub-project		Activity Cost (INR)	Attachment No.
1	Ajmer district	1-1	AAAAA sub-project	????	Attachment 3.3.1
1	Ajmer district	1-2	BBBBB sub-project	????	Attachment 3.3.2
1	Ajmer district	1-3	CCCCC sub-project	????	Attachment 3.3.3
2	Alwar district	2-1	DDDDD sub-project	????	Attachment 3.3.4
2	Alwar district	2-2	EEEEEE sub-project	????	Attachment 3.3.5
3	Jaipur district	3-1	FFFFFF sub-project	????	Attachment 3.3.6
3	Jaipur district	3-2	GGGGG sub-project	????	Attachment 3.3.7
3	Jaipur district	3-3	HHHHH sub-project	????	Attachment 3.3.8
3	Jaipur district	3-4	WWWWW sub-project	????	Attachment 3.3.9
3	Jaipur district	3-5	TTTTT sub-project	????	Attachment 3.3.10
3	Jaipur district	3-6	KKKKK sub-project	????	Attachment 3.3.11
3	Jaipur district	3-7	LLLLL sub-project	????	Attachment 3.3.12

Those attachments include the following contents based on Format GL3.3.1 provided in the Guideline:

- Attachment 3.3.X (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.X (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.X (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.X (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.X (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.X (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.X (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.X (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.X (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.X (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.X (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.X (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

Attachment 2.2.1a Summary of Project Activity (Component-2: WUA)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A. Establishment of WUA Support Mechanism								
A1. Development of Project Materials								
A1-1. Training Materials on Water Management and WUA Management <u>Objectives:</u> To develop training materials to explain: how to manage irrigation water and scheme, how to manage WUA and how to promote women's participation in water management as well as WUA, how to make a gender action plan (annual and long term)	<u>In charge:</u> Consultant <u>Cooperated by:</u> IMTI, WCD <u>Logistics:</u> Consultant <u>Venue:</u> Jaipur <u>Frequency:</u> Once at the beginning of stage	The materials are used in ToT and training on water management and WUA management 1. TSG-SP (7 person per SP) 2. NGO staff (Team leader: 5 person) 3. NGO staff (Sector expert: 1-4 persons per Sub PMU) 4. NGO staff (Community Motivator: 1 person per WUA) 5. WUA managing committee members (3 persons per WUA)	Develop and print the training materials. The training materials covers the following topics 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities including environmental aspects) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management 5. environmental issues and activities under water management 6. gender analysis and gender action plan 7. handing over procedure	1. consultant 2. printing cost	consultant PMU			- Part for "handing over procedure" can be prepare later -the materials should be gender-responsive, for example, using pictures/drawing shown both male and female farmers, reflecting both male's and female's needs/thought
A1-2. Leaflet on the Project Concept and Activities for Water Users <u>Objectives:</u> to develop leaflet to disseminate information on the Project and WUA	<u>In charge:</u> consultant <u>Cooperated by:</u> PMU(WRD) <u>Logistics:</u> consultant <u>Venue:</u> Jaipur <u>Frequency:</u> at the beginning of the Project	1. water users (50 copies per WUA) 2. sub-PMU level (50 copies per sub-PMU)	Develop and print the leaflet. The Leaflet needs to cover the following information. 1. objectives of the Project 2. duration and schedule of the Project 3. roles and responsibility of WUA 4. model schedule of WUA formation and activities with gender and environmental aspects	1. consultant	consultant			Hindi language will be preferable.

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A2. Trainings in Different Level								
A2-1. TOT on Water Management and WUA Support for TSG-SP Members and NGO Staff <u>Objectives:</u> To understand water management and WUA support with gender aspects and how to conduct field activities To understand how to teach the topics to WUA/NC members	<u>In charge:</u> consultant <u>Cooperated by:</u> IMTI, PMU(WCD) <u>Logistics:</u> PMU <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage	1. TSG-SP staff (7 person per SP) 2. NGO staff (Team leader: 5 person) 3. NGO staff (Sector expert: 1-4 person per sub-PMU)	Classroom lecture and group work 1. adult learning theory and principles 2. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities including environmental aspects) 3. operation and maintenance of irrigation scheme (including how to make annual plan) 4. water charge policy 5. administrative and financial management 6. environmental issues and activities under water management 7. gender analysis and gender action plan 8. handing over procedure 9. topics for WUA/NC and TC meeting cum training	1. facilitator (consultant) 2. training materials 3. facilitator (private and/or governmental organization) 4. allowance/transportation of consultant and facilitator from outside 5. facilitator (IMTI) 6. venue 7. lodging and food 8. classroom 9. stationery 10. allowance/transportation of TSG-SP staff 11. allowance/transportation of NGO staff	consultant PMU NGO			- Training will be done for maximum 50 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise - Consultants need to prepare 35-40 topics for WUA/NC and TC meeting cum training: water management 10, agriculture/marketing 10, gender 10, environment 5-10) so that TSG-SP/NGO can choose suitable topics for that area and the season
A2-2. Training on Water Management and WUA Support for NGO staff (Community Motivator) <u>Objectives:</u> To understand water management and WUA support with gender aspects and how to conduct field activities	<u>In charge:</u> consultant <u>Cooperated by:</u> IMTI, PMU(WCD) <u>Logistics:</u> PMU <u>Venue:</u> KVK in each sub-PMU <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage	1. NGO staff (Community Motivator: 1 person per WUA)	Classroom lecture and group work 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy	1. facilitator (consultant) 2. training materials 3. allowance/transportation of consultant 4. facilitator (IMTI) 5. venue 6. lodging and food 7. classroom 8. stationery 9. training materials developed by the project	consultant PMU			- Training will be done for around 30 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
			4. administrative and financial management 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct field activities	10. allowance/transportation of NGO staff	NGO			
A3. Project Management Activities								
A3-1. Planning Workshop in Sub-project Level <u>Objectives:</u> To develop work plan for stage and for annual as TSG-SP team	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage	1. TSG-SP (7staff per Sub-project), 2. NGO staff (Community Motivator, 1 person per WUA=1-10 person per Sub-project)	1. Compile activities under Sub-project and WUA level for the on-going stage. 2. Develop annual work plan based on the stage-wise plan. Breakdown each activities in preparation, implementation and monitoring and confirm timing, responsible person, necessary action.	1. facilitator (NGO Team leader or Sector expert) 2. Community Motivator 3. allowance/transportation of NGO staff 4. TSG-SP members 5. stationery 6. venue 7. allowance/transportation of TSG-SP staff	NGO PMU			Each TSG-SP team has stage-wise and annual work plan for smooth coordination and operation. Sub-PMU and NGO team leader/sector expert provide necessary support and monitor the progress based on the plan. Annual plan for the second year is developed in TSG-SP monthly meeting.
A3-2. Monthly Meeting in Sub-PMU <u>Objectives:</u> To plan and review activities monthly To develop annual work plan at the beginning of the year To invite person concerned to on-going activities and share the information (ex. Revenue department for water charge collection, KVK for coming training, NABARD for loan scheme, etc.)	<u>In charge:</u> WRD (Sub-PMU) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-PMU <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. Sub-PMU member (7-10 person per Sub-PMU) 2. NGO staff: (1 Team leader and 2-5 Sector expert per Sub-PMU)	1. Review of progress in the previous month 2. Discuss issues reported from the field and any other agendas 3. Plan for this month: especially field visit needs to be planned efficiently (each Sub-PMU member visits all the Sub-project quarterly basis, Executive Engineer visits Sub-projects monthly)	1. Sub-PMU members 2. venue 3. allowance/transportation of Sub-PMU member 4. NGO Team leader and Sector expert 5. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-3. Monthly Meeting in TSG-SP <u>Objectives:</u> To plan and review activities monthly To develop annual work plan at the beginning of the year To invite person concerned to on-going activities and share the information (ex. Patwari (tax collector), agro-vet shop owner for seasonal inputs, etc.)	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. TSG-SP (7staff per Sub-project), 2. NGO staff (Community Motivator, 1 person per WUA=1-10 person per Sub-project) 3. NGO Team leader or Sector expert (1 person), advisable	1. Review of progress in the previous month 2. Discuss issues reported from the field and any other agendas 3. Plan for this month: especially field visit needs to be planned efficiently (each TSG-SP member visit at least one of the WUA: all the WUA are visited by one of the TSG-SP member monthly)	1. TSG-SP members 2. venue 3. allowance/transportation of TSG-SP member 4. NGO Community Motivator 5. NGO Team leader or Sector expert 6. allowance/transportation of NGO staff	PMU NGO			
A3-4. Monitoring/mentoring of implementation of the Activity in WUA level <u>Objectives:</u> To monitor the progress To provide practical advice to improve implementation of the activities as well as attitude of staff and water users	<u>In charge:</u> PMU <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project and WUA <u>Duration:</u> various <u>Frequency:</u> PMU and consultant: half yearly (at least cover all Sub-PMU) IMTI: annually (at least cover all Sub-PMU) Sub-PMU: quarterly (Ex. En: monthly) TSG-SP: monthly NGO management: quarterly NGO team leader and sector expert: monthly NGO com. Motivator: daily	1. Sub-PMU 2. TSG-SP 3. NGO 4. WUA 5. Women Wing 6. SHG	1. Upper unit of the Project organization visits lower unit and its field 2. Monitor the progress as well as implementation process 3. Provide practical advice to improve implementation of the activities and improve attitude of staff and water users	1. PMU members 2. IMTI lecturers 3. Sub-PMU members 4. TSG-SP members 5. allowance/transportation of PMU, IMTI, Sub-PMU and TSG-SP member 6. NGO management 7. NGO Team leader 8. NGO Sector expert 9. Community Motivator 10. allowance/transportation of NGO staff	PMU NGO			
B. Capacity building of WUA management								
B1. Formation of WUA								

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B1-1. Water users meeting to form Pre-WUA (1st stage only) <u>Objectives:</u> To explain necessity of forming Pre-WUA to water users and to form Pre-WUA	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> beginning of 1st stage	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. explain the Project activities and necessity of forming Pre-WUA to water users 2. explain roles and responsibilities of Pre-WUA 3. give detail information on coming activities including official WUA formation schedule 4. form Pre-WUA with by mutual consensus	1. Sub-PMU members 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			
B1-2. Orientation for villagers in SP area <u>Objectives:</u> To provide information on the Project and sub-project to villagers (both land owners and other farmers)	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. Governmental organization staff (gram panchayat staff, Patwari (tax collector), block office staff, etc.) 2. Villagers (land owners, farmers, etc. both male and female) at least 5-10 people from each WUA area	1. explain objectives and activities of the Project 2. provide information on the Sub-project 3. explain roles and responsibility of WUA and its formation process 4. fix the date for general meeting with water users in WUA area	1. Sub-PMU members 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			- in 2 nd and 3 rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule - invite villagers and governmental organization staff concerned as much as possible - Number of female participants should be more than 30% of male
B1-3. General meeting of users (husband and wife) in WUA wise <u>Objectives:</u> To provide detail information on WUA	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1/2 days	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. provide detail information on the sub project (activities and time schedule, organizational structure, etc.) 2. explain roles and responsibilities of WUA,	1. Sub-PMU member (WRD Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member	PMU			- in 2 nd and 3 rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
formation and fix the schedule for election	<u>Frequency:</u> once at/before the beginning of each stage		process of WUA formation and Women Wing 3. fix the schedule for territorial constituency meeting and for election	6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO			- invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's
B1-4. Orientation for Territorial Constituencies <u>Objectives:</u> To provide enough information to run for or to elect WUA managing committee member from each territorial constituency	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 50 person of the territorial constituency	1. explain PIM act and rules briefly 2. explain roles and responsibilities of WUA, process of WUA formation and Women Wing (activities and time schedule, implementation structure, etc.) 3. provide detail information on necessary procedure on WUA managing committee member election	1. TSG-SP members 2. allowance/transportation of TSG-SP member 6. NGO Team leader or Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			- in 2 nd and 3 rd stage, this activity should be conducted at least 2 months before starting the construction stage because of election schedule - invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's
B1-5. Election of President and Managing Committee (MC) of WUA <u>Objectives:</u> To elect president and Managing Committee (MC) of WUA	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (land owner)	1. Prepare for election according to PIM Act and Rules: preparation of voter list and its display, appointment of election officer, assistant election officer, notice of election,	1. Sub-PMU member (WRD Superintendent or Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks	
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by		
			nomination paper, ballot paper, ballot box, etc. 2. election, counting and declaration of results immediately after poll	6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO				
B2. Capacity building activities									
B2-1. Training on water management for President and MC members <u>Objectives:</u> To train WUA president and managing committee(MC) members on water management and WUA management for sustainable use of irrigation scheme	<u>In charge:</u> NGO Team leader <u>Cooperated by:</u> Sub-PMU, KVK <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 days <u>Frequency:</u> beginning of each stage	1. WUA president (1 person per WUA) 2. WUA/MC member (2 person per WUA) 3. Women Wing (WW) members (3 person per WUA)	Classroom lecture, group work and field visit 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management (briefly) 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct WUA activities	1. facilitator: Sub-PMU members 2. facilitator: KVK 3. training materials developed by the project 4. allowance/transportation of Sub-PMU member and KVK 5. venue 6. lodging and food 7. classroom 8. stationery 9. travel cost for participants (WUA/MC members, WW members)	PMU			- Training will be done for around 30 participants in each time - including exposure visit - Include agriculture, environment and gender session - Part for "handing over procedure" can be trained later in sub-PMU wise - administrative management is guided through OJT - financial management training is conducted WUA wise practically and guided through OJT	

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				10. facilitator and manager: NGO Team leader 11. facilitator and assistant: NGO Sector expert 12. allowance/transportation of NGO staff	NGO			
B2-2. Orientation on organization management for WUA members <u>Objectives:</u> To introduce elected WUA members officially to water users To share and discuss WUA's annual plan	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> once after the training for WUA/MC members	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. introduce elected WUA members officially to water users 2. WUA/MC and WW share annual plan (including gender action plan) 3. explain roles and responsibility of sub-committees and form sub-committees	1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. venue 4. stationery 5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 8. allowance/transportation of NGO staff	PMU NGO			- invite users from the top to the bottom equally - Number of female participants should be more than 30% of male's - before conducting the orientation, MC meeting is conducted and develop annual plan with target/indicator including gender disaggregated target
B2-3. Training on record keeping for WUA/MC members <u>Objectives:</u> To train WUA/MC members on record keeping practically	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> once after the orientation	1. WUA president 2. WUA/MC members (4-6 person per WUA) 3. WW members (3 person per WUA)	Lecture and practices 1. introduction of financial management of WUA 2. basic principles of accounting 3. how and where to keep record 4. annual budget, financial statement and annual account 5. reporting and auditing	1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. venue 4. stationery 5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 8. allowance/transportation of NGO staff	PMU NGO			- using actual data and account ledgers - follow-up/mentoring at least quarterly basis at WUA/MC monthly meeting or WUA visit

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B2-4. Support to conduct MC monthly meeting cum training <u>Objectives:</u> To review and plan activities monthly To provide seasonal training/session on water management, agriculture/marketing, gender and environment	<u>In charge:</u> WRD (TSG-SP) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. WUA/MC members (5-7 person per WUA) 2. WW members (3 person per WUA)	1. review previous month's activities 2. discuss issues and agendas 3. plan activities for the month in detail 4. provide training/session on seasonal/suitable topics	1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. stationery 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff	PMU NGO			- Consultants prepare seasonal topics on water management, agriculture/marketing, environment and gender. TSG-SP and NGO choose one or two topics per meeting based on WUA's needs and suitability. At least two topics from every sector should be chosen per year. - "handing over procedure" should be explained in detail at the time of completion of the construction works
B2-5. Conduct Territorial Constituency monthly meeting cum training <u>Objectives:</u> To review and plan activities monthly To provide seasonal training/session on water management, agriculture/marketing, gender and environment	<u>In charge:</u> NGO (Com. Motivator) <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. water users in TC (at least 15 person per TC) 2. WW members (5 person per TC)	1. review previous month's activities 2. discuss issues and agendas 3. plan activities for the month in detail 4. provide training/session on seasonal/suitable topics	1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. stationery 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff	PMU NGO			- Consultants prepare seasonal topics on water management, agriculture/marketing, environment and gender. TSG-SP and NGO choose one or two topics per meeting based on WUA's needs and suitability. At least two topics from every sector should be chosen per year.

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B2-6. Annual WUA/MC's review meeting <u>Objectives:</u> To share experiences on WUA and SP management	<u>In charge:</u> Sub-PMU (WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> KV/K, Sub-PMU <u>Duration:</u> 2 days <u>Frequency:</u> annually (end of the year)	1. WUA/MC members (1-3 person per WUA) 2. WW members (2 person per WW) * in total 150 participants in one Sub-PMU	1. share experiences on WUA and SP management 2. award best perform WUA 3. provide update information on the Project 4. provide update information on water management, agriculture, gender and environment 5. visit field of good practices	1. Consultant 2. IMTI 3. Sub-PMU members 4. TSG-SP members 5. allowance/transportation of consultants, IMTI, Sub-PMU and TSG-SP member 6. venue 7. lodging and food 8. classroom 9. stationery 10. travel cost for participants (WUA/MC members, WW members) 10. NGO Team leader 11. NGO Sector expert 12. NGO Com. Motivator 13. allowance/transportation of NGO staff	PMU NGO			WW members participate in 1 st day session only.
B2-7. Stage-wise WUA review meeting	<u>In charge:</u> Consultant <u>Cooperated by:</u> PMU, Sub-PMU <u>Logistics:</u> Consultant <u>Venue:</u> IMTI <u>Duration:</u> 2 days <u>Frequency:</u> once at the end of each stage	1. WUA/MC members (3 person per WUA) x 2 per Sub-PMU 2. WW members (3 person per WUA) x 2 per Sub-PMU	1. share experiences on WUA, WW and SP management 2. award best perform WUA and WW 3. visit field of good practices	1. Consultant 2. IMTI 3. Sub-PMU members 4. TSG-SP members (in selected WUA, WW) 5. allowance/transportation of consultants, IMTI, Sub-PMU and TSG-SP member 6. venue 7. lodging and food 8. classroom 9. stationery 10. travel cost for participants (WUA/MC members, WW members)	Consultant			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				10. NGO Team leader 11 NGO Sector expert (related) 12 NGO Com. Motivator (related) 13. allowance/transportation of NGO staff	NGO			
B2-8. Follow-up training on water management and organizational management <u>Objectives:</u> To follow-up knowledge especially on water management, operation and maintenance	<u>In charge:</u> NGO (Team leader) <u>Cooperated by:</u> Consultant, IMTI <u>Logistics:</u> Consultant <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at/before the beginning of each stage	1. WUA president (1 person per WUA) 2. WUA/MC member (2 person per WUA) 3. Women Wing (WW) members (3 person per WUA)	Classroom lecture, group work and field visit Briefly review on: 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. administrative and financial management (briefly) 3. gender analysis and gender action plan Detail and practical session on: 4. operation and maintenance of irrigation scheme (including how to make annual plan) 5. water charge policy 6. how to conduct WUA activities sustainably	1. facilitator: consultant 2. facilitator: IMTI 3. training materials developed by the project 4. allowance/transportation of Sub-PMU member and KVK 5. venue 6. lodging and food 7. classroom 8. stationery 9. travel cost for participants (WUA/MC members, WW members) 10. facilitator: NGO Team leader 11. allowance/transportation of NGO staff	Consultant NGO			- more focus on water management, operation and maintenance - 1 training – 50 participants
B3. WUA management								
B3-1. Support MC members to participate in Walk-through survey <u>Objectives:</u> To conduct walk-through survey with presence of WUA/MC	<u>In charge:</u> TSG-SP(WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project, WUA <u>Duration:</u> 1 days <u>Frequency:</u> once at/before the beginning of each stage	1. WUA/MC members (5-7 persons per WUA) 2. WW members (3 person per WUA) 3. other interested water users	1. confirm and check the construction work and situation 2. take necessary measure to start construction work smoothly	1. TSG-SP member (WRD) 2. allowance/transportation of TSG-SP member 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff	PMU NGO			- check carefully use of the land along the irrigation canal for tree plantation

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B3-2. Support MC members to participate in weekly progress meeting in monthly basis <u>Objectives:</u> To share information on progress with WUA/MC and WW	<u>In charge:</u> TSG-SP(WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project, WUA <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly during construction period	1. WUA/MC members (5-7 persons per WUA) 2. WW members (3 person per WUA)	1. explain progress of construction works 2. discuss issues related to construction works 3. take necessary measure to implement construction work smoothly	1. TSG-SP member (WRD) 2. Sub-PMU (WRD, Ex. En.) 3. allowance/transportation of TSG-SP member and Sub-PMU (WRD, Ex. En.) 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff	PMU NGO			- There are weekly meeting and monthly meeting with contractor, but weekly meeting is more casual and suitable for WUA and WW members to participate. But no need to participate weekly, participating one of weekly meeting per month is enough.
B3-3. Support to conduct General Meeting of WUA <u>Objectives:</u> To conduct general meeting of WUA twice in a year effectively	<u>In charge:</u> TSG-SP (WRD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> half yearly, before Rabi and Kharif season (April and October)	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. report progress of WUA and WW activities with progress of gender action plan 2. report financial management of WUA and WW 3. explain water management plan for coming season and discuss issues and demands of water users 4. inform timing and means of water charge collection	1. TSG-SP members 2 Sub-PMU (WRD, Ex. En.) 3. allowance/transportation of TSG-SP members and Sub-PMU (WRD) 4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff	PMU NGO			
C. Improvement of agricultural linkage								
C1. Strengthen linkage between farmers and agricultural organization								
C1-1. Monthly coordination meeting on agricultural activities <u>Objectives:</u> To develop linkage with agricultural organization	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU <u>Venue:</u> Agriculture Services Centre	1. Agriculture Services centre 2. related organization (agro-vet shop, banks providing	1. meet monthly basis and get seasonal information to be able to share in WUA/MC and TC monthly meeting 2. discuss potential of demonstration activities	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
	<u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	agricultural loan, etc.)		3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	NGO			
C1-2. Invite Agriculture supervisor (DoA) to MC/TC monthly meeting <u>Objectives:</u> To develop linkage between Agriculture supervisors and WUA/TC	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU <u>Venue:</u> WUA, TC <u>Duration:</u> 1/2 days <u>Frequency:</u> monthly	1. Agriculture supervisor 2. WUA/MC members 3. water users in TC	1. provide seasonal advices and information on available support	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH) 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	PMU NGO			
C1-3. Coordinate with existing Farmers Organization <u>Objectives:</u> To link interested water users to Farmers Organization	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> Sub-PMU (DoA/DoH, Marketing Board) <u>Logistics:</u> PMU <u>Venue:</u> Sub-PMU <u>Duration:</u> <u>Frequency:</u> throughout the Project	1. existing Farmers Organization 2. interested water users	1. collect information on existing Farmers Organization 2. provide collected information through WUA/MC, TC meeting 3. introduce interested water users to Farmers organization	1. Sub-PMU member (DoA/DoH, Marketing board) 2 allowance/transportation of Sub-PMU members (DoA/DoH, marketing board) 3. NGO sector expert 4. allowance/transportation of NGO staff	PMU NGO			
C2. Conduct agricultural demonstration								
C2-1. Establish demonstration plot to promote seasonal technology	<u>In charge:</u> TSG-SP (DoA/DoH) <u>Cooperated by:</u> NGO (sector expert and Com. motivator) <u>Logistics:</u> PMU <u>Venue:</u> Sub-project area <u>Duration:</u> 1/2 days	1. interested water user 1 person per Sub-project	1. prepare land 2. establish demonstration plot as instruction and inputs of DoA/DoH	1. NGO sector expert and community motivator 2. allowance/transportation of NGO staff	NGO	using DoA/DoH's demonstration program/scheme 1. agricultural inputs 2. allowance/transpo	DoA/DoH	

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<u>Objectives:</u> To demonstrate seasonal technology to water users	<u>Frequency:</u> half-yearly (Rabi and Khanif)					rtation of DoA/DoH staff		
C2-2. Conduct Farmers Field Day in the demonstration plot <u>Objectives:</u> To provide detail information of demonstrated technology and share experience of the farmer	<u>In charge:</u> TSG-SP (DoA/DoH) <u>Cooperated by:</u> NGO (sector expert and Com. motivator) <u>Logistics:</u> PMU <u>Venue:</u> Sub-project area <u>Duration:</u> 1/2 days <u>Frequency:</u> half-yearly (Rabi and Khanif)	1. 30 water users	1. invite water users in the neighbourhood 2. explain the technologies by DoA/DoH staff 3. share experience of the demonstrate farmer 4. provide information on loan scheme for necessary demonstrated technology and agricultural inputs (if possible)	1. NGO sector expert and community motivator 2. allowance/transportation of NGO staff 3. stationery 4. food and tea	NGO	using DoA/DoH's demonstration program/scheme 1. agricultural inputs 2. allowance/transpo rtation of DoA/DoH staff	DoA/DoH	- invite bank manager of nearest bank for giving information on loan facility related to demonstration
D. Corpus fund								
D1. Providing corpus fund to WUAs <u>Objectives:</u> To provide Corpus fund to WUAs	<u>In charge:</u> PMU(WRD) <u>Cooperated by:</u> <u>Logistics:</u> PMU <u>Venue:</u> <u>Duration:</u> - <u>Frequency:</u> at the completion of the construction works	WUAs	1. provide corpus fund					
D2. Monitoring corpus fund management <u>Objectives:</u> To monitor management of corpus fund in WUAs	<u>In charge:</u> Sub-PMU (WRD, Ex. En.) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> monthly, after one year of deposit of corpus fund	WUAs	1. monitor management of corpus fund in WUAs	1. Sub-PMU member (WRD, Ex. En.) 2 TSG-SP member (WRD, WRD) 3. allowance/transportation of Sub-PMU member (WRD) and TSG-SP (WRD) 3. NGO team leader and community motivator 4. allowance/transportation of NGO staff	PMU NGO			

Source: JICA Survey Team

Attachment 2.2.1b Summary of Project Activity (Component-3: Agriculture)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
Agriculture Training								
A. Training of Trainers for Agriculture								
A1. Workshop for implementation schedule (planning, monitoring and evaluation) and technical issues Objectives: To let them understand the project activities and solve the problems related to the project	In charge: Consultant Cooperated by: PMU, consultant, DoA/DoH, NGOs, Research officers and agronomists from 17 districts Logistics: Consultant Venue: SIAM Frequency: Once a year for 5 years/ State level	Target Group 1. Deputy director of Agriculture(1) and Horticulture(1) 2. PMU and 5 Sub-PMU (6) 3. Consultant (3), 4. NGO-Sub-PMU (5) 5. Research officers(17) from 17 districts 6. Agronomists (17) from 17 districts (50 persons/time)	-2 days workshop x 5 times 1 day: · Role and responsibility in RWSLIP · Planning of implementation schedule · Monitoring of implementation schedule · Result analysis and planning for next year 2 day: · Thematic issues related to agriculture techniques	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5. Resource person (SIAM) 6. Digital refractometer	Consultant DoA	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	State level workshop for planning, monitoring and evaluation (result analysis) of the project · Technical issues are discussed to solve the problems related agriculture · Refractometer is used for measurement of the sugar contents of vegetables and fruit in order to add value.
A2. Workshop for implementation schedule (planning, monitoring and evaluation) and technical issues. Objectives: To let them understand the project activities and solve the problems related to the project	In charge: Consultant Cooperated by: Sub-PMU, Consultant, DoA/DoH, NGOs Logistics: Consultant Venue: SIAM Frequency: Once a year for 5 years / Sub-PMU level (5 sub-PMUs)	Target Group 1. Consultant(1) 2. PMU (1) and Sub-PMU (1) 3. NGO Sub-PMU (1), 4. Agriculture supervisor (20) 5. Horticulture field level officers (20) 6. NGO Agriculture expert (4) (50 persons/time)	-2 days workshop x 5 x 5 · Role and responsibility in RWSLIP · Planning of implementation schedule · Monitoring of implementation schedule · Reporting of result of activities to PMU · Planning for next year	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5.Resource person(SIAM) 6. Handheld refractometer	Consultant DoA	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	Sub-PMU level workshop for planning, monitoring and evaluation (result analysis) of the project · Technical issues are discussed to solve the problems related agriculture · Refractometer is used for measurement of the sugar contents of vegetables and fruit in order to add value
A3. Training of trainers for general agriculture techniques Objectives: To provide training for intimation of cultivation techniques of cereals, pulses, oilseeds, spices and medicinal plants	In charge: DoA/DoH, NGOs Cooperated by: PMU Logistics: NGO-Sub-PMU Venue: KVK Frequency: Once a year / Sub-project level in stage-wise	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	- 2 days training Varieties and their features Cropping pattern Optimum use of water On-time application of fertilizer	1. Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	Sub-PMU level training of trainers · This training is general one and covers water-wise crops to save water

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
To understand how to teach techniques to farmers			Plant protection Harvest and post-harvest Cost and profit					
A4. Training of trainers for specific cultivation techniques on cereals, pulses and oilseeds Objectives: To provide opportunity to intimate the cultivation techniques To provide how to teach techniques to farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH officers, NGOs Logistics: NGO-Sub-PMU Venue: KVK Frequency: 1 time/ sub- PMU	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training Varieties and their features Optimum use of water with sprinkler On-time application of fertilizer Plant protection Harvest and post-harvest Cost and profit	1. Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	
A5. Training of trainers for specific cultivation techniques on spices and medicinal plants Objectives: To provide them the cultivation techniques To provide them how to teach techniques to farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH officers, NGOs Logistics: NGO-Sub-PMU Venue: KVK Frequency: 1 time/ Sub- PMU	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30persons/time)	2 days training Varieties and their features Optimum use of fertilizer Insect/diseases management Harvest and post-harvest Cost and profit	1.facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	
A6. Training of trainers for specific cultivation techniques on kinnow and santra orange Objectives: To provide them the cultivation techniques To provide how to teach techniques to farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH officers, NGOs Logistics: NGO-Sub-PMU Venue: KVK Frequency: 1 time/ sub- PMU	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 ersons/time)	2 days training Optimum use of water with drip irrigation On-time application of fertilizer Insect/diseases management Harvest and post harvest Cost and profit	1.Facilitator (PMU&PMU NGO) 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch for fruits and vegetables 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A7. Training of trainers for exotic vegetables Objectives: To provide them the cultivation techniques To provide how to teach techniques to farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH officers, NGOs Logistics: NGO-Sub-PMU Venue: KVK Frequency: 1 time/ sub- PMU	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training Varieties and their features • Optimum use of water with drip irrigation • On-time application of fertilizer • Insects/diseases management • Harvest and post-harvest • Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch for fruits and vegetable 6.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	
A8.Training of trainers for quality improvement Objectives: To provide the cultivation techniques for improvement of quality To provide how to teach quality improvement techniques to farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH officers, NGOs Logistics: NGO-Sub-PMU Venue: KVK Frequency: 1 time/ sub- PMU	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 ersons/time)	2 days training • What is marketing? • How to improve marketability • Harvest and post-harvest management • Value addition (seed selection to harvesting) • Measurement of TSS by refractometer	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource person(KVK)	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	
B. Exposure Visit for Agriculture Trainers								
A9. Exposure visit to advanced slate (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation Objectives: To provide opportunity to intimate advanced techniques To provide them improved training skills for farmers	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH and NGOs Logistics: NGO-Sub-PMU Venue: Punjab agriculture university Frequency: 1 time/ sub-PMU/project period	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts	4 days exposure visit Visit to experimental farm of fruits and vegetables with drip irrigation and mulch • Lecture on advanced cultivation techniques on fruits and exotic vegetables	1.Facilitator 2.Travelling cost & stay 3.Allowance 4. Venue 5. Tea&lunch 4.Training materials 6.Resource person (Punjab agriculture university)	Consultant PMU			
C. Improvement of Agriculture Support System								
A10. Task team for farmer's friendly manuals (compilation of 10 visual manuals for	In charge: DoA/DoH, NGOs Cooperated by: DoA/DoH and NGO-Sub-PMU	Target Group 1. DoA agriculture supervisors	5 months workshop Organizing task team Preparation of	1.Facilitator 2.Venue	Consultant PMU	1. Allowance/ transportation DoH/DoH staff	DoA/DoH	

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
farmers) Objectives: To let them understand how to improve training materials for farmers using visual aide	Logistics: DoA and DoH Venue: PMU Frequency: 10 times workshops/ one year advance before starting stage I	2. DoH field level officers 3. NGO agriculture experts	illustrations and narratives • Compilation of draft manuals • Testing the draft manuals in the field • Finalize the manuals • Printing and laminating the manuals • Training of extension staff how to use them • Distribution of manuals to each sub-projects	3.Tea&lunch 4.Printing cost 5. Laminating machine 6.Laminating sheet 7.Illustrator				
A11.Strengthening of information centre Objectives: To provide opportunity to improve information diffusion system on agriculture related matters (Ex. Seed availability, diseases and insects control, subsidies and etc.) by using mobile phone	In charge: DoA/DoH, PMU,PMC, NGO-PMU Cooperated by: DoA/DoH and NGO Sub-PMU Logistics: DoA and DoH Venue: DoA call centre Frequency: once a month/ 5 years	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts	5years program • Selection of necessary information to be diffused • Instalment of computers and software • Training of operator • Input of list of farmers • Trial operation of SMS • Implementation of SMS	1.Facilitator 2.Computers 3.Software for SMS 4.Trainer (SMS simultaneous transmission system) 5.Mechanical staff 6.SMS service cost	Consultant PMU	1. Allowance/ transportation DoA	DoA/DoH	
D. Agriculture Farmer's Training								
A12. Training of farmers for general agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants Objectives: To provide improved cultivation techniques for water-wise crops	In charge: DoA/DoH, NGO Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert and community motivators Venue: each WUA site Frequency: 2 times/year/WUA	Target Group 1. Farmers in non-focal area	One day training Varieties and their features • Cropping pattern • Optimum use of water • On-time application of fertilizer • Plant protection • Harvest and post harvest • Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource persons	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
A13. Training of farmers in focal area for specific agriculture	In charge: DoA/DoH, NGO Cooperated by: agri-expert	Target Group 1. Farmers in focal area	One day training Varieties and their feature	1.Facilitator	NGO agri-expert	1. Allowance/ transportation	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
techniques on cereals, pulses and oilseeds Objectives: To provide specific cultivation techniques for water-wise crops with sprinkler	Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: 2 times/year/WUA		Optimum use of water with sprinkler On-time application of fertilizer Plant protection Harvest and post-harvest Cost and profit of cultivation	2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	PMU	2.Resource person		
A14. Training of farmers in focal area for specific agriculture techniques on spices and medicinal plants Objectives: To provide specific cultivation techniques for water-wise crops in rain-fed condition	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: 2 times/year/WUA	Target Group 1. Farmers in focal area	One day training Varieties and their feature Optimum use of water On-time application of fertilizer Insects/disease management Harvest and post-harvest Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
A15. Training of farmers in focal area for specific agriculture techniques on kinnow and santra orange Objectives: To provide specific improved cultivation techniques for water saving with drip irrigation and mulch	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: Once/year/WUA	Target Group 1. Farmers in focal area	2 days training Optimum use of water with drip irrigation and mulch On-time application of fertilizer Insects/diseases management Pruning and training Harvest and post-harvest Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch sheet 6.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Once a year, one month before flowering season
A16. Training of farmers in focal area for quality improvement techniques on exotic vegetables Objectives: To provide specific improved cultivation techniques for water saving with drip irrigation and mulch	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: Once/year/WUA	Target Group 1. Farmers in focal area	2 days training Optimum use of water with drip irrigation and mulch On-time application of fertilizer Insects/diseases management Training and pruning Harvest and post-harvest Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5. Mulch sheet 6.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Once a year, 2 months before rabi season

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A17. Training of farmers in focal area for quality improvement Objectives: To provide specific improved cultivation techniques for quality up-grading	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: Once/year/WUA	Target Group 1. Farmers in focal area	One day training Selection of seed/variety Quality improvement and water stress On and off nutrition Use of effective materials Improvement of harvest and post-harvest	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Once a year, 1 month before rabi harvest season
A18. Marketing survey by farmers in focal area Objectives: To provide opportunity to improve marketing skills To provide opportunity to interact with advanced farmers and traders for quality improvement of concerned crops	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: Advanced farmers and markets	Target Group 1. Farmers in focal area	4 days training (exposure visit within state) Visit to advanced farmers Lecture on advanced techniques Visit to market Lecture on marketing skills	1.Facilitator 2.Travelling cost & stay 3.Tea&lunch 4.Training materials 5.Resource persons (NGO, farmers, traders)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	
E. Agriculture Demonstration Farm								
A19. Establishment of orange demonstration farm (4 farmers) 1ha Objectives: To provide venue for demonstration of specific agriculture techniques to improve quality of kinnow and santra oranges To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: Advanced farmers and markets	Target Group 1. Kinnow and santra orange farmers in focal area	3 years advises Establishment of orange demonstration farm Farm design Water application and fertigation Plant protection Hands-on training on pruning and training On-time harvesting and post-harvest in field level Cost and profit management	1.Facilitator 2. Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO) 5.Seedling of seedless kinnow/seedless santra orange 6. Fences	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A20. Establishment of exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha Objectives: To provide venue for demonstration of specific agriculture techniques to intimate exotic vegetable cultivation To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: Advanced farmers and markets	Target Group 1. Farmers in focal area	3 years advises • Establishment of orange demonstration farm • Farm design • Water application and fertigation • Plant protection • Hands-on training on pruning and training • On-time harvesting and post-harvest in field level • Cost and profit management	1.Facilitator 2.Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO) 5. Fences 6. Seeds	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists
A21. Mentoring of demonstration farm (oranges and exotic vegetables) (11 farmers) Objectives: To provide support to demonstration farmers To provide opportunity to improve quality of concerned crops	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: Advanced farmers and markets	Target Group 1. Farmers in focal area	Mentoring support • Water application and fertigation • Plant protection • Pruning and training • Harvesting and post harvesting	1.Facilitator 2.Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO)	NGO agri-expert	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists
A22. Monitoring of demonstration farm (Citrus and exotic vegetables) (11 farmers) Objectives: To provide opportunity to monitor the agriculture techniques of farmers To provide opportunity to check the quality of crops by using refractometer	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: Advanced farmers and markets	Target Group 1. Farmers in focal area	Monitoring • Monitoring the result (agricultural techniques) • Evaluation of the result (checking by refractometer) • Reflection the result to next year plan	1.Facilitator 2.Tea&lunch 3. Training materials 4.Resource persons (KVK/NGO)	NGO agri-expert	1. Allowance/ transportation 2.Resource person	DoA/DoH	Technical advisory group from concerned scientists

Note: Target areas/ districts/ sub-projects and additional data are summarized in another sheet.
Source: JICA Survey Team

Attachment 2.2.1d Summary of Project Activity (Component-2: Gender Mainstreaming)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A. Supporting the Institutionalization of Gender Mainstreaming in Water Management								
A1. Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act								
A1-1. Follow-up of Approval Process of Additional Clauses on PIM Act Objectives: To effect additional clauses on PIM Act in time	In charge: PMU (WRD,WCD) Cooperated by: Consultant Logistics: PMU Venue: Jaipur Frequency: beginning of the Project and at the end of the Project		1. follow-up progress of approval on additional clauses to PIM Act 2. If there is delay, find out the reason and take necessary action to proceed	1.consultant 2. PMU (WRD, WCD)	consultant PMU			
A1-2. Promoting and Monitoring of Adaptation of the Additional Clauses Objectives: to promote adaptation of PIM Act through the Project activities and to monitor degree of adaptation of the clauses	In charge: PMU (WRD,WCD) Cooperated by: Consultant Logistics: PMU Venue: various Frequency: throughout the Project	1.WUA 2.WW	1. check the situation from NGO quarterly report 2. take opportunity of meeting and field visit, provide practical advice and take necessary action to achieve the target	1. PMU (WRD, WCD) 2.Sub-PMU (WRD, WCD) 3.TSG-SP (WRD, WCD) 4. consultant 5. NGO	PMU consultant NGO			
A1-3. Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result Objectives: to submit further suggestion to be added in PIM Act based on result of the Project attempt	In charge: consultant (gender) Cooperated by: PMU (WRD, WCD) Logistics: Consultant Venue: PMU Frequency: at the end of the Project		1. compile further suggestion based on result of the Project attempt 2. submit the suggestion to relevant organisation to add to PIM Act	1.consultant (gender) 2. PMU (WRD, WCD)	consultant			
A2. Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management								

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A2-1. Preparation of Gender Session for Training on Water Management and WUA Management Objectives: To develop gender session for training on water management and WUA management	In charge: consultant (gender) Cooperated by: PMU(WCD), IMTI Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	The following orientation/training has gender session 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO) 3. Training for NGO Community Motivator 4. Training for WUA/Managing Committee(MC) and Women Wing (WW) 5. Meeting cu training for WUA/MC, Territorial Constituency and WW	Need to develop session plan on the following topics 1.introduction to gender (Briefly) 2. introduction of gender mainstreaming: concept and actual status in Rajasthan, gender mainstreaming in water management 3. gender analysis: introduction of tools, how to use the tools and how to analyse the result 4. gender action plan: how to develop, how to set target	1. consultant (gender) 2. PMU (WCD) 3. IMTI	consultant PMU			
A2-2. Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan (GAP) in WUA Objectives: To provide practical explanation and instruction on how to develop gender action plan in WUA	In charge: consultant (gender) Cooperated by: PMU(WCD), IMTI Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	explain in the following orientation/training 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO)	1. prepare session plan (A2-1) 2. explain what is gender action plan (long term and annual), show example of GAP, sample of indicators 3. group work to develop GAP in own work places (WRD, WCD, DoA/DoH, NGO) or activities 4. how to facilitate WUA to develop GAP with their work plan	1. facilitator (consultant gender) For orientation 2. venue 3. food and tea/snacks 4. allowance/transportation of consultant, PMU, Sub-PMU For ToT 4. facilitator (IMTI) 6. venue 7. lodging and food 8. classroom 9. stationery 10. training materials developed by the project allowance/transportation of participants (TSG-SP)	consultant PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				For ToT 10. allowance/transportation of NGO staff	NGO			
A2-3. Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting Objectives: To develop 10 topics on gender issues to use for meeting cum training in the field	In charge: consultant (gender) Cooperated by: PMU(WCD) Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	Explain in the following training 1. ToT for TSG-SP and NGO staff 2. Training for Com. Motivator Use in the following meeting cum training 1. monthly meeting cum training in WUA/MC 2. monthly meeting cum training in TC 3. monthly meeting cum training in WW	Prepare short session on gender issues related to rural life suitable for sharing in meeting cum training of WUA/MC, TC and WW Example: - Using gender analysis tools and discuss on the result (Roles and responsibilities on farm work, Roles and responsibilities on house and social work, daily activities from morning to evening, decision making on resources (access and control), etc.) - family planning and women's health - men and women life cycle (preventing child marriage)	1. consultant (gender) 2. PMU (WCD)	consultant			- Gender consultant need to prepare 10 topics on gender for WUA/MC and TC meeting cum training: in total 40 -45 with water management, agriculture/marketing and environment, so that TSG-SP/NGO can choose suitable topics for that area and the season
A2-4. Support to Coordinate between WUA and Women Wing	In charge: NGO team leader Cooperated by: Sub-PMU (WRD, WCD) Logistics: PMU Venue: WUA area Duration: throughout the Project Frequency:	1. WUA 2. WW	1. encourage WW members to participate in WUA and TC meeting and activities 2. facilitate WUA/MC members to understand importance of women's participation and coordinate to work with WW	1. NGO team leader 2. allowance/transportation of NGO staff. 3. Sub-PMU (WRD, WCD) 4. allowance/transportation of NGO staff.	NGO PMU			
A3. Establishment of Gender Disaggregated Data Collection System								

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-1. Preparing and Finalizing List of Sector-wise Gender Disaggregated Data <u>Objectives:</u> To finalize list of sector-wise gender disaggregated data to be collected in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)		1. list up necessary and related data to be collected in each sector 2. finalize the list with concerned organization and confirm how to collect data * Gender concerned activities are as follows: 1. Irrigation - Gender ratio of training participants and trainers; - Gender ratio of employers/workers on construction work; - Equal pay for equal work for the workers, etc 2. WUA Strengthening - Gender ratio of training participants and trainers; - Indicator of gender-responsive rules or guidelines of PIM Act 3. Agriculture/marketing - Gender-responsive training materials - Gender ratio of exposure tours - Gender ratio of FIGs and FPOs - Gender ratio of farmers and buyers involved 4. Gender Mainstreaming - Monitoring all the above data - Monitoring all the data in gender component	1. PMU (WCD)	PMU			
				2. consultant (gender)	consultant			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-2. Establishment of Monitoring System on Gender Concerned Activities <u>Objectives:</u> To confirm monitoring system on gender concerned activities in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage, during the Project orientation for PMU and Sub-PMU (Need to be reviewed in each stage)	1. PMU members (20 person) 2. Sub-PMU member (7-10 person per Sub-PMU)	1. propose monitoring system on gender concerned activities in the Project 2. finalize the monitoring system with concerned organization and confirm timing, responsible person, how to monitor and so on.	1. PMU members 2. Sub-PMU members	PMU			
				4. consultant	consultant			
A3-3. Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data <u>Objectives:</u> To monitor gender concerned activities and collect gender disaggregates data	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> consultant (gender), PMU (WCD), TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> field <u>Duration:</u> <u>Frequency:</u> Throughout the Project		1. monitor gender concerned activities through field visit 2. collect gender disaggregates data regularly	1. consultant 2. allowance/transportation of consultant	consultant			
				3. PMU (WCD) 4. Sub-PMU (WCD) 5. TSG-SP members 6. allowance/transportation of PMU, sub-PMU and TSG-SP member 7. NGO Team leader 8. NGO Sector expert 9. NGO Community Motivator 10. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-4. Analysing Collected Data and Compile in Annual Report <u>Objectives:</u> To analyse collected gender disaggregated data and compile in annual report	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> annual		1. analyse collected data 2. compile data and the result in annual report	1. PMU (WCD) 2. consultant (gender)	PMU consultant			
A3-5. Conduct Stage-wise Baseline survey <u>Objectives:</u> To conduct stage wise baseline survey on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all)	PMU			
A3-6. Conduct Stage-wise Assessment <u>Objectives:</u> To conduct stage wise assessment on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender) 5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	PMU consultant NGO			- in the report, advices from gender perspectives are given
A3-7. Evaluation of the Impact and Result of RWSLIP <u>Objectives:</u> To evaluate impact and result of RWLIP form the gender perspective	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach for compiling further suggestion on PIM Act	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender)	PMU consultant			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	NGO			
B. Enhancement of Women's Capability and Participation in WUA								
B1. Formulation of WUA Women Wing								
B1-1. General Meeting for water users at same time of formation of WUA <u>Objectives:</u> To provide necessary information on forming Women Wing	<u>In charge:</u> TSG-SP(WRD, WCD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. invite women to participate in coming TC orientation	1. Sub-PMU member (WRD Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			
B1-2.Orientation for Territorial Constituency at same time of formation of WUA <u>Objectives:</u> To provide detail information on Women Wing activities	<u>In charge:</u> TSG-SP(WRD, WCD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 50 person of the territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. discuss selection of Women Wing committee member. 2 each from every TC 3. inform date for Women Wing formation	1. TSG-SP members 2. allowance/transportation of TSG-SP member 6. NGO Team leader or Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B1-3. Formulation of Woman Wing per WUA <u>Objectives:</u> To form Women Wing	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1 days <u>Frequency:</u> After Orientation for Territorial Constituency, before WUA election	1. female water users 2 each from every TC. (in total 8-12 person) form Women Wing committee	1. form WW committee 2. fix the date for orientation	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. allowance/transportation of Sub-PMU and TSG-SP member	PMU			
				6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	NGO			
B1-4. Orientation on WW activities <u>Objectives:</u> To provide orientation on WW activities to start Women Friendly Activities immediately	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed	1. WW committee member (8-12)	1. Share information on WW activities as well as WUA trainings 2. Develop work plan	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. venue 7. food and tea/snacks 8. stationery	NGO			
B2. Facilitating to Introduce the Women Friendly Activities								

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B2-1. Facilitating to Discuss and Finalize Women Friendly Activities <u>Objectives:</u> To finalize plan for Women Friendly Activities before the walk-through survey	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed, before walk-through survey	1. WW committee member (8-12)	1. discuss women's needs on irrigation facility 2. discuss preferable trees to plant along with canal	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	NGO			
B2-2. Support Women Wing to plan and implement Women Friendly Facilities <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the construction of facilities and to implement by themselves	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> throughout the construction stage <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor construction works 2. develop work plan for throughout the construction and for short term (1-3months), indicating timing and responsible person 3. support WW members to implement the activities (reminding, accompanying and facilitating them)	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	NGO			
B2-3. Support Women Wing to plan and implement Women Friendly Trees <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the tree	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> throughout the construction stage <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor tree plantation (including hands-on training on how to plant and manage trees) 2. develop work plan for throughout the plantation work and for short term (1-3months), indicating timing and responsible person	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			
				3. NGO Team leader 4. Community Motivator	NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
plantation and to implement by themselves			3. support WW members to implement the activities (reminding, accompanying and facilitating them)	5. allowance/transportation of NGO staff 6. stationery				
B3. Encouraging Women to Participate in WUA Activities								
B3-1. Support WW Members to conduct WW Monthly Meeting <u>Objectives:</u> To support WW members to conduct monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW members (around 10 person)	1. remind WW members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month, related issues and plan for the month	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery 7. tea	PMU NGO			
B3-2. Support WW Members to Participate and Report in WUA/MC Monthly Meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA/MC monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to voice their opinion 3. facilitate WUA/MC members to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			- WUA members are also sensitised to accept WW members participation and to cooperate with WW

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	NGO			
B3-3. Support to WW Members to Participate in WUA Fund Management <u>Objectives:</u> To increase women's involvement in WUA activities	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	In the beginning WW will learn from monitoring of NGO and TSG-SP on WUA financial management. Then WW is expected to request or comment on fund management in the WUA/MC meeting. If possible, WW is encouraged to involve in water charge collection and/or auditing of account report	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			- fund management training is also provided to WW
B3-4. Support WW members to participate Territorial Constituency monthly meeting cum training <u>Objectives:</u> To encourage women to participate in water management in surrounding area	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (at least 10 members in the TC)	1. remind WW members to participate in the meeting 2. encourage husband of WW members to accept his wife's participation in the meeting 3. highlight numbers of women's participation in the meeting as well as her husband's understanding	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B3-5. Support WW members to participate in weekly progress meeting in monthly basis <u>Objectives:</u> To encourage WW members to participate in weekly progress meeting in monthly basis	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (2-3 members)	1. prepare for the meeting, if there is any issues to ask or to share 2. accompany them and encourage them to voice their opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B3-6. Support WW members to participate in WUA general meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA general meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 day <u>Frequency:</u> half yearly April and October: before Rabi and Kharif)	1. WW (at least 10 members per TC)	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to report their activities progress and to voice their opinion 3. facilitate male participants to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B4. Providing Trainings and Exposure Activities on Water Management and Organizational Management								
B4-1. Support WW members to participate in Training on Water Management at Sub-PMU Level with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 day <u>Frequency:</u> at the beginning of the stage	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. KVK 4. allowance/transportation of Sub-PMU, TSG-SP member and KVK 5. NGO Team leader NGO sector expert 6. NGO Com. Motivator 7.. allowance/transportation of NGO staff	PMU NGO			- the training is arranged under WUA component

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-2. Fund Management Training (auditing) at Sub-PMU Level <u>Objectives:</u> To provide necessary knowledge to involve in the WUA financial audit	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 2 day <u>Frequency:</u> at the beginning of the stage (after water management training)	1. WW main members (3 person per WW)	1. collect information on suitable resource person 2. arrange schedule with women friendly environment (ex. baby-sitting) 3. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in auditing actively 3. convince the participants' family to allow them to participate in the training 4. conduct the tour 5. In the first WW monthly meeting after the training, ask participants to share their experiences 6. encourage the participants to involve in WUA financial auditing	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. facilitator: KVK 4. allowance/transportation of Sub-PMU, TSG-SP member and KVK 5. facilitator: consultant 6. allowance/transportation of consultant 6. facilitator and manager: NGO Team leader 7. NGO Com. Motivator 8.. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. baby-sitting facility (crèche) 8. classroom 9. stationery 10. outside resource person (Chartered Accountant,)	PMU consultant NGO			- general fund management training is given with WUA/MC. This training more focus on auditing. - 1 training = 24 participants

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-3. Exposure Visit (Sub-PMU wise) <u>Objectives:</u> To visit well performing WW and other women's organization	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> Sub-PMU, IMTI, other Sub-PMU area <u>Duration:</u> 3 day <u>Frequency:</u> once in the stage	1. WW main members (3 person per WW)	1. collect information on suitable organization/place to visit 2. arrange schedule 3. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the tour 4. conduct the tour 5. In the first WW monthly meeting after the tour, ask participants to share their experiences	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. transportation 9. stationery 10. travel cost for the participants	PMU NGO			1 exposure visit = 30 participants

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-4. Annual WW's Review Meeting at Sub-PMU Level <u>Objectives:</u> To share experiences on WUA and SP management	<u>In charge:</u> Sub-PMU (WRD) <u>Cooperated by:</u> NGO, TSG-SP, PMU, consultants, KVK, IMTI <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 1 days (stay there and participate in WUA/MC annual review meeting the next day) <u>Frequency:</u> annually (end of the year)	1. WW members (2 person per WUA)	Preparation 1. arrange venue and schedule 2. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the meeting In the meeting 4. share experiences on management of WW and Women Friendly Activities 5. award best perform WW 6. provide update information on the Project 7. provide update information on water management, agriculture, gender and environment	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. PMU (WRD, WCD) 4. IMTI 5. KVK 6. allowance/transportation of Sub-PMU, TSG-SP, PMU, consultant, IMTI and KVK 7. venue (KVK) 8. lodging and food 9. stationery 10. baby-sitting facility 11. travel cost for the participants 12. consultants 13. allowance/transportation of consultant 14. NGO Team leader 15. Community Motivator 16. allowance/transportation of NGO staff	PMU consultant NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-5. Support WW members to participate in Annual WUAMCs Review Meeting at Sub-PMU Level <u>Objectives:</u> To encourage WW members to participate in WUA/MC annual review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 1 day (continue from previous day: WW review meeting) <u>Frequency:</u> annually (end of the year)	1. WW members (3 person per WUA)	1. facilitate WW members to listen WUA's report and discussion 2. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD)	PMU			The meeting is arranged under WUA component
				2. TSG-SP (WRD, WCD)				
				3. KVK				
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-6 Support WW members to participate in Stage-wise WUA Review Meeting at State Level in IMTI with WUA <u>Objectives:</u> To encourage WW members to participate in stage wise WUA/MC review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 2 days <u>Frequency:</u> once at the end of the stage	Selected WW's member (2 WW per Sub-PMU, 3 person per WW)	Preparation 1. arrange venue and schedule 2. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the meeting In the meeting 4. share experiences on management of WW and Women Friendly Activities 5. award best perform WW 6. provide update information on the Project 7. provide update information on water management, agriculture, gender and environment 8. facilitate WW members to listen WUA's report and discussion 9. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD)	PMU			The meeting is arranged under WUA component
				2. TSG-SP (WRD, WCD)				
				3. IMTI				
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-7. Support WW members to participate in Follow-up Training for Main Members on Water Management with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at the end of the stage (at least 6 months after completion of rehabilitation)	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. IMTI 4. consultants 5. NGO Team leader 6. Community Motivator	PMU consultant NGO			The training is arranged under WUA component
C. Capacity Building on Agricultural Technologies through SHGs								
C1. Selection of the Group								
C1-1. Developing work plan on the activity in SP level <u>Objectives:</u> To plan for agriculture program for SHGs with concerned staff and to confirm necessary action and responsible person	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP, Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once, 6 months after starting of the stage	1. TSG-SP, 2. NGO 3. Sub-PMU	1. discuss procedure and criteria to select target group 2. develop format for group application 3. make a plan for preparation and implementation of the program	1. TSG-SP (WRD, DoA/DoH, WCD) 2. Sub-PMU (DoA/DoH, WCD) allowance/transportation of TSG-SP, Sub-PMU 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff 6. food and tea/snacks	PMU NGO			1group=20 members Basic idea for criteria to select groups is as follows. For nutritious veg cultivation: - Interest to cultivate new vegetable and to improve nutrition - doesn't have enough land for commercial cultivation - select from different Anganwadi area For basic veg. cultivation:

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
								- has enough land for commercial cultivation (in future) - experience of cultivating vegetable - female community motivator is preferable
C1-2. Providing Information to Women Members of the SP on Agriculture Program under Women Wing <u>Objectives:</u> To Providing Information to Women Members of the SP on Agriculture Program for selecting target group	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA, TC <u>Duration:</u> 1 month <u>Frequency:</u> once	1. WW members in Sub-project	1. explain about the program 2. explain about criteria to select target group	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	PMU NGO			
C1-3. Collecting Proposal from Groups <u>Objectives:</u> To collect proposal from groups	<u>In charge:</u> NGO (com. motivator) <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA <u>Duration:</u> 1 month <u>Frequency:</u> once, after providing information to Women Members of the SP on Agriculture Program		1. support to fill in the application format properly	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP (DoA/DoH, WCD) 3. NGO community motivator 4. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
C1-4. Selection of group <u>Objectives:</u> To select groups for the program	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WRD, DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 day <u>Frequency:</u> once, TSG-SP monthly meeting		1. select target group based on the criteria 2. report to Sub-PMU for approval	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C1-5. Conducting Orientation to Selected Groups <u>Objectives:</u> To explain activities and schedule in detail To fix the date for next meeting for planning and for selection of demo plot	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> once, within 1 month after selection of the group	1. two groups for nutrition 2. two groups for cash		1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff 6. venue 7. food and tea/snacks 8. stationery	PMU NGO			
C2. Strengthening Capacity on Group Management								
C2-1. Providing Training on Group Management <u>Objectives:</u> To provide training on basic group management and record keeping	<u>In charge:</u> NGO (team leader) <u>Cooperated by:</u> Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, District <u>Duration:</u> 2 days	1. 3 members each from the group	Preparation 1. arrange venue and schedule (women friendly environment: baby-sitting) 2. explain the schedule to groups and ask them to select participants who can share the experience to other	1. Sub-PMU (DoA/DoH, WCD) 2. allowance/transportation of Sub-PMU	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
	<u>Frequency:</u> Within 3 month after selection of the group		members and can involve in the group activity actively 3. convince the participants' family to allow them to participate in the training	3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. stationery 9. training materials 10. baby-sitting facility 11. travel cost for the participants	NGO			
C2-2. Support to Conduct Monthly Group Meeting <u>Objectives:</u> To support group members to conduct monthly meeting	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. two groups for nutrition 2. two groups for cash	1. remind group members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month and plan for the month 4. monitor condition in the demo-plot	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C3. Strengthening Capacity on Agricultural Technique								
C3-1 ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators <u>Objectives:</u> To train TSG-SP members (DoA/DoH, NGO	<u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days	1. TSG-SP(DoA/DoH)x 2 per subproject 2. NGO sector expert: all in the sub-PMU 3. NGO com. motivator: all in the sub-PMU		1. TSG-SP (DoA/DoH) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
sector expert and community motivator) on basic vegetables cultivation techniques for providing training to the target group	<u>Frequency:</u> once per the stage, one month before conducting training for the target groups			4. facilitator: consultant 5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery 12. training materials 13. baby-sitting facility	consultant NGO			
C3-2. ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers <u>Objectives:</u> To train TSG-SP members (DoA/DoH, WCD), NGO (sector expert and community motivator) on nutritious vegetables cultivation techniques for providing training to the target group	<u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days <u>Frequency:</u> one month before conducting training for the target groups	1. TSG-SP(DoA/DoH)x 2 per sub-project 2. Anganwadi x 2 per sub-project 3. NGO sector expert: all in the sub-PMU 4. NGO com. motivator: all in the sub-PMU		1. TSG-SP (DoA/DoH, WCD) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU 4. facilitator: consultant 5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery	PMU consultant NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				12. training materials 13. baby-sitting facility				
C3-3 Health check for Nutritious Vegetable Cultivation group members <u>Objectives:</u> To see the impact of nutritious vegetable promotion	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> at the beginning of the program and at the end of the program	Nutritious vegetable cultivation group		1. TSG-SP member (WCD) 2 allowance/transportation of TSG-SP members (WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C3-4. Training on Basic Vegetables Cultivation Techniques to target group (Tomato, Onion and Chillies) <u>Objectives:</u> To train basic vegetable cultivation group members on Tomato, Onion and Chilli cultivation technique	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Basic vegetable cultivation group (20 person per group)	Lecture type training	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials 7. NGO sector expert 8. NGO Com. Motivator 9.. allowance/transportation of NGO staff	PMU NGO			
C3-5. Establishing Demonstration Plot for hands-on training for Basic Vegetables Cultivation group	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU, NGO <u>Venue:</u> demo plot <u>Duration:</u>	Basic vegetable cultivation group	Preparation for nursery 1. shade net/insect net 2. low tunnel Preparation of demo plot 1. tilling	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>Objectives: To provide hands-on training on preparation of nursery and demonstration of cultivation technique using demo plot</p>	<p>Frequency: twice in the second year (seed sowing time in Kharif and Rabi)</p>		<p>2. weeding 3. application of basal manure 4. levelling 5. bed making</p> <p>Conduct hands-on training through above mentioned preparation on:</p> <p>1. nursery preparation 2. making bed and application of mulching 3. transplant of seedlings</p>	<p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	NGO			
<p>C3-6. Establishing Demonstration Plot for Nutritious Vegetables Cultivation group</p> <p>Objectives: To conduct technical training and demonstrate nutritious vegetable cultivation</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: demo plot Duration: Frequency: one week before the seed sowing time</p>	Nutritious vegetable cultivation group	<p>1. tilling 2. weeding 3. application of basal manure 4. levelling 5. bed making 6.</p>	<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)</p> <p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	PMU			
<p>C3-7. Training in demo plot on Nutritious Vegetables Cultivation Techniques (Swiss Chard, Kale and Amaranth)</p> <p>Objectives: To train Nutritious Vegetables Cultivation</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed</p>	Nutritious vegetable cultivation group (20 person per group)	<p>1. how to sow the seeds, 2. how to apply water and fertilizer 3. proper weeding</p>	<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. food and tea 4. stationery 5. training materials</p>	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>group members on Swiss Chard, Kale and Amaranth</p>	<p>sowing of nursery in Kharif and Rabi)</p>			<p>6. NGO sector expert 7. NGO Com. Motivator 8.. allowance/transportation of NGO staff</p>	NGO			
<p>C3-8. Training on how to cook Nutritious Vegetables (Swiss Chard, Kale and Amaranth)</p> <p>Objectives: To train nutritious vegetable cultivation group members on how to cook Swiss Chard, Kale and Amaranth</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	Nutritious vegetable cultivation group (10 person per group)		<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials</p> <p>7. NGO sector expert 8. NGO Com. Motivator 9.. allowance/transportation of NGO staff</p>	PMU			
<p>C3-9. Support to sell productions</p> <p>Objectives: To support to sell produced vegetable</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	Basic vegetable cultivation group	<p>1. introduction of simple postharvest technology: bundling, packing 2. promote to record keeping</p>	<p>1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)</p> <p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
C3-10. Seed collection and distribution of Nutritious Vegetable Cultivation group <u>Objectives:</u> To continue the program with other SHGs	<u>In charge:</u> TSG-SP (WCD) <u>Cooperated by:</u> NGO (sector expert, com. motivator) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Nutritious vegetable cultivation group	1. provide instruction to produce seed (necessary amount and how to produce) 2. collect seed from members	1. TSG-SP member (WCD) 2. allowance/transportation of TSG-SP members (WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C4. Monitoring and Mentoring the Groups for Sustainable Activities								
C4-1. Regular Monitoring and Provide Necessary Support to Groups <u>Objectives:</u> To monitor group activities and demonstration plot regularly to provide necessary support in time	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly (at least every 2 weeks during the demonstration)	1. two groups for nutrition 2. two groups for cash	1. visit group and monitor group activities and demonstration plot regularly to provide necessary support in time, especially during the demonstration	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			

(Source) JICA Survey Team

Attachment 2.2.1d Summary of Project Activity (Component-2: Gender Mainstreaming)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A. Supporting the Institutionalization of Gender Mainstreaming in Water Management								
A1. Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act								
A1-1. Follow-up of Approval Process of Additional Clauses on PIM Act <u>Objectives:</u> To effect additional clauses on PIM Act in time	<u>In charge:</u> PMU (WRD, WCD) <u>Cooperated by:</u> Consultant <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Frequency:</u> beginning of the Project and at the end of the Project		1. follow-up progress of approval on additional clauses to PIM Act 2. If there is delay, find out the reason and take necessary action to proceed	1. consultant 2. PMU (WRD, WCD)	consultant PMU			
A1-2. Promoting and Monitoring of Adaptation of the Additional Clauses <u>Objectives:</u> to promote adaptation of PIM Act through the Project activities and to monitor degree of adaptation of the clauses	<u>In charge:</u> PMU (WRD, WCD) <u>Cooperated by:</u> Consultant <u>Logistics:</u> PMU <u>Venue:</u> various <u>Frequency:</u> throughout the Project	1. WUA 2. WW	1. check the situation from NGO quarterly report 2. take opportunity of meeting and field visit, provide practical advice and take necessary action to achieve the target	1. PMU (WRD, WCD) 2. Sub-PMU (WRD, WCD) 3. TSG-SP (WRD, WCD) 4. consultant 5. NGO	PMU consultant NGO			
A1-3. Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result <u>Objectives:</u> to submit further suggestion to be added in PIM Act based on result of the Project attempt	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WRD, WCD) <u>Logistics:</u> Consultant <u>Venue:</u> PMU <u>Frequency:</u> at the end of the Project		1. compile further suggestion based on result of the Project attempt 2. submit the suggestion to relevant organisation to add to PIM Act	1. consultant (gender) 2. PMU (WRD, WCD)	consultant			
A2. Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management								

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A2-1. Preparation of Gender Session for Training on Water Management and WUA Management Objectives: To develop gender session for training on water management and WUA management	In charge: consultant (gender) Cooperated by: PMU(WCD), IMTI Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	The following orientation/training has gender session 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO) 3. Training for NGO Community Motivator 4. Training for WUA/Managing Committee(MC) and Women Wing (WW) 5. Meeting cu training for WUA/MC, Territorial Constituency and WW	Need to develop session plan on the following topics 1.introduction to gender (Briefly) 2. introduction of gender mainstreaming: concept and actual status in Rajasthan, gender mainstreaming in water management 3. gender analysis: introduction of tools, how to use the tools and how to analyse the result 4. gender action plan: how to develop, how to set target	1. consultant (gender) 2. PMU (WCD) 3. IMTI	consultant PMU			
A2-2. Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan (GAP) in WUA Objectives: To provide practical explanation and instruction on how to develop gender action plan in WUA	In charge: consultant (gender) Cooperated by: PMU(WCD), IMTI Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	explain in the following orientation/training 1. orientation for PMU, Sub-PMU 2. TOT participants (TSG-SP, NGO)	1. prepare session plan (A2-1) 2. explain what is gender action plan (long term and annual), show example of GAP, sample of indicators 3. group work to develop GAP in own work places (WRD, WCD, DoA/DoH, NGO) or activities 4. how to facilitate WUA to develop GAP with their work plan	1. facilitator (consultant gender) For orientation 2. venue 3. food and tea/snacks 4. allowance/transportation of consultant, PMU, Sub-PMU For ToT 4. facilitator (IMTI) 6. venue 7. lodging and food 8. classroom 9. stationery 10. training materials developed by the project allowance/transportation of participants (TSG-SP)	consultant PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				For ToT 10. allowance/transportation of NGO staff	NGO			
A2-3. Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting Objectives: To develop 10 topics on gender issues to use for meeting cum training in the field	In charge: consultant (gender) Cooperated by: PMU(WCD) Logistics: consultant Venue: Jaipur Duration: Frequency: Beginning of the stage (Need to be reviewed in each stage)	Explain in the following training 1. ToT for TSG-SP and NGO staff 2. Training for Com. Motivator Use in the following meeting cum training 1. monthly meeting cum training in WUA/MC 2. monthly meeting cum training in TC 3. monthly meeting cum training in WW	Prepare short session on gender issues related to rural life suitable for sharing in meeting cum training of WUA/MC, TC and WW Example: - Using gender analysis tools and discuss on the result (Roles and responsibilities on farm work, Roles and responsibilities on house and social work, daily activities from morning to evening, decision making on resources (access and control), etc.) - family planning and women's health - men and women life cycle (preventing child marriage)	1. consultant (gender) 2. PMU (WCD)	consultant			- Gender consultant need to prepare 10 topics on gender for WUA/MC and TC meeting cum training: in total 40 -45 with water management, agriculture/marketing and environment, so that TSG-SP/NGO can choose suitable topics for that area and the season
A2-4. Support to Coordinate between WUA and Women Wing	In charge: NGO team leader Cooperated by: Sub-PMU (WRD, WCD) Logistics: PMU Venue: WUA area Duration: throughout the Project Frequency: throughout the Project	1. WUA 2. WW	1. encourage WW members to participate in WUA and TC meeting and activities 2. facilitate WUA/MC members to understand importance of women's participation and coordinate to work with WW	1. NGO team leader 2. allowance/transportation of NGO staff. 3. Sub-PMU (WRD, WCD) 4. allowance/transportation of NGO staff.	NGO PMU			
A3. Establishment of Gender Disaggregated Data Collection System								

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-1. Preparing and Finalizing List of Sector-wise Gender Disaggregated Data <u>Objectives:</u> To finalize list of sector-wise gender disaggregated data to be collected in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage (Need to be reviewed in each stage)		1. list up necessary and related data to be collected in each sector 2. finalize the list with concerned organization and confirm how to collect data * Gender concerned activities are as follows: 1. Irrigation - Gender ratio of training participants and trainers; - Gender ratio of employers/workers on construction work; - Equal pay for equal work for the workers, etc 2. WUA Strengthening - Gender ratio of training participants and trainers; - Indicator of gender-responsive rules or guidelines of PIM Act 3. Agriculture/marketing - Gender-responsive training materials - Gender ratio of exposure tours - Gender ratio of FIGs and FPOs - Gender ratio of farmers and buyers involved 4. Gender Mainstreaming - Monitoring all the above data - Monitoring all the data in gender component	1. PMU (WCD)	PMU			
				2. consultant (gender)	consultant			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-2. Establishment of Monitoring System on Gender Concerned Activities <u>Objectives:</u> To confirm monitoring system on gender concerned activities in the Project	<u>In charge:</u> PMU (WCD) <u>Cooperated by:</u> consultant (gender) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> Beginning of the stage, during the Project orientation for PMU and Sub-PMU (Need to be reviewed in each stage)	1. PMU members (20 person) 2. Sub-PMU member (7-10 person per Sub-PMU)	1. propose monitoring system on gender concerned activities in the Project 2. finalize the monitoring system with concerned organization and confirm timing, responsible person, how to monitor and so on.	1. PMU members 2. Sub-PMU members	PMU			
				4. consultant	consultant			
A3-3. Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data <u>Objectives:</u> To monitor gender concerned activities and collect gender disaggregates data	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> consultant (gender), PMU (WCD), TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> field <u>Duration:</u> <u>Frequency:</u> Throughout the Project		1. monitor gender concerned activities through field visit 2. collect gender disaggregates data regularly	1. consultant 2. allowance/transportation of consultant	consultant			
				3. PMU (WCD) 4. Sub-PMU (WCD) 5. TSG-SP members 6. allowance/transportation of PMU, sub-PMU and TSG-SP member 7. NGO Team leader 8. NGO Sector expert 9. NGO Community Motivator 10. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A3-4. Analysing Collected Data and Compile in Annual Report <u>Objectives:</u> To analyse collected gender disaggregated data and compile in annual report	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> Jaipur <u>Duration:</u> <u>Frequency:</u> annual		1. analyse collected data 2. compile data and the result in annual report	1. PMU (WCD) 2. consultant (gender)	PMU consultant			
A3-5. Conduct Stage-wise Baseline survey <u>Objectives:</u> To conduct stage wise baseline survey on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all)	PMU			
A3-6. Conduct Stage-wise Assessment <u>Objectives:</u> To conduct stage wise assessment on gender mainstreaming in the Project	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender) 5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	PMU consultant NGO			- in the report, advices from gender perspectives are given
A3-7. Evaluation of the Impact and Result of RWSLIP <u>Objectives:</u> To evaluate impact and result of RWLIP form the gender perspective	<u>In charge:</u> consultant (gender) <u>Cooperated by:</u> PMU (WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> End of the stage	1. all WUA (1 TC) 2. all SHG	1. conduct household survey 1 TC from each WUA 2. conduct household survey, especially on access and control on resources 3. analyse collected gender disaggregated data and evaluate the project approach for compiling further suggestion on PIM Act	1. PMU (WCD) 2. Sub-PMU (WCD) 3 TSG-SP (all) 4. consultant (gender)	PMU consultant			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				5. NGO (all) 6. allowance and transportation of com. Motivator for house hold survey	NGO			
B. Enhancement of Women's Capability and Participation in WUA								
B1. Formulation of WUA Women Wing								
B1-1. General Meeting for water users at same time of formation of WUA <u>Objectives:</u> To provide necessary information on forming Women Wing	<u>In charge:</u> TSG-SP(WRD, WCD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 20 person from each territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. invite women to participate in coming TC orientation	1. Sub-PMU member (WRD Ex. En.) 2. TSG-SP members 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			
B1-2.Orientation for Territorial Constituency at same time of formation of WUA <u>Objectives:</u> To provide detail information on Women Wing activities	<u>In charge:</u> TSG-SP(WRD, WCD) <u>Cooperated by:</u> NGO <u>Logistics:</u> PMU <u>Venue:</u> Sub-project <u>Duration:</u> 1/2 days <u>Frequency:</u> once at/before the beginning of each stage	1. water users (both husband and wife) at least 50 person of the territorial constituency	1. During explanation of the Project activities, explain objectives and activities of Women Wing, too. 2. discuss selection of Women Wing committee member. 2 each from every TC 3. inform date for Women Wing formation	1. TSG-SP members 2. allowance/transportation of TSG-SP member 6. NGO Team leader or Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B1-3. Formulation of Woman Wing per WUA <u>Objectives:</u> To form Women Wing	<u>In charge:</u> Sub-PMU (WCD) <u>Cooperated by:</u> TSG-SP, NGO <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> 1 days <u>Frequency:</u> After Orientation for Territorial Constituency, before WUA election	1. female water users 2 each from every TC (in total 8-12 person) form Women Wing committee	1. form WW committee 2. fix the date for orientation	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. allowance/transportation of Sub-PMU and TSG-SP member 6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff	PMU NGO			
B1-4. Orientation on WW activities <u>Objectives:</u> To provide orientation on WW activities to start Women Friendly Activities immediately	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed	1. WW committee member (8-12)	1. Share information on WW activities as well as WUA trainings 2. Develop work plan	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. venue 7. food and tea/snacks 8. stationery	PMU NGO			
B2. Facilitating to Introduce the Women Friendly Activities								

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B2-1. Facilitating to Discuss and Finalize Women Friendly Activities <u>Objectives:</u> To finalize plan for Women Friendly Activities before the walk-through survey	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 days <u>Frequency:</u> as soon as women wing is formed, before walk-through survey	1. WW committee member (8-12)	1. discuss women's needs on irrigation facility 2. discuss preferable trees to plant along with canal	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B2-2. Support Women Wing to plan and implement Women Friendly Facilities <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the construction of facilities and to implement by themselves	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor construction works 2. develop work plan for throughout the construction and for short term (1-3months), indicating timing and responsible person 3. support WW members to implement the activities (reminding, accompanying and facilitating them)	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B2-3. Support Women Wing to plan and implement Women Friendly Trees <u>Objectives:</u> To support WW to plan necessary action to monitor and manage the tree	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> <u>Frequency:</u> throughout the construction stage	1. WW	1. explain necessary work to implement and monitor tree plantation (including hands-on training on how to plant and manage trees) 2. develop work plan for throughout the plantation work and for short term (1-3months), indicating timing and responsible person	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
plantation and to implement by themselves			3. support WW members to implement the activities (reminding, accompanying and facilitating them)	5. allowance/transportation of NGO staff 6. stationery				
B3. Encouraging Women to Participate in WUA Activities								
B3-1. Support WW Members to conduct WW Monthly Meeting <u>Objectives:</u> To support WW members to conduct monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW members (around 10 person)	1. remind WW members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month, related issues and plan for the month	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery 7. tea	PMU NGO			
B3-2. Support WW Members to Participate and Report in WUA/MC Monthly Meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA/MC monthly meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to voice their opinion 3. facilitate WUA/MC members to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member	PMU			- WUA members are also sensitised to accept WW members participation and to cooperate with WW

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	NGO			
B3-3. Support to WW Members to Participate in WUA Fund Management <u>Objectives:</u> To increase women's involvement in WUA activities	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (1-3 members) * Additional clause of PIM Act said "one WW member", but it is difficult to participate in WUA/MC meeting as only one female participant unless female WUA/MC members is elected	In the beginning WW will learn from monitoring of NGO and TSG-SP on WUA financial management. Then WW is expected to request or comment on fund management in the WUA/MC meeting. If possible, WW is encouraged to involve in water charge collection and/or auditing of account report	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			- fund management training is also provided to WW
B3-4. Support WW members to participate Territorial Constituency monthly meeting cum training <u>Objectives:</u> To encourage women to participate in water management in surrounding area	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (at least 10 members in the TC)	1. remind WW members to participate in the meeting 2. encourage husband of WW members to accept his wife's participation in the meeting 3. highlight numbers of women's participation in the meeting as well as her husband's understanding	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B3-5. Support WW members to participate in weekly progress meeting in monthly basis <u>Objectives:</u> To encourage WW members to participate in weekly progress meeting in monthly basis	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. WW (2-3 members)	1. prepare for the meeting, if there is any issues to ask or to share 2. accompany them and encourage them to voice their opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B3-6. Support WW members to participate in WUA general meeting <u>Objectives:</u> To encourage WW members to report and to voice their opinion in WUA general meeting	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> WUA <u>Duration:</u> 1 day <u>Frequency:</u> half yearly April and October: before Rabi and Kharif)	1. WW (at least 10 members per TC)	1. prepare agenda with WW to report in the meeting 2. accompany with WW and encourage them to report their activities progress and to voice their opinion 3. facilitate male participants to listen women' opinion	1. TSG-SP (WCD, WRD) 2. allowance/transportation of TSG-SP member 3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	PMU NGO			
B4. Providing Trainings and Exposure Activities on Water Management and Organizational Management								
B4-1. Support WW members to participate in Training on Water Management at Sub-PMU Level with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 day <u>Frequency:</u> at the beginning of the stage	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. KVK 4. allowance/transportation of Sub-PMU, TSG-SP member and KVK 5. NGO Team leader NGO sector expert 6. NGO Com. Motivator 7.. allowance/transportation of NGO staff	PMU NGO			- the training is arranged under WUA component

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-2. Fund Management Training (auditing) at Sub-PMU Level <u>Objectives:</u> To provide necessary knowledge to involve in the WUA financial audit	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 2 day <u>Frequency:</u> at the beginning of the stage (after water management training)	1. WW main members (3 person per WW)	1. collect information on suitable resource person 2. arrange schedule with women friendly environment (ex. baby-sitting) 3. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in auditing actively 3. convince the participants' family to allow them to participate in the training 4. conduct the tour 5. In the first WW monthly meeting after the training, ask participants to share their experiences 6. encourage the participants to involve in WUA financial auditing	1. Sub-PMU (WCD, WRD) 2. TSG-SP (WCD, WRD) 3. facilitator: KVK 4. allowance/transportation of Sub-PMU, TSG-SP member and KVK 5. facilitator: consultant 6. allowance/transportation of consultant 6. facilitator and manager: NGO Team leader 7. NGO Com. Motivator 8.. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. baby-sitting facility (crèche) 8. classroom 9. stationery 10. outside resource person (Chartered Accountant,)	PMU consultant NGO			- general fund management training is given with WUA/MC. This training more focus on auditing. - 1 training = 24 participants

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>B4-3. Exposure Visit (Sub-PMU wise)</p> <p><u>Objectives:</u> To visit well performing WW and other women's organization</p>	<p><u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD) <u>Logistics:</u> NGO <u>Venue:</u> Sub-PMU, IMTI, other Sub-PMU area <u>Duration:</u> 3 day <u>Frequency:</u> once in the stage</p>	1. WW main members (3 person per WW)	<p>1. collect information on suitable organization/place to visit</p> <p>2. arrange schedule</p> <p>3. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively</p> <p>3. convince the participants' family to allow them to participate in the tour</p> <p>4. conduct the tour</p> <p>5. In the first WW monthly meeting after the tour, ask participants to share their experiences</p>	<p>1. TSG-SP (WCD, WRD)</p> <p>2. allowance/transportation of TSG-SP member</p>	PMU			1 exposure visit = 30 participants
				<p>3. NGO Team leader</p> <p>4. Community Motivator</p> <p>5. allowance/transportation of NGO staff</p> <p>6. venue (KVK)</p> <p>7. lodging and food</p> <p>8. transportation</p> <p>9. stationery</p> <p>10. travel cost for the participants</p>	NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>B4-4. Annual WW's Review Meeting at Sub-PMU Level</p> <p><u>Objectives:</u> To share experiences on WUA and SP management</p>	<p><u>In charge:</u> Sub-PMU (WRD) <u>Cooperated by:</u> NGO, TSG-SP, PMU, consultants, KVK, IMTI <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 1 days (stay there and participate in WUA/MC annual review meeting the next day) <u>Frequency:</u> annually (end of the year)</p>	1. WW members (2 person per WUA)	<p>Preparation</p> <p>1. arrange venue and schedule</p> <p>2. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively</p> <p>3. convince the participants' family to allow them to participate in the meeting</p> <p>In the meeting</p> <p>4. share experiences on management of WW and Women Friendly Activities</p> <p>5. award best perform WW</p> <p>6. provide update information on the Project</p> <p>7. provide update information on water management, agriculture, gender and environment</p>	<p>1. Sub-PMU (WRD, WCD)</p> <p>2. TSG-SP (WRD, WCD)</p> <p>3. PMU (WRD, WCD)</p> <p>4. IMTI</p> <p>5. KVK</p> <p>6. allowance/transportation of Sub-PMU, TSG-SP, PMU, consultant, IMTI and KVK</p> <p>7. venue (KVK)</p> <p>8. lodging and food</p> <p>9. stationery</p> <p>10. baby-sitting facility</p> <p>11. travel cost for the participants</p>	PMU			
				<p>12. consultants</p> <p>13. allowance/transportation of consultant</p>	.consultant			
				<p>14. NGO Team leader</p> <p>15. Community Motivator</p> <p>16. allowance/transportation of NGO staff</p>	NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-5. Support WW members to participate in Annual WUAMCs Review Meeting at Sub-PMU Level <u>Objectives:</u> To encourage WW members to participate in WUA/MC annual review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, KVK, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 1 day (continue from previous day: WW review meeting) <u>Frequency:</u> annually (end of the year)	1. WW members (3 person per WUA)	1. facilitate WW members to listen WUA's report and discussion 2. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD)	PMU			The meeting is arranged under WUA component
				2. TSG-SP (WRD, WCD)				
				3. KVK				
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / objectives	Executing body, venue & Frequency	Target Group/ persons/trainees	Contents Activities/ contents	Input by Project fund		Input by others fund		Remarks
				Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-6 Support WW members to participate in Stage-wise WUA Review Meeting at State Level in IMTI with WUA <u>Objectives:</u> To encourage WW members to participate in stage wise WUA/MC review meeting and learn about WUA management	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 2 days <u>Frequency:</u> once at the end of the stage	Selected WW's member (2 WW per Sub-PMU, 3 person per WW)	Preparation 1. arrange venue and schedule 2. explain the schedule to WW members and ask WW to select participants who can share the experience to other members and can involve in WW activity actively 3. convince the participants' family to allow them to participate in the meeting In the meeting 4. share experiences on management of WW and Women Friendly Activities 5. award best perform WW 6. provide update information on the Project 7. provide update information on water management, agriculture, gender and environment 8. facilitate WW members to listen WUA's report and discussion 9. encourage WW members to voice their opinion	1. Sub-PMU (WRD, WCD)	PMU			The meeting is arranged under WUA component
				2. TSG-SP (WRD, WCD)				
				3. IMTI				
				4. consultants	consultant			
				5. NGO Team leader 6. Community Motivator	NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B4-7. Support WW members to participate in Follow-up Training for Main Members on Water Management with WUA <u>Objectives:</u> To encourage WW main members to participate in the training	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> TSG-SP (WCD, WRD), Sub-PMU, IMTI, consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> IMTI <u>Duration:</u> 3 days <u>Frequency:</u> once at the end of the stage (at least 6 months after completion of rehabilitation)	1. WW main members (3 person per WW)	1. encourage WW main members to participate in the training 2. convince their family to send them to the training 3. provide comfortable environment to stay for women and facilities for baby sitting	1. Sub-PMU (WRD, WCD) 2. TSG-SP (WRD, WCD) 3. IMTI 4. consultants 5. NGO Team leader 6. Community Motivator	PMU consultant NGO			The training is arranged under WUA component
C. Capacity Building on Agricultural Technologies through SHGs								
C1. Selection of the Group								
C1-1. Developing work plan on the activity in SP level <u>Objectives:</u> To plan for agriculture program for SHGs with concerned staff and to confirm necessary action and responsible person	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP, Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 days <u>Frequency:</u> once, 6 months after starting of the stage	1. TSG-SP, 2. NGO 3. Sub-PMU	1. discuss procedure and criteria to select target group 2. develop format for group application 3. make a plan for preparation and implementation of the program	1. TSG-SP (WRD, DoA/DoH, WCD) 2. Sub-PMU (DoA/DoH, WCD) allowance/transportation of TSG-SP, Sub-PMU 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff 6. food and tea/snacks	PMU NGO			1group=20 members Basic idea for criteria to select groups is as follows. For nutritious veg cultivation: - Interest to cultivate new vegetable and to improve nutrition - doesn't have enough land for commercial cultivation - select from different Anganwadi area For basic veg. cultivation:

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
								- has enough land for commercial cultivation (in future) - experience of cultivating vegetable - female community motivator is preferable
C1-2. Providing Information to Women Members of the SP on Agriculture Program under Women Wing <u>Objectives:</u> To Providing Information to Women Members of the SP on Agriculture Program for selecting target group	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA, TC <u>Duration:</u> 1 month <u>Frequency:</u> once	1. WW members in Sub-project	1. explain about the program 2. explain about criteria to select target group	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5. allowance/transportation of NGO staff	PMU NGO			
C1-3. Collecting Proposal from Groups <u>Objectives:</u> To collect proposal from groups	<u>In charge:</u> NGO (com. motivator) <u>Cooperated by:</u> TSG-SP <u>Logistics:</u> PMU, NGO <u>Venue:</u> WUA <u>Duration:</u> 1 month <u>Frequency:</u> once, after providing information to Women Members of the SP on Agriculture Program		1. support to fill in the application format properly	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP (DoA/DoH, WCD) 3. NGO community motivator 4. allowance/transportation of NGO staff	PMU NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
C1-4. Selection of group <u>Objectives:</u> To select groups for the program	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WRD, DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> Sub-project <u>Duration:</u> 1 day <u>Frequency:</u> once, TSG-SP monthly meeting		1. select target group based on the criteria 2. report to Sub-PMU for approval	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C1-5. Conducting Orientation to Selected Groups <u>Objectives:</u> To explain activities and schedule in detail To fix the date for next meeting for planning and for selection of demo plot	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> once, within 1 month after selection of the group	1. two groups for nutrition 2. two groups for cash		1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff 6. venue 7. food and tea/snacks 8. stationery	PMU NGO			
C2. Strengthening Capacity on Group Management								
C2-1. Providing Training on Group Management <u>Objectives:</u> To provide training on basic group management and record keeping	<u>In charge:</u> NGO (team leader) <u>Cooperated by:</u> Sub-PMU (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> KVK, District <u>Duration:</u> 2 days	1. 3 members each from the group	Preparation 1. arrange venue and schedule (women friendly environment: baby-sitting) 2. explain the schedule to groups and ask them to select participants who can share the experience to other	1. Sub-PMU (DoA/DoH, WCD) 2. allowance/transportation of Sub-PMU	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
	<u>Frequency:</u> Within 3 month after selection of the group		members and can involve in the group activity actively 3. convince the participants' family to allow them to participate in the training	3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff 6. venue (KVK) 7. lodging and food 8. stationery 9. training materials 10. baby-sitting facility 11. travel cost for the participants	NGO			
C2-2. Support to Conduct Monthly Group Meeting <u>Objectives:</u> To support group members to conduct monthly meeting	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly	1. two groups for nutrition 2. two groups for cash	1. remind group members to conduct the meeting 2. show how to conduct meeting in first 6 months 3. discuss progress in previous month and plan for the month 4. monitor condition in the demo-plot	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C3. Strengthening Capacity on Agricultural Technique								
C3-1 ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chillies for DoA, DoH, NGO and Community Motivators <u>Objectives:</u> To train TSG-SP members (DoA/DoH, NGO	<u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days	1. TSG-SP(DoA/DoH)x 2 per subproject 2. NGO sector expert: all in the sub-PMU 3. NGO com. motivator: all in the sub-PMU		1. TSG-SP (DoA/DoH) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
sector expert and community motivator) on basic vegetables cultivation techniques for providing training to the target group	<u>Frequency:</u> once per the stage, one month before conducting training for the target groups			4. facilitator: consultant 5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery 12. training materials 13. baby-sitting facility	consultant NGO			
C3-2. ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers <u>Objectives:</u> To train TSG-SP members (DoA/DoH, WCD), NGO (sector expert and community motivator) on nutritious vegetables cultivation techniques for providing training to the target group	<u>In charge:</u> NGO sector expert <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD), PMU (DoA/DoH), consultant <u>Logistics:</u> PMU, NGO <u>Venue:</u> -KVK <u>Duration:</u> -2 days <u>Frequency:</u> one month before conducting training for the target groups	1. TSG-SP(DoA/DoH)x 2 per sub-project 2. Anganwadi x 2 per sub-project 3. NGO sector expert: all in the sub-PMU 4. NGO com. motivator: all in the sub-PMU		1. TSG-SP (DoA/DoH, WCD) 2. facilitator: PMU (DoA/DoH, WCD) 3. allowance/transportation of TSG-SP and Sub-PMU 4. facilitator: consultant 5. NGO sector expert 6. NGO Com. Motivator 7.. facilitator: KVK 8. allowance/transportation of NGO staff 9. venue (KVK) 10. lodging and food 11 stationery	PMU consultant NGO			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
				12. training materials 13. baby-sitting facility				
C3-3 Health check for Nutritious Vegetable Cultivation group members <u>Objectives:</u> To see the impact of nutritious vegetable promotion	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> at the beginning of the program and at the end of the program	Nutritious vegetable cultivation group		1. TSG-SP member (WCD) 2 allowance/transportation of TSG-SP members (WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C3-4. Training on Basic Vegetables Cultivation Techniques to target group (Tomato, Onion and Chillies) <u>Objectives:</u> To train basic vegetable cultivation group members on Tomato, Onion and Chilli cultivation technique	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1 day <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Basic vegetable cultivation group (20 person per group)	Lecture type training	1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials 7. NGO sector expert 8. NGO Com. Motivator 9.. allowance/transportation of NGO staff	PMU NGO			
C3-5. Establishing Demonstration Plot for hands-on training for Basic Vegetables Cultivation group	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH) <u>Logistics:</u> PMU, NGO <u>Venue:</u> demo plot <u>Duration:</u>	Basic vegetable cultivation group	Preparation for nursery 1. shade net/insect net 2. low tunnel Preparation of demo plot 1. tilling	1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>Objectives: To provide hands-on training on preparation of nursery and demonstration of cultivation technique using demo plot</p>	<p>Frequency: twice in the second year (seed sowing time in Kharif and Rabi)</p>		<p>2. weeding 3. application of basal manure 4. levelling 5. bed making</p> <p>Conduct hands-on training through above mentioned preparation on:</p> <p>1. nursery preparation 2. making bed and application of mulching 3. transplant of seedlings</p>	<p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	NGO			
<p>C3-6. Establishing Demonstration Plot for Nutritious Vegetables Cultivation group</p> <p>Objectives: To conduct technical training and demonstrate nutritious vegetable cultivation</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: demo plot Duration: Frequency: one week before the seed sowing time</p>	Nutritious vegetable cultivation group	<p>1. tilling 2. weeding 3. application of basal manure 4. levelling 5. bed making 6.</p>	<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD)</p> <p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	PMU			
<p>C3-7. Training in demo plot on Nutritious Vegetables Cultivation Techniques (Swiss Chard, Kale and Amaranth)</p> <p>Objectives: To train Nutritious Vegetables Cultivation</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed</p>	Nutritious vegetable cultivation group (20 person per group)	<p>1. how to sow the seeds, 2. how to apply water and fertilizer 3. proper weeding</p>	<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. food and tea 4. stationery 5. training materials</p>	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
<p>group members on Swiss Chard, Kale and Amaranth</p>	<p>sowing of nursery in Kharif and Rabi)</p>			<p>6. NGO sector expert 7. NGO Com. Motivator 8.. allowance/transportation of NGO staff</p>	NGO			
<p>C3-8. Training on how to cook Nutritious Vegetables (Swiss Chard, Kale and Amaranth)</p> <p>Objectives: To train nutritious vegetable cultivation group members on how to cook Swiss Chard, Kale and Amaranth</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH, WCD) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	Nutritious vegetable cultivation group (10 person per group)		<p>1. TSG-SP member (DoA/DoH, WCD) 2 allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. venue 4. food and tea 5. stationery 6. training materials</p> <p>7. NGO sector expert 8. NGO Com. Motivator 9.. allowance/transportation of NGO staff</p>	PMU			
<p>C3-9. Support to sell productions</p> <p>Objectives: To support to sell produced vegetable</p>	<p>In charge: NGO (sector expert) Cooperated by: TSG-SP (DoA/DoH) Logistics: PMU, NGO Venue: group wise Duration: 1 day Frequency: twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)</p>	Basic vegetable cultivation group	<p>1. introduction of simple postharvest technology: bundling, packing 2. promote to record keeping</p>	<p>1. TSG-SP member (DoA/DoH) 2 allowance/transportation of TSG-SP members (DoA/DoH)</p> <p>3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff</p>	PMU			

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
C3-10. Seed collection and distribution of Nutritious Vegetable Cultivation group <u>Objectives:</u> To continue the program with other SHGs	<u>In charge:</u> TSG-SP (WCD) <u>Cooperated by:</u> NGO (sector expert, com. motivator) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> <u>Frequency:</u> twice in the second year (one week before the seed sowing of nursery in Kharif and Rabi)	Nutritious vegetable cultivation group	1. provide instruction to produce seed (necessary amount and how to produce) 2. collect seed from members	1. TSG-SP member (WCD) 2. allowance/transportation of TSG-SP members (WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			
C4. Monitoring and Mentoring the Groups for Sustainable Activities								
C4-1. Regular Monitoring and Provide Necessary Support to Groups <u>Objectives:</u> To monitor group activities and demonstration plot regularly to provide necessary support in time	<u>In charge:</u> NGO (sector expert) <u>Cooperated by:</u> TSG-SP (DoA/DoH, WCD) <u>Logistics:</u> PMU, NGO <u>Venue:</u> group wise <u>Duration:</u> 1/2 day <u>Frequency:</u> monthly (at least every 2 weeks during the demonstration)	1. two groups for nutrition 2. two groups for cash	1. visit group and monitor group activities and demonstration plot regularly to provide necessary support in time, especially during the demonstration	1. TSG-SP member (DoA/DoH, WCD) 2. allowance/transportation of TSG-SP members (DoA/DoH, WCD) 3. NGO sector expert 4. NGO Com. Motivator 5.. allowance/transportation of NGO staff	PMU NGO			

Source) JICA Survey Team

Attachment 2.2.2 Proposed Approach for Soft Components

1 Proposed Activities in WUA Sector

This component consists of four sub-components: Establishment of WUA Support Mechanism, Capacity Building of WUA Management, Improving of Agricultural Linkage and Corpus Fund for WUAs. The followings highlight some points on objectives of activities and practical consideration.

WUA Support Mechanism

- This sub-component aims at establish support mechanism for WUA to implement the Project activities as well as their regular activities.
- The consultants are responsible for overall training activities under this sub-component while WRD field staff is responsible for meeting and monitoring in the field level.
- TOT on water management and WUA management is provided to TSG-SP members; District or Gram Panchayat level officers of each organization and NGO staff (Team Leader, Sector Expert). TSG-SP members and NGO staff are expected to be resource person in training for WUA Managing Committee (MC) members.

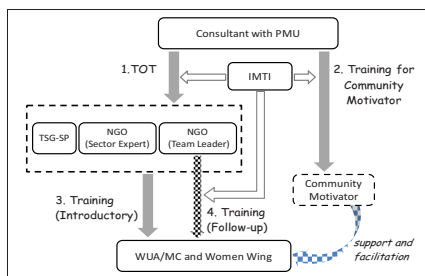


Figure A 1.1 Training Mechanism

Community Motivator is also trained on water management and WUA management, the they assist TSG-SP and to conduct WUA level activities supporting WUA and Women Wing.

Capacity Building of WUA Management

- This sub-component aims at building capacity of WUA through not only training but also opportunity of peer learning such as annual WUA review meeting and stage-wise WUA review meeting.
- To make WUA active and sustainable, it is emphasis to form WUA democratically by providing information in each layer such as sub-project area, WUA area and Territorial Constituency(TC)¹ area. Monthly TC meeting is expected to unite water users toward WUA and water management. Territorial Constituency is
- In the monthly meeting of MC and TC, short lecture on seasonal topics is given to the participants by TSG-SP members and/or NGO staff. Topics are related to water management as well as agriculture, gender and environment, which are selected in the monthly TSG-SP meeting. Necessary instruction and information is given to Community Motivator at that time.
- Because there may be no time for preparation in 1st stage, it is suggested to form Pre-WUA as temporarily until official WUA Managing Committee (MC) members are elected. It is formed by mutual consent of water users to conduct walk-through survey in time. Ordinal process for forming WUA and electing MC members is proceeded at the same time.

The following figure shows flow of WUA formation process and activities.

¹ Every WUA area has been divided into territorial constituencies (TCs) on the basis of following norms: Area up to 500 ha=4 TCs, Area from 501 ha to 1000 ha=6 TCs. In this report, number of WUA is calculated by dividing CCA by 1000 (ha). Example for sub-project of 6,500 CCA, number of WUA is estimated as 7 (=6500/1000). Area of each WUA is estimated 928.57 ha (=6500/7). Thus, number of TCs is supposed to be 6.

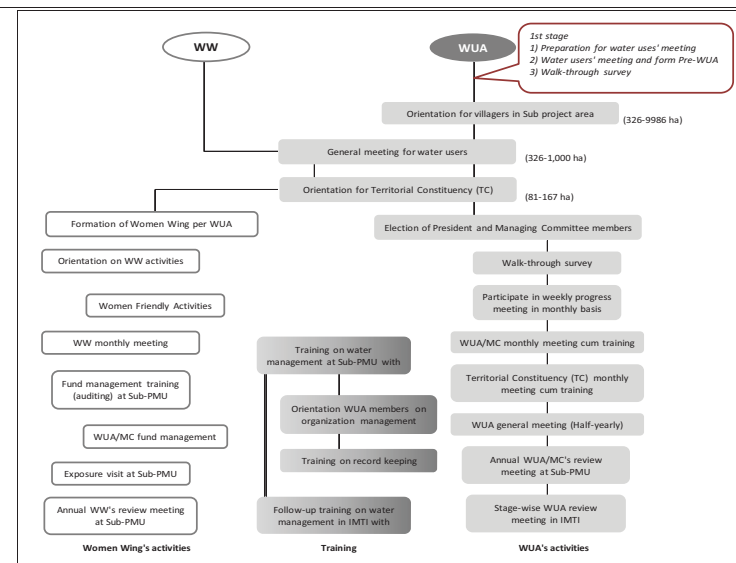


Figure A 1.2 Flow Chart of WUA Formation and Activities

Improving of Agricultural Linkage

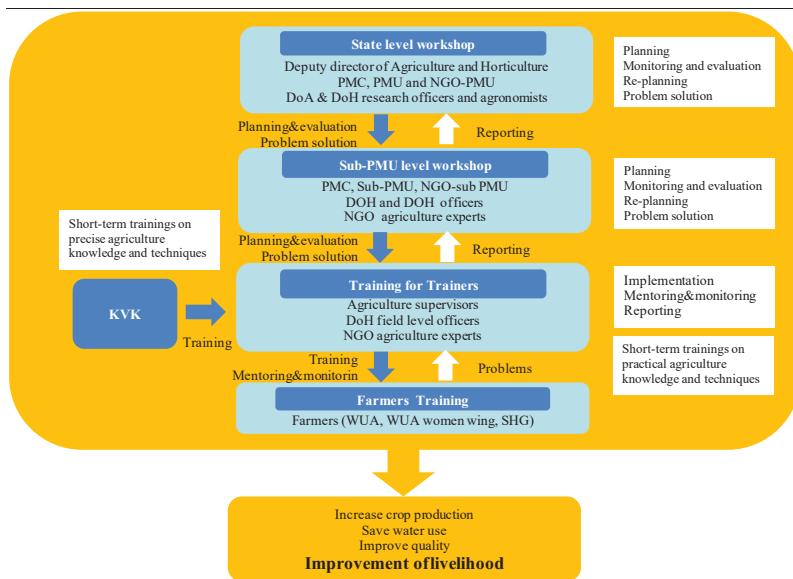
- This sub-component aims at utilizing existing agricultural organizations and schemes in village level. No additional input is provided but activities are conducted using existing schemes in coordination with DoA and other agricultural organizations.

Corpus Fund for WUAs

- After completion of renovation work, certain amount of fund, depends on the size of scheme, is provided to WUA's account for sustainable management of irrigation scheme. WUA can utilize interest of the fund after 1 year. The Project support smooth transfer of fund to WUA as well as WUA to utilize the interest.

2 Proposed Activities in Agriculture Sector

To optimize the natural and social condition in agriculture for improvement of livelihood, following activities are proposed. Detailed activities are in Attachment.5.4.1.



Source: JICA Survey Team

Figure A.2.1 Role and Responsibility of Each Player in Agricultural

(a) Training of trainers for agriculture

1) State level workshop (once a year)

In this workshop, PMC will chair the meeting. PMC, PMU, Deputy Director of Agriculture and Horticulture, NGO-PMU and DoA and DoH research officers and agronomists are the member of this workshop. They will make an implementation plan and review the results of activities, then make a new plan for next year. They will also discuss the issues related to agriculture such as problems raised from farmers through Sub-PMU and find the solution to them.

2) Sub-PMU level workshop (once a year in each Sub-PMU)

In this workshop, PMC will chair the meeting. PMC, PMU, NGO-PMU, NGO-sub-PMU, DoA agriculture supervisors, DoH field level officers and NGO-agriculture experts are the member of this workshop. They will make an implementation plan in field level. Then, DoA agriculture supervisors, DoH field level officers and NGO agriculture experts implement the plan. NGO agriculture experts and community motivators need to mentor and monitor farmers' activities in the field at least once a month. If some farmers raise a question/problem, give appropriate advice. If there is no solution, report it to Sub-PMU and get the exact answer. NGO-Sub-PMU needs to collect the kharif and rabi reports from NGO agriculture expert and review the results of activities. Then Sub-PMU needs to report them to PMU before state level meeting.

3) Training of trainers for agriculture techniques

All trainings for trainers will be conducted in KVK. In these trainings, trainers (agriculture supervisors of DoA, field level officers of DoH, NGO-agriculture experts and sometimes NGO-community motivators) are trained by resource persons of KVK. If there is no suitable resource person, KVK needs to find out such resource persons.

For extension purpose, KVK needs to demonstrate the use of drip irrigation with mulch for vegetables and fruits in 0.2ha demonstration farms. The list of KVKs in the project area is attached in Table B 5.4.1.

(b) Exposure visit for agriculture trainer

The agricultural method of use of drip irrigation with mulch for fruit and vegetable cultivation is not so common even though it is effective to save water. To intimate this technique, DoA, DoH and NGO need to make a plan to visit appropriate place (ex. Punjab agriculture university) and resource persons. Then they need to select 30 persons from DoA agriculture supervisors, DoH field level officers and NGO agriculture experts in focal area of citrus and exotic vegetable cultivation. Chosen participants need to learn through the field visit and lectures. After return back to their Sub-PMU, they need to disseminate the effectiveness of use of this method to improve quantity and quality of fruits and vegetables.

(c) Improvement of agriculture support system

As mentioned in Section 5.4.1 "Constraints and Issues in Agriculture Sector", farmers eager to get agricultural information such as countermeasure for insects and diseases, market rate, subsidies application. Farmers complained lack of information even cultivation techniques.

1) Farmers friendly manuals

Department of Agriculture published and revised 20 packages of practice based on 10 agro-climatic zones, kharif and rabi seasons on cereals, pulses, oilseeds, spices and other commercial crops such as cotton, sugarcane, tobacco and Isabgol every year. On the contrary, Department of Horticulture did not revised their package of practices on vegetables and fruits for 15 years. Department of Horticulture published leaflets for each crop instead. Though those manuals are very informative, it is not so kind to farmers, especially illiterate farmers since those manuals are not included pictorial aide. Therefore, there is a demand to provide "farmers friendly manuals" with visual aide.

First of all, PMU, PMC, DoA, and DoH needs to organize task team by 1 team leader and working group of 10 persons (composed by DoA agriculture supervisors, DoH field level officers and NGO agriculture supervisors). Detailed their works and procedure is shown in Attachment 5.4.2.

2) Strengthening of agriculture information centre

Farmers eager to get agricultural information on crops, cultivation techniques, availability of subsidy and so on. However, they cannot access such information easily. Some farmers can access to Kisan Call Centre. Others only grieve over lack of information. If Kisan Call Centre can diffuse information through Short Message Service (SMS), more farmers can access to such information. Therefore, RWSLIP has a plan to strengthen the function of Kisan Call Centre to Agriculture Information Centre. See detailed works and procedure in Attachment 5.4.3.

(d) Agriculture farmers' training

Most of farmers' training will be conducted in the sub-project sites. The training shall be done by cascade method. Trained trainers, agriculture supervisors of DoA, field level extension staffs of DoH and NGO-agriculture experts will train farmers. Not all farmers will be trained but selected core farmers from WUA, WUA women wing and SHG members will be trained.

The trained farmers need to duplicate the learnt techniques in their farm. Then, their farm will be the venue for demonstration of introduced techniques. Other farmers can learn from seeing. This method is called comprehensive hands-on farmer to farmer training.

Trained trainer (Agriculture supervisor/DoH field level officers and NGO-agriculture expert) need to visit every sub-project site at least once two weeks for monitoring. In such occasion, farmers can ask questions to agriculture supervisor and NGO agriculture extension staff. Community motivators will also support farmers.

(e) Agriculture demonstration farm

To verify the effectiveness of drip irrigation with mulch for cultivation of fruits and vegetables, two types of demonstration farm will be established in farmer's field.

Role of demonstration farm is primarily to demonstrate various agricultural techniques and materials. Demonstration farm is secondly the place for extension for such techniques and materials.

On-farm demonstrations of new techniques and new materials serve as one of the most effective extension education tools. Farmers can compare those techniques and materials with traditional way side by side. It is also the venue to test new methods and transfer new techniques by hands-on training. In general, farmers are very conservative and tend to hesitate to introduce new things to their farms. However if they see the result of demonstration farm, they will perceive that it is effective and appropriate to apply those techniques and materials into their own farm.

For selection and preparation of demonstration farm, there are several points to be considered.

- The demonstration farm should be prepared well before layout of demonstration
- Preferably, the demonstration plots should be near to roads or paths, so that more number of farmers and officials can visit the demonstrations
- The demonstration farm should be in middle section of the irrigation area having conjunctive irrigation from well and tube well
- The site of the demonstration should be well protected from animals and cattle
- A board should be fixed at the site of demonstration with the information such as name of the farmer, name of the crop variety, type of demonstration, date of sowing.
- Innovative farmers who can follow the required improved technologies should be selected
- The size of demonstration farm for kinnow mandarin and santra orange should be 1 ha. The size of demonstration farm for exotic vegetable should be 0.2 ha or 0.4 ha.
- The control plot should be in side of demonstration plot

1) Demonstration farms for citrus (kinnow mandarin and santra orange)

Two demonstration farms for kinnow will be established one in Ganganagar district and another in Hanumangarh district. Two other demonstration farms for santra orange will be established one in Kota district and another in Jhalar district. Drip irrigation system and mulch will be introduced to existing orchard. The size of demonstration farm is 1 ha and another 1 ha for control area.

In this farm, water saving method should be experimented to confirm effectiveness of improvement of sweetness and size equalization. To compare with existing method at present, control area should be set nearby area. Every year, TSS and size of fruits should be monitored.

First, drip irrigation needs to be set to root of each plant. Then, the soil surface should be covered with double mulch (white and black mulch). The white side should be surfaced.

Detailed water application and fertigation is in below table.

Table A.2.1 Irrigation Amount and Timing for Kinnow Cultivation

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Irrigation timing	Early Mid Late	Mid	Early Mid Late	Early Mid			Late	Late	Early			Early Mid Late
Times	3	2	9	6			2	2	2			6
L/tree/time	30	15	30	30			30	30	60			30
L/month	90	30	270	180			60	60	120			180
Fertigation timing				Mid Late	Early Mid Late	Early Mid Late	Early Mid			Early Mid Late	Early Mid Late	
Times				6	19	30	20			12	13	
L/tree/time				30	15	15	15			15	15	
L/month				180	285	450	300			180	195	
(Nitrogen g)				(27)	(43.5)	(67.5)	(45)			(27)	(28.5)	

Source: Kinki Chugoku Shikoku Agriculture Research Center, Japan

Note: Planting density: 650 trees/ha, Rate of dilution:150 ppmN, 240 g/tree/year. Irrigation: 2,600 L/tree/year

In the second stage, seedlings of seedless kinnow and santra orange will be introduced to improve competitiveness with other states or other countries. This demonstration farm should be set nearby area of first demonstration. The size also should be 1 ha.

2) Demonstration farms for exotic vegetables

The role of demonstration farm for exotic vegetables is to promote cultivation of exotic vegetables in main tourist areas. They include Ajmer, Alwar, Sawai Madhopur, Tonk, Jodhpur (Pali), Chittorgarh and Udaipur. In each area, 0.2 ha of demonstration farm of exotic vegetables will be established along with 0.2 ha of control area. Drip irrigation with mulch, low poly-tunnel and net-tunnel will be introduced as new materials. Recommendable varieties are cherry tomato, broccoli, leaf lettuce, colour cauliflower, snap peas, red cabbage, Chinese cabbage, capsicum (bell pepper) and parsley.

Table A.2.2 Recommendable exotic vegetables

	Name of vegetables
<i>Kharif</i>	Cherry tomato, tomato (for salad), capsicum, cucumber (not local variety), Swiss chard
<i>Zayed</i>	Musk melon, melon, water melon
<i>Rabi</i>	Colour cauliflower, broccoli, red cabbage, leaf lettuce, kale, Chinese cabbage, Pak choy, snap peas, leek, winter tomato (for salad), winter cucumber (not local variety), capsicum

Source: JICA Survey Team

Table A.2.3 Recommendable herbs

	Name of herbs
<i>Kharif</i>	Basil, lemon grass, oregano, thyme, sage, lemon balm, Rosemary
<i>Rabi</i>	Florence fennel, dill, chives

Source: JICA survey team

In this farm, water saving method should be experimented to confirm effectiveness of drip irrigation and mulch for improvement of sweetness and nutrition. To compare with existing method at present, control area should be set nearby area. Every year, TSS and nutrition should be monitored and compared with control.

First, drip irrigation needs to be set to root of each plant. Then, the soil surface should be covered with double mulch (white and black mulch). The white side should be surfaced.

In case of vegetables with mulch, water application amount and timing differs from variety to variety. Ideal interval shall be once every two weeks. However, soft, leafy vegetables need to be taken more care than other vegetables. Since once the soft leaves are withered, they could not recover. In case of herbs, they need less water like medicinal plants. Too much water application makes herbs less aromatic. To increase TSS and nutrition, reduce water application just before harvesting.

3 Proposed Activities in Agro- Processing / Marketing

The detailed approaches for every sub-component are explained as follows.

1. FIG formulation for cooperative activities

To strengthen individual farmers' marketing capacity, FIGs would be formulated for cooperative activities such as collective marketing. Selling targets include public regular markets, public medicinal plants markets, public spice markets in AEZ or processors of Food Parks.

First, at the beginning of Stage 1, a Cooperative demonstration group would be selected at every Sub-PMU to accumulate good results on cooperative activities and to motivate farmers rather conservative for group activities by showing good practices. Groups could be selected through observing farmers' performance on production activities after receiving training of Agriculture sector. Then, intensive supports, namely, funds and mentoring, would be given to implement group activities as well as training (refer to Table A.3.1 for the detail). Successful examples could be later shared with

WUA members in other sites to encourage them for FIG formulation. After formulation, new FIGs would have an opportunity for exposure visit to the demonstration sites.

After the Project, it is expected that FIGs would be developed into FPOs, depending on their needs. For this, FPO formulation guidance would be held inviting private consultants hired by SFAC for FPO management.

As for Food Parks sites, FIGs would be formulated at the same timing as Cooperative demonstration groups, considering that they are supposed to move on to Sub-component 2: Connecting with large-size consumers (Matching meeting).

Table A 3.1 compiles group numbers and supports for the different sites whereas Table A 3.2 compiles contents of possible financial assistance for FIG activities. Note that financial assistance would be provided only for seriously working groups with higher future potential as FIGs.

Flow of activities and Flow of TOT are described in Figure A 3.2 and Figure A 3.3, respectively.

Further details are given in Attachment 5.5.1.

Table A 3.1 Supports for Sub-component 1 per Sub-PMU

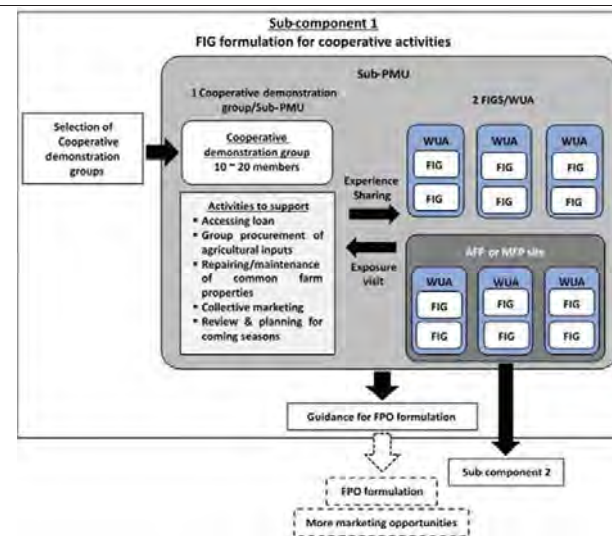
Groups	Objectives	Group number	Period for support	Frequency of financial assistance
Cooperative demonstration groups	To show good examples of cooperative activities to motivate other farmers to formulate FIGs	1 group/Sub-PMU	<ul style="list-style-type: none"> Intensive support during Stage 1 Mentoring during Stage 2 & 3 	2-3 times/activity
FIGs (other sites)	To implement cooperative activities to increase profit by learning from Cooperative demonstration groups	<ul style="list-style-type: none"> 2 FIGs/WUA All WUA/Sub-PMU 	Throughout 1 stage for every FIGs	Once/activity
	<p>AFP/MFP sites</p> <ul style="list-style-type: none"> To implement cooperative activities to increase profit by learning from Cooperative demonstration groups To work as cooperative groups for following Matching activities in Sub-component 2 	<ul style="list-style-type: none"> 2 FIGs/WUA 1-2 WUA/Sub-component Selected sub-component near AFP/MFP per Sub-PMU 		

Source: JICA Survey Team

Table A 3.2 Contents of Possible Financial Assistance for FIG activities

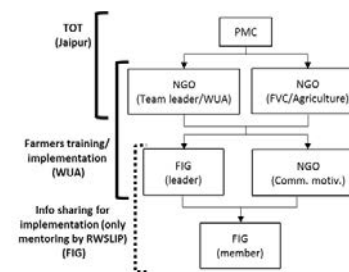
Activity	Contents of possible financial assistance
Accessing loan	Guarantee deposit to open bank account
Group procurement of agricultural inputs	Truck rental to transport agro produces
Repairing/maintenance of common farm properties	Repairing existing farm properties, procurement of new machinery, maintenance and/or truck rental to transport machinery
Collective marketing	Labour for grading/cleaning cereals/pulses/oilseeds, truck rental to transport agro produces

Source: JICA Survey Team



Source: JICA Survey Team

Figure A 3.1 Flow of Sub-component 1: FIG formulation for cooperative activities



Source: JICA Survey Team

Figure A 3.2 Flow of TOT for Sub-component 1 and 2

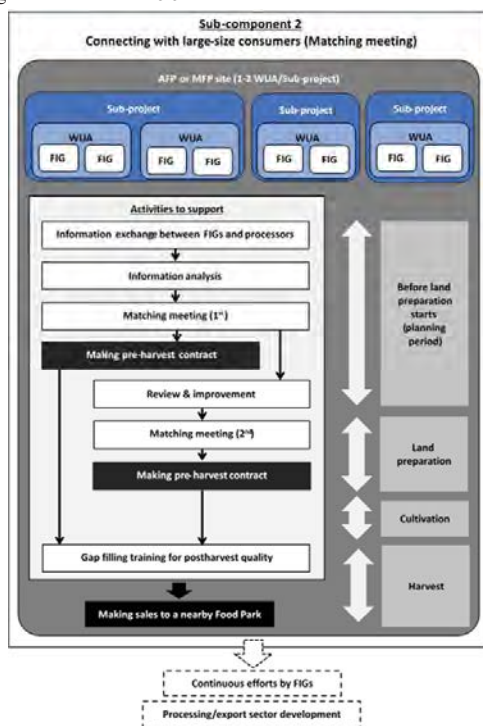
2. Connecting with large-size consumers (Matching meeting)

To promote direct marketing of raw materials crops to Food Parks processors by FIGs in AFP/MFP sites, Matching meetings would be arranged between them. Prior to Matching meeting (1st), information would be shared (quantity and timing to supply and demand raw materials crops). In Matching meeting (1st), it is expected for FIGs and processors to have face-to-face negotiation and make pre-harvest contracts. For FIGs which had unsuccessful results, Matching meeting (2nd) would

be held for another try after Review and improvement meeting. Before actual sales, Gap filling training would be conducted inviting processors as lecturers to improve postharvest quality of raw materials crops and meet requirement by processors. Finally, direct sales would be achieved at harvest season. After the Project, it is expected for FIGs to continuously make efforts on sales to processors, eventually contributing to development of the agro-processing sector.

Flow of the activities in Sub-component 2 are illustrated in Figure A 3.4. Flow of TOT is same as the one for Sub-component 1 (see Figure A 3.3).

Further details are given in Attachment 5.5.2.



Source: JICA Survey Team

Figure A 3.3 Flow of Sub-component 2: Connecting with large-size consumers (Matching meeting)

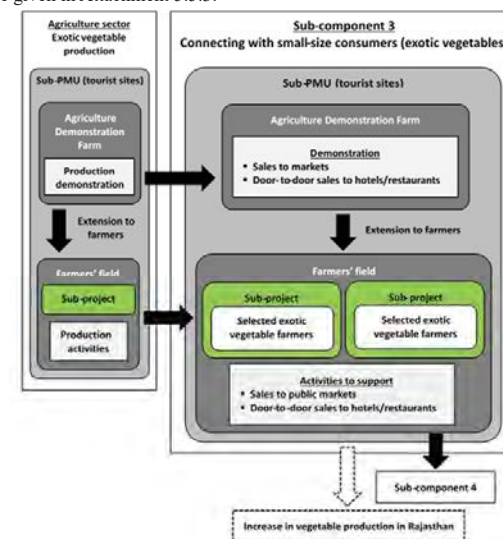
3. Connecting with small-size consumers (exotic vegetables)

To increase quantity of Rajasthan-origin exotic vegetables distributed in the state, the Project would assist farmers' sales after a few harvest seasons, by sharing marketing experiences of Agriculture Demonstration Farms of Agriculture sector. Main activities of the farms would be sales to public markets in Jaipur and other large cities in the state as well as door-to-door sales to hotels/restaurants. Then, potential farmers would be selected based on productivity, marketability and motivation, from those who have been trained for exotic vegetables production in Agriculture sector. Through training in the farms, selected farmers could learn successful cases and obtain information on buyers and

subsidies for truck rental to transport vegetables (or rental service itself). After the sales support, farmers would further move on to sub-component 4: Brand building for high-value agro produces.

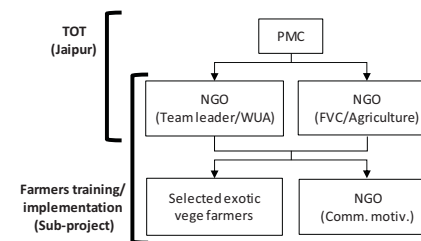
Flow of activities of sub-component 3 and flow of TOT described in Figure A 3.4 and Figure A 3.5, respectively.

Further details are given in Attachment 5.5.3.



Source: JICA Survey Team

Figure A 3.4 Flow of Sub-component 3: Connecting with small-size consumers (exotic vegetables)



Source: JICA Survey Team

Figure A 3.5 Flow of TOT for Sub-component 3

4. Brand building for high-value agro produces

(1) Expected achievements during the Project implementation

As explained in Section 5.1, the Project's initiative for brand building could realize following goals after five years of implementation of proposed activities explained later.

- DoA/DoH recognize the significant brand potential of agricultural produces in Rajasthan;
- DoA/DoH take over the Project's roles for brand building;
- Test marketing activities result in linkage between farmers and private buyers even with some cases without intervention of the Project;

- Know-how for production and marketing of high-TSS agricultural produces is accumulated in the Project and would have been gradually extended to farmers
- The brand begin to win renown as high quality & high-value produces worth for higher prices

(2) Methods to be adopted by the Project

For these goals, the Project would adopt following methods.

1. Coordination of overall activities by Brand building working group
2. Establishment and operation of Market-oriented experimental plots for quality improvement and advanced sales
3. Extension of experimental results to farmers
4. Advertising for high-TSS fruits/vegetables
5. Extension to outside of the Project

Figure A 3.6 summarizes the flow of activity plan for brand building for high-value agricultural produces.

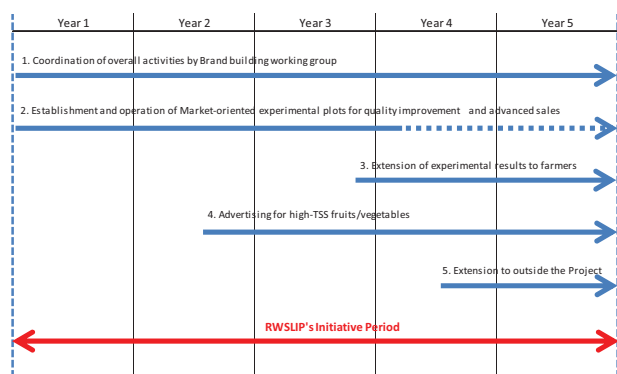


Figure A 3.6 Flow of Activity Plan for Sub-component 4

Further details of the methods are given in Attachment 5.5.4.

4 Proposed Activities in Gender Mainstreaming

This component consists of three sub-components: Supporting the Institutionalization of Gender Mainstreaming in Water Management, Enhancement of Women’s Capability and Participation in WUA and Capacity Building on Agricultural Technologies through SHGs. The followings highlight some points on objectives of activities and practical consideration.

(a) Institutionalization of Gender Mainstreaming in Water Management

This sub-component aims at institutionalizing women’s participation in WUA and water management by adding clauses to PIM Act and at systemising collection of gender disaggregated data. Those are very foundation to promote gender mainstreaming in water management. Prior to the Project, WRD proceeds suggested clauses to ordain; WRD, WCD and Gender consultant are expected to continue follow-up on progress of procedure and make additional clauses of PIM Act effect seamlessly from the Ordinance.

There is an another point to emphasise that there is no separate training for gender issues to promote gender as crosscutting issues; it is included in trainings under WUA component: water management training and monthly meeting cum training of WUA/Managing Committee (MC) and Territorial Constituency (TC). Before starting the activities, Gender consultant and WCD need to prepare plan of lecture and supporting materials of gender issues in water management and WUA activities. It is also aimed to incorporate gender perspectives into existing capacity building activities in water management continuously.

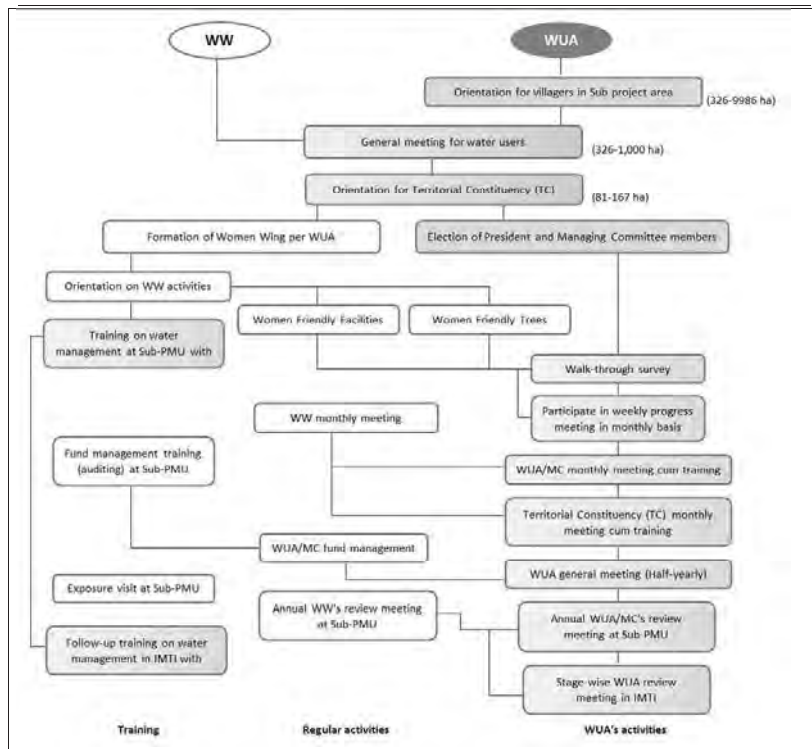
Collection of gender-disaggregated data is not new in the government organizations since there are gender desks in each department. WCD gender cell and gender consultant need to aware gender desks in the departments by giving clear instruction on how to collect and what to collect.

Then to see effectiveness of the Project approach, periodical survey should be conducted: baseline, annually, stage-wise and end of the Project. Based on the result of the periodical survey, further suggestion on concept to be included in PIM Act will be compiled and be proceeded for legalization.

(b) Enhancement of Women’s Capability and Participation in WUA

To encourage women to participate in WUA activities as well as water management, the Project forms “Women Wing (WW)” in each water users association (WUA), which will play various roles in WUA’s activities. WW is formed by same step with WUA formation except election. Meetings in different layer such as sub-project, WUA area and TC, should be utilize to facilitate women to participate in the Project activities.

The following figure shows flow of activities of Women Wing.



Source: JICA Survey Team

Figure A.4.1 Flow of activities of Women Wing

The Project introduced new concept “Women Friendly Activities” as WW’s activity: Women Friendly Facility (WFF) and Women Friendly Trees (WFT). The Women Wing can plan and implement works for women friendly activities. Women will plan *what, where, how many, what shape, how to operate, etc.*)

Its aims are as follows:

- i) a process in which women think/ discuss about WFF to improve their lives
- ii) a fact that they realize WFF at sites;
- iii) a sharing of experiences among Women Wings

Women Friendly Facility is infrastructure in or near the irrigation scheme to fulfil women’s needs. It can be steps/stairs in watercourses, footbridges to cross canals or watercourses, bathing or washing places, etc. The activity aims not only at providing facility to women but also at providing learning

process on how to plan and implement project, so it is important to facilitate WW members to express their idea freely and to discuss well.

Women Friendly Trees is used to be done as a part of environmental protection in construction work of irrigation scheme rehabilitation. The Project utilizes this opportunity to make women choose trees on their needs. The plan of facility and tree plantation is shared and discussed with WUA and the sites are confirmed through the Walk-Through Survey.



Source: JICA Survey Team

Figure A.4.2 Example of WFF

The following table shows summarised information on the Women Friendly Activities.

Table A.4.1 Summary of Women Wing Activity

	Women Friendly Facilities	Women Friendly Trees
Expected budget	1% of estimated cost for rehabilitation of canal system	Number of trees/WUA: 1,667 INR 120 / tree, 1 tree / 3 m and 5 km / WUA
Possible activity	<ul style="list-style-type: none"> • Steps/stairs • Foot bridges • Bathing and washing place (need to be environmentally friendly) • Other ideas to be developed by women themselves 	<ul style="list-style-type: none"> • Selection of tree on women’s needs <ul style="list-style-type: none"> - Fodder trees - Fruit tree - for fire wood - for any other income generating purpose • Management of trees: collection and auction (on discussion with WUA)
Responsible Organization	Construction and management: WRD Facilitation: WCD	Preparation: WRD Facilitation and management: WCD
Possible criteria	<ol style="list-style-type: none"> 1) Public purpose: more beneficiaries 2) Cost-effectiveness 3) Necessity/Urgency for women 4) Sustainability 	<ol style="list-style-type: none"> 1) Easy to manage (suitableness, size of trees, insect/disease, water, etc.) 2) Cost-effectiveness 3) Diversity
Need to be considered	<ul style="list-style-type: none"> • Be considered to cover all the TCs as much as possible • Facilitate members to reach mutual consent. 	<ul style="list-style-type: none"> • Need to confirm land demarcation with vested interests • Need to confirm with WUA on management of trees, especially auction.

At the same time, WW actively involves in WUA activities. Besides WW’s monthly meeting, members participate WUA’s monthly meeting and Territorial Constituency’s monthly meeting to learn how to conduct and organize activities and how to reflect their opinion in the activities. The Project also support WW to involve in WUA’s fund management. In coordination with WUA, WW will plan their activities related to WUA’s fund management: Involvement of Corpus Fund (management, and/or audit), Involvement of Water Fee Collection, Auditing WUA fund and Fund Raising in WFF

Construction. In water fee collection and in fund raising in WFF and WFT activity, there should be a discussion on saving a part of payment for Women Wing activities.

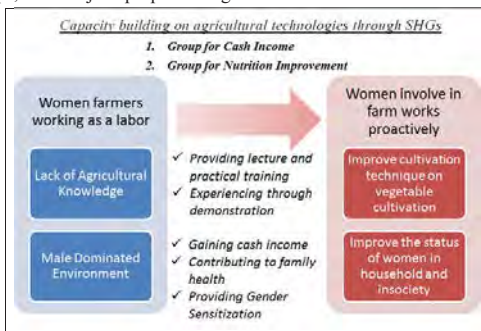
The Project emphasise that WW activities should not be separated from WUA activities. Just empowerment of women is not enough for the Project; women's participation in WUA activities and in water management should be increased through WW activities as active water users. That is why the Project plans to conduct training and meeting for WW with WUA.

Attachment 5.6.1 shows detail process to implement the activities of Women Wing.

(c) Capacity Building on Agricultural Technologies through SHG activities

Although women in farm household spend a substantial amount of time on farming work, there are gaps on involvement in farming activities between men's and women's; framing plan is mainly maid by male member of their household and women has less opportunities to update agricultural knowledge. The following figure shows present constraints, proposed attempts of the Project and expected outcome. To fulfill those gaps, the Project proposes vegetable cultivation activities for women group by using SHG program under WCD as well as agricultural extension system under DoA/DoH.

This sub-component is conducted in sub-project wise and there are two kinds of activity: vegetable cultivation for cash and vegetable cultivation for nutrition. Two groups per sub-project are targeted for each activity. It is different from WUA based activities, so TSG-SP members need to develop activity plan as a team before starting the selection process of the group. Unlike in the case of WUA membership, landownership is not necessarily required, but the group members should be a water user.

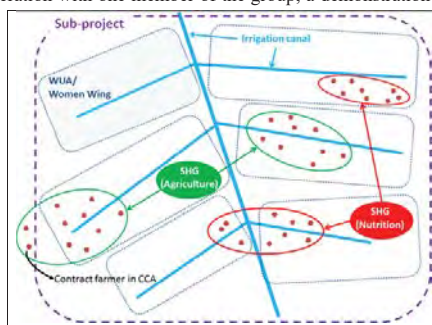


Source: JICA Survey Team

Figure A 4.3 Concept of the activity

While the group for cash improves cultivation techniques on basic vegetable such as Tomato, Chilies and Onion, the group for nutritious learns how to cultivate and cook newly introduced vegetable such as Swiss Chrd, Kale and Amaranth.

Each group consists of up to 20 members: the Project provides trainings and necessary materials for vegetable cultivation all the members. In cooperation with one member of the group, a demonstration plot (demo plot) is established per group for nursery production and for providing practical on-the-job training there to show other group members how to raise nursery and how to cultivate vegetables using modern technologies. Produced seedlings in the demo nursery are distributed to the group members for demonstration in their field. Members are expected to cultivate the vegetables in their own field using the same method as explained in the training. While basic vegetable cultivation group more focus on cultivation techniques, nutritious vegetable cultivation group learn not only cultivation method, but also how to cook, too.



Source: JICA Survey Team

Figure A 4.4 Selection of SHG

For the activity of the group for cash, the

Project asks DoA to involve Agriculture Supervisor, DoA not only for technical advices but also for improving extension technique so that DoA can continue similar program sustainably. The group can be formed as Famers Interest Group (FIG) or any other suitable group under ATMA program as suggested by DoA. And for the activity of the group for nutrition, *Anganwadi*, WCD/ICDS needs to play important roles instead of DoA.

The following table shows summarised information on the groups and Attachment 5.6.2 shows detail process to implement.

Table A 4.2 Summary of Agriculture Group Activity

	Basic Vegetable cultivation Group	Nutritious Vegetable Cultivation Group
Objectives	To acquire the knowledge and skills necessary to cultivate vegetable commercial purpose To expand to adopt the learned technologies in their family field	To learn how to cultivate newly introduced nutritious vegetables in limited land To improve nutritional status by ingestion of nutritious vegetables
Number of Target groups	2 groups per Sub-project. Each group has up to 20 members (one demonstrator and 19 followers)	2 groups per Sub-project. Each group has up to 20 members (one demonstrator and 19 followers)
Responsible Organization	DoA: Agriculture Supervisor	WCD: <i>Anganwadi</i> for technical support <i>Satin</i> for group management
Requirement to be a member	- Has experience to cultivate vegetable - Family members agree to use the land for the activity - Has enough land to cultivate vegetable commercial purpose in the future: Family members are positive to cultivate vegetable commercial purpose in the future - Able to share gained experience with other members of society	- Able to use a part of land for this activity: Family members agree on it. - Has nutrition problem and a desire to improve it of their own as well as family's - Comparatively has less land than others - Able to share gained experience with other members of society
Method of extension	Demonstration is conducted in Rabi and in Kharif 1. TOT for Agriculture Supervisor (DoA) and NGO staff 2. Theoretical Training to group members by Agriculture Supervisor in cooperation with NGO staff 3. Preparation of nursery and demo plot (Hands-on training to all the members) 4. Post-harvest technology: bundling, packaging (Hands-on training to all the members) 5. Promote record keeping on vegetable sales	Demonstration is conducted in Rabi and in Kharif 1. TOT for Agriculture Supervisor (DoA), <i>Anganwadi</i> staff (WCD/ICDS) and NGO staff 2. Practical training in demo plot on how to sow the seed and how to apply water and fertilizer. 3. Training on how to harvest and how to cook the vegetable in <i>Anganwadi</i> 4. Seed collection and hand it to <i>Anganwadi</i> to establish seed bank to continue the activity with other group
Way forward	- DoA is expected to incorporate the extension method and technology in existing extension system - Farmers Interest Group or Commodity Interest Group under ATMA program is	- <i>Anganwadi</i> is expected to maintain the seed bank and continue the activity with other groups - Other recipe to cook the vegetable in local way is developed by the group

	Basic Vegetable cultivation Group	Nutritious Vegetable Cultivation Group
	formed including male members after adopting promoted cultivation technique in the area - The group can develop linkage with Farmers Producer Organization in the future	and/or <i>Anganwadi</i> and increase ingestion of the vegetable in the area
Remarks		If there is no Satin, <i>Anganwadi</i> staff will support group formation and management instead.

Source: JICA Survey team

Attachment 2.4.1a Implementation Schedule (Component-2: WUA)

Description	Year							
	1	2	3	4	5	6	7	8
STAGE 1				Construction	Follow-up			
1. Establishment of WUA Support Mechanism								
1) Development of Project Materials								
Training Materials on Water Management and WUA Management								
Leaflet on the Project Concept and Activities for Water Users								
2) Trainings in Different Level								
TOT on Water Management and WUA Support for TSG-SP Members and NGO Staff								
Training on Water Management and WUA Support for NGO staff (Community Organizer)								
3) Project Management Activities								
Planning Workshop in Sub Project Level								
Monthly Meeting in Sub-PMU and in TSG-SP								
Monitoring/ mentoring of implementation of the activities in WUA level								
2. Capacity Building of WUA Management								
1) Formation of WUA								
Preparing for and conducting Water Users' Meeting to Form Pre-WUA								
Providing information on WUA Formation in Sub project, in WUA and in TC Level								
Election of President and Managing Committee Members of WUA								
2) Capacity Building Activities								
Training for MC Members on Water Management at Sub-PMU Level								
Orientation for WUA Members Organization Management at WUA Level								
Training on Record Keeping for WUA/MC members at WUA Level								
Support to Conduct MC Monthly Meeting and Provide Technical Session on Seasonal Topic								
Territorial Constituency Monthly Meeting cum Training								
Annual WUA/MCs Review Meeting at Sub-PMU Level								
Stage-wise WUA Review Meeting at State Level in IMTI								
Follow-up Training for MC Members on Water Management								
3) WUA Management								
Walk-through Survey (to Agree on Irrigation Scheme Rehabilitation Plan)								
Support MC Members to Attend Weekly Progress Meeting in the Site at Monthly Basis								
Support to Conduct General Meeting of WUA (Before Rabi and Kharif Season)								
3. Improvement of Agriculture Linkage								
1) Strengthening Linkage Between Farmers and Agriculture Organization								
Monthly Meeting with Agriculture Related Organization								
Inviting Agriculture Supervisor to MC/TC Monthly Meeting								
Coordination with Existing Farmers Organization								
2) Conducting Agricultural Demonstration								
Establishment of Demonstration Plot to Promote Seasonal Cultivation Technology								
Farmers Field Day in the Demonstration Plot								
4. Corpus Fund								
1) Providing Corpus Fund to WUA								
2) Monitoring Corpus Fund Management								

Description	Year							
	1	2	3	4	5	6	7	8
STAGE 2				Preparation	Construction	Follow-up		
1. Establishment of WUA Support Mechanism								
1) Revision of Project Materials								
Leaflet on the Project Concept and Activities for Water Users								
2) Trainings in Different Level								
TOT on Water Management and WUA Support for TSG-SP Members and NGO Staff								
Training on Water Management and WUA Support for NGO staff (Community Organizer)								
3) Project Management Activities								
Planning Workshop in Sub Project Level								
Monthly Meeting in Sub-PMU and in TSG-SP								
Monitoring/ mentoring of implementation of the activities in WUA level								
2. Capacity Building of WUA Management								
1) Formation of WUA								
Providing information on WUA Formation in Sub project, in WUA and in TC Level								
Election of President and Managing Committee Members of WUA								
2) Capacity Building Activities								
Training for MC Members on Water Management at Sub-PMU Level								
Orientation for WUA Members Organization Management at WUA Level								
Training on Record Keeping for WUA/MC members at WUA Level								
Support to Conduct MC Monthly Meeting and Provide Technical Session on Seasonal Topic								
Territorial Constituency Monthly Meeting cum Training								
Annual WUA/MCs Review Meeting at Sub-PMU Level								
Stage-wise WUA Review Meeting at State Level in IMTI								
Follow-up Training for MC Members on Water Management								
3) WUA Management								
Walk-through Survey (to Agree on Irrigation Scheme Rehabilitation Plan)								
Support MC Members to Attend Weekly Progress Meeting in the Site Monthly Basis								
Support to Conduct General Meeting of WUA (Before Rabi and Kharif Season)								
3. Improvement of Agriculture Linkage								
1) Strengthening Linkage Between Farmers and Agriculture Organization								
Monthly Meeting with Agriculture Related Organization								
Inviting Agriculture Supervisor to MC/TC Monthly Meeting								
Coordination with Existing Farmers Organization								
2) Conducting Agricultural Demonstration								
Establishment of Demonstration Plot to Promote Seasonal Cultivation Technology								
Farmers Field Day in the Demonstration Plot								
4. Corpus Fund								
1) Providing Corpus Fund to WUA								
2) Monitoring Corpus Fund Management								

Description	Year																
	3rd			4th			5th			6th			7th			8th	
Construction Works (Stage 1)	[Gantt bars for Stage 1]																
Construction Works (Stage 2)	[Gantt bars for Stage 2]																
Construction Works (Stage 3)	[Gantt bars for Stage 3]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	[Gantt bars for 4-2]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-3 Agriculture cultivation techniques on spices and medicinal plants	[Gantt bars for 4-3]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-4 Agriculture cultivation techniques on kinnow and santra orange	[Gantt bars for 4-4]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-5 Agriculture cultivation techniques on exotic vegetables	[Gantt bars for 4-5]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-6 Quality improvement of crops	[Gantt bars for 4-6]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
4-7 Marketing survey to advanced area	[Gantt bars for 4-7]																
Stage I	[Gantt bars for Stage I]																
Stage II	[Gantt bars for Stage II]																
Stage III	[Gantt bars for Stage III]																
5 Agriculture Demonstration Farm	[Gantt bars for 5]																
5-1 Establishment of orange farm	[Gantt bars for 5-1]																
Selection of kinnow and santra orange farmers	[Gantt bars]																
Discussion and provision of MoU for mutual understanding	[Gantt bars]																
Provision of demonstration farm in existing orchards	[Gantt bars]																
Lecture and hands-on training on use of drip irrigation system	[Gantt bars]																
Setup drip irrigation system with mulch	[Gantt bars]																
Setup of fences for protection from animals	[Gantt bars]																
Periodical hands-on training for cultivation	[Gantt bars]																
5-2 Establishment of exotic vegetable farm	[Gantt bars for 5-2]																
Selection of exotic vegetable cultivation farmers	[Gantt bars]																
Discussion and provision of MoU for mutual understanding	[Gantt bars]																
Provision of demonstration farm in existing orchards	[Gantt bars]																
Lecture and hands-on training on use of drip irrigation system	[Gantt bars]																
Setup drip irrigation system with mulch	[Gantt bars]																
Setup of fences for protection from animals	[Gantt bars]																
Periodical hands-on training for cultivation	[Gantt bars]																
5-3 Mentoring of demonstration farm	[Gantt bars for 5-3]																
Orange farm	[Gantt bars]																
Exotic vegetables	[Gantt bars]																
5-4 Monitoring of demonstration farm	[Gantt bars for 5-4]																

Attachment 2.4.1c Implementation Schedule (Component-4: Marketing)

Activities	Stage of Target farmers	2019												2020												2021												2022												2023											
		Stage 1 (Construction works)												Stage 2 (Construction works)												Mentoring & improvement												Mentoring & improvement												Mentoring & improvement											
		Stage 3 (Construction works)												Stage 3 (Construction works)												Stage 3 (Construction works)												Stage 3 (Construction works)												Stage 3 (Construction works)											
		3rd year			4th year			5th year			6th year			7th year			8th year			3rd year			4th year			5th year			6th year			7th year			8th year																										
1- FIG formulation for cooperative activities		[Gantt bars for 1- FIG formulation]																																																											
1-1. Training of trainers (ToT) for FIG activities	Stage 1	[Gantt bars for 1-1]																																																											
1-2. Support for Cooperative demonstration groups	Stage 1	[Gantt bars for 1-2]																																																											
a. Selection of Cooperative demonstration groups		[Gantt bars]																																																											
b. Guidance for demonstration group activities		[Gantt bars]																																																											
c. Accessing loan		[Gantt bars]																																																											
d. Group procurement of agricultural inputs		[Gantt bars]																																																											
e. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
f. Collective marketing		[Gantt bars]																																																											
g. Review and planning for coming seasons		[Gantt bars]																																																											
h. Experience sharing with potential FIGs		[Gantt bars]																																																											
1-3. FIG formulation and activities in other sites	Stage 1	[Gantt bars for 1-3]																																																											
a. Request for FIG formulation		[Gantt bars]																																																											
b. Guidance for group activities		[Gantt bars]																																																											
c. Exposure visit to cooperative demonstration groups		[Gantt bars]																																																											
d. Accessing loan		[Gantt bars]																																																											
e. Group procurement		[Gantt bars]																																																											
f. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
g. Collective marketing		[Gantt bars]																																																											
1-3. FIG formulation and activities in other sites	Stage 2	[Gantt bars for 1-3]																																																											
a. Request for FIG formulation		[Gantt bars]																																																											
b. Guidance for group activities		[Gantt bars]																																																											
c. Exposure visit to cooperative demonstration groups		[Gantt bars]																																																											
d. Accessing loan		[Gantt bars]																																																											
e. Group procurement		[Gantt bars]																																																											
f. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
g. Collective marketing		[Gantt bars]																																																											
1-3. FIG formulation and activities in other sites	Stage 3	[Gantt bars for 1-3]																																																											
a. Request for FIG formulation		[Gantt bars]																																																											
b. Guidance for group activities		[Gantt bars]																																																											
c. Exposure visit to cooperative demonstration groups		[Gantt bars]																																																											
d. Accessing loan		[Gantt bars]																																																											
e. Group procurement		[Gantt bars]																																																											
f. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
g. Collective marketing		[Gantt bars]																																																											
1-3. FIG formulation and activities in other sites (AFP/MFP sites)	Stage 1	[Gantt bars for 1-3]																																																											
a. Request for FIG formulation		[Gantt bars]																																																											
b. Guidance for group activities		[Gantt bars]																																																											
c. Exposure visit to cooperative demonstration sites		[Gantt bars]																																																											
d. Accessing loan		[Gantt bars]																																																											
e. Group procurement of agricultural inputs		[Gantt bars]																																																											
f. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
g. Collective marketing		[Gantt bars]																																																											
1-3. FIG formulation and activities in other sites (AFP/MFP sites)	Stage 2	[Gantt bars for 1-3]																																																											
a. Request for FIG formulation		[Gantt bars]																																																											
b. Guidance for group activities		[Gantt bars]																																																											
c. Exposure visit to cooperative demonstration sites		[Gantt bars]																																																											
d. Accessing loan		[Gantt bars]																																																											
e. Group procurement of agricultural inputs		[Gantt bars]																																																											
f. Repairing/maintenance of common farm properties		[Gantt bars]																																																											
g. Collective marketing		[Gantt bars]																																																											

Activities	Stage of Target farmers	2019			2020			2021			2022			2023					
		Stage 1 (Construction works)						Stage 2 (Construction works)						Mentoring & improvement					
														Mentoring & improvement					
														Stage 3 (Construction works)					
		3rd year			4th year			5th year			6th year			7th year			8th year		
4-4. Tasting events	-																		
4-4. Tasting events in large cities	-																		
4-5. Antenna shops/corners	-																		
a Establishment and operation of shops at airports/railway stations	-																		
b Operation of antenna corners at high-grade groceries	-																		
4-6. Farmers' fairs	-																		
a Participation in State-level Farmers' Fairs	-																		
b Participation in National-level Farmers' Fairs	-																		
4-7. Multimedia advertising	-																		
a TV commercial	-																		
b Newspaper	-																		
c Gourmet magazine	-																		
d Public transportation	-																		
e DoA/DoH's Website	-																		
4-8. Extension to outside the Project	-																		
Workshop for government officials outside the Project	-																		

1 = Training/Meeting/Event
 = Implementation
 = Mentoring/improvement

Attachment 2.4.1d Implementation Schedule (Component-5: Gender Mainstreaming)

Description	Year								Grand Total
	1	2	3	4	5	6	7	8	
STAGE 1									
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management									
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act									
Follow-up of Approval Process of Additional Clauses on PIM Act									
Promoting and Monitoring of Adaptation of the Additional Clauses									
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management									
Preparation of Gender Session for Training on Water Management and WUA Management									
Providing Necessary Information in Orientation and ToT for Developing Gender Action Plan in WUA									
Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting									
Support to Coordinate between WUA and Women Wing									
3) Establishment of Gender Disaggregated Data Collection System									
Preparing and Finalizing List of Sector-wise Gender Disaggregated Data									
Establishment of Monitoring System on Gender Concerned Activities									
Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data									
Analyzing Collected Data and Compile in Annual Report									
Conduct Stage-wise Baseline survey and Assessment									
2. Enhancement of Women's Capability and Participation in WUA									
1) Formulation of WUA Women Wing									
General Meeting of Water Users in WUA area									
Orientation for Territorial Constituency									
Formulation of Women Wing per WUA									
Orientation on WW activities									
2) Facilitating to Introduce the Women Friendly Activities									
Facilitating to Discuss and Finalize Women Friendly Facilities									
Support Women Wing to plan and implement Women Friendly Facilities									
Support Women Wing to plan and implement Women Friendly Trees									
3) Encouraging Women to Participate in WUA Activities									
Support WW Members to Conduct WW Monthly Meeting									
Support WW Members to Participate and Report in WUA/MC Monthly Meeting									
Support to WW Members to Participate in WUA Fund Management									
Support WW members to participate Territorial Constituency monthly meeting cum training									
Support WW members to participate in weekly progress meeting in monthly basis									
Support WW members to participate in WUA general meeting									
4) Providing Trainings and Exposure Activities on Water Management and Organizational Management									
Training on for Main members on Water Management at Sub-PMU Level with WUA									
Fund Management Training (auditing) at District Level									
Exposure Visit (Sub-PMU wise)									
Annual WW's Review Meeting at Sub-PMU Level									
Annual WUA/MC's Review Meeting at Sub-PMU Level									
Stage-wise WUA Review Meeting at State Level in IMTI with WUA									
Follow-up Training for Main Members on Water Management with WUA									
3. Capacity Building on Agricultural Technologies through SHGs									
1) Selection of the Group									
Developing work plan on the activity in SP level									
Providing Information to Women Members of the SP on Agriculture Program under Women Wing									
Collecting Proposal from Groups									
Selection of group									
Conducting Orientation to Selected Groups									
2) Strengthening Capacity on Group Management									
Providing Training on Group Management									
Support to Conduct Monthly Group Meeting									
3) Strengthening Capacity on Agricultural Technique									
ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators									
ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Aanganwad Workers									
Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies									
Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth									
Establishing Demonstration Plot for Basic Vegetables Cultivation									
Establishing Demonstration Plot for Nutritious Vegetables Cultivation									
4) Monitoring and Mentoring the Groups for Sustainable Activities									
Regular Monitoring and Provide Necessary Support to Groups									

Description	Year								Grand Total
	1	2	3	4	5	6	7	8	
STAGE 2				Preparation	Construction	Followup			
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management									
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act									
Promoting and Monitoring of Adaptation of the Additional Clauses									
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management									
Revising Gender Session in Training on Water Management and WUA Management									
Providing Revised Information in Orientation and ToI for Developing Genders Action Plan in WUA									
Support to Coordinate between WUA and Women Wing									
3) Establishment of Gender Disaggregated Data Collection System									
Revising List of Sector-wise Gender Disaggregated Data									
Revising Monitoring System on Gender Concerned Activities									
Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data									
Analyzing Collected Data and Compile in Annual Report									
Conduct Stage-wise Baseline survey and Assessment									
2. Enhancement of Women's Capability and Participation in WUA									
1) Formulation of WUA Women Wing									
General Meeting of Water Users in WUA area									
Orientation for Territorial Constituency									
Formulation of Woman Wing per WUA									
2) Facilitating to Introduce the Women Friendly Activities									
Facilitating to Discuss and Finalize Women Friendly Activities									
Support Women Wing to plan and implement Women Friendly Facilities									
Support Women Wing to plan and implement Women Friendly Trees									
3) Encouraging Women to Participate in WUA Activities									
Support WW Members to Conduct WW Monthly Meeting									
Support WW Members to Participate and Report in WUA/MC Monthly Meeting									
Support to WW Members to Participate in WUA Fund Management									
Support WW members to participate Territorial Constituency monthly meeting cum training									
Support WW members to participate in weekly progress meeting in monthly basis									
Support WW members to participate in WUA general meeting									
4) Providing Trainings and Exposure Activities on Water Management and Organizational Management									
Training on for Main members on Water Management at Sub-PMU Level									
Fund Management Training (auditing) at District Level									
Exposure Visit (Sub-PMU wise)									
Annual WW's Review Meeting at Sub-PMU Level									
Annual WUA/MC's Review Meeting at Sub-PMU Level									
Stage-wise WUA Review Meeting at State Level in IMTI with WUA									
Follow-up Training for Main Members on Water Management with WUA									
3. Capacity Building on Agricultural Technologies through SHGs									
1) Selection of the Group									
Developing work plan on the activity in SP level									
Providing Information to Women Members of the SP on Agriculture Program under Women Wing									
Collecting Proposal from Groups									
Selection of group									
Conducting Orientation to Selected Groups									
2) Strengthening Capacity on Group Management									
Providing Training on Group Management									
Support to Conduct Monthly Group Meeting									
3) Strengthening Capacity on Agricultural Technique									
ToI on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators									
ToI on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers									
Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies									
Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth									
Establishing Demonstration Plot for Basic Vegetables Cultivation									
Establishing Demonstration Plot for Nutritious Vegetables Cultivation									
4) Monitoring and Mentoring the Groups for Sustainable Activities									
Regular Monitoring and Provide Necessary Support to Groups									

Description	Year								Grand Total
	1	2	3	4	5	6	7	8	
STAGE 3					Preparation	Construction	Followup		
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management									
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act									
Promoting and Monitoring Adaptation of the Additional Clauses									
Compiling and Submitting Further Suggestion on Concept to be Included in PIM Act based on the Project's Result									
Follow-up of Approval Process of Additional Clauses on PIM Act									
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management									
Revising Gender Session in Training on Water Management and WUA Management									
Providing Revised Information in Orientation and ToI for Developing Genders Action Plan in WUA									
Support to Coordinate between WUA and Women Wing									
3) Establishment of Gender Disaggregated Data Collection System									
Revising List of Sector-wise Gender Disaggregated Data									
Revising Monitoring System on Gender Concerned Activities									
Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data									
Analyzing Collected Data and Compile in Annual Report									
Conduct Stage-wise Baseline survey and Assessment									
2. Enhancement of Women's Capability and Participation in WUA									
1) Formulation of WUA Women Wing									
General Meeting of Water Users in WUA area									
Orientation for Territorial Constituency									
Formulation of Woman Wing per WUA									
2) Facilitating to Introduce the Women Friendly Activities									
Facilitating to Discuss and Finalize Women Friendly Activities									
Support Women Wing to plan and implement Women Friendly Facilities									
Support Women Wing to plan and implement Women Friendly Trees									
3) Encouraging Women to Participate in WUA Activities									
Support WW Members to Conduct WW Monthly Meeting									
Support WW Members to Participate and Report in WUA/MC Monthly Meeting									
Support to WW Members to Participate in WUA Fund Management									
Support WW members to participate Territorial Constituency monthly meeting cum training									
Support WW members to participate in weekly progress meeting in monthly basis									
Support WW members to participate in WUA general meeting									
4) Providing Trainings and Exposure Activities on Water Management and Organizational Management									
Training on for Main members on Water Management at Sub-PMU Level									
Fund Management Training (auditing) at District Level									
Exposure Visit (Sub-PMU wise)									
Annual WW's Review Meeting at Sub-PMU Level									
Annual WUA/MC's Review Meeting at Sub-PMU Level									
Stage-wise WUA Review Meeting at State Level in IMTI with WUA									
Follow-up Training for Main Members on Water Management with WUA									
3. Capacity Building on Agricultural Technologies through SHGs									
1) Selection of the Group									
Developing work plan on the activity in SP level									
Providing Information to Women Members of the SP on Agriculture Program under Women Wing									
Collecting Proposal from Groups									
Selection of group									
Conducting Orientation to Selected Groups									
2) Strengthening Capacity on Group Management									
Providing Training on Group Management									
Support to Conduct Monthly Group Meeting									
3) Strengthening Capacity on Agricultural Technique									
ToI on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators									
ToI on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers									
Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies									
Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth									
Establishing Demonstration Plot for Basic Vegetables Cultivation									
Establishing Demonstration Plot for Nutritious Vegetables Cultivation									
4) Monitoring and Mentoring the Groups for Sustainable Activities									
Regular Monitoring and Provide Necessary Support to Groups									

Note:
1) Under condition of dispatch of Procurement Expert from ICA based on the request from WRD

Attachment 3.2.1a Category and District of the Project Works (Component-2: WUA)

No.		1	2	3	4	5	6	7	8	9	10	11	
Sub-PMU		Jaipur											
District		Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk	
Number of Sub-Project		3	2	-	-	-	7	-	-	-	-	-	
Items	Activities	Category											
1. Establishment of WUA Support Mechanism	1) Development of project materials												
	(a) Training materials	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) Leaflet on the project concept and activities	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) Orientation and trainings in different level												
	(a) TOT for TSG-SP members and NGO staff	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) Training for Community Motivator	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	3) Project management activities												
	(a) Planning workshop in Sub project	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) Monthly Sub-PMU meeting	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(c) Monthly TSG-SP meeting	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
(d) Monitoring of the activity progress	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
2. Capacity Building of WUA Management	1) Formation of WUA												
	(a) 1st stage												
	1) Preparation for water users' meeting	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) Water users' meeting for Pre-WUA formation and to form Pre-WUA	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	3) Support to participate in walk-through survey (same as 3) - (a))	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	4) Conduct same activities under (b)	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) 2nd and 3rd stage												
	1) Orientation for villagers in Sub project area	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) General meeting of water users in WUA area	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	3) Orientation for Territorial Constituency	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	4) Election of President and managing Committee members of WUA	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) Capacity building activities												
	(a) Training for MC members on water management in Sub-PMU	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) Orientation for WUA members organization management	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(c) Training for accountant of WUA on record keeping	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(d) MC monthly meeting cum training	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(e) Territorial constituency monthly meeting cum training	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(f) Annual MCs' meeting in Sub-PMU	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(g) Stage-wise WUA review meeting in IMTI	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(h) Follow-up training for MC members on water management in IMTI	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
3) WUA management													
(a) Support MC members to participate in walk-through survey	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
(b) Support to conduct general meeting of WUA	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture organization												
	(a) Conduct monthly meeting	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) Conduct agricultural demonstration												
(a) Establish demonstration plot to promote seasonal technology	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗		
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	
	2) Monitoring corpus fund management	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗	

Attachment 3.2.1b Category and District of the Project Works (Component-3: Agriculture)

No.		1	2	3	4	5	6	7	8	9	10	11
Sub-PMU		Jaipur										
Activities / District		Ajmer	Alwar	Bharatpur	Dausa	Dholpur	Jaipur	Jhunjhunu	Karauli	Sawai Madhopur	Sikar	Tonk
Number of Sub-Project		3	2	-	-	-	7	-	-	-	-	-
Category												
1 Training of Trainers for Agriculture	1-1 State level workshop	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	1-2 Sub-PMU level workshop	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	1-3 General agriculture techniques in all area	2.Sub-PMU Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	1-8 Quality improvement of crops	2.Sub-PMU Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	2 Exposure Visit for Agriculture Trainers											
	2-1 Exposure visit to advanced state	1.Project Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	3 Improvement of Agriculture Support System											
	3-1 Farmers' friendly manuals	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	3-2 Strengthen of information center	1.Project Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	4 Agriculture Farmers' Training											
	4-1 General agriculture techniques in all area	3.Sub-PJT Level	○	○	⊗	⊗	○	⊗	⊗	⊗	⊗	⊗
	4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
	4-3 Agriculture cultivation techniques on spices and medicinal plants	3.Sub-PJT Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
4-6 Quality improvement of crops	3.Sub-PJT Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
4-7 Marketing survey to advanced area	3.Sub-PJT Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5 Agriculture Demonstration Farm												
5-1 Establishment of orange demonstration farm	1.Project Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5-2 Establishment of exotic vegetable demonstration farm	1.Project Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5-3 Mentoring of demonstration farm												
5-3a Orange demonstration farm	1.Project Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5-3b Exotic vegetables demonstration farm	1.Project Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5-4 Monitoring of demonstration farm												
5-4a Orange demonstration farm	1.Project Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
5-4b Exotic vegetables demonstration farm	1.Project Level	○	○	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	
6. Innovation Fund	1.Project Level	-	-	⊗	⊗	-	⊗	⊗	⊗	⊗	⊗	

Attachment 3.2.1d Category and District of the Project Works (Component-5: Gender Mainstreaming)

No.	1	2	3	4	5	6	7	8	9	10	11	
Sub-PMU	Jaipur											
Activities / District	Ajmer	Alwar	Banswar	Dausa	Dholpur	Jajpur	Jaunpur	Karauli	Shri Ganganagar	Shekhopur	Shekhopur	Tonk
Number of Sub-Project	3	2	-	-	-	7	-	-	-	-	-	-
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management												
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act												
(a) Follow-up of Approval Process of Additional Clauses on PM Act	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Promoting and Monitoring of Adaptation of the Additional Clauses	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Compiling and Submitting Further Suggestion on Concept to be Included in PMU Implementation (District Level)	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management												
(a) Preparation of Gender Station for Training on Water Management and WUA Management	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Providing Necessary Information in Orientation and TOT for Developing Gender Action Plan in WUA	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Developing Topics for Regular Awareness Program in WUAMC Meeting, TC Meeting and General Meeting	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Support to Coordinate between WUA and Women Wing	2 Sub-PMU Level	0	0	0	0	0	0	0	0	0	0	0
3) Establishment of Gender Disaggregated Data Collection System												
(a) Preparing and Finalizing List of Sector-wise Gender Disaggregated Data	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Establishment of Monitoring System on Gender Concerned Activities	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Monitoring the Activities through Field Visit and Collect Gender Disaggregated Data	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Analysing Collected Data and Compile in Annual Report	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(e) Conduct Stage-wise Assessment	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(f) Evaluation of the Impact and Result of RWSLIP	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
2. Enhancement of Women's Capability and Participation in WUA nt												
1) Formulation of WUA Women Wing												
(a) General Meeting for water users at same time of formation of WUA	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Orientation for Territorial Constituency at same time of formation of WUA	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Formulation of Women Wing per WUA	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Orientation on WW activities	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
2) Facilitating to Introduce the Women Friendly Activities												
(a) Facilitating to Discuss and Finalize Women Friendly Activities	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Support Women Wing to plan and implement Women Friendly Facilities	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Support Women Wing to plan and implement Women Friendly Trees	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
3) Encouraging Women to Participate in WUA Activities												
(a) Support WW Members to Participate and Report in WUAMC Monthly Meeting	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Support WW Members to Participate and Report in WUAMC Monthly Meeting	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Support to WW Members to Participate in WUA Fund Management	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Support WW members to participate Territorial Constituency monthly meeting cum training	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(e) Support WW members to participate in weekly progress meeting in monthly basis	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(f) Support WW members to participate in WUA general meeting	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
4) Providing Trainings and Exposure Activities on Water and Organizational Management												
(a) Training on for Men members on Water Management at Sub-PMU Level with WUA	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Fund Management Training (training) at Sub-PMU Level	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Exposure Visit (Sub-PMU Level)	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Annual WUA Review Meeting at Sub-PMU Level	2 Sub-PMU Level	0	0	0	0	0	0	0	0	0	0	0
(e) Annual WUAMCs Review Meeting at Sub-PMU Level	2 Sub-PMU Level	0	0	0	0	0	0	0	0	0	0	0
(f) Supporting WUA Review Meeting at Sub-PMU Level in IMTI with (Sub-PMU Level)	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(g) Exposure Training for Men Members on Organizational Management with WUA	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
3. Capacity Building on Agricultural Technologies through SHGs												
1) Selection of the Group												
(a) Developing work plan on the activity in SP level	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Providing Information to Women Members of the SP on Agriculture Program under Women Wing	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Collecting Proposal from Groups	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Selection of group	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(e) Conducting Orientation to Selected Groups	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
2) Strengthening Capacity on Group Management												
(a) Providing Training on Group Management	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) Support to Conduct Monthly Group Meeting	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
3) Strengthening Capacity on Agricultural Technique												
(a) TOT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chives for Dak, Doh, NGO and Community Motivators	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(b) TOT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for Dak, Doh, NGO and Approved Workers	1 Project Level	0	0	0	0	0	0	0	0	0	0	0
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chives	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
4) Monitoring and Mentoring the Groups for Sustainable Activities												
(a) Regular Monitoring and Provide Necessary Support to Groups	3 Sub-Project Level	0	0	0	0	0	0	0	0	0	0	0
4. Innovation fund												
(a) Innovation fund	1 Project Level	0	0	0	0	0	0	0	0	0	0	0

Format GL3.2.2a Bill of Quantities (Component-2: WUA) at Sub-PMU Level

		Name of Sub-PMU					
		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.	
Items	Activities						
1. Establishment of WUA Support Mechanism	1) Development of project materials						
	(a) Training materials	1 Project Level					
	(b) Leaflet on the project concept and activities	1 Project Level					
	2) Orientation and trainings in different level						
	(a) TOT for TSG-SP members and NGO staff	1 Project Level					
	(b) Training for Community Motivator	2 Sub-PMU Level	???	time	???	???	A-1
	3) Project management activities						
	(a) Planning workshop in Sub project	3 Sub-PJT Level					
	(b) Monthly Sub-PMU meeting	2 Sub-PMU Level	???	time	???	???	A-2
	(c) Monthly TSG-SP meeting	3 Sub-PJT Level					
(d) Monitoring of the activity progress	1 Project Level						
2. Capacity Building of WUA Management	1) Formation of WUA						
	(a) 1st stage						
	1) Preparation for water users' meeting	3 Sub-PJT Level					
	2) Water users' meeting for Pre-WUA formation and to form Pre-WUA	3 Sub-PJT Level					
	3) Support to participate in walk-through survey (same as 3) - (a))	3 Sub-PJT Level					
	4) Conduct same activities under (b)	3 Sub-PJT Level					
	(b) 2nd and 3rd stage						
	1) Orientation for villagers in Sub project area	3 Sub-PJT Level					
	2) General meeting of water users in WUA area	3 Sub-PJT Level					
	3) Orientation for Territorial Constituency	3 Sub-PJT Level					
	4) Election of President and managing Committee members of WUA	3 Sub-PJT Level					
	2) Capacity building activities						
	(a) Training for MC members on water management in Sub-PMU	2 Sub-PMU Level	???	time	???	???	A-3
	(b) Orientation for WUA members organization management	3 Sub-PJT Level					
	(c) Training for accountant of WUA on record keeping	3 Sub-PJT Level					
	(d) MC monthly meeting cum training	3 Sub-PJT Level					
	(e) Territorial constituency monthly meeting cum training	3 Sub-PJT Level					
	(f) Annual MCs' meeting in Sub-PMU	2 Sub-PMU Level	???	time	???	???	A-4
	(g) Stage-wise WUA review meeting in IMTI	1 Project Level					
	(h) Follow-up training for MC members on water management in IMTI	2 Sub-PMU Level	???	time	???	???	A-5
3) WUA management							
(a) Support MC members to participate in walk-through survey	3 Sub-PJT Level						
(b) Support to conduct general meeting of WUA	3 Sub-PJT Level						
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3 Sub-PJT Level						
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture organization						
	(a) Conduct monthly meeting	3 Sub-PJT Level					
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3 Sub-PJT Level					
	(c) Coordinate with existing Farmers Organization	2 Sub-PMU Level	???	time	no cost	no cost	
	2) Conduct agricultural demonstration						
(a) Establish demonstration plot to promote seasonal technology	3 Sub-PJT Level						
(b) Conduct Farmers Field day in demonstration plot	3 Sub-PJT Level						
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3 Sub-PJT Level					
	2) Monitoring corpus fund management	3 Sub-PJT Level					

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.2.2b Bill of Quantities (Component-3: Agriculture) at Sub-PMU Level

Activities	Name of Sub-PMU					
	Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.	
1 Training of Trainers for Agriculture						
1-1 State level workshop	1.Project Level					
1-2 Sub-PMU level workshop	2.Sub-PMU Level	???	trainings	???	B-1	
1-3 General agriculture techniques in all area	2.Sub-PMU Level	???	trainings	???	B-2	
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level	???	trainings	???	B-3	
1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level	???	trainings	???	B-4	
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level	???	trainings	???	B-5	
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level	???	trainings	???	B-6	
1-8 Quality improvement of crops	2.Sub-PMU Level	???	trainings	???	B-7	
2 Exposure Visit for Agriculture Trainers						
2-1 Exposure visit to advanced state	1.Project Level					
3 Improvement of Agriculture Support System						
3-1 Farmers' friendly manuals	1.Project Level					
3-2 Strengthen of information center	1.Project Level					
4 Agriculture Farmers' Training						
4-1 General agriculture techniques in all area	3.Sub-PJT Level					
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level					
4-3 Agriculture cultivation techniques on spices and medicinal plants	3.Sub-PJT Level					
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level					
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level					
4-6 Quality improvement of crops	3.Sub-PJT Level					
4-7 Marketing survey to advanced area	3.Sub-PJT Level					
5 Agriculture Demonstration Farm	1.Project Level					

Format GL3.2.2c Bill of Quantities (Component-4: Marketing) at Sub-PMU Level

Activities	Name of Sub-PMU					
	Work Volume	Unit	Unit Cost	Amount		
1 FIG formulation for cooperative activities						
1-1. Training of trainers (ToT) for FIG activities	1.Project Level					
1.2. Support for Cooperative demonstration groups						
a Selection of Cooperative demonstration groups	2.Sub-PMU Level	???	CDGs	no cost		
b Guidance for demonstration group activities	2.Sub-PMU Level	???	time/CDG	???		
c Accessing loan	2.Sub-PMU Level	???	time/CDG	???		
d Group procurement of agricultural inputs	2.Sub-PMU Level	???	time/CDG	???		
e Repairing/maintenance of common farm properties	2.Sub-PMU Level	???	time/CDG	???		
f Collective marketing	2.Sub-PMU Level	???	time/CDG	???		
g Review and planning for coming seasons	2.Sub-PMU Level	???	time/CDG	???		
h Experience sharing with potential FIGs	2.Sub-PMU Level	???	time/CDG	???		
1.3. FIG formulation and activities in other sites						
a Request for FIG formulation	3.Sub-Project Level					
b Guidance for group activities	2.Sub-PMU Level	???	training/20 FIGs	???		
c Exposure visit to cooperative demonstration groups	2.Sub-PMU Level	???	training/25 FIGs	???		
d Accessing loan	3.Sub-Project Level					
e Group procurement	3.Sub-Project Level					
f Repairing/maintenance of common farm properties	3.Sub-Project Level					
g Collective marketing	3.Sub-Project Level					
1.4. Guidance for FPO formulation	2.Sub-PMU Level	???	training/30 FIGs	???		
2 Connecting with large-size consumers (Matching meeting)						
2-1. Training of trainers (ToT) for Matching meetings	1.Project Level					
2-2. Information exchange between FIGs and processors	2.Sub-PMU Level	???	FIG	no cost		
2-3. Information analysis						
Training	2.Sub-PMU Level	???	time/18 FIGs	???		
Implementation	2.Sub-PMU Level	???	set/FIG	???		
2.4. Matching meeting (1st)	2.Sub-PMU Level	???	time/18 FIGs	???		
2.5. Review & improvement	2.Sub-PMU Level	???	time/18 FIGs	???		
2.6. Matching meeting (2nd)	2.Sub-PMU Level	???	time/18 FIGs	???		
2.7. Gap filling training for postharvest quality	2.Sub-PMU Level	???	time/18 FIGs	???		
Training	2.Sub-PMU Level	???	time/18 FIGs	???		
Implementation	2.Sub-PMU Level	???	set/FIG	???		
3 Connecting with large-size consumers (exotic vegetables)						
3-1. Training of trainers (ToT) for supporting exotic vegetables sales	1.Project Level					
3.2. Demonstration						
a/b Sales to Market / Door-to-door sales to hotels/restaurants						
Fixed expenditure for one season (for 5 months)	2.Sub-PMU Level	???	place/year	???		
Other cost for sales	2.Sub-PMU Level	???	place/month	???		
3.3. Extension to farmers	2.Sub-PMU Level					
a/b Sales to Market / Door-to-door sales to hotels/restaurants						
Training	2.Sub-PMU Level	???	training/30 farmer	???		
Implementation	2.Sub-PMU Level	???	set/15 farmers	???		
4 Brand building for high-value agricultural products						
4-1. Coordination	1.Project Level					
4-2. Experiment for quality improvement (TSS, marketing and quality standards)	1.Project Level					
4-3. Application of experimental results to farmers						
Market-oriented experimental plots (vegetables)						
Vegetables at Rabi season						
a TSS/nutrients improvement						
Training	2.Sub-PMU Level	???	time	???		
b/c Quality control / Advanced packaging/sales						
Training	2.Sub-PMU Level	???	time	???		
Implementation	2.Sub-PMU Level	???	sets/15 prs	???		
Melon at Zayed season						
d TSS/nutrients improvement						
Training	2.Sub-PMU Level	???	time	???		
e/f Quality control / Advanced packaging/sales						
Training	2.Sub-PMU Level	???	time	???		
Implementation	2.Sub-PMU Level	???	sets/prs	???		
Market-oriented experimental plots (kinnow)						
d TSS/nutrients improvement						
Training	2.Sub-PMU Level	???	time	???		
e/f Quality control / Advanced packaging/sales						
Training	2.Sub-PMU Level	???	time	???		
Implementation	2.Sub-PMU Level	???	sets/15 prs	???		
Market-oriented experimental plots (Santra orange)						
g TSS/nutrients improvement						
Training	2.Sub-PMU Level	???	time	???		
h/i Quality control / Advanced packaging/sales						
Training	2.Sub-PMU Level	???	time	???		
Implementation	2.Sub-PMU Level	???	sets/15 prs	???		
4.4. Tasting events	1.Project Level					
4.5. Antenna shop/corners	1.Project Level					
4.6. Farmer fairs	1.Project Level					
4.7. Multimedia advertising	1.Project Level					
4.8. Extension to farmers	1.Project Level					

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.2.2d Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-PMU Level

Name of Sub-PMU						
		Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref No.
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management						
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act	1.Project Level					
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management						
(a) Preparation of Gender Session for Training on Water Management and WUA Management	1.Project Level					
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA	1.Project Level					
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting	1.Project Level					
(d) Support to Coordinate between WUA and Women Wing	2.Sub-PMU Level	???	LS	no cost	no cost	no cost
3) Establishment of Gender Disaggregated Data Collection System	1.Project Level					
2. Enhancement of Women's Capability and Participation in WUA nt						
1) Formulation of WUA Women Wing	3.Sub-Project Level					
2) Facilitating to introduce the Women Friendly Activities	3.Sub-Project Level					
3) Encouraging Women to Participate in WUA Activities	3.Sub-Project Level					
4) Providing Trainings and Exposure Activities on Water and Organizational Management						
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA	1.Project Level					
(b) Fund Management Training (auditing) at Sub-PMU Level	1.Project Level					
(c) Exposure Visit (Sub-PMU wise)	1.Project Level					
(d) Annual WW's Review Meeting at Sub-PMU Level	2.Sub-PMU Level	???	time	???	???	D-1
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level	2.Sub-PMU Level	???	time	???	???	D-2
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA	1.Project Level					
(g) Follow-up Training for Main Members on Water Management with WUA	1.Project Level					
3. Capacity Building on Agricultural Technologies through SHGs						
1) Selection of the Group	3.Sub-Project Level					
2) Strengthening Capacity on Group Management	3.Sub-Project Level					
(a) Providing Training on Group Management	1.Project Level					
(b) Support to Conduct Monthly Group Meeting	3.Sub-Project Level					
3) Strengthening Capacity on Agricultural Technique						
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators	1.Project Level					
(b) ToT on Nutritious vegetables Cultivation techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	1.Project Level					
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies	3.Sub-Project Level					
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	3.Sub-Project Level					
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation	3.Sub-Project Level					
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation	3.Sub-Project Level					
4) Monitoring and Mentoring the Groups for Sustainable Activities	3.Sub-Project Level					
4. Innovation fund						
	1.Project Level					

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Format GL3.2.3a Unit Price Calculation (Component-2: WUA)

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)
I. Establish WUA support mechanism				
A-1 Training on water management for NGO staff (Community Motivator), Sub-PMU wise (NGO/Sub-PMU)-wise, in KVK, 3days, 30 participants/training)	person/day	30	??	??
Boarding and lodging charges for participants	head	30	??	??
Registration kit, Supply of literature and training Ad, Etc.	session	12	??	??
Honorarium to resource persons. (4 session per day)	lump-sum	1	??	??
POL of field trip and T.A for participants	lump-sum	1	??	??
Miscellaneous and supporting staff	lump-sum	1	??	??
Institutional Charges 10%	lump-sum	1	??	??
Baby-sitter (crèche) (2person /days)	person/day	6	??	??
Sub-total = Unit cost per training	times			
A-2 Organize Sub-PMU meeting (Monthly, 1/2 day, Sub-PMU wise(WRD office or other office), for consultant(1), Sub PMU members, NGO staff (Team Leader, sector Expert), TSG-SP(WRD))	No of meeting (Sub-PMU 5 x 12 months)	10	persons	
Tea and snacks	times	10	??	??
Travel cost for consultant	lump-sum	10	??	??
Travel cost for TSG-SP (WRD)	lump-sum	10	??	??
Sub-total = Unit cost per training	times			
A-3 Training on water management for WUA/MC and WW members (Sub-PMU wise, in KVK, 3 days, beginning of the stage, 3 each from WUA and WW, 30 participants each per training)	No. of trainings (30 participants each)	3	days	
Boarding and lodging charges for participants	person/day	90	??	??
Registration kit, Supply of literature and training Ad, Etc.	head	30	??	??
Honorium to resource persons. (4 session per day)	session	12	??	??
POL of field trip and T.A for participants	lump-sum	1	??	??
Miscellaneous and supporting staff	lump-sum	1	??	??
Institutional Charges 10%	lump-sum	1	??	??
Baby-sitter (crèche) (2persons/day)	person/day	6	??	??
transportation for participants	person/day	30	??	??
Sub-total = Unit cost per training	times			
A-4 Annual MCs' meeting (Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 150 participants)	stage-wise, Sub-PMU	2	days	
Tea and snacks	person/day	300	??	??
Lunch	person/day	300	??	??
Boarding and lodging	head/day	300	??	??
Misc. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??
Institutional Charges 10%	lump-sum	1	??	??
Rent for place	day	2	??	??
Baby-sitter (crèche) (2persons/day)	person/day	4	??	??
transportation for participants	person/day	150	??	??
Sub-total = Unit cost per training	times			
A-5 Follow-up training on water management and organizational management (6 months after completion of construction work, IMTI, 3 days, 3members each from WUA and WW, 48 participants per training)	No. of participants	3	days	
Course material (participants 48 copies + sponsor agency 2)	kit	50	??	??
Lodging for participants in Hostel No. 01	person/day	144	??	??
Boarding for participants	person/day	144	??	??
Mess hall for boarding (3days)	day	3	??	??
Local transportation (MTI to railway station) & photography etc.	lump-sum	1	??	??
Bus charge for field visit (1day)	day	1	??	??
Honorarium & travel charges for lecturers (1)	lump-sum	1	??	??
Rent charges for class rooms (2days)	day	2	??	??
Charges for IMTI faculty for organizing training (3)	each	3	??	??
Charges for IMTI staff for organizing training (3)	each	3	??	??
Misc. & unforeseen items (1)	lump-sum	1	??	??
Add 20 % secretarial & overhead charges	lump-sum	1	??	??
Baby-sitter (crèche) (2person x 2 days)	person/day	4	??	??
To and Fro charges for WUA executives	per person	48	??	??
Sub-total = Unit cost per training	times			

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Format GL3.2.3b Unit Price Calculation (Component-3: Agriculture)

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Sub-PMU level workshop for agriculture officers, B-1 agriculture supervisors, DoH field level officers, NGO-PMU, NGO-sp staffs in each 5 sub PMU (5 sub-PMU x 2days for 50 persons x 5 times)					Once a year. One month before sowing of rabi season
Facilitator (PMU, PMC and NGO PMU)	persons	10	??	??	
Venue (SIAM)	hall	5	??	??	
Trainers (SIAM)		25	??	??	
Planning of implementation schedule	lump-some	100%	??	??	
Handheld refractometer (Erma Japan)	ls	5	??	??	
Sub total				??	
General agriculture techniques for DoA agriculture B-2 supervisors, DoH field level officers, NGO-sp staffs and community motivators in non-focal area (2 days for 30 persons)					Once a year. One month before sowing of rabi season
Facilitator (PMU and NGO-PMU)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	persons	60	??	??	
Trainers (KVK)	persons	8	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	persons	30	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	
Agriculture cultivation techniques on cereals, pulses and oilseeds for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 persons)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and NGO-PMU)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	60	??	??	
Trainers (KVK)	persons	8	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	30	??	??	
Materials (Black and white mulch for vegetables and fruits for 0.2ha each) for KVK experiment and demonstration		12	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Agriculture cultivation techniques on spices and medicinal plants for DoA agriculture supervisors, DoH field level officers, NGO staffs and community motivators in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	60	??	??	
Trainers (KVK Ajmer/Jobner for spices, Udaipur for medicinal plants)	persons	8	??	??	
Travel allowance and daily allowance for resource persons		4	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	30	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	
Agriculture cultivation techniques on kinnow and santra B-5 orange for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	60	??	??	
Trainers (KVK)	persons	8	??	??	
Resource person from Punjab Agriculture University	persons	1	??	??	
person	persons	1	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	30	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	
Agriculture cultivation techniques on exotic vegetables B-6 for DoA agriculture supervisors, DoH field level officers, NGO staffs in focal area (2 days for 30 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	60	??	??	
Trainers (KVK)	persons	8	??	??	
Resource person from Punjab Agriculture University	persons	1	??	??	
Travel allowance and daily allowance	persons	1	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	30	??	??	
Materials (Black and white mulch for vegetables and fruits for 0.2ha each) for KVK experiment and		5	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Quality improvement for DoA agriculture supervisors, B-7 DoH field level officers, NGO staffs in focal area (2 days for 30 person)					
Facilitator (PMU and lead NGO)	persons	2	??	??	
Venue (KVK)	hall	??	??	??	
Boarding and lodging charges	head	60	??	??	
Trainers (KVK)	persons	8	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	30	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??	

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Guideline GL3.2.3c Unit Price Calculation (Component-4: Marketing)

1 FIG formulation for cooperative activities

1-2. Support for Cooperative demonstration groups

b Guidance for demonstration group activities

Trainees 22 prs. Cooperative demonstration members + NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC/Agri)-(Agri)
 Lecturer 1 prs. Bank manager No charge

Total 25 prs.

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Venue	hall	1	??	??	
Tea & lunch	set	25	??	??	
Stationary	set	25	??	??	
Total				??	time

c Accessing loan

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Advance cost for guarantee deposit for opening bank account (check book)	time	1	??	??	
Total				??	set

d Group procurement of agricultural inputs

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Labour for loading/unloading	bag	100	??	??	
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	??	??	
Total				??	set

e Repairing/maintenance of common farm properties

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Financial assistance for repairing properties	set	1	??	??	
Labour for loading/unloading	set	1	??	??	
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	??	??	
Total				??	set

f Collective marketing

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Labour for grading/cleaning cereals, etc.	prs/day	20	??	??	
Labour for loading/unloading	bag	100	??	??	
Weighing scale (hanging)	set	1	??	??	
Plastic sheets for postharvest activities	sheet	3	??	??	
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	3	??	??	
Total				??	set

20 members/FIG

g Review and planning for coming seasons

Trainees 20 prs. Cooperative demonstration members
 Facilitator 4 prs. NGO (FVC/Agri)-(Agri) NGO (Comm. Motiv.)

Total 24 prs.

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Venue	hall	1	??	??	
Tea & lunch	set	24	??	??	
Stationary	set	24	??	??	
Total				??	time

h Experience sharing with potential FIGs (Joining General meeting of WUA)

Transportation					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Allowance	prs.	3	??	??	
Transportation	prs.	3	??	??	
Total				??	time

1-3. FIG formulation and activities in other sites

b Guidance for group activities

Trainees 22 prs. 20 FIG leaders + NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC/Agri)-(Agri)
 Lecturer 1 prs. Bank manager No charge

Total 25 prs.

Total expenditure					
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	
Venue	hall	1	??	??	
Tea & lunch	set	25	??	??	
Stationary	set	25	??	??	
Total				??	time

c Exposure visit to Cooperative demonstration groups

Trainees 50 prs. FIGs (2 members) x 25 groups
 Facilitator 3 prs. NGO (FVC/Agri)-(Agri) & (Comm. Motiv.)
 Cooperative demonstration group representatives 2 prs.

Total 55 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	??	??
Tea & lunch	set	55	??	??
Bus	bus/day	1	??	??
Total				??

1-4. Guidance for FPO formulation

Trainees	30 prs.	FIG leaders (30FIGs/time)
Facilitator	2 prs.	NGO (Comm. Motiv.)
Lecturer	1 prs.	SFAC
Total		33 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	??	??
Tea & lunch	set	33	??	??
Stationary	set	33	??	??
Transportation (trainees)	prs.	30	??	??
Total				??

2 Connecting with large-size consumers (Matching meeting)

2-3. Information analysis

Training		
Trainees	0 prs.	FIG leaders (average 18 FIGs)
Trainees	2 prs.	NGO (Community motivator)
Facilitator	4 prs.	Consultant, NGO (FVC/Agri)+Agri)
Lecturer	1 prs.	President of Unit owner association of AFP or MFP
Total		7 prs.

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	??	??
Lecturer	prs.	1	??	??
Tea & lunch	set	7	??	??
Stationary	set	7	??	??
Total				??

Implementation

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
??	set	1	??	??
Total				??

2-4. Matching meeting (1st)

Trainees	0 prs.	FIG leaders/representative (average 36 members from 18 FIGs, min. 4 FIGs- max. 24 FIGs)
Unit owners	20 prs.	At least 10 commodities
President of Unit owner association of AFP or MFP	1 prs.	
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+Agri) & (Comm. Motiv.)
Total		27 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1	??	??
Tea & lunch	set	27	??	??
Stationary	set	27	??	??
Transportation (trainees)	prs.	0	??	??
Total				??

2-5. Review & improvement

Trainees (maximum number)	0 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+Agri) & (Comm. Motiv.)
Lecturer	1 prs.	President of Unit owner association of AFP or MFP
Total		7 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	??	??
Tea & lunch	set	7	??	??
Stationary	set	7	??	??
Total				??

2-6. Matching meeting (2nd)

refer to Matching meeting (1st)

2-7. Gap filling training for postharvest quality

Trainees (maximum number)	0 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+Agri) & (Comm. Motiv.)
Lecturer	6 prs.	Processors of AFP/MFP
Total		12 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1	??	??
Lecturer	prs.	6	??	??
Tea & lunch	set	12	??	??
Transportation (trainees)	set	0	??	??
Total				??

Implementation

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Plastic sheets for postharvest activities (2 sheets/FIG)	sheet	2	??	??
Total				??

3 Connecting with small-size consumers (exotic vegetables)

3-2. Demonstration

a/b Sales to public markets / Door-to-door sales to hotels/restaurants		
Period	1 month	(5 months/year, 5 years)
Area	1 acre	
Labour	5 prs.	

Fixed expenditure for one season (5 months)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Weighing scale (hanging)	set	1	??	??
Wheelbarrow	set	3	??	??
Total				??

Other cost for sales (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for harvesting/packing/loading/unloading (30rs./acre)	prs./day	90	??	??
Packing materials (lute bags, shopping bags, plastic crates, etc.)	set	1	??	??
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	15	??	??
Total				??

3-3. Extension to farmers

a/b Sales to public markets / Door-to-door sales to hotels/restaurants

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total		36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36	??	??
Total				??

Implementation

Farmers	#REF!	prs./set		
Total expenditure (1month)				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Truck rental to transport agricultural produces (incl. driver, 35km/day)	set	5	??	??
Total				??

4 Brand building for high-value agricultural produces

4-3. Application of experimental results to farmers

Market-oriented experimental plots (vegetables)

Vegetables at Rabi season

a TSS/nutrients improvement

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total		36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36	??	??
Accommodation (farmers)	prs./night	30	??	??
Allowance (farmers)	prs./day	30	??	??
Transportation (farmers)	prs.	30	??	??
Total				??

b/c Quality control / Advanced packaging/sales

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total		36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set	1	??	??
Tea & lunch	set	36	??	??
Total				??

Implementation

Total expenditure (for 15 farmers/set)				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held refractometer B (75% financed for Rs. 2,000)	set/prs.	15	??	??
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15	??	??
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	??	??
Total				??

Melon at Zayed season

d TSS/nutrients improvement

Training

refer to 4-3(a)

e/f Quality control / Advanced packaging/sales

Training

refer to 4-3(a)

Implementation

Implementation

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prt.	1	??	??
Total				??

Market-oriented experimental plots (kinnow)

g TSS/nutrients improvement

Training

refer to 4-3(a)

h/i Quality control / Advanced packaging/sales

Training

refer to 4-3(a)

Implementation

refer to 4-3(b)

Market-oriented experimental plots (Santra orange)

j TSS/nutrients improvement

Training

refer to 4-3(a)

k/l Quality control / Advanced packaging/sales

Training

refer to 4-3(a)

Implementation

refer to 4-3(b)

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Format GL3.2.3d Unit Price Calculation (Component-5: Gender Mainstreaming)

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks
D-1					Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 100
Annual WW's Review Meeting at Sub-PMU Level	No. of participants	2	days		
Tea and snacks	person/day	200	??	??	
Lunch	person/day	200	??	??	
Boarding and lodging	head/day	200	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Institutional Charges 10%	lump-sum	1	??	??	
Rent for place	day	2	??	??	
Baby-sitter (creche) (2person/day)	person/day	4	??	??	
transportation for participants	person/day	100	??	??	
Sub-total = Unit cost per training	times			??	
D-2					Annual, 2 day, Sub-PMU level, 1-3 members each from WUA and WW, line agency staff and NGO staff in total around 100
Annual WUA/MCs Review Meeting at Sub-PMU Level	No. of participants	2	days		
Tea and snacks	person/day	200	??	??	
Lunch	person/day	200	??	??	
Boarding and lodging	head/day	200	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Institutional Charges 10%	lump-sum	1	??	??	
Rent for place	day	2	??	??	
Baby-sitter (creche) (2person/day)	person/day	4	??	??	
transportation for participants	person/day	100	??	??	
Sub-total = Unit cost per training	times			??	

Note: Those items and its quantities are provided just for an example. Thus you should adjusted them based on the actual situation at sites.

Attachment 3.2.4a Detailed Activity Sheets (Component-2: WUA)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks						
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by							
<p>A2-2. Training on Water Management and WUA Support for NGO staff (Community Motivator)</p> <p>Objectives: To understand water management and WUA support with gender aspects and how to conduct field activities</p>	<p>In charge: consultant Cooperated by: IMTI, PMU(WCD) Logistics: PMU Venue: KVK in each sub-PMU Duration: 3 days Frequency: once at/before the beginning of each stage</p>	<p>1. NGO staff (Community Motivator: 1 person per WUA)</p>	<p>Classroom lecture and group work 1. WUA orientation (PIM Act, legal and institutional framework, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct field activities</p>	<p>1. facilitator (consultant) 2. training materials 3. allowance/transportation of consultant 4. facilitator (IMTI) 5. venue 6. lodging and food 7. classroom 8. stationery 9. training materials developed by the project</p>	<p>consultant</p>	<p>PMU</p>	<p>- Training will be done for around 30 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise</p>							
								Detailed Implementation Plan & Progress						
								Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring	
<p>In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)</p> <p>Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)</p> <p>Specific Venue: (Address: *****)</p>	<p>Contact person name: (Mr./Ms. *****)</p> <p>Contact e-mail (*****)</p> <p>Contact Tel No. (*****)</p>	<p>Date of Event 1st Event: Date: *** of *****, 2011 Time: from ***** to *****</p> <p>2nd Event: Date: *** of *****, 2011 Time: from ***** to *****</p>	<p>Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****)</p> <p>Required Materials:</p> <p>Estimated Budget: INR. *****</p>	<p>Contact person name: (Mr./Ms. *****)</p> <p>Contact e-mail (*****)</p> <p>Contact Tel No. (*****)</p>	<p>(**/****/2011*)</p> <p>(**/****/2011*)</p>									

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks						
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by							
<p>A3-2. Monthly Meeting in Sub-PMU</p> <p>Objectives: To plan and review activities monthly To develop annual work plan at the beginning of the year To invite person concerned to on-going activities and share the information (ex. Revenue department for water charge collection, KVK for coming training, NABARD for loan scheme, etc.)</p>	<p>In charge: WRD (Sub-PMU) Cooperated by: NGO Logistics: PMU Venue: Sub-PMU Duration: 1/2 days Frequency: monthly</p>	<p>1. Sub-PMU member (7-10 person per Sub-PMU) 2. NGO staff: (1 Team leader and 2-5 Sector expert per Sub-PMU)</p>	<p>1. Review of progress in the previous month 2. Discuss issues reported from the field and any other agendas 3. Plan for this month: especially field visit needs to be planned efficiently (each Sub-PMU member visits all the Sub-project quarterly basis, Executive Engineer visits Sub-projects monthly)</p>	<p>1. Sub-PMU members 2. venue 3. allowance/transportation of Sub-PMU member 4. NGO Team leader and Sector expert 5. allowance/transportation of NGO staff</p>	<p>PMU</p> <p>NGO</p>	<p></p>	<p></p>							
								Detailed Implementation Plan & Progress						
								Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring	
<p>In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)</p> <p>Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)</p> <p>Specific Venue: (Address: *****)</p>	<p>Contact person name: (Mr./Ms. *****)</p> <p>Contact e-mail (*****)</p> <p>Contact Tel No. (*****)</p>	<p>Date of Event 1st Event: Date: *** of *****, 2011 Time: from ***** to *****</p> <p>2nd Event: Date: *** of *****, 2011 Time: from ***** to *****</p>	<p>Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****)</p> <p>Required Materials:</p> <p>Estimated Budget: INR. *****</p>	<p>Contact person name: (Mr./Ms. *****)</p> <p>Contact e-mail (*****)</p> <p>Contact Tel No. (*****)</p>	<p>(**/****/2011*)</p> <p>(**/****/2011*)</p>									

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
B2-1. Training on water management for President and MC members <u>Objectives:</u> To train WUA president and managing committee(MC) members on water management and WUA management for sustainable use of irrigation scheme	<u>In charge:</u> NGO Team leader <u>Cooperated by:</u> Sub-PMU, KVK <u>Logistics:</u> PMU <u>Venue:</u> KVK, Sub-PMU <u>Duration:</u> 3 days <u>Frequency:</u> beginning of each stage	1. WUA president (1 person per WUA) 2. WUA/MC member (2 person per WUA) 3. Women Wing (WW) members (3 person per WUA)	Classroom lecture, group work and field visit 1. WUA orientation (PIM Act, legal and institutional frame work, roles and responsibilities) 2. operation and maintenance of irrigation scheme (including how to make annual plan) 3. water charge policy 4. administrative and financial management (briefly) 5. gender analysis and gender action plan 6. handing over procedure 7. how to conduct WUA activities	1. facilitator: Sub-PMU members 2. facilitator: KVK 3. training materials developed by the project 4. allowance/transportation of Sub-PMU member and KVK 5. venue 6. lodging and food 7. classroom 8. stationery 9. travel cost for participants (WUA/MC members, WW members)	PMU			- Training will be done for around 30 participants in each time - including exposure visit - Include agriculture, environment and gender session - Part for "handing over procedure" can be trained later in sub-PMU wise - administrative management is guided through OJT - financial management training is conducted WUA wise practically and guided through OJT
Detailed Implementation Plan & Progress								
	Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
	<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1st Event: Date: *** of *****, 2011 Time: from ***** to ***** 2nd Event: Date: *** of *****, 2011 Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: - *****) - *****) - *****) Estimated Budget: INR *****)		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	*****/2011* ***** ***** ***** *****/2011* ***** ***** *****	

To be continued for other sheets for WUA ...

Attachment 3.2.4b Detailed Activity Sheets (Component-3: Agriculture)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A2. Workshop for implementation schedule (planning, monitoring and evaluation) and technical issues. <u>Objectives:</u> To let them understand the project activities and solve the problems related to the project	<u>In charge:</u> Consultant <u>Cooperated by:</u> Sub-PMU, Consultant, DoA/DoH, NGOs <u>Logistics:</u> Consultant <u>Venue:</u> SIAM <u>Frequency:</u> Once a year for 5 years / Sub-PMU level (5 sub-PMUs)	Target Group 1. Consultant(1) 2. PMU (1) and Sub-PMU (1) 3. NGO Sub-PMU (1), 4. Agriculture supervisor (20) 5. Horticulture field level officers (20) 6. NGO Agriculture expert (4) (50 persons/time)	-2 days workshop x 5 x 5 · Role and responsibility in RWSLIP · Planning of implementation schedule · Monitoring of implementation schedule · Reporting of result of activities to PMU · Planning for next year	1. Facilitator 2. Venue 3. Tea & lunch 4. Training materials 5.Resource person(SIAM) 6. Handheld refractometer	Consultant DoA	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	· Sub-PMU level workshop for planning, monitoring and evaluation (result analysis) of the project. · Technical issues are discussed to solve the problems related agriculture · Refractometer is used for measurement of the sugar contents of vegetables and fruit in order to add value
Detailed Implementation Plan & Progress								
	Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
	<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1st Event: Date: *** of *****, 2011 Time: from ***** to ***** 2nd Event: Date: *** of *****, 2011 Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: - *****) - *****) - *****) Estimated Budget: INR *****)		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	*****/2011* ***** ***** ***** *****/2011* ***** ***** *****	

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks							
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by								
A3. Training of trainers for general agriculture techniques Objectives: To provide training for intimation of cultivation techniques of cereals, pulses, oilseeds, spices and medicinal plants To understand how to teach techniques to farmers	In charge: DoA/DoH, NGOs Cooperated by: PMU Logistics: NGO-Sub-PMU Venue: KVK Frequency: Once a year / Sub-project level in stage-wise	Target Group 1. DoA agriculture supervisors 2. DoH field level officers 3. NGO agriculture experts 4. Community motivators (30 persons/time)	2 days training Varieties and their features Cropping pattern Optimum use of water On-time application of fertilizer Plant protection Harvest and post-harvest Cost and profit	1. Facilitator 2. Venue 3. Tea&lunch 4. Training materials 5. Resource person (KVK)	Consultant PMU	1. Allowance/ transportation DoA/DoH staff	DoA/DoH	Sub-PMU level training of trainers This training is general one and covers water-wise crops to save water							
									Detailed Implementation Plan & Progress						
									Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring	
In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: Estimated Budget: INR *****	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(**)/****/201*										
Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)	Contact Tel No. (*****)	2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	..... ..... ..... .....	Contact Tel No. (*****)	(**)/****/201*									
Specific Venue: (Address: *****)															

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

To be continued for other sheets for Agriculture ...

Attachment 3.2.4c Detailed Activity Sheets (Component-4: Marketing)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks							
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by								
1-2(a). Selection of Cooperative demonstration groups Objectives: To select potential groups to act as Cooperative demonstration groups	In charge: Consultant, NGO staff (Team leader/WUA) and (FVC) Cooperated by: NGO staff (Agriculture), PMU Logistics: Consultant Venue: Frequency: Once/3 Stage	Farmers who have received training in Agriculture sector	<ul style="list-style-type: none"> Discussion with NGO staff (Agriculture) to determine candidate farmers Field visit to explain to candidate farmers and confirm intention 	Transportation (NGO)	NGO	-	-	Cooperative demonstration groups are selected (One group/Sub-PMU)							
									Detailed Implementation Plan & Progress						
									Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input	Contact person of related agencies, if any	Progress Monitoring	
In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: Estimated Budget: INR *****	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(**)/****/201*										
Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)	Contact Tel No. (*****)	2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	..... ..... ..... .....	Contact Tel No. (*****)	(**)/****/201*									
Specific Venue: (Address: *****)															

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1-2(b). Guidance for demonstration group activities <u>Objectives:</u> To guide Cooperative demonstration group for cooperative activities	<u>In charge:</u> NGO staff (FVC) & (Agriculture) <u>Cooperated by:</u> Nearest local branch of bank, Consultant/PMU <u>Logistics:</u> NGO <u>Venue:</u> Cooperative demonstration sites <u>Frequency:</u> Once/Sub-PMU/ 3 Stages	1. Cooperative demonstration group members (10-20 prs.)	Class room lecture (1day)	1. Facilitator (NGO) 2. Lecturer (Bank manager) 3. Venue 4. Tea & lunch 5. Stationary 6. Transportation	1. NGO 2. No charge (bank's duty) 3-6. PMU	-	-	Cooperative demonstration groups discuss and agree with following points: ▪ Schedule for following activities ▪ Management members ▪ Group rules
		2. NGO staff (Community motivator) (2 prs.)						
		Detailed Implementation Plan & Progress						
	Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
	<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to ***** 2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	<u>Name of Resource person, if any:</u> (Mr./Ms. *****) (Contact Tel No. *****) <u>Required Materials:</u> ***** ***** ***** <u>Estimated Budget:</u> INR. *****		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(**)/**/201* ***** ***** ***** (**)/**/201* ***** ***** *****	
	<u>Logistics:</u> NGO agri-expert and community motivators (Mr./Ms. *****) <u>Specific Venue:</u> (Address: *****)							

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

To be continued for other sheets for Marketing ...

Attachment 3.2.4d Detailed Activity Sheets (Component-5: Gender Mainstreaming)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks	
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by		
A2-4. Support to Coordinate between WUA and Women Wing <u>Objectives:</u> To support Women Wing members to participate in WUA activities To promote understanding of WUA/MC members to women's participation	<u>In charge:</u> NGO team leader <u>Cooperated by:</u> Sub-PMU (WRD, WCD) <u>Logistics:</u> PMU <u>Venue:</u> WUA area <u>Duration:</u> throughout the Project <u>Frequency:</u> throughout the Project	1. WUA 2. WW	1. encourage WW members to participate in WUA and TC meeting and activities 2. facilitate WUA/MC members to understand importance of women's participation and coordinate to work with WW	1. NGO team leader 2. allowance/transportation of NGO staff. 3. Sub-PMU (WRD, WCD) 4. allowance/transportation of NGO staff.	NGO PMU				
		Detailed Implementation Plan & Progress							
		Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
<u>In charge:</u> DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to ***** 2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	<u>Name of Resource person, if any:</u> (Mr./Ms. *****) (Contact Tel No. *****) <u>Required Materials:</u> ***** ***** ***** <u>Estimated Budget:</u> INR. *****		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(**)/**/201* ***** ***** ***** (**)/**/201* ***** ***** *****			
<u>Logistics:</u> NGO agri-expert and community motivators (Mr./Ms. *****) <u>Specific Venue:</u> (Address: *****)									

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Format GL3.3.1 Sample of Detailed Activity Plan for Each Sub-Project

ATTACHMENT 3.3.xxx

SUB-PROJECT: AAAA AAAAAA sub-project

DISTRICT: Ajimer District

- Attachment 3.3.1 (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.1 (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.1 (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.1 (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.1 (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.1 (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.1 (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.1 (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.1 (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.1 (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.1 (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.1 (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

Activity Cost	Total Cost (INR)
Component-2: WUA	??????
Component-3: Agriculture	??????
Component-4: Marketing	??????
Component-5: Gender Mainstreaming	??????
Total	??????

Format GL3.3.1(1)a Bill of Quantities (Component-2: WUA) at Sub-Project Level

Name of sub-Project:	AAAA AAAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajimer

Items	Activities	Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.	
1. Establishment of WUA Support Mechanism	1) Development of project materials						
	(a) Training materials	1.Project Level					
	(b) Leaflet on the project concept and activities	1.Project Level					
	2) Orientation and trainings in different level						
	(a) TOT for TSG-SP members and NGO staff	1.Project Level					
	(b) Training for Community Motivator	2.Sub-PMU Level					
	3) Project management activities						
	(a) Planning workshop in Sub project	3.Sub-PJT Level	??	time	??	??	A-1
	(b) Monthly Sub-PMU meeting	2.Sub-PMU Level					
	(c) Monthly TSG-SP meeting	3.Sub-PJT Level	??	time	??	??	A-2
(d) Monitoring of the activity progress	1.Project Level						
2. Capacity Building of WUA Management	1) Formation of WUA						
	(a) 1st stage						
	1) Preparation for water users' meeting	3.Sub-PJT Level	??	time	no cost	no cost	
	2) Water uses' meeting for Pre-WUA formation and to form Pre-WUA	3.Sub-PJT Level	??	time	no cost	no cost	
	3) Support to participate in walk-through survey (same as 3) - (a))	3.Sub-PJT Level	??	time	no cost	no cost	
	4) Conduct same activities under (b)	3.Sub-PJT Level	??	time	no cost	no cost	
	(b) 2nd and 3rd stage						
	1) Orientation for villagers in Sub project area	3.Sub-PJT Level	??	time	no cost	no cost	
	2) General meeting of water users in WUA area	3.Sub-PJT Level	??	time	no cost	no cost	
	3) Orientation for Territorial Constituency	3.Sub-PJT Level	??	time	no cost	no cost	
	4) Election of President and managing Committee members of WUA	3.Sub-PJT Level	??	time	no cost	no cost	
	2) Capacity building activities						
	(a) Training for MC members on water management in Sub-PMU	2.Sub-PMU Level					
	(b) Orientation for WUA members organization management	3.Sub-PJT Level	??	time	??	??	A-3
	(c) Training for accountant of WUA on record keeping	3.Sub-PJT Level	??	time	??	??	A-4
	(d) MC monthly meeting cum training	3.Sub-PJT Level	??	time	no cost	no cost	
	(e) Territorial constituency monthly meeting cum training	3.Sub-PJT Level	??	time	no cost	no cost	
	(f) Annual MCs' meeting in Sub-PMU	2.Sub-PMU Level					
	(g) Stage-wise WUA review meeting in IMTI	1.Project Level					
	(h) Follow-up training for MC members on water management in IMTI	2.Sub-PMU Level					
3) WUA management							
(a) Support MC members to participate in walk-through survey	3.Sub-PJT Level	??	time	no cost	no cost		
(b) Support to conduct general meeting of WUA	3.Sub-PJT Level	??	time	no cost	no cost		
(c) Support MC members to attend weekly progress meeting in the site monthly basis	3.Sub-PJT Level	??	time	no cost	no cost		
3. Improvement of Agriculture Linkage	1) Strengthen linkage between farmers and Agriculture organization						
	(a) Conduct monthly meeting	3.Sub-PJT Level	??	time	no cost	no cost	
	(b) Invite Agriculture supervisor to MC/TC monthly meeting	3.Sub-PJT Level	??	time	no cost	no cost	
	(c) Coordinate with existing Farmers Organization	2.Sub-PMU Level					
	2) Conduct agricultural demonstration						
	(a) Establish demonstration plot to promote seasonal technology	3.Sub-PJT Level	??	time	no cost	no cost	
(b) Conduct Farmers Field day in demonstration plot	3.Sub-PJT Level	??	time	??	??	A-5	
4. Corpus Fund for WUAs	1) Providing corpus fund to WUAs	3.Sub-PJT Level	??	time	??	??	A-6
	2) Monitoring corpus fund management	3.Sub-PJT Level	??	time	no cost	no cost	
				Total	???		

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.3.1(1)b Bill of Quantities (Component-3: Agriculture) at Sub-Project Level

Name of sub-Project:	AAAA AAAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajmer

Activities	Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.	
1 Training of Trainers for Agriculture						
1-1 State level workshop	1.Project Level					
1-2 Sub-PMU level workshop	2.Sub-PMU Level					
1-3 General agriculture techniques in all area	2.Sub-PMU Level					
1-4 Agriculture cultivation techniques on cereals, pulses and oilseeds	2.Sub-PMU Level					
1-5 Agriculture cultivation techniques on spices and medicinal plants	2.Sub-PMU Level					
1-6 Agriculture cultivation techniques on kinnow and santra orange	2.Sub-PMU Level					
1-7 Agriculture cultivation techniques on exotic vegetables	2.Sub-PMU Level					
1-8 Quality improvement of crops	2.Sub-PMU Level					
2 Exposure Visit for Agriculture Trainers						
2-1 Exposure visit to advanced state	1.Project Level					
3 Improvement of Agriculture Support System						
3-1 Farmers' friendly manuals	1.Project Level					
3-2 Strengthen of information center	1.Project Level					
4 Agriculture Farmers' Training						
4-1 General agriculture techniques in all area	3.Sub-PJT Level	??	trainings	??	??	B-1
4-2 Agriculture cultivation techniques on cereals, pulses and oilseeds	3.Sub-PJT Level	??	trainings	??	??	B-2
4-3 Agriculture cultivation techniques on spices and medicinal plants	3.Sub-PJT Level	??	trainings	??	??	B-3
4-4 Agriculture cultivation techniques on kinnow and santra orange	3.Sub-PJT Level	??	trainings	??	??	B-4
4-5 Agriculture cultivation techniques on exotic vegetables	3.Sub-PJT Level	??	trainings	??	??	B-5
4-6 Quality improvement of crops	3.Sub-PJT Level	??	trainings	??	??	B-6
4-7 Marketing survey to advanced area	3.Sub-PJT Level	??	trainings	??	??	B-7
5 Agriculture Demonstration Farm	1.Project Level					
Total				??		

Format GL3.3.1(1)c Bill of Quantities (Component-4: Marketing) at Sub-Project Level

Name of sub-Project:	AAAA AAAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajmer

Activities	Work Volume	Unit	Unit Cost	Amount	Unit Cost Ref. No.	
1 FIG formulation for cooperative activities						
1-1. Training of trainers (ToT) for FIG activities	1.Project Level					
1-2. Support for Cooperative demonstration groups						
a Selection of Cooperative demonstration groups	2.Sub-PMU Level					
b Guidance for demonstration group activities	2.Sub-PMU Level					
c Accessing loan	2.Sub-PMU Level					
d Group procurement of agricultural inputs	2.Sub-PMU Level					
e Repairing/maintenance of common farm properties	2.Sub-PMU Level					
f Collective marketing	2.Sub-PMU Level					
g Review and planning for coming seasons	2.Sub-PMU Level					
h Experience sharing with potential FIGs	2.Sub-PMU Level					
1-3. FIG formulation and activities in other sites						
a Request for FIG formulation	3.Sub-Project Level	??	FIGs	no cost	no cost	
b Guidance for group activities	2.Sub-PMU Level					
c Exposure visit to cooperative demonstration groups	2.Sub-PMU Level					
d Accessing loan	3.Sub-Project Level	??	set/FIG	??	??	C-1
e Group procurement	3.Sub-Project Level	??	set/FIG	??	??	C-2
f Repairing/maintenance of common farm properties	3.Sub-Project Level	??	set/FIG	??	??	C-3
g Collective marketing	3.Sub-Project Level	??	set/FIG	??	??	C-4
1-4. Guidance for FPO formulation	2.Sub-PMU Level					
2 Connecting with large-size consumers (Matching meeting)						
2-1. Training of trainers (ToT) for Matching meetings	1.Project Level					
2-2. Information exchange between FIGs and processors	2.Sub-PMU Level					
2-3. Information analysis						
Training	2.Sub-PMU Level					
Implementation	2.Sub-PMU Level					
2-4. Matching meeting (1st)	2.Sub-PMU Level					
2-5. Review & improvement	2.Sub-PMU Level					
2-6. Matching meeting (2nd)	2.Sub-PMU Level					
2-7. Gap filling training for postharvest quality	2.Sub-PMU Level					
3 Connecting with large-size consumers (exotic vegetables)						
3-1. Training of trainers (TOT) for supporting exotic vegetables sales	1.Project Level					
3-2. Demonstration	2.Sub-PMU Level					
3-3. Extension to farmers	2.Sub-PMU Level					
4 Brand building for high-value agricultural produces	1.Project Level					
Total				??		

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.3.1(1)d Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level

Name of sub-Project:		AAAA AAAAA sub-project			
Sub-PMU		Jaipur Sub-PMU			
District		Ajmer			
		Work Volume		Unit Cost	Amount
1. Supporting the Institutionalization of Gender Mainstreaming in Water Management					
1) Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act		1.Project Level			
2) Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management					
(a) Incorporation of Gender Session for Training on Water Management and WUA Management		1.Project Level			
(b) Providing Necessary Information in Orientation and ToT for Developing Genders Action Plan in WUA		1.Project Level			
(c) Developing Topics for Regular Awareness Program in WUA/MC Meeting, TC Meeting and General Meeting		1.Project Level			
(d) Support to Coordinate between WUA and Women Wing		2.Sub-PMU Level			
3) Establishment of Gender Disaggregated Data Collection System		1.Project Level			
2. Enhancement of Women's Capability and Participation in WUA nt					
1) Formulation of WUA Women Wing					
(a) General Meeting for water users at same time of formation of WUA		3.Sub-Project Level	??	WUAs	no cost
(b) Orientation for Territorial Constituency at same time of formation of WUA		3.Sub-Project Level	??	TCs	no cost
(c) Formulation of Woman Wing per WUA		3.Sub-Project Level	??	WUAs	no cost
(d) Orientation on WW activities		3.Sub-Project Level	??	time	?? D-1
2) Facilitating to Introduce the Women Friendly Activities					
(a) Facilitating to Discuss and Finalize Women Friendly Activities		3.Sub-Project Level	??	WUAs	no cost
(b) Support Women Wing to plan and implement Women Friendly Facilities		3.Sub-Project Level	??	WUAs	no cost
(c) Support Women Wing to plan and implement Women Friendly Treas		3.Sub-Project Level	??	WUAs	no cost
3) Encouraging Women to Participate in WUA Activities					
(a) Support WW Members to Participate and Report in WUA/MC Monthly Meeting		3.Sub-Project Level	??	WUAs	no cost
(b) Support WW Members to Participate and Report in WUA/MC Monthly Meeting		3.Sub-Project Level	??	WUAs	no cost
(c) Support to WW Members to Participate in WUA Fund Management		3.Sub-Project Level	??	WUAs	no cost
(d) Support WW members to participate Territorial Constituency monthly meeting cum training		3.Sub-Project Level	??	TCs	no cost
(e) Support WW members to participate in weekly progress meeting in monthly basis		3.Sub-Project Level	??	WUAs	no cost
(f) Support WW members to participate in WUA general meeting		3.Sub-Project Level	??	WUAs	no cost
4) Providing Trainings and Exposure Activities on Water and Organizational Management					
(a) Training on for Main members on Water Management at Sub-PMU Level with WUA		1.Project Level			
(b) Fund Management Training (auditing) at Sub-PMU Level		1.Project Level			
(c) Exposure Visit (Sub-PMU wise)		1.Project Level			
(d) Annual WW's Review Meeting at Sub-PMU Level		2.Sub-PMU Level			
(e) Annual WUA/MCs Review Meeting at Sub-PMU Level		2.Sub-PMU Level			
(f) Stage-wise WUA Review Meeting at State Level in IMTI with WUA		1.Project Level			
(g) Follow-up Training for Main Members on Water Management with WUA		1.Project Level			
3. Capacity Building on Agricultural Technologies through SHGs					
1) Selection of the Group					
(a) Developing work plan on the activity in SP level		3.Sub-Project Level	??	time	?? D-2
(b) Providing information to Women Members of the SP on Agriculture Program under Women Wing		3.Sub-Project Level	??	TCs	no cost
(c) Collecting Proposal from Groups		3.Sub-Project Level	??	sub-project	no cost
(d) Selection of group		3.Sub-Project Level	??	sub-project	no cost
(e) Conducting Orientation to Selected Groups		3.Sub-Project Level	??	SHG	?? D-3
2) Strengthening Capacity on Group Management					
(a) Providing Training on Group Management		1.Project Level			
(b) Support to Conduct Monthly Group Meeting		3.Sub-Project Level	??	SHG	no cost
3) Strengthening Capacity on Agricultural Technique					
(a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators		1.Project Level			
(b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers		1.Project Level			
(c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies		3.Sub-Project Level	??	time	?? D-4
(d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth		3.Sub-Project Level	??	time	?? D-5
(e) Establishing Demonstration Plot for Basic Vegetables Cultivation		3.Sub-Project Level	??	SHG	no cost
(f) Establishing Demonstration Plot for Nutritious Vegetables Cultivation		3.Sub-Project Level	??	SHG	no cost
4) Monitoring and Mentoring the Groups for Sustainable Activities					
(a) Regular Monitoring and Provide Necessary Support to Groups		3.Sub-Project Level	??	time	no cost
4. Innovation fund					
1) Innovation fund		1.Project Level			
				Total	??

Note: "no cost" means such activity does not require specific expenses but basic common expenses in the office.

Format GL3.3.1(2)a Unit Price Calculation (Component-2: WUA)

Name of sub-Project:		AAAA AAAAA sub-project	
Sub-PMU		Jaipur Sub-PMU	
District		Ajmer	

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks
A-1 Planning workshop for TSG-SP and NGO staff (Sector Expert, Community Motivator), in SP level, 1 day, 12person	No of Participant per SP (TSG-SP (7 person), Community motivator (5 person in average))	12	person		1 day workshop, beginning of each stage, SP-wise, TSG-SP and NGO staff (Sector Expert, Community Motivator), facilitated by 1 Sub-PMU member and NGO staff (Sector Expert)
Travel cost for Sub-PMU staff (1 person)	person/day	12	??	??	
Travel allowance for NGO staff : Team leader	person/day	0	??	??	
Travel allowance for NGO staff :sector expert	person/day	0	??	??	
Tea and snacks	times	12	??	??	
Lunch	person/day	12	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Sub-total = Unit cost per training	times			????	
A-2 Organize TSG-SP meeting	No of meeting (no	14	person		Monthly, 1/2 day, SP wise (Gov. office or outdoor), TSG-SP, NGO (Sector Expert and Community Motivator), WUA and WW MC member x6
Tea and snacks	head	14	??	??	1 time/meeting
Sub-total = Unit cost per training	times			???	
A-3 Orientation on organization management for WUA/MC members (5-7) + WW main member (2-3)	No. of WUA	1	days	10	WUA wise, after training on water management, 1 day open seminar, WUA members (5-7 person), WW members (2-3 person) in total 10 participants
Venue	day	1	??	??	
Tea and snacks	head	10	??	??	
Lunch	head	10	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	??	??	
Sub-total = Unit cost per training	times			?????	
A-4 Training on record keeping for WUA/MC members (5-7) + WW main member (2-3)	No. of WUA	1	days		
Venue	day	1	??	??	
Tea and snacks	head	10	??	??	
Lunch	head	10	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	??	??	
Sub-total = Unit cost per training	times			?????	
A-5 Conduct Farmers Field day in demonstration plot	1	days	30	person	Using demonstration plot (1 site per sub-project), half-yearly, 1 day, invite nearby farmers (30 participants)
Travel allowance NGO sector expert Agri	person/day	30	??	??	
Transportation for NGO (vehicle charge)	day	1	??	??	
Transportation for NGO (Fuel)	liter	0	??	??	
Tea and snacks	person	30	??	??	
Lunch	person	30	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Sub-total = Unit cost per training	times			?????	
A-6 Provide Corpus fund to WUAs	No. of WUA				
Corpus fund (after completion of the rehabilitation works)	WUA	???	200,000	???	200,000INR per WUA
Sub total					

**Format GL3.3.1(2)b Unit Price Calculation
(Component-3: Agriculture)**

Name of sub-Project:	AAAA AAAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajmer

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
General agriculture techniques for cereals, pulses, B-1 oilseeds, spices and medicinal plants (1 days for 40 person x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (NGO sp level staff, community motivator)	persons	4	??	??	
Venue (sub-project site)	hall	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO sp level staff, community motivator)	persons	4	??	??	
Miscellaneous expenses(Banner, stationeries)		2	??	??	
Transportation for participants		80	??	??	
Sub total				??????	
B-2 Agriculture cultivation techniques on cereals, pulses and oilseeds in focal area (1 days for 40 persons x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and community motivator)	persons	2	??	??	
Venue (Sub-project site)	place	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO sub-project level staff)	persons	2	??	??	
Improved seed of Flax seed, (seed rate 5.65kg x 40 x180INR/kg)		266	??	??	
Miscellaneous expenses(Banner, stationeries)		2	??	??	
Transportation for participants		80	??	??	
Sub total				??????	
B-3 Agriculture cultivation techniques on spices and medicinal plants in focal area (1 days for 40 persons x 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (NGO)	persons	2	??	??	
Venue (sub-project site)	place	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO sub-project level staff)	persons	2	??	??	
Miscellaneous expenses(Banner, stationeries)		2	??	??	
Transportation for participants		80	??	??	
Linseed sample(8kg/person)(0.2ha for demonstration farm, 0.2ha for controlled)		67	??	??	
Sub total				??????	

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Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
B-4 Agriculture cultivation techniques on kinnow and santra orange in focal area (2 days for 40 persons)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (DoA, DoH and NGO)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	80	??	??	
Trainers (KVK)	persons	8	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	40	??	??	
Mulch sheet for 0.2ha (0.185 INR/g x 2000m ² x 60% x93g/m ²)		10	??	??	For fruits orchard, the thickness of poly-sheet should be more than 100
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Sub total				??????	
B-5 Agriculture cultivation techniques on exotic vegetables in focal area (2 days for 40 person)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (DoA, DoH and NGO)	persons	2	??	??	
Venue (KVK)	hall		??	??	
Boarding and lodging charges	head	80	??	??	
Trainers (KVK)	persons	8	??	??	
Cost of transportation for field trip and TA		1	??	??	
Materials (registration kit, supply of literature and training aid)	head	40	??	??	
Miscellaneous and supporting staff		1	??	??	
Institutional charges(10%)		1	??	??	
Seed sample (cherry tomato, Broccoli, Leaf lettuce)		40	??	??	
Black and white mulch sheet for 0.2ha (0.185INR/g x 2000m ² x 80 % x 38g/m ²)		10	??	??	
Sub total				??????	
B-6 Quality improvement in focal area (1 days for 40 personsx 2)					Twice a year. One month before sowing of kharif and rabi season
Facilitator (PMU and lead NGO)	persons	2	??	??	
Venue (sub-project site)	place	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO sub-project level staff)	persons	2	??	??	
Miscellaneous expenses(Banner, stationeries)		2	??	??	
Transportation for participants		80	??	??	
Sub total				??????	
B-7 Marketing survey to advanced area (4 days for 30 person))					Twice a year. One month before harvesting of kharif and rabi season
Facilitator (NGO and community motivator)	persons	2	??	??	
Venue (advanced farmers in the state)	place	2	??	??	
Boarding and lodging charges	head	90	??	??	
Trainers (NGO, advanced farmers, traders)	persons	8	??	??	
Cost of transportation for field trip (bus)		1	??	??	
Miscellaneous and stationeries		1	??	??	
Sub total				??????	

Format GL3.3.1 (2)c Unit Price Calculation (Component-4: Marketing)

1 FIG formulation for cooperative activities

Name of sub-Project:	AAAA AAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajmer

1-3. FIG formulation and activities in other sites

C-1 Accessing loan

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance cost for guarantee deposit for opening bank account (check book)	time	1	??	??
Total				?????

C-2 Group procurement of agricultural inputs

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for loading/unloading	bag	100	??	??
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	??	??
Total				?????

C-3 Repairing/maintenance of common farm properties

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Financial assistance for repairing properties	set	1	??	??
Labour for loading/unloading	set	1	??	??
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	??	??
Total				?????

C-4 Collective marketing

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for grading/cleaning cereals, etc.	prs/day	20	??	??
Labour for loading/unloading	bag	100	??	??
Weighing scale (hanging)	set	1	??	??
Plastic sheets for postharvest activities	sheet	3	??	??
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	3	??	??
Total				?????

Format GL3.3.1(2)d Unit Price Calculation (Component-5: Gender Mainstreaming)

Name of sub-Project:	AAAA AAAAA sub-project
Sub-PMU	Jaipur Sub-PMU
District	Ajmer

Particular	Unit	Quantity	Unit price (INR)	Amount (INR)	Remarks
D-1 Orientation on WW activities	No. of WW	1			in WUA level, 1 day, for maximum 12 members in each WW (2 each from TCo)
Venue	day	1	??	??	
Tea and snacks	person	12	??	??	
Lunch	person	12	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Sub-total = Unit cost per training				times	????
D-2 Develop work plan on the activities in SP level		13 person			Beginning of the stage. 1 day, Sub-PMU(DoA, DoH, WCDx2), TSG-SP(Agri, WCD), NGO staff (sector expert, WUA)
NGO staff (sector expert: Agriculture, Gender)		0	??	??	Included in monthly salary
NGO staff (WUAx2)		0	??	??	Included in monthly salary
TSG-SP		0	??	??	
Tea and snacks	person	13	??	??	
Lunch	person	13	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Sub-total = Unit cost per training				times	????
D-3 Conducting Orientation to Selected Groups (in the village, group-wise, 1 day, 20 person)	No of groups (SP x 4)	1	day		
venue	place	1	??	??	
Tea and snacks	person	20	??	??	
Lunch	person	20	??	??	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	??	??	
Sub-total = Unit cost per training				times	????
D-4 Basic vegetables cultivation techniques on tomato, onion and chillies for SHG (1 day for 40 persons x 2)	No. of training (Sub-project wise)	1	1	fac/cm	Twice a year. One month before sowing of Kharif and rabi season for basic veg group
Facilitator (NGO)	persons	2	??	??	
Venue (Sub-project site)	place	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO, community motivator)	persons	2	??	??	
Use of mulching			??	??	
Optimum use of water			??	??	
On-time application of fertilizer			??	??	
Insects/diseases management			??	??	
Miscellaneous expenses(Banner, stationaries)		2	??	??	
Transportation for participants		80	??	??	
Seed		80	??	??	
Mulch sheet (100m2)		40	??	??	
Nursery kit (1 set/20person)		2	??	??	
cost per training (total)					????
D-5 Nutritious vegetables cultivation techniques on Swiss chard, kale and amaranth for SHGs (1 days for 40 persons x 2))	2times	1			Twice a year. One month before sowing of Kharif and rabi season for nutritious veg group
Facilitator (NGO)	persons	2	??	??	
Venue (sub-project site)	place	2	??	??	
Tea and snack		80	??	??	
Lunch		80	??	??	
Trainers (NGO, WCD)	persons	2	??	??	
Varieties and their feature			??	??	
Cultivation techniques			??	??	
Seed harvesting			??	??	
Nutritional value			??	??	
Miscellaneous expenses(Banner, stationaries)		2	??	??	
Transportation for participants		80	??	??	
Seed (Swiss chard, kale, amaranth)		80	??	??	
Fertilizer		2	??	??	
Insecticide, fungicide		2	??	??	
Water can		2	??	??	
Sprayer		2	??	??	
Shade net		2	??	??	
Poly-pots for nursery (1000pieces)		2	??	??	
cost per training (total)					????

Attachment 3.3.1(3)b Detailed Activity Sheets (Component-3: Agriculture)

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A12. Training of farmers for general agriculture techniques for cereals, pulses, oilseeds, spices and medicinal plants Objectives: To provide improved cultivation techniques for water-wise crops	In charge: DoA/DoH, NGO agriculture expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert and community motivators Venue: each WUA site Frequency: 2 times/year/WUA	Target Group 1. Farmers in non-focal area	One day training · Varieties and their features · Cropping pattern · Optimum use of water · On-time application of fertilizer · Plant protection · Harvest and post harvest · Cost and profit	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource persons	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
Detailed Implementation Plan & Progress								
	Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
	In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to ***** 2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: ***** ***** ***** Estimated Budget: INR. *****		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(***/****/201*) ***** ***** ***** (***/****/201*) ***** ***** *****	
	Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)	Contact Tel No. (*****)						
	Specific Venue: (Address: *****)							

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

Activities / objectives	Executing body, venue & Frequency	Contents		Input by Project fund		Input by others fund		Remarks
		Target Group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
A13. Training of farmers in focal area for specific agriculture techniques on cereals, pulses and oilseeds Objectives: To provide specific cultivation techniques for water-wise crops with sprinkler	In charge: DoA/DoH, NGO agri-expert Cooperated by: DoA/DoH, NGO agri-expert Logistics: NGO agri-expert Venue: each WUA site in focal area Frequency: 2 times/year/WUA	Target Group 1. Farmers in focal area	One day training · Varieties and their feature · Optimum use of water with sprinkler · On-time application of fertilizer · Plant protection · Harvest and post-harvest · Cost and profit of cultivation	1.Facilitator 2.Venue 3.Tea&lunch 4.Training materials 5.Resource persons (NGO)	NGO agri-expert PMU	1. Allowance/ transportation 2.Resource person	DoA/DoH	Twice a year, one month before rabi and kharif sowing/planting
Detailed Implementation Plan & Progress								
	Name of personnel	Specific Information about Target group	Specific Information about Event	Details of Input		Contact person of related agencies, if any	Progress Monitoring	
	In charge: DoA/DoH, NGO agriculture expert (Mr./Ms. *****)	Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	Date of Event 1 st Event: Date: *** of *****, 201* Time: from ***** to ***** 2 nd Event: Date: *** of *****, 201* Time: from ***** to *****	Name of Resource person, if any: (Mr./Ms. *****) (Contact Tel No. *****) Required Materials: ***** ***** ***** Estimated Budget: INR. *****		Contact person name: (Mr./Ms. *****) Contact e-mail (*****) Contact Tel No. (*****)	(***/****/201*) ***** ***** ***** (***/****/201*) ***** ***** *****	
	Logistics: NGO agri-expert and community motivators (Mr./Ms. *****)	Contact Tel No. (*****)						
	Specific Venue: (Address: *****)							

Note: This sheet should be updated and revised on all such occasions so as to maintain the latest information during project implementation.

To be continued for other sheets for Agriculture ...

ATTACHMENT 3.3.2

SUB-PROJECT: BBBB BBBB sub-project

DISTRICT: Ajimer District

- Attachment 3.3.2 (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.2 (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.2 (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.2 (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.2 (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.2 (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.2 (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.2 (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.2 (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.2 (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.2 (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.2 (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

Activity Cost	Total Cost (INR)
Component-2: WUA	??????
Component-3: Agriculture	??????
Component-4: Marketing	??????
Component-5: Gender Mainstreaming	??????
Total	??????

ATTACHMENT 3.3.4

SUB-PROJECT: CCCCC CCCC sub-project

DISTRICT: Alwar District

- Attachment 3.3.3 (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.3 (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.3 (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.3 (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.3 (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.3 (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.3 (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.3 (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.3 (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.3 (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.3 (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.3 (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

Activity Cost	Total Cost (INR)
Component-2: WUA	??????
Component-3: Agriculture	??????
Component-4: Marketing	??????
Component-5: Gender Mainstreaming	??????
Total	??????

ATTACHMENT 3.3.4

SUB-PROJECT: DD DDDD DDDD sub-project

DISTRICT: Alwar District

- Attachment 3.3.4 (1) a “Bill of Quantities (Component-2: WUA) at Sub-Project Level”
- Attachment 3.3.4 (1) b “Bill of Quantities (Component-3: Agriculture) at Sub-Project Level”
- Attachment 3.3.4 (1) c “Bill of Quantities (Component-4: Marketing) at Sub-Project Level”
- Attachment 3.3.4 (1) d “Bill of Quantities (Component-5: Gender Mainstreaming) at Sub-Project Level”
- Attachment 3.3.4 (2) a “Unit Price Calculation (Component-2: WUA)”
- Attachment 3.3.4 (2) b “Unit Price Calculation (Component-3: Agriculture)”
- Attachment 3.3.4 (2) c “Unit Price Calculation (Component-4: Marketing)”
- Attachment 3.3.4 (2) d “Unit Price Calculation (Component-5: Gender Mainstreaming)”
- Attachment 3.3.4 (3) a “Detailed Activity Sheets (Component-2: WUA)”
- Attachment 3.3.4 (3) b “Detailed Activity Sheets (Component-3: Agriculture)”
- Attachment 3.3.4 (3) c “Detailed Activity Sheets (Component-4: Marketing)”
- Attachment 3.3.4 (3) d “Detailed Activity Sheets (Component-5: Gender Mainstreaming)”

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Activity Cost	Total Cost (INR)
Component-2: WUA	?????
Component-3: Agriculture	?????
Component-4: Marketing	?????
Component-5: Gender Mainstreaming	?????
Total	?????

Chapter 7
Attachment

Attachment 7.2.1
Total Project Cost

Attachment 7.2.2
Cost Estimate for Component 1:
Participatory Irrigation Rehabilitation
Works

Attachment 7.2.2

Cost Estimate for Component 1: Participatory Irrigation Rehabilitation Works

1. Cost for Component 1: Participatory Irrigation Rehabilitation Works

Overall cost for component 1: participatory irrigation rehabilitation works is summarized in the following tables and details are described in the following sections:

Table A 1.1 Summary of Estimated Cost for Component 1: Participatory Irrigation Rehabilitation Works (Sub-component Basis)

No .	Item	F/C (JPY mil.)	L/C (INR mil.)	Total Cost (JPY mil.)	Total Cost (INR mil.)
1.	Sub-component 1-1: Rehabilitation of irrigation facilities				
1.1	Rehabilitation of dam and canal system	0.0	12,732.8	21,518.4	12,732.8
1.2	SID works for preparation of DPRs, etc.	0.0	210.3	355.4	210.3
1.3	Training program for sub-PMU officers	0.0	1.1	1.8	1.1
	Sub-total of 1.	0.0	12,944.2	21,875.6	12,944.2
2.	Sub-component 1-2 :Promotion of micro irrigation system				
2.1	Construction and installation of micro irrigation system	0.0	906.2	1,531.5	906.2
2.2	Training program for farmers / farmers groups	0.0	1.6	2.7	1.6
	Sub-total of 2.	0.0	907.8	1,534.2	907.8
3.	Sub-component 1-3 :Introduction of WUA constructive facilities				
3.1	Construction of WUA constructive facilities	0.0	180.5	305.0	180.5
	Sub-total of 3.	0.0	180.5	305.0	180.5
4.	Sub-component 1-4: Support for women friendly activities				
4.1	Construction of women friendly facilities	0.0	123.8	209.2	123.8
4.2	Planting of women friendly trees	0.0	79.6	134.5	79.6
	Sub-total of 4.	0.0	203.4	343.7	203.4
	Total (1. - 4.)	0.0	14,235.9	24,058.6	14,235.9

Source: JICA survey team

Table A 1.2 Summary of Estimated Cost for Component 1: Participatory Irrigation Rehabilitation Works (Work Type Basis)

No .	Item	F/C (JPY mil.)	L/C (INR mil.)	Total Cost (JPY mil.)	Total Cost (INR mil.)
1.	Civil Works				
1.1	Rehabilitation of dam and canal system	0.0	12,732.8	21,518.4	12,732.8
1.2	Construction and installation of micro irrigation system	0.0	906.2	1,531.5	906.2
1.3	Construction of WUA constructive facilities	0.0	180.5	305.0	180.5
1.4	Construction of women friendly facilities	0.0	123.8	209.2	123.8
1.5	Planting of women friendly trees	0.0	79.6	134.5	79.6
	Sub-total of 1.	0.0	14,022.9	23,698.6	14,022.9
2.	SID Works for Preparation of DPRs, etc.				
2.1	Employment of SID consultants	0.0	210.3	355.4	210.3
	Sub-total of 2.	0.0	210.3	355.4	210.3
3.	Training to WRD Field Officers, Contractors and Farmers				
3.1	Training program for SID and construction works	0.0	1.1	1.8	1.1
3.2	Training program for promotion of micro irrigation system	0.0	1.6	2.7	1.6
	Sub-total of 3.	0.0	2.7	4.5	2.7
	Total (1. - 3.)	0.0	14,235.9	24,058.6	14,235.9

Source: JICA survey team

2. Cost for Civil Works

2.1 Cost for Rehabilitation of Dam and Canal System

According to a result of review of sample DPRs, it was found that the following costs were included in the estimated cost other than the cost for rehabilitation of dam and canal system:

Table A 2.1.1 Breakdown of Estimated Administrative and Other Costs in Sample DPRs

Work Item	Dominate % in Total Cost	Remarks
Price escalation	6.99	Average of sample DPRs
Administration cost	4.18	Average of sample DPRs
Contingency	1.97	Average of sample DPRs
Survey, investigation and design works	0.53	Average of sample DPRs
Other costs	4.44	Average of sample DPRs
Total	18.11	Average of sample DPRs

Source: prepared by JICA survey team based on sample DPRs

In addition to the above, costs for introduction of micro irrigation system, construction of WUA office building and construction of women friendly facilities were also included in the estimated cost of sample DPRs. Based on a review of sample DPRs and assumptions by the survey team, dominant percentage of those cost was estimated as 2.48% of cost for rehabilitation of canal system as shown in the following table:

Table A 2.1.2 Breakdown of Estimated Costs for Other Sub-components in Sample DPRs

Work Item	Dominate % in Canal Rehabilitation Cost	Remarks
Introduction of micro irrigation system	1.11	Average of sample DPRs
Construction of WUA office building	0.37	Average of sample DPRs
Women friendly facilities	1.00	Recommended by the survey team
Total	2.48	Average of sample DPRs

Source: prepared by JICA survey team based on sample DPRs

Meanwhile, all sample DPRs were prepared in the year of 2015 and price escalation of 5.88% for one year (converted from price level 2015 to 2016) was applied for estimated cost.

Based on the above consideration and assessment of the estimated cost in sample DPRs, cost for rehabilitation of dam and canal system was estimated as summarized in the following table and details are shown in Table Att.7.2.1:

Table A 2.1.3 Estimated Cost for Rehabilitation of Dam and Canal System

(INR mil.)

No.	Description	Total Cost	Dam Cost	Canal Cost
1.	Original cost in short list of candidate 82 sub-projects	15,106.3	1,203.2	13,903.1
2.	Deduction for adm. and other costs (18.11% of 1 of dam and canal cost)	2,735.7	217.9	2,517.8
3.	Deduction for other sub-component works (2.48% of 1 for canal cost)	344.8	0.0	344.8
4.	Sub-total (4 = 1 - 2 - 3)	12,025.7	985.3	11,040.4
5.	Price escalation (5.88% of 4 for dam and canal cost)	707.1	57.9	649.2
6.	Total (6 = 4 + 5)	12,732.8	1,043.2	11,689.6

Source: JICA survey team

2.2 Cost for construction and installation of micro irrigation system

2.2.1 Typical design and estimated cost

Typical design for the purpose of cost estimate for the proposed micro irrigation system consisting community based sprinkler irrigation system and individual farmer based drip irrigation system and the estimated cost per ha of respective system are shown below.

(1) Typical design and estimated cost for community based sprinkler irrigation system

Based on the current water management system broadly implemented in the Project area, two types of typical design, i.e. one for perennial irrigation mainly for a part of major irrigation scheme and another for intermittent irrigation mainly for tank and canal system, were considered and those estimated costs are shown in the following table:

Table A 2.2.1 Typical Design and Estimated Cost for Community Based Sprinkler Irrigation

CCA (ha)	ICA (ha)	Water Management System	Item	Specification	Estimated Cost (INR)
100	50	Perennial irrigation scheme (mainly for a part of major irrigation system): Water rotation is every day	Tank (diggie)	Capacity: 1,360 m ³	302,049
			Solar panel module	11 KW	548,780
			Pump	Required dynamic pump head 40m, Discharge 10 l s-1	357,305
			Pump House and Boundary Walls		843,239
			Pipe line	HDPE pipe network with setting up	1,612,397
			Others	Sump well	202,473
			Total		3,866,244
			(/ ha)		38,662 / ha
100	50	Intermittent irrigation scheme (mainly for tank and canal system) Water rotation is every 14 days	Tank (diggie)	Capacity: 17,500 m ³	1,408,856
			Solar panel module	11 KW	548,780
			Pump	Required dynamic pump head 40m, Discharge 10 l s-1	357,305
			Pump House and Boundary Walls		843,239
			Pipe line	HDPE pipe network with setting up	1,612,397
			Others	Sump well	02,473
			Total		4,973,051
			(/ ha)		49,731 / ha

Note: Cost was estimated based on the actual cost in Narmada Major Irrigation Project basically

The above design and estimated cost is just tentative one for Project cost estimate and shall be updated based on the result of detailed design and, demonstration farm, latest prices and lessons learnt during the Project

Source: JICA survey team

(2) Typical design for individual farmer based drip irrigation system

Typical design and estimated cost for individual farmer based drip irrigation system are shown in the following table:

Table A 2.2.2 Typical Design and Estimated Cost for Individual Farmer based Drip Irrigation System

CCA (ha)	ICA (ha)	Water Rotation Cycle	Item	Specification	Estimated Cost (INR)	Cost /ha (INR)
4	4	For individual farm land: Every 7 days	Tank	Capacity: 1,008 m ³	471,596	117,899
			Solar panel and pump set	SPV manual tracker, Pump surface, DC 20 m header, 3HP	391,937	97,984
			Pipes and drip lines	75mm PVC pipe, 63mm PVC pipe, 12 mm lateral, Micro/ poly tube 6 mm, valve, Screen filter 20/ 25 m ³ / hr, 5m × 5m plant space	120,589	30,147
			Total		984,122	246,031
Average for three items						82,010 / ha

Note: The above design and estimated cost is just tentative one for Project cost estimate and shall be updated based on the result of detailed design and, demonstration farm, latest prices and lessons learnt during the Project

Source: JICA survey team

2.2.2 Estimated cost for construction and installation of micro irrigation system

Based on the unit cost estimated in the above 2.2.1, cost for construction and installation of micro irrigation system under RWSLIP was estimated as follows:

Table A 2.2.3 Estimated Cost for Construction and Installation of Micro Irrigation System

No.	Type of Micro Irrigation	Total CCA of sub-projects (ha)	Target % of CCA	Unit Cost (INR / ha)	Cost (INR)
		(a)	(b)	(c)	(d) = (a) x (b) x (c)
1.	Community based sprinkler irrigation system (for perennial irrigation)	253,224	5.0	38,662	489,507,000
2.	Community based sprinkler irrigation system (for intermittent irrigation)	108,042	5.0	49,731	268,651,000
<u>3.</u>	<u>Sub-total (1 + 2)</u>				<u>758,159,000</u>
4.	Individual farmer based drip irrigation system	361,226	0.5	82,010	148,137,000
<u>5.</u>	<u>Total (3 + 4)</u>				<u>906,296,000</u>

Source: JICA survey team

2.3 Cost for construction of WUA constructive facilities

According to typical design and cost estimate in sample DPRs, average unit cost for construction of WUA office building can be estimated as INR 494,000 / nos.

Number of WUA constructive facilities to be constructed under the Project was estimated based on the following conditions:

- One WUA constructive facility will be constructed for one WUA, and
- No WUA constructive facility will be constructed for irrigation sub-projects rehabilitated under RAJAMIIP or RWSRP.

Based on the above unit cost and conditions, cost for construction of WUA constructive facilities was estimated as shown in the following table:

Table A 2.3.1 Estimated Cost for Construction of WUA Constructive Facilities

No.	Description	Estimated number of target WUA *	Unit Cost (INR / nos.)	Price escalation (% / year)	Cost (INR)
		(a)	(b)	(c)	(d) = (a) x (b) x (1+c)
1.	Construction of WUA Constructive Facilities	345	494,000	5.88	180,451,000

Note*: target WUA means WUA in the sub-project not rehabilitated under RAJAMIIP or RWSRP

Source: JICA survey team

2.4 Cost for construction of women friendly facilities and planting of women friendly trees

Costs for construction of women friendly facilities and planting of women friendly trees were estimated based on the following assumptions:

- Women friendly facilities: 1% of estimated cost for rehabilitation of canal system
- Women friendly trees: INR 120 / tree, 1 tree / 3 m and 5 km / WUA
- Based on the above unit cost and conditions, cost for construction of WUA constructive facilities was estimated as shown in the following table:

Table A 2.4.1 Estimated Cost for Construction of Women Friendly Facilities

No.	Description	Cost for rehabilitation of canal system	Target %	Price escalation (% / year)	Cost (INR)
		(a)	(d)	(c)	(d) = (a) x (b) x (1+c)
1.	Construction of women friendly facilities	11,689.6	1.00	5.88	123,769,000

Source: JICA survey team

Table A 2.4.2 Estimated Cost for Planting of Women Friendly Trees

No.	Description	Number of WUA	Number of trees / WUA	Unit price (INR/tree)	Cost (INR)
		(a)	(d)	(c)	(d) = (a) x (b) x (1+c)
1.	Women friendly trees	398	1,667	120	79,600,000

Source: JICA survey team

3. Cost for SID Works for Preparation of DPRs, etc.

According to the final completion report of RAJAMIIP, total expenditure of SID works was around 1.05% of total expenditure of construction works. Considering the following changes in RWSLIP, the survey team estimated the cost for SID works as 1.50% of construction cost:

- Inclusion of medium scale irrigation scheme, and
- Preparation of technical estimates, tender documents and command area micro plans will be added to SID works.

Based on the above assumptions, the cost for SID works for preparation of DPRs, etc. was estimated as shown in the following table:

Table A 3.1 Estimated Cost for SID Works

No.	Description	Cost for total construction works	Target %	Cost (INR)
		(a)	(d)	(c) = (a) x (b)
1.	SID works for preparation of DPRs, etc.	12,732.8	1.50	210,334,000

Source: JICA survey team

4. Cost for Training to WRD Field Officers, Contractors and Farmers

Cost for training programs under Component 1: Participatory Irrigation Rehabilitation Works was estimated as follows:

Table 4.1 Estimated Cost for Training for Preparation and Review of DPRs

(INR)

No.	Description	Unit	Quantity	Unit Price	Cost
1	Printing of training materials (guideline and check list)	persons	250	100	25,000
2	Venue	day	1	8,000	8,000
3	Tea and snacks	persons	250	100	25,000
4	Lunch	persons	250	500	125,000
5	Stationery (Note, pen, file)	persons	250	200	50,000
6	Total (1 – 5)				233,000

Note: Target trainees = (30 persons x 5 sub-PMUs for stage 1 and follow up with 10 persons x 5 sub-PMUs for stage 2 and 3)

Source: JICA survey team

Table 4.2 Estimated Cost for Training for Construction Supervision and Contract Management

(INR)

No.	Description	Unit	Quantity	Unit Price	Cost
1	Printing of training materials (guidelines)	persons	550	100	55,000
2	Venue	day	3	8,000	24,000
3	Tea and snacks	persons	550	100	55,000
4	Lunch	persons	550	500	275,000
5	Stationery (Note, pen, file)	persons	550	200	110,000
6	Total (1 – 5)				519,000

Note: Target trainees = (50 persons x 5 sub-PMUs for stage 1 and follow up with 30 persons x 5 sub-PMUs for stage 2 and 3)

Source: JICA survey team

Table 4.3 Estimated Cost for Training for Operation and Maintenance

(INR)

No.	Description	Unit	Quantity	Unit Price	Cost
1	Printing of training materials (guidelines)	persons	328	100	32,800
2	Tea and snacks	persons	328	100	32,800
3	Lunch	persons	328	500	164,000
4	Stationery (Note, pen, file)	persons	328	200	65,600
5	Total (1 – 4)				295,200

Note: Target trainees = (4 government officers x 82 candidate irrigation sub-projects)

Source: JICA survey team

Table 4.4 Estimated Cost for Awareness Program for Farmers for Promotion of Micro Irrigation System

(INR)

No.	Description	Unit	Quantity	Unit Price	Cost
1	Printing of training materials (guidelines)	persons	3,980	10	39,800
2	Tea and snacks	persons	3,980	30	119,400
3	Lunch	persons	3,980	120	477,600
4	Total (1 – 3)				636,800

Note: Target trainees = (6 WUA members + 2 NGO staff + 2 WRD field officers x 398 WUAs)
Source: JICA survey team

Table 4.5 Estimated Cost for Operation and Maintenance for Micro Irrigation System

(INR)

No.	Description	Unit	Quantity	Unit Price	Cost
1	Printing of training materials (guidelines)	persons	4,967	50	248,370
2	Tea and snacks	persons	4,967	30	149,022
3	Lunch	persons	4,967	120	596,089
4	Total (1 – 3)				993,482

Note: Target trainees = all target farmers and farmers groups = 361,266ha / 4ha/farmer x (5% for sprinkler +0.5% for drip)
Source: JICA survey team

Table Att.7.2.2 Breakdown of Cost Estimate for Civil Works and SID Works (Sub-project Basis)

Conditions and unit prices applied for cost estimate

1 Exclusion of administrative and other costs from dam and canal cost	18.11 %	6 Unit cost for individual farmer based drip irrigation	\$2,010 /ha	11 Unit cost for women friendly tree	120.00 INR/ha
2 Exclusion of cost for other sub-component from canal cost	2.48 %	7 Target % in CCA for community based sprinkler irrigation	5.00 %	12 Target length of women friendly tree	5.00 km
3 Price escalation for dam and canal cost (2015 => 2016)	5.88 %	8 Target % in CCA for individual farmer based drip irrigation	0.50 %	13 Interval of trees	3.00 m / tree
4 Unit cost for community based sprinkler irrigation (perennial)	38,662.00 /ha	9 Unit cost for construction of WUA constructive facilities	494,000 /nos	14 % in total cost for SID works	1.50 %
5 Unit cost for community based sprinkler irrigation (intermittent)	49,731.00 /ha	10 Proposed % in canal cost for women friendly facilities	1.00 %		

S.No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Major Irr	Estimated number of WUA	Rehabilitated under RWSRP or RAJAMP	Stage	Estimated Cost in Long List			Deduction for adm. and other cost			Deduction for other subcomponent cost			Price escalation			Revised cost for dam and canal			Cost for Micro Irrigation System				WUA facility	Women friendly activities			Total Civil Works	Cost for SID works	Grand Total
											Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	CBS1	CBS P	DI		Total	WWF	WWT			
3	Nahar Sagar Piplaj	no	Jaipur	Ajmer	Minor	964	-	1	no	2	57.8	17.3	40.5	10.5	3.1	7.3	1.0	0.0	1.0	2.7	0.8	1.9	49.1	15.0	34.1	2.79	2.40	0.00	0.40	0.52	0.6	0.4	0.2	52.93	0.79	53.72
43	Mashi	no	Jaipur	Tonk	Medium	6985	-	2	RWSRP	2	420.0	126.0	294.0	76.1	22.8	53.2	7.3	0.0	7.3	19.8	6.1	13.7	356.4	109.2	247.2	20.23	17.37	0.00	2.86	0.00	4.0	2.6	1.4	380.69	5.71	386.40
77	Renovation of posar minor (GMC)	no	Jaipur	Bharatpur	Minor	431	MI	1	no	3	35.0	0.0	35.0	6.3	0.0	6.3	0.9	0.0	0.9	1.6	0.0	1.6	29.4	0.0	29.4	1.01	0.00	0.83	0.18	0.52	0.5	0.3	0.2	31.47	0.47	31.94
78	Renovation of Dhlawat minor (GMC)	no	Jaipur	Bharatpur	Medium	4,672	MI	5	no	3	297.0	0.0	297.0	53.8	0.0	53.8	7.4	0.0	7.4	13.9	0.0	13.9	249.7	0.0	249.7	10.95	0.00	9.03	1.92	2.62	3.6	2.6	1.0	266.92	4.00	270.93
83	Rajpur Patan	no	Jaipur	Sikar	Medium	2,207	-	3	no	3	132.4	46.4	86.0	24.0	8.4	15.6	2.1	0.0	2.1	6.2	2.2	4.0	112.5	40.2	72.3	6.39	5.49	0.00	0.90	1.57	1.4	0.8	0.6	121.87	1.83	123.69
100	Gahmhri	no	Udaipur	Chittorgarh	Medium	7,575	-	8	RWSRP	2	454.5	184.5	270.0	82.3	33.4	48.9	6.7	0.0	6.7	21.5	8.9	12.6	387.0	160.0	227.0	21.94	18.84	0.00	3.11	0.00	4.0	2.4	1.6	412.93	6.19	419.12
103	Bhupalsagar	no	Udaipur	Chittorgarh	Medium	3,874	-	4	no	3	232.4	93.4	139.0	42.1	16.9	25.2	3.4	0.0	3.4	11.0	4.5	6.5	197.9	81.0	116.9	11.22	9.63	0.00	1.59	2.09	2.0	1.2	0.8	213.20	3.20	216.40
130	Rehabilitation of Left Main Canal from R.D 0 km to 15 Km	no	Udaipur	Banswara	Medium	3,160	MI	6	no	3	189.6	0.0	189.6	34.3	0.0	34.3	4.7	0.0	4.7	8.9	0.0	8.9	159.4	0.0	159.4	7.40	0.00	6.11	1.30	2.09	2.5	1.7	0.8	171.40	2.57	173.97
133	Rehabilitation of Banka Distributory offtaking from Left Main Canal from R.D 0 km to Tail	no	Udaipur	Banswara	Medium	4,776	MI	5	no	3	286.6	0.0	286.6	51.9	0.0	51.9	7.1	0.0	7.1	13.4	0.0	13.4	240.9	0.0	240.9	11.19	0.00	9.25	1.96	2.62	3.6	2.6	1.0	258.29	3.87	262.17
135	Rehabilitation of Chinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)	no	Udaipur	Banswara	Medium	5,267	MI	6	no	3	316.0	0.0	316.0	57.2	0.0	57.2	7.8	0.0	7.8	14.8	0.0	14.8	265.7	0.0	265.7	12.34	0.00	10.18	2.16	3.14	4.0	2.8	1.2	285.20	4.28	289.48
138	Baniwas	no	Jodhpur	Pali	Minor	1,470	-	2	no	3	88.2	35.3	52.9	16.0	6.4	9.6	1.3	0.0	1.3	4.2	1.7	2.5	75.1	30.6	44.5	4.26	3.66	0.00	0.60	1.05	0.9	0.5	0.4	81.26	1.22	82.48
142	Ka Sagar	no	Jodhpur	Sirohi	Minor	393	-	2	no	2	24.0	9.4	14.4	4.3	1.7	2.6	0.4	0.0	0.4	1.1	0.5	0.7	20.4	8.3	12.1	1.14	0.98	0.00	0.16	0.52	0.3	0.1	0.2	22.42	0.34	22.74
148	Ummed Sagar Medium Irrigation Project	no	Kota	Btann	Medium	2,968	-	3	RWSRP	3	178.0	71.2	106.8	32.2	12.9	19.3	2.6	0.0	2.6	8.4	3.4	5.0	151.5	61.7	89.8	8.60	7.38	0.00	1.22	0.00	1.6	1.0	0.6	161.68	2.43	164.10
156	Rehabilitation of Sarkanya distributory and Dhaturia distributory of RMC and their minors	no	Kota	Baran	Minor	1,615	MI	2	no	2	97.0	0.0	97.0	17.6	0.0	17.6	2.4	0.0	2.4	4.5	0.0	4.5	81.6	0.0	81.6	3.78	0.00	3.12	0.66	1.05	1.3	0.9	0.4	87.65	1.31	88.97
157	Rehabilitation of Direct off taking Minors of RMC in between KM 57.50 to 103.50KM	no	Kota	Baran	Medium	6,606	MI	7	no	2	396.0	0.0	396.0	71.7	0.0	71.7	9.8	0.0	9.8	18.5	0.0	18.5	333.0	0.0	333.0	15.48	0.00	12.77	2.71	3.66	4.9	3.5	1.4	357.02	5.36	362.37
158	Rehabilitation of Kishanganji distributory and its minors	no	Kota	Kota	Medium	6,726	MI	7	no	2	404.0	0.0	404.0	72.2	0.0	72.2	10.0	0.0	10.0	18.9	0.0	18.9	339.7	0.0	339.7	15.76	0.00	13.00	2.76	3.66	5.0	3.6	1.4	364.10	5.46	369.56
161	Rehabilitation of Manuda Dapalpara distributory and its minors	no	Kota	Bundi	Medium	2,393	MI	3	no	2	144.0	0.0	144.0	26.1	0.0	26.1	3.6	0.0	3.6	6.7	0.0	6.7	121.1	0.0	121.1	5.61	0.00	4.63	0.98	1.57	1.9	1.3	0.6	130.13	1.95	132.08
162	Rehabilitation of Okarpara distributory and its minors	no	Kota	Bundi	Medium	2,357	MI	3	no	2	141.0	0.0	141.0	25.5	0.0	25.5	3.5	0.0	3.5	6.6	0.0	6.6	118.6	0.0	118.6	5.52	0.00	4.56	0.97	1.57	1.9	1.3	0.6	127.50	1.91	129.41
163	Rehabilitation of Patana distributory and its minors	no	Kota	Bundi	Medium	5,822	MI	6	no	2	350.0	0.0	350.0	63.4	0.0	63.4	8.7	0.0	8.7	16.3	0.0	16.3	294.3	0.0	294.3	13.64	0.00	11.25	2.39	3.14	4.3	3.1	1.2	315.37	4.73	320.10
164	Rehabilitation of Anapura distributory and its minors	no	Kota	Bundi	Medium	5,953	MI	6	no	3	357.0	0.0	357.0	64.7	0.0	64.7	8.9	0.0	8.9	16.7	0.0	16.7	300.2	0.0	300.2	13.95	0.00	11.51	2.44	3.14	4.4	3.2	1.2	321.63	4.82	326.45
165	Rehabilitation of Makheeda distributory and its minors	no	Kota	Bundi	Medium	3,000	MI	3	no	3	180.0	0.0	180.0	32.6	0.0	32.6	4.5	0.0	4.5	8.4	0.0	8.4	151.3	0.0	151.3	7.03	0.00	5.80	1.23	1.57	2.2	1.6	0.6	162.14	2.43	164.58
169	Rehabilitation of Laban distributory and its minors	no	Kota	Bundi	Medium	3,198	MI	4	no	3	192.0	0.0	192.0	34.8	0.0	34.8	4.8	0.0	4.8	9.0	0.0	9.0	161.4	0.0	161.4	7.49	0.00	6.18	1.31	2.09	2.5	1.7	0.8	173.53	2.60	176.13
172	Rehabilitation of CG Distributory system under RWSLIP	no	North	Ganganagar	Medium	4,416	MI	5	no	2	53.4	0.0	53.4	9.7	0.0	9.7	1.3	0.0	1.3	2.5	0.0	2.5	44.9	0.0	44.9	10.35	0.00	8.54	1.81	2.62	1.5	0.5	1.0	59.32	0.89	60.20
174	Rehabilitation of F- Branch system under RWSLIP	no	North	Ganganagar	Medium	2,584	MI	3	no	3	31.9	0.0	31.9	5.8	0.0	5.8	0.8	0.0	0.8	1.5	0.0	1.5	26.8	0.0	26.8	6.05	0.00	5.00	1.06	1.57	0.9	0.3	0.4	35.33	0.53	35.86
175	Rehabilitation of R Distributory system under RWSLIP	no	North	Ganganagar	Medium	2,895	MI	3	no	3	30.4	0.0	30.4	5.5	0.0	5.5	0.8	0.0	0.8	1.4	0.0	1.4	25.5	0.0	25.5	6.78	0.00	5.60	1.19	1.57	0.9	0.3	0.6	34.75	0.52	35.27
176	Rehabilitation of H Distributory system under RWSLIP	no	North	Ganganagar	Medium	7,500	MI	8	no	3	47.3	0.0	47.3	8.6	0.0	8.6	1.2	0.0	1.2	2.2	0.0	2.2	39.7	0.0	39.7	17.57	0.00	14.50	3.08	4.18	2.0	0.4	1.6	63.53	0.95	64.48
177	Rehabilitation of Y Minor system under RWSLIP	no	North	Ganganagar	Medium	4,416	MI	5	no	2	42.2	0.0	42.2	7.7	0.0	7.7	1.0	0.0	1.0	2.0	0.0	2.0	35.5	0.0	35.5	10.35	0.00	8.54	1.81	2.62	1.4	0.4	1.0	49.86	0.75	50.60
178	Rehabilitation of Karniji Distry and its system	DPR001	North	Ganganagar	Medium	9,058	MI	10	no	1	170.0	0.0	170.0	30.8	0.0	30.8	4.2	0.0	4.2	7.9	0.0	7.9	142.9	0.0	142.9	21.22	0.00	17.51	3.71	5.23	3.5	1.5	2.0	172.87	2.59	175.46
179	Rehabilitation of H.H. Distry from RD 0 to 35.845	DPR002	North	Ganganagar	Medium	5,494	MI	6	no	1	59.7	0.0	59.7	10.8	0.0	10.8	1.5	0.0	1.5	2.8	0.0	2.8	50.2	0.0	50.2	12.87	0.00	10.62	2.25	3.14	1.7	0.5	1.2	67.95	1.02	68.96
180	Rehabilitation of LNP Distry and its system	DPR003	North	Ganganagar	Medium	2,653	MI	3	no	1	46.2	0.0	46.2	8.4	0.0	8.4	1.1	0.0	1.1	2.2	0.0	2.2	38.8	0.0	38.8	6.17	0.00	5.09	1.08	1.57	1.0	0.4	0.6	47.59	0.71	48.31
181	Rehabilitation of PS Distry and its system	DPR004	North	Ganganagar	Medium	9,834	MI	10	no	1	37.7	0.0	37.7	6.8	0.0	6.8	0.9	0.0	0.9	1.8	0.0	1.8	31.7	0.0	31.7	23.04	0.00	19.01	4.03	5.23	2.3	0.3	2.			

Table Att.7.2.2 Breakdown of Cost Estimate for Civil Works and SID Works (Sub-project Basis)

Conditions and unit prices applied for cost estimate

1 Exclusion of administrative and other costs from dam and canal cost	18.11 %	6 Unit cost for individual farmer based drip irrigation	₹2,010 /ha	11 Unit cost for women friendly tree	120.00 INR/ha
2 Exclusion of cost for other sub-component from canal cost	2.48 %	7 Target % in CCA for community based sprinkler irrigation	5.00 %	12 Target length of women friendly tree	5.00 km
3 Price escalation for dam and canal cost (2015 => 2016)	5.88 %	8 Target % in CCA for individual farmer based drip irrigation	0.50 %	13 Interval of trees	3.00 m / tree
4 Unit cost for community based sprinkler irrigation (perennial)	38,662.00 /ha	9 Unit cost for construction of WUA constructive facilities	494,000 nos	14 % in total cost for SID works	1.50 %
5 Unit cost for community based sprinkler irrigation (intermittent)	49,731.00 /ha	10 Proposed % in canal cost for women friendly facilities	1.00 %		

S. No	Name of project	DPR	Zone	District / division	Category of scheme	CCA in ha	Major Irr	Estimated number of WUA	Rehabilitated under RWSRP or RAJAMIP	Stage	Estimated Cost in Long List			Deduction for adm. and other cost			Deduction for other subcomponent cost			Price escalation			Revised cost for dam and canal			Cost for Micro Irrigation System			WUA facility	Women friendly activities			Total Civil Works	Cost for SID works	Grand Total	
											Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	Dam	Canal	Total	CBS I	CBS P		DI	Total	WWF				WWT
											(INR mil.)																									
192	Rehabilitation of NTW km 0 to 8.36, BKW km 0 to 3.40, KNJ Mr. Km 0 to 2.04, DBL Mr. Km 0 to 1.86 & SGM km 0 to 15.85 of Bhakra canal system	DPR015	North	Hanumangarh	Medium	9,906	MI	10	no	1	249.2	0.0	249.2	45.1	0.0	45.1	6.2	0.0	6.2	11.6	0.0	11.6	209.5	0.0	209.5	23.21	0.00	19.15	4.06	5.23	4.2	2.2	2.0	242.16	3.63	245.80
194	Rehabilitation of Bhagsagar Sub Mr. (BGSB) Minor from km 0 to 3.20 & KRW km 0 to 14.00 & Sadulshahar Sub Mr. Km 0 to 2.26 of Bhakra canal system	DPR017	North	Hanumangarh	Medium	4,568	KR	5	no	1	188.1	0.0	188.1	34.1	0.0	34.1	4.7	0.0	4.7	8.8	0.0	8.8	158.2	0.0	158.2	10.70	0.00	8.83	1.87	2.62	2.7	1.7	1.0	174.17	2.61	176.78
195	Rehabilitation of Sabana Distributary from Km 0 to 17.777 & Nagana distributry 0.00 to 6.614 of Bhakra canal system	DPR018	North	Hanumangarh	Medium	6,524	MI	7	no	1	180.7	0.0	180.7	32.7	0.0	32.7	4.5	0.0	4.5	8.4	0.0	8.4	152.0	0.0	152.0	15.29	0.00	12.61	2.68	3.66	3.0	1.6	1.4	173.91	2.61	176.52
196	Rehabilitation of of Maankar Distributary from Km 0 to 14.264 & Daulatpura Minor 0.00 to 7.103 of Bhakra canal system	DPR019	North	Hanumangarh	Medium	7,050	MI	8	no	1	179.9	0.0	179.9	32.6	0.0	32.6	4.5	0.0	4.5	8.4	0.0	8.4	151.2	0.0	151.2	16.52	0.00	13.63	2.89	4.18	3.2	1.6	1.6	175.12	2.63	177.75
197	Rehabilitation of Hanumangarh Distributary from km 0 to 20.269 (Tail) of Bhakra canal system	DPR046	North	Hanumangarh	Medium	8,616	MI	9	no	1	228.5	0.0	228.5	41.4	0.0	41.4	5.7	0.0	5.7	10.7	0.0	10.7	192.1	0.0	192.1	20.19	0.00	16.66	3.53	4.71	3.8	2.0	1.8	220.86	3.31	224.17
198	Rehabilitation of Mansarovar Irrigation Project	DPR020	Jaipur	Alwar	Minor	843	-	1	no	1	23.9	7.8	16.1	4.3	1.4	2.9	0.4	0.0	0.4	1.1	0.4	0.8	20.3	6.8	13.5	2.44	2.10	0.00	0.35	0.52	0.3	0.1	0.2	23.62	0.35	23.98
208	Rehabilitation of Canal System of Kailash Dam	DPR030	Jaipur	Kanuli	Medium	4,903	-	1	no	1	129.9	19.2	113.7	24.1	3.5	20.6	2.8	0.0	2.8	6.2	0.9	5.3	112.2	16.6	95.6	14.20	12.19	0.00	2.01	2.62	2.0	1.0	1.0	131.07	1.97	133.04
209	Rehabilitation of Dhesh Irrigation Project	DPR031	Jaipur	Sawai Madhopur	Medium	5,943	-	1	no	1	383.6	21.0	362.6	69.5	3.8	65.7	9.0	0.0	9.0	17.9	1.0	16.9	323.1	18.2	304.9	17.21	14.78	0.00	2.44	3.14	4.4	3.2	1.2	347.85	5.22	353.07
210	Rehabilitation of Surwal Irrigation Project	DPR032	Jaipur	Sawai Madhopur	Medium	5,280	-	2	no	2	157.2	18.3	138.9	28.5	3.3	25.1	3.4	0.0	3.4	7.4	0.9	6.5	132.7	15.9	116.7	15.30	13.13	0.00	2.17	0.00	2.4	1.2	1.2	150.38	2.26	152.64
214	Rehabilitation of West Banas Irrigation Project	DPR036	Jodhpur	Sirohi	Medium	7,952	-	1	no	1	171.6	13.2	148.9	31.1	4.1	27.0	3.7	0.0	3.7	8.0	1.1	7.0	144.9	19.7	125.2	23.03	19.77	0.00	3.26	0.00	2.9	1.3	1.6	170.81	2.56	173.38
216	Rehabilitation of Phulad Minor Irrigation Project	DPR038	Jodhpur	Pali	Minor	788	-	1	no	1	52.7	13.2	39.5	9.5	2.4	7.2	1.0	0.0	1.0	2.5	0.6	1.8	44.6	11.4	33.2	2.28	1.96	0.00	0.32	0.52	0.6	0.4	0.2	48.00	0.72	48.72
218	Rehabilitation of Dantiwara Minor Irrigation Project	DPR040	Jodhpur	Pali	Minor	806	-	1	no	1	9.4	5.1	4.3	1.7	0.9	0.8	0.1	0.0	0.1	0.4	0.2	0.2	8.0	4.4	3.7	2.34	2.01	0.00	0.33	0.52	0.2	0.0	0.2	11.13	0.17	11.30
219	Rehabilitation of Bankey Sagar Sawai Irrigation Project	DPR041	Jaipur	Almer	Minor	528	-	1	no	1	15.5	14.7	0.9	2.8	2.7	0.2	0.0	0.0	0.7	0.7	0.0	13.4	12.7	0.7	0.95	0.62	0.00	0.13	0.52	0.2	0.0	0.2	15.13	0.23	15.36	
221	Rehabilitation of Galvania Medium Irrigation Project	DPR043	Jaipur	Tonk	Medium	2,257	-	3	no	3	98.0	99.9	38.2	17.8	10.8	6.9	0.9	0.0	0.9	4.7	2.9	1.8	84.0	51.9	32.1	6.54	5.61	0.00	0.93	1.57	0.9	0.3	0.6	93.03	1.40	94.43
222	Rehabilitation of Ramnagar Ganwar Irrigation Project	DPR044	Jaipur	Tonk	Minor	466	-	1	no	1	28.5	13.6	14.9	5.2	2.5	2.7	0.4	0.0	0.4	1.3	0.7	0.7	24.3	11.8	12.5	1.35	1.16	0.00	0.19	0.52	0.3	0.1	0.2	26.48	0.40	26.88
223	Rehabilitation of Abhaypura Binlat Medium Irrigation project	DPR045	Kota	Bundi	Medium	3,402	-	4	no	4	228.5	125.3	103.2	41.4	22.7	18.7	2.6	0.0	2.6	10.9	6.0	4.8	195.4	108.7	86.8	9.85	8.46	0.00	1.39	0.00	1.7	0.9	0.8	206.98	3.10	210.09
224	Rehabilitation of Burdha Medium Irrigation project	DPR047	Kota	Bundi	Medium	4,275	-	1	no	1	109.3	0.0	109.3	19.8	0.0	19.8	2.7	0.0	2.7	5.1	0.0	5.1	91.9	0.0	91.9	12.38	10.63	0.00	1.75	0.00	2.0	1.0	1.0	106.25	1.59	107.83
229	Renovation of Kothari Medium Irrigation Project	DPR052	Udaipur	Bhilwara	Medium	4,362	-	5	no	1	54.7	23.1	31.6	9.9	4.2	5.7	0.8	0.0	0.8	2.6	1.1	1.5	46.6	20.0	26.6	12.63	10.85	0.00	1.79	2.62	1.3	0.3	1.0	63.13	0.95	64.07
230	Rehabilitation of Shakrajgarh Minor Irrigation Project	DPR053	Udaipur	Bhilwara	Minor	829	-	1	no	1	30.4	10.7	19.7	5.5	1.9	3.6	0.5	0.0	0.5	1.4	0.5	0.9	25.8	9.3	16.5	2.40	2.06	0.00	0.34	0.52	0.4	0.2	0.2	29.14	0.44	29.58
232	Rehabilitation of Jaliya Minor	DPR055	Udaipur	Bhilwara	Minor	480	-	1	no	1	17.6	8.2	9.5	3.2	1.5	1.7	0.2	0.0	0.2	0.8	0.4	0.4	15.0	7.1	8.0	1.39	1.19	0.00	0.20	0.52	0.3	0.1	0.2	17.24	0.26	17.49
235	Rehabilitation of Udasagar Medium Irrigation Project	DPR058	Udaipur	Udaipur	Medium	5,110	-	2	no	2	728.1	165.6	562.5	131.9	30.0	101.9	14.0	0.0	14.0	34.2	8.0	26.3	616.6	143.6	473.0	14.80	12.71	0.00	2.10	3.14	6.2	5.0	1.2	640.71	9.61	650.32
236	Rehabilitation of Som Pick Up Weir Medium Irrigation Project	DPR059	Udaipur	Udaipur	Minor	969	-	1	no	1	129.4	16.1	113.3	23.4	2.9	20.5	2.8	0.0	2.8	6.1	0.8	5.3	109.2	13.9	95.2	2.81	2.41	0.00	0.40	0.52	1.2	1.0	0.2	113.72	1.71	115.43
239	Rehabilitation of Dundia Minor Irrigation Project	DPR062	Udaipur	Udaipur	Minor	389	-	1	no	1	24.5	8.7	15.8	4.4	1.6	2.9	0.4	0.0	0.4	1.2	0.4	0.7	20.9	7.5	13.3	1.13	0.97	0.00	0.16	0.52	0.3	0.1	0.2	22.84	0.34	23.19
240	Rehabilitation of Dorai Irrigation Project	DPR063	Udaipur	Chittorgarh	Minor	1,571	-	2	no	2	48.6	11.9	36.7	8.8	2.2	6.6	0.9	0.0	0.9	2.3	0.6	1.7	41.2	10.3	30.9	4.55	3.91	0.00	0.64	0.00	0.7	0.3	0.4	46.44	0.70	47.14
241	Rehabilitation of Somi Irrigation Project	DPR064	Udaipur	Chittorgarh	Minor	445	-	1	no	1	40.7	21.0	19.7	7.4	3.8	3.6	0.5	0.0	0.5	1.9	1.0	0.9	34.8	18.3	16.5	1.29	1.11	0.00	0.18	0.52	0.4	0.2	0.2	36.98	0.55	37.53
246	Rehabilitation of Parwan Irrigation Project	DPR068	Kota	Baran	Medium	7,464	-	8	no	8	135.9	14.1	121.8	24.6	2.6	22.1	3.0	0.0	3.0	6.4	0.7	5.7	114.6	12.2	102.4	21.62	18.56	0.00	3.06	4.18	2.7	1.1	1.6	143.12	2.15	145.27
247	Rehabilitation of Bilas Medium Irrigation project	DPR069	Kota	Baran	Medium	5,863	-	1	no	1	99.5	6.9	92.6	18.0	1.3	16.8	2.3	0.0	2.3	4.7	0.3	4.3	83.8	6.0	77.8	16.98	14.58	0.00	2.40	3.14	2.0	0.8	1.2	105.99	1.59	107.58
248	Rehabilitation of Ghansgang L/R Irrigation Scheme	DPR070	Kota	Baran	Medium	6,960	MI	7	no	1	93.8	0.0	93.8	17.0	0.0	17.0	2.3	0.0	2.3	4.4	0.0	4.4	78.9	0.0	78.9	16.31	0.00	13.45	2.85	3.66	2.2	0.8	1.4	101.07	1.52	102.59
249	Rehabilitation of Bansagar Medium Irrigation Project	DPR071	Kota	Jhalwar	Medium	9,986	-	10	no	10	650.5	0.0	650.5	117.8	0.0	117.8	16.1	0.0	16.1	30.4	0.0	30.4	546.9	0.0	546.9	28.93	24.83	0.00	4.09	0.00	7.8	5.8	2.0	583.61	8.75	592.37
250	Rehabilitation of Borda Minor Irrigation Project	DPR072	Kota	Jhalwar	Minor	414	-	1	no	1	23.9	7.4	16.4	4.3	1.3	3.0	0.4	0.0	0.4	1.1	0.4	0.8	20.3	6.5	13.8	1.20	1.03	0.00	0.17	0.52	0.3	0.1	0.2	22.34	0.34	22.68
261	Rehabilitation of Chinch Distributry & its system from R.D. 7.765 Km to 15.00 Km	no	Udaipur	Banswara	Minor	1,070	MI	2	no	2	64.																									

Attachment 7.2.3
Cost Estimate for Component 2:
Fostering and Capacity Enhancement of
Water Users Organization

Attachment 7.2.3

Cost Estimate for Component 2: Fostering and Capacity Enhancement of Water Users Organization

1. Cost for Component 2: Fostering and Capacity Enhancement of Water Users Organization

Overall cost for component 2: fostering and capacity enhancement of water users organization is summarized in the following tables and details are described in the following sections:

Table A 1.1 Summary of Estimated Cost for Component 2: Fostering and Capacity Enhancement of Water Users Organization (Sub-component Basis)

No.	Item	Total Cost (INR)
1.	Sub-component 1: Establishment of WUA Support Mechanism	12,046,472
1.1	Training Materials on Water Management and WUA Management	369,000
1.2	Develop leaflet on the project concept and activities	4,130,000
2.1	TOT on water management and WUA support for TSG-SP and NGO staff	4,586,400
2.2	Training on water management for NGO staff (Community Motivator)	1,354,232
3.1	Planning workshop for TSG-SP and NGO staff (Sector Expert, Community Motivator)	205,000
3.2	Organize Sub-PMU meeting	162,000
3.3	Organize TSG-SP meeting	1,239,840
3.4	Monitoring/ mentoring of implementation of the activities in Sub-project level	0
2.	Sub-component 2 : Capacity Building of WUA Management	30,923,828
1.1	Preparing and conducting WUA meeting to form Pre-WUA	0
1.2	Orientation for villagers in SP area	0
1.3	General meeting of users (husband and wife) in SP area	0
1.4	Orientation for Territorial Constituencies	0
1.5	Election of President and Managing Committee (MC) of WUA	0
2.1	Training on water management for WUA/MC and WW members	6,660,372
2.2	Orientation on organization management for WUA/MC members + WW main member	1,671,600
2.3	Training on record keeping for WUA/MC members + WW main member	1,671,000
2.4	WUA/MC monthly meeting cum training	0
2.5	Territorial constituency monthly meeting cum training	0
2.6	Annual MCs' meeting	6,453,360
2.7	Stage-wise WUA review meeting	972,240
2.8	Follow-up training on water management and organizational management	13,494,656
3.1	Support MC members to participate in Walk-through survey	0
3.2	Support MC members to participate in weekly progress meeting in monthly basis	0
3.3	General Meeting of WUA	0
3.	Sub-component 3 : Improvement of Agriculture Linkage	2,665,000
1.1	Monthly coordination meeting on agricultural activities	0
1.2	Invite Agriculture supervisor (DoA) to MC/TC monthly meeting	0
1.3	Coordinate with existing Farmers Organization	0
2.1	Establish agriculture demonstration plot	0
2.2	Training on agricultural technology	2,665,000
4.	Sub-component 1-4 : Corpus Fund for WUAs	79,600,000
1.1	Provide Corpus fund to WUAs	79,600,000
1.2	Monitoring corpus fund management	0
	Total (1. - 4.)	125,235,300

Source: JICA survey team

2. Breakdown of Estimated Cost for Sub-component

2.1 Cost for Establishment of WUA Support Mechanism

The following Tables show breakdown cost for each activities under sub-component 1.

2.1.1 Training Materials on Water Management and WUA Management

Table A 2.1. 1 Breakdown of Estimated Costs for Training Materials on Water Management and WUA Management

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Printing (Training materials for staff)	Copy	1,300	100	130,000	Breakdown on quantity is given below
Printing (Training materials for WUA/MC and WW members)	Copy	2,390	100	239,000	3 members each from WUA/MC and WW
Total				369,000	

Source: JICA survey team

Table A 2.1. 2 Breakdown of Quantity for Training Materials for Staff

		1 st stage	2 nd stage	3 rd stage	Remarks
Consultant					
GO	PMU	20	20	20	WRD, DoA, DoH, WCD and other line agencies In total 20 people
	Sub-PMU	50	50	50	10 people per Sub-PMU (WRD, DoA, DoH, WCD, etc.) 10 x 5 Sub-PMU = 50
	TSG-SP	238	168	168	7 people per TSG-SP (WRD, DoA, DoH, WCD, etc.) 7 x number of Sub-project Number of Sub-project: 1 st 34, 2 nd 24, 3 rd 24
NGO	Management	10	10	10	2 people per NGO x 5 NGOs = 10
	Team Leader	5	5	5	1 Team Leader per NGO x 5 NGOs = 5
	Sector Expert	25	24	19	2 -5 Sector Expert per NGO (based on number of WUA)
	Community Motivator	150	143	105	1 Community Motivator per WUA Estimated number of WUA: 1 st 150, 2 nd 143, 3 rd 105
Total		498	420	377	
Roundup		500	420	380	Grand Total : 1,300

Source: JICA survey team

2.1.2 Develop leaflet on the project concept and activities

Table A 2.1. 3 Breakdown of Estimated Costs for Develop leaflet on the Project concept and activities

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Printing (Leaflet on the Project concept and activities)	Copy	41,300	100	4,130,000	For Sub-PMU and WUA Breakdown of quantity is given below
Total				4,130,000	

Source: JICA survey team

Table A 2.1. 4 Breakdown of Quantity for Leaflet on the Project concept and activities

	1 st stage	2 nd stage	3 rd stage	Remarks
Sub-PMU	500	500	500	100 copy each for Sub-PMU 100 x 5 = 500 per stage
WUA	15,000	14,300	10,500	100 copy each for WUA 100 x number of WUA per stage Estimated number of WUA: 1 st 150, 2 nd 143, 3 rd 105
Total	15,500	14,800	11,000	Ground total: 41,300

Source: JICA survey team

2.1.3 TOT on Water Management and WUA Support for TSG-SP and NGO Staff

ToT is conducted in each stage in IMTI for 3 days per training for TSG-SP and NGO staff. Capacity of IMTI for training is 50 participants.

Table A 2.1. 5 Breakdown of Estimated Costs for TOT on Water Management and WUA Support for TSG-SP and NGO Staff

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Course material	IMTI	kit	52	550	28,600	Participants(50) + sponsor agency (2) = 52
Lodging for participants in Hostel No. 01	IMTI	person/day	150	150	22,500	50 people x 3 days = 150
Boarding for participants	IMTI	person/day	150	270	40,500	50 people x 3 days = 150
Mess hall for boarding (3days)	IMTI	day	3	2,000	6,000	
Local transportation (IMTI to railway station) & photography etc.	IMTI	lump-sum	1	3,000	3,000	
Bus charge for field visit	IMTI	day	1	4,000	4,000	1 day
Honorarium & travel charges for lecturers	IMTI	lump-sum	1	6,500	6,500	
Rent charges for class rooms	IMTI	day	2	8,000	16,000	2day: Out of 3 day-training, 1 day go to field visit
Charges for IMTI faculty for organizing training	IMTI	each	3	2,500	7,500	3 each
Charges for IMTI staff for organizing training	IMTI	each	3	1,500	4,500	3 each
Misc. & unforeseen items	IMTI	lump-sum	1	2,000	2,000	
Add 20 % secretarial & overhead charges	IMTI	lump-sum	1	20%	28,220	For total cost for IMTI
Honorarium & travel charges for lecturers	Other	lump-sum	4	15,000	60,000	
Sub-total = Unit cost per training		times			229,320	
set cost per training (in IMTI, 3 days, 50 participants)		times	20	229,320	4,586,400	Number of ToT: 1 st 7, 2 nd 7, 3 rd 6 Breakdown on quantity is given below
Total					4,130,000	

Source: JICA survey team

The training is conducted Sub-PMU wise and 50 participants per training, thus number of participants is calculated in each Sub-PMU and it is divided by 50 for number of the training.

Table A 2.1. 6 Breakdown of Quantity for Number of ToT

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1st stage							
GO	TSG-SP	42	42	70	49	35	7 people per TSG-SP (WRD, DoA, DoH, WCD, etc.) 7 x number of Sub-project (34)
NGO	Team Leader	1	1	1	1	1	1 Team Leader per NGO(Sub-PMU)
	Sector Expert	5	5	5	5	5	Number of Sector Expert is based on number of WUA
Sub Total		48	48	76	55	41	
Number of ToT		1	1	2	2	1	= (Total number of participants in Sub-PMU)/ 50 Stage total: 7 times
2nd stage							
GO	TSG-SP	21	49	49	21	28	7 people per TSG-SP (WRD, DoA, DoH, WCD, etc.) 7 x number of Sub-project (24)
NGO	Team Leader	1	1	1	1	1	1 Team Leader per NGO(Sub-PMU)
	Sector Expert	4	5	5	5	5	Number of Sector Expert is based on number of WUA
Sub Total		26	55	55	27	34	
Number of ToT		1	2	2	1	1	= (Total number of participants in Sub-PMU)/ 50 Stage total: 7 times
3rd stage							
GO	TSG-SP	21	21	84	14	28	7 people per TSG-SP (WRD, DoA, DoH, WCD, etc.) 7 x number of Sub-project (24)
NGO	Team Leader	1	1	1	1	1	1 Team Leader per NGO(Sub-PMU)
	Sector Expert	3	4	5	2	5	Number of Sector Expert is based on number of WUA
Sub Total		25	26	90	17	34	
Number of ToT		1	1	2	1	1	= (Total number of participants in Sub-PMU)/ 50 Stage total: 6 times

Source: JICA survey team

2.1.4 Training on Water Management for NGO Staff (Community Motivator)

The training is conducted in each stage in KVK for 3 days per training for NGO Community Motivator. Capacity of KVK for training is 30 participants.

Table A 2.1. 7 Breakdown of Estimated Costs for Training on Water Management for NGO Staff (Community Motivator)

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Boarding and lodging charges for participants	KVK	person/day	90	250	22,500	30 people x 3 days = 90
Registration kit, Supply of literature and training Ad. Etc.	KVK	head	30	350	10,500	30 people for 1 st day = 30

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Honorarium to resource persons.	KVK	session	12	500	6,000	(4 session per day) x 3 days = 12
POL of field trip and T.A for participants	KVK	lump-sum	1	9,000	9,000	
Miscellaneous and supporting staff	KVK	lump-sum	1	2,000	2,000	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	5,556	For total cost for KVK
Baby-sitter (crèche)	Other	person/day	6	1000	6,000	2person /days x 3 days = 6
Sub-total = Unit cost per training		times			61,000	
set cost per training (in KVK, 3days, 30 participants)		times	22	61,556	1,354,232	Number of training: 1 st 8, 2 nd 8, 3 rd 6 Breakdown on quantity is given below
Total					1,354,232	

Source: JICA survey team

The training is conducted Sub-PMU wise and 30 participants per training, thus number of participants is calculated in each Sub-PMU and divided by 30 to calculate number of the training.

Table A 2.1. 8 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	Participants	17	31	22	41	39	= (Total number of participants in Sub-PMU)/ 30 Stage total: 8 times
	No. of Training	1	2	1	2	2	
2 nd stage	Participants	14	38	36	18	37	= (Total number of participants in Sub-PMU)/ 30 Stage total: 8 times
	No. of Training	1	2	2	1	2	
3 rd stage	Participants	9	16	44	6	30	= (Total number of participants in Sub-PMU)/ 30 Stage total: 6 times
	No. of Training	1	1	2	1	1	
Number of Training		3	5	5	4	5	Total No of training: 22 times

Source: JICA survey team

2.1.5 Planning workshop for TSG-SP and NGO Staff (Sector Expert, Community Motivator)

The workshop is conducted in Sub-project wise for 1 day. There are 12 participants expected: 7 staff from TSG-SP, 5 staff from NGO (Sector expert 1, Community Motivator 5 in average)

Table A 2.1. 9 Breakdown of Estimated Costs for Planning Workshop for TSG-SP and NGO Staff (Sector Expert, Community Motivator)

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	times	12	30	360	TSG-SP (7 person) + NGO staff (Sector expert and Community motivator, 5 person in average) = 12
Lunch	person/day	12	120	1,440	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	700	700	
Sub-total = Unit cost per training		times		2,500	

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Set cost per meeting	Sub-project	82	2,500	205,000	No of Sub-project: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				205,000	

Source: JICA survey team

2.1.6 Organize Sub-PMU Meeting

The Sub-PMU is conducted monthly basis for 9 years in 5 Sub-PMUs.

Table A 2.1. 10 Breakdown of Estimated Costs for Organize Sub-PMU Meeting

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	times	10	30	300	10 people per Sub-PMU (WRD, DoA, DoH, WCD, etc.)
Sub-total = Unit cost per training	times			300	
set cost per meeting	times	540	300	162,000	12 months x 5 Sub-PMU x 9 years = 540 times
Total				162,000	

Source: JICA survey team

2.1.7 Organize TSG-SP Meeting

The TSG-SP meeting is conducted monthly basis for 3 years per sub-project. There are 14 participants expected: 7 staff from TSG-SP and 7 staff from NGO (Team leader 1, Sector expert 1, Community Motivator 5 in average)

Table A 2.1. 11 Breakdown of Estimated Costs for Organize TSG-SP Meeting

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	times	14	30	420	14 people per TSG-SP: 7 staff from TSG-SP and 7 staff from NGO (Team leader 1, Sector expert 1, Community Motivator 5 in average)
Sub-total = Unit cost per training	times			420	
set cost per meeting	times	2,952	420	1,239,840	12 months x 82 sub-project x 3 years = 2,952 times No of Sub-project: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				1,239,840	

Source: JICA survey team

2.2 Cost for Establishment of Capacity Building of WUA Management

The following Tables show breakdown cost for each activities under sub-component 2.

2.2.1 Training for MC Members on Water Management in Sub-PMU

The training is conducted in each stage in KVK for 3 days per training for WUA/MC and WW members. 3 members from each WUA/MC and WW participate in the training. Capacity of KVK for training is 30 participants.

Table 2.2. 1. Breakdown of Estimated Costs for Training for MC Members on Water Management in Sub-PMU

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Boarding and lodging charges for participants	KVK	person/day	90	250	22,500	30 people x 3 days = 90
Registration kit, Supply of literature and training Ad. Etc.	KVK	head	30	350	10,500	30 people for 1 st day = 30
Honorarium to resource persons.	KVK	session	12	500	6,000	(4 session per day) x 3 days = 12
POL of field trip and T.A for participants	KVK	lump-sum	1	9,000	9,000	
Miscellaneous and supporting staff	KVK	lump-sum	1	2,000	2,000	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	5,556	For total cost for KVK
Baby-sitter (crèche)	Other	person/day	6	1000	6,000	2person /days x 3 days = 6
Transportation for participants	Other	person	30	500	15,000	To and fro 500 INR per person
Sub-total = Unit cost per training		times			76,000	
set cost per training (in KVK, 3days, 30 participants)						Number of training: 1 st 33, 2 nd 31, 3 rd 23 Breakdown on quantity is given below
		times	87	76,556	6,660,372	
Total					6,660,372	

Source: JICA survey team

The training is conducted Sub-PMU wise and 30 participants per training, thus number of participants is calculated in each Sub-PMU and divided by 30 to calculate number of the training.

Table 2.2. 2 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of WUA	17	31	22	41	39	= (Total number of participants in Sub-PMU)/ 30 Stage total: 33 times
	Participants (WUA x6)	102	186	132	246	234	
	No. of Training	4	7	5	9	8	
2 nd stage	No of WUA	14	38	36	18	37	= (Total number of participants in Sub-PMU)/ 30 Stage total: 31 times
	Participants	84	228	216	108	222	
	No. of Training	3	8	8	4	8	
3 rd stage	No of WUA	9	16	44	6	30	= (Total number of participants in Sub-PMU)/ 30 Stage total: 23 times
	Participants	54	96	264	36	180	
	No. of Training	2	4	9	2	6	
Number of Training		9	19	22	15	22	Total No of training: 87 times

Source: JICA survey team

2.2.2 Orientation for WUA Members Organization Management

The orientation is conducted in each stage in each WUA for 1 day for WUA/MC and WW members in total 10 participants.

Table 2.2. 3. Breakdown of Estimated Costs for Orientation for WUA Members Organization Management

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Venue	day	1	700	700	In WUA level
Tea and snacks	times	10	30	300	WUA/MC members (5-7) + WW main member (2-3) =10
Lunch	head	10	120	1,200	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	2,000	2,000	
Sub-total = Unit cost per training	times			4,200	
set cost per meeting	times	398	4,200	1,671,600	No of WUA: 1 st 150, 2 nd 143, 3 rd 105, in total 398
Total				1,671,600	

Source: JICA survey team

2.2.3 Training for Accountant of WUA on Record Keeping

The training is conducted in each stage in each WUA for 1 day for WUA/MC and WW members in total 10 participants.

Table 2.2. 4. Breakdown of Estimated Costs for Raining for Accountant of WUA on Record Keeping

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Venue	day	1	700	700	In WUA level
Tea and snacks	times	10	30	300	WUA/MC members (5-7) + WW main member (2-3) =10
Lunch	head	10	120	1,200	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	2,000	2,000	
Sub-total = Unit cost per training	times			4,200	
set cost per meeting	times	398	4,200	1,671,600	No of WUA: 1 st 150, 2 nd 143, 3 rd 105, in total 398
Total				1,671,600	

Source: JICA survey team

2.2.4 Annual MCs' Meeting in Sub-PMU

The meeting is conducted in twice in each stage in KVK for 2 days per meeting for WUA/MC and WW members. Since number of participants is too big, it needs to limit up to 150 participants for fruitful program.

Table 2.2. 5. Breakdown of Estimated Costs for Annual MCs' meeting in Sub-PMU

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	Other	person/day	300	30	9,000	150 participants x 2 days - 300
Lunch	Other	person/day	300	120	36,000	
Boarding and lodging charges for participants	KVK	head/day	300	250	75,000	
Mics. Exp (banner, stationery items, LCD, etc.)	KVK	lump-sum	1	700	700	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	13,412	For total cost for KVK
Rent for place	Other	day	2	1,000	2,000	
Baby-sitter (crèche)	Other	person/day	4	1,000	4,000	2person /days x 2 days = 4
Transportation for participants	Other	person/day	150	500	75,000	To and fro 500 INR per person
Sub-total = Unit cost per meeting		times			213,770	
set cost per training		person	30	215,112	6,453,360	Breakdown on quantity is given below 2 times per stage x 5 Sub-PMU x 3 stages = 30
Total					6,453,360	

Source: JICA survey team

The following participants are expected in the meeting. The budget is estimated of 150 participants, but it depends on the situation in the Sub-PMU.

Here is an example for Sub-PMU with 12 sub-projects and 44 WUA.

Table 2.2. 6. Sample Composition of Participants

Organization	Representative	Total
WUA	WUA/MC members	44
	WW members	up to 61
GO	Sub-PMU	5
	TSG-SP	12
NGO	Team Leader	1
	Sector expert	5
	Community Motivator	22
Total		150

Source: JICA survey team

2.2.5 Stage-wise WUA Review Meeting in IMTI

The meeting is conducted at the end of the stage in IMTI for 2 days per meeting for 185 participants, including 60 WUA/MC and WW members.

Table 2.2. 7. Breakdown of Estimated Costs for Stage-wise WUA Review Meeting in IMTI

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Lodging for participants in Hostel No. 01	IMTI	person/day	370	150	55,500	185 participants x 2 days = 370
Boarding for participants	IMTI	person/day	370	270	99,900	
Mess hall for boarding	IMTI	day	2	2,000	4,000	2days
Local transportation (IMTI to railway station) & photography etc.	IMTI	lump-sum	1	3,000	3,000	
Rent charges for class rooms	IMTI	day	2	8,000	16,000	
Charges for IMTI faculty for organizing training	IMTI	each	2	2,500	5,000	2 each
Charges for IMTI staff for organizing training	IMTI	each	2	1,500	3,000	2 each
Misc. & unforeseen items	IMTI	lump-sum	1	2,000	2,000	
Add 20 % secretarial & overhead charges	IMTI	lump-sum	1	20%	37,680	For total cost for IMTI
Baby-sitter (crèche)	Other	person/day	8	1,000	8,000	4person /days x 2 days = 8
transportation for participants	Other	head	60	1,500	90,000	WUA and WW member: 3 x 4 x 5=60)
Sub-total = Unit cost per meeting		times			324,080	
set cost per meeting		times	3	324,080	972,240	in IMTI, 2 days, 185 participants
Total					972,240	

Source: JICA survey team

The following table shows sample composition of the participants.

Table 2.2. 8. Sample Composition of Participants

Organization	Representative	Total
WUA	WUA/MC members	3
	WW members	3
GO	PMU	20
	Consultant	5
	Sub-PMU	5
	TSG-SP	2
NGO	Team Leader	1
	Sector expert	2
	Community Motivator	1
Total		185

Source: JICA survey team

2.2.6 Follow-up Training for MC Members on Water Management in IMTI

The follow-up training is conducted at the end of the stage in IMTI for 3 days Sub-PMU wise for WUA/MC and WW members. 3 members each from WUA/MC and WW participate in the training. Although capacity of IMTI for training is 50 participants, the training cost is estimated per 48 participants since 3 members each come from WUA and WW: 16 WUA and WW per training.

Table 2.2. 9. Breakdown of Estimated Costs for Follow-up training for MC Members on Water Management in IMTI

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Course material (participants 48 copies + sponsor agency 2 copies)	IMTI	kit	50	550	27,500	
Lodging for participants in Hostel No. 01	IMTI	person/day	144	150	21,600	
Boarding for participants	IMTI	person/day	144	270	38,880	
Mess hall for boarding (3days)	IMTI	day	3	2,000	6,000	
Local transportation (IMTI to railway station) & photography etc.	IMTI	lump-sum	1	3,000	3,000	
Bus charge for field visit	IMTI	day	1	4,000	4,000	1 day
Honorarium & travel charges for lecturers	IMTI	lump-sum	1	6,500	6,500	
Rent charges for class rooms	IMTI	day	2	8,000	16,000	2day: Out of 3 day-training, 1 day go to field visit
Charges for IMTI faculty for organizing training	IMTI	each	3	2,500	7,500	3 each
Charges for IMTI staff for organizing training	IMTI	each	3	1,500	4,500	3 each
Misc. & unforeseen items	IMTI	lump-sum	1	2,000	2,000	
Add 20 % secretarial & overhead charges	IMTI	lump-sum	1	20%	27,496	For total cost for IMTI
Baby-sitter (crèche)	Other	person/day	4	1,000	4,000	2person /days x 2 days = 4
transportation for participants	Other	per person	48	1,500	72,000	To and fro per participants
Sub-total = Unit cost per training		times			240,976	
set cost per training (in IMTI, 3 days, 48 participants)		times	56	240,976	13,494,656	
Total					13,494,656	

Source: JICA survey team

The training is conducted Sub-PMU wise and 48 participants per training, thus number of participants is calculated in each Sub-PMU and divided by 48 to calculate number of the training.

Table 2.2. 10 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of WUA	17	31	22	41	39	= (Total number of participants in Sub-PMU)/ 48 Stage total: 21 times
	Participants (WUA x6)	102	186	132	246	234	
	No. of Training	3	4	3	6	5	
2 nd stage	No of WUA	14	38	36	18	37	= (Total number of participants in Sub-PMU)/ 48 Stage total: 20 times
	Participants	84	228	216	108	222	
	No. of Training	2	5	5	3	5	
3 rd stage	No of WUA	9	16	44	6	30	= (Total number of participants in Sub-PMU)/ 48 Stage total:15 times
	Participants	54	96	264	36	180	
	No. of Training	2	2	6	1	4	
Number of Training		7	11	14	10	14	Total No of training: 56 times

Source: JICA survey team

2.3 Cost for Establishment of Improvement of Agriculture Linkage

The following Tables show breakdown cost for each activities under sub-component 3.

2.3.1 Conduct Farmers Field Day in Demonstration Plot

The field day is conducted Sub-project level twice in a year, in total 5 times per Sub-project. It expects 30 participants in the field day.

Table 2.3. 1 Breakdown of Estimated Costs for Conduct Farmers Field Day in Demonstration Plot

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	times	30	30	900	30 participants
Lunch	head	30	120	3,600	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	2,000	2,000	
Sub-total = Unit cost per training	times			6,500	
set cost per meeting	times	410	6,500	2,665,000	(No of SP : 1 st 34, 2 nd 24, 3 rd 24) x 5 = 410,
Total				2,665,000	

Source: JICA survey team

2.4 Cost for Establishment of Corpus Fund for WUAs

The following Tables show breakdown cost for each activities under sub-component 4.

2.4.1 Providing Corpus Fund to WUAs

The corpus fund is provided to WUA at the timing of hand over.

Table 2.4.1 Breakdown of Estimated Costs for Providing Corpus Fund to WUAs

Particular	No of WUA	Unit Price (INR)	Amount (INR)	Remarks
1st stage	150	200,000	30,000,000	
2nd stage	143	200,000	28,600,000	
3rd stage	105	200,000	21,000,000	
Total	398	200,000	79,600,000	

Source: JICA survey team

Attachment 7.2.4
Cost Estimate for Component 3:
Irrigated Agriculture Intensification and
Diversification

Attachment 7.2.4 Cost Estimate for Irrigated Agriculture Intensification and Diversification

Irrigated Agriculture Intensification and Diversification						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
I Training of trainers						
I-1 State level Work shop						
Training fee	person/day	500	1,620	810,000	SIAM	5 years, 2 days, 50 persons
Digital refractometer (ATAGO PAL-1)	nos	1	18,500	18,500	ATAGO	
Sub-Total				828,500		
I-2 District level Work shop						
Training fee	person/day	2,500	1,620	4,050,000	SIAM	5 district, 5 years, 2 days, 5 persons
Hand-held refractometer (Erma Japan)	nos	25	2,000	50,000	Erma	
Sub-Total				4,100,000		
I-3 General Agricultural Techniques						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	ls	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	person/day	4	750	3,000	KVK	2 persons, 2 days
Cost for training (1 time)				51,600		
Total training cost	time	21	51,600	1,083,600		
Sub-Total				1,083,600		
I-4 Cereals, pulses and oilseeds cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	ls	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	person/day	4	750	3,000	KVK	2 persons, 2 days
Cost for training (1 time)				51,600		
Total training cost	time	20	51,600	1,032,000		
Black & white mulch for 21 KVKs for fruit demonstrationfarm (0.2ha)	nos	1	433,566	433,566	Estimated by JICA Survey Team	
Black & white mulch for 21 KVKs for vegetable demonstrationfarm (	nos	1	236,208	236,208	Estimated by JICA Survey Team	
Sub-Total				1,701,774		
I-5 Spices and medicinal plants cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	ls	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	person/day	4	750	3,000	KVK	2 persons, 2 days
Travel allowance and daily allowance for resource person	person/day	4	1,500	6,000	KVK	
Cost for training (1 time)				57,600		
Total training cost	time	9	57,600	518,400		
Sub-Total				518,400		
I-6 Kinnow and santra orange cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	nos	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	nos	4	750	3,000	KVK	2 persons, 2 days
Resource person from Punjab Agriculturr University	nos	1	5,000	5,000	KVK	
Travel allowance and daily allowance for resource person	nos	1	5,000	5,000	KVK	
Cost for training (1 time)				61,600		
Total training cost	time	13	61,600	800,800		
Sub-Total				800,800		
I-7 Exotic vegetable cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	nos	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	nos	4	750	3,000	KVK	2 persons, 2 days
Resource person from Punjab Agriculturr University	nos	1	5,000	5,000	KVK	
Travel allowance and daily allowance for resource person	nos	1	5,000	5,000	KVK	
Cost for training (1 time)				61,600		
Total training cost	nos	6	61,600	369,600		
Sub-Total				369,600		
I-8 Quality Improvement						
Boarding & lodging charge	person/day	60	270	16,200	KVK	30 persons, 2 days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportation for field trip and TA	nos	1	9,720	9,720	KVK	
Materials (registration kit, supply of literature and training aid)	nos	30	378	11,340	KVK	30 persons, 2 days
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	nos	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	nos	4	750	3,000	KVK	2 persons, 2 days
Cost for training (1 time)				51,600		
Total training cost	nos	20	51,600	1,032,000		
Sub-Total				1,032,000		
Total				10,434,674		

Irrigated Agriculture Intensification and Diversification						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
II Exposure Visit for Agriculture Trainers						
II-1 Exposure Visit for Agriculture Trainers						
Venue	nos	8	3,000	24,000	KVK	
Trainers	nos	8	1,000	8,000	KVK	
Materials	nos	30	378	11,340	KVK	
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Institutional charge	nos	1	5,056	5,056	KVK	
Travel cost for train	nos	32	1,250	40,000	KVK	
Travel cost for bus	nos	4	1,000	4,000	KVK	
Boarding & lodging charge	nos	90	800	72,000	KVK	
Boarding & lodging charge for facilitators	nos	6	1,500	9,000	KVK	
Facilitator	nos	4	1,500	6,000	KVK	
Cost for training (1 time)				181,556		
Total training cost	0	20	181,556	3,631,120		
Sub-Total				3,631,120		
Total				3,631,120		
III Improvement of Agriculture Support System						
III-1 Farmer's friendly Manuals						
Travel allowance	nos	100	100	10,000	KVK	10 persons x 10 times x INR100
Illustration for 10 manuals	nos	200	400	80,000	KVK	20 illustrations x 10 manuals x INR 400
Print of illustration for 82 sub-PMU	nos	16,400	100	1,640,000	KVK	82 Sub-PMUs x 200 illustrations x INR100/copy
Laminating machine	nos	1	6,000	6,000	KVK	Internet price/1 machine
Laminating sheet	nos	16,400	50	820,000	KVK	82 Sub-PMUs x 200 Laminating sheets x INR50/ct
Sub-Total				2,556,000		
III-2 Strengthening of information center						
Operator	MM	272	25,000	6,800,000	NGO	2nd year: 2 persons x 4 months, 3rd year: 2 persons x 12 months, 4th year: 3 persons x 12 months, 5th year: 4 persons x 12 months, 6th year: 5 persons x 12 months, 7th year: 5 persons x 12 months, 8th year: 3 persons x 12 months
Compilation of annual databook	MM	5	864,000	4,320,000	NGO	5 books x INR864,000, market price
Typist	MM	55	15,000	825,000	NGO	2nd year: 5 persons x 4 months, 4th year: 5 persons x 4 months, 5th year: 5 persons x 1 person, 2nd year: 2 months, 3rd-7th: 1 month x 5
IT consultant	MM	7	100,000	700,000	NGO	1 person x 2 months
Trainer of operator	MM	2	50,000	100,000	NGO	
Desk top computer	nos	1	50,000	50,000	NGO	1 machine@DoA
Laptop Computer	nos	6	25,000	150,000	NGO	1 machine@DoA, 1 machine x 5 Sub-PMUs
Power distribution unit	nos	1	50,000	50,000	NGO	1 unit@DoA
Data base SQL server	nos	1	250,000	250,000	NGO	1 machine@DoA
Software	nos	1	15,000	15,000	NGO	1 pack@DoA
Stationaries and paper	nos	6	10,000	60,000	NGO	1 lumpsome x 6 years
Connection parts	nos	1	100,000	100,000	NGO	1 lumpsome@DoA
SMS service trial	nos	2	100,000	200,000	NGO	for 100,000 persons x 2 times x INR 1
Stage I SMS service cost for 75,000 x 5 years	nos	60	75,000	4,500,000	NGO	for 75,000 persons x 12 months x 5 years
Stage II SMS service cost for 71,500 x 3.5 years	nos	42	71,500	3,003,000	NGO	for 71,500 persons x (6 months+12months x 3 years)
Stage III SMS service cost for 52,500 x 2 years	nos	24	52,500	1,260,000	NGO	for 52,500 persons x (12 months x 2 years)
Landline monthly payment (3 lines x 6,000 INR)	time	64	18,000	1,152,000	NGO	3 lines x INR 6,000(Basic monthly payment) x (4 months + 12 months x 5 years)
Reply Call service(100 callsx 20 days x 5 years x 5 INR)	person	60	10,000	600,000	NGO	100 calx x 20 days/month x 5 years x INR5
Sub-Total				24,135,000		
Total				26,691,000		
IV Agriculture Farmer's Training						
IV-1 General Agriculture Techniques						
Venue	hall	2	1,000	2,000	NGO	
Tea and snack	person/day	80	30	2,400	NGO	
Lunch	person/day	80	120	9,600	NGO	
Miscellaneous expwnces	person/day	2	700	1,400	NGO	Banner, stationary
Transportation for participants	person/day	80	100	8,000	NGO	
Cost for training (1 time)				23,400		
Total training cost	times	151	23,400	3,533,400		
Sub-Total				3,533,400		
IV-2 Cereals, pulses and oilseeds cultivation						
Venue	hall	2	1,000	2,000	NGO	
Tea and snack	person/day	80	30	2,400	NGO	
Lunch	person/day	80	120	9,600	NGO	
Miscellaneous expwnces	person/day	2	700	1,400	NGO	Banner, stationary
Transportation for participants	person/day	80	100	8,000	NGO	
Improved seed of flaxseed	nos	266	180	47,880	NGO	
Cost for training (1 time)				71,280		
Total training cost	times	140	71,280	9,979,200		
Sub-Total				9,979,200		
IV-3 Spices and medicinal plants cultivation						
Venue	hall	2	1,000	2,000	NGO	
Tea and snack	person/day	80	30	2,400	NGO	
Lunch	person/day	80	120	9,600	NGO	
Miscellaneous expwnces	person/day	2	700	1,400	NGO	Banner, stationary
Transportation for participants	person/day	80	100	8,000	NGO	
Improved seed of flaxseed	nos	320	180	57,600	NGO	
Cost for training (1 time)				81,000		
Total training cost	times	60	81,000	4,860,000		
Sub-Total				4,860,000		
IV-4 Kinnow and santra orange cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	40 persons, 2days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportationfor field trip	nos	1	9,720	9,720	KVK	
Materials	person	30	378	11,340	KVK	registration kit, supply of literature, training aid
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Istitutional charge	nos	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	person/day	4	1,500	6,000	KVK	2 persons, 2days
Black & white mulch	nos	1	206,460	206,460	Estimated by JICA Survet Team	
Cost for training (1 time)				261,060		
Total training cost	times	107	261,060	27,933,420		
Sub-Total				27,933,420		
IV-5 Exiotic Vegetable cultivation						
Boarding & lodging charge	person/day	60	270	16,200	KVK	40 persons, 2days
Resource person	person/day	8	540	4,320	KVK	4 persons, 2 days
Transportationfor field trip	nos	1	9,720	9,720	KVK	
Materials	person	30	378	11,340	KVK	registration kit, supply of literature, training aid
Miscellaneous and supporting staff	nos	1	2,160	2,160	KVK	
Istitutional charge	nos	1	4,860	4,860	KVK	
Facilitator boarding & lodging charge	person/day	4	1,500	6,000	KVK	
Seed sample of exotic vegetable	nos	30	700	21,000	KVK	
Black & white mulch	nos	1	112,480	112,480	Estimated by JICA Survet Team	
Cost for training (1 time)				188,080		
Total training cost	times	29	188,080	5,454,320		
Sub-Total				5,454,320		

Irrigated Agriculture Intensification and Diversification						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
IV-6 Quality Improvement						
Venue	hall	2	1,000	2,000	NGO	
Tea and snack	person/day	60	30	1,800	NGO	40 persons
Lunch	person/day	60	120	7,200	NGO	40 persons
Miscellaneous expncnes	person/day	2	700	1,400	NGO	Banner, stationary
Transportation for participants	person/day	60	100	6,000	NGO	40 persons
Cost for training (1 time)				18,400		
Total training cost	times	147	18,400	2,704,800		
Sub-Total				2,704,800		
IV-7 Marketing Survey to Advanced Area						
Venue	hall	2	1,000	2,000	NGO	
Boarding and lodging charge for participants	person/day	90	1,000	90,000	NGO	30 persons, 3days
Boarding and lodging charge for facilitator	person/day	9	1,500	13,500	NGO	3 persons, 3days
Resource person	person	8	540	4,320	NGO	
Transportation cost	nos	1	15,000	15,000	NGO	Bus
Miscellaneous anf stationaries	nos	1	700	700	NGO	
Cost for training (1 time)				125,520		
Total training cost		147	125,520	18,451,440		
Sub-Total			125,520	18,451,440		
Total				72,916,580		
V Agriculture Demonstration Farm						
V-1 Establishment of citrus demonstration farm						
Facilitator	person	6	500	3,000	KVK	1 person, 3 years, 2times/year
Venue	hall	0	0	0	KVK	
Trainers	person/day	21	540	11,340	KVK	7 persons, 3 year
Black & white mulch	nos	1	103,230	103,230	Estimated by JICA Survey Team	
Expansion of citrus farm with seedless kinnow or seedless orange	nos	864	400	345,600	KVK	
Fences for demonstration farm	nos	1	62,500	62,500	KVK	
Labour cost for digging and fencing	person/day	15	300	4,500	KVK	
Labour cost for setup of mulch sheet	person/day	42	300	12,600	KVK	
Labour cost for cultivation / harvesting	person/day	2,160	300	648,000	KVK	
Fertilizer	nos	3	96,918	290,754	Estimated by JICA Survey Team	
Insecticide & fungicide	nos	3	30,000	90,000	Estimated by JICA Survey Team	
Record bookkeeping	nos	3	300	900	KVK	
Cost for 1 site				1,572,424		
Hanumangar	site	1	1,572,424	1,572,424		
Sri Ganganagar	site	1	1,572,424	1,572,424		
Kota	site	1	1,572,424	1,572,424		
Jhalawar	site	1	1,572,424	1,572,424		
Sub-Total				6,289,696		
V-2 Establishment of exotic vegetable demonstration farm						
Facilitator	nos	6	500	3,000	KVK	1 person, 3 years, 2times/year
Venue	nos	0	0	0	KVK	
Trainers	nos	21	540	11,340	KVK	7 persons, 3 year
Shade net	nos	2,000	40	80,000	KVK	
Low tunnel	nos	20	9,540	190,800	KVK	
Black & white mulch	nos	1	11,248	11,248	Estimated by JICA Survey Team	
Fence	nos	1	12,500	12,500	KVK	
Labour for cultivation	nos	720	300	216,000	KVK	
Seed	nos	3	3,500	10,500	Estimated by JICA Survey Team	
Fertilizer	nos	3	19,384	58,152	Estimated by JICA Survey Team	
Insecticide & fungicide	nos	3	800	2,400	Estimated by JICA Survey Team	
Record bookkeeping	nos	3	300	900	KVK	
Cost for 1 site				596,840		
Jodhpur (Pali)	site	1	596,840	596,840		
Jaipur (Tonk)	site	1	596,840	596,840		
Ajmer	site	1	596,840	596,840		
Sawai Madhopur	site	1	596,840	596,840		
Alwar	site	1	596,840	596,840		
Chittorgarh	site	1	596,840	596,840		
Udaipur	site	1	596,840	596,840		
Sub-Total				4,177,880		
V-3 Mentoring of demonstration farm						
Facilitator	nos	36	500	18,000	NGO	1 person, 36 month
Venue	nos	0	0	0	NGO	
Trainers	nos	12	540	6,480	NGO	4 persons, 3 years
Cost for 1 farmer				24,480		
Cost for 11 farmer		11	24,480	269,280		
Sub-Total				269,280		
V-4 Monitoring of demonstration farm						
Facilitator	nos	6	500	3,000	NGO	1 person, 6 times
Venue	nos	0	0	0	NGO	
Trainers	nos	3	540	1,620	NGO	1 persons, 3 years
Cost for 1 farmer				4,620		
Cost for 11 farmer		11	4,620	50,820		
Sub-Total				50,820		
Total				10,787,676		
Grand Total				124,481,050		

Attachment 7.2.5
Cost Estimate for Component 4:
Agro-processing, Marketing and
Promotion of High-value Added
Agriculture Produces

Estimated cost for Component 4: Agro-processing, Marketing and Promotion of High-value Added Agricultural Produce

Table 1 summarizes total cost for Agro-processing, Marketing and Promotion of High-value Added Agricultural Produce.

Table 1 Summary of Cost for Agro-processing, Marketing and Promotion of High-value Added Agricultural Produce

No.	Sub-components	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	FIG formulation for cooperative activities	0.0	27.6	46.7	27.6
(2)	Connecting with large-size consumers (Matching meeting)	0.0	2.6	4.5	2.6
(3)	Connecting with small-size consumers (exotic vegetables)	0.0	6.4	10.8	6.4
(4)	Brand building for high-value added agricultural produce	0.0	80.9	136.7	80.9
Total		0.0	117.5	198.6	117.5

Prepared by JICA Survey Team

Table 2, 3, 4 and 5 show estimated cost for Sub-component 1-4, respectively. Breakdown of every unit price (Rs.) are explained in Attachment 7.2.6. Note that all the activity numbers in Table 2, 3, 4, and 5 correspond to unit price numbers in Attachment 7.2.6.

Table 2: Estimated cost for Sub-component 1

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
1 FIG formulation for cooperative activities				<u>27,635,550</u>	
1.1. Training of trainers (ToT) for FIG activities	time	3	23,000	<u>69,000</u>	Once/Stage, 3 training/Project = 1 training/Stage x 3 Stages/Project
1.2. Support for Cooperative demonstration groups				<u>615,500</u>	1 CDG/ sub-PMU, 5 CDG/project = 5 sub-PMU x 1CDG/sub-PMU
1.2.2. Guidance for demonstration group activities	time	5	7,250	36,250	10-20 members/CDG
1.2.3. Accessing loan	set	10	2,000	20,000	ditto
1.2.4. Group procurement of agricultural inputs	set	15	3,000	45,000	ditto
1.2.5. Repairing/maintenance of common farm properties	set	10	12,300	123,000	ditto
1.2.6. Collective marketing	set	15	15,250	228,750	ditto
1.2.7. Review and planning for coming seasons	time	20	7,000	140,000	ditto
1.2.8. Experience sharing with potential FIGs	time	25	900	22,500	-3 CDG members/time -5~10 times/Sub-PMU (5 times/other sites/Stage 1, 5 times/other sites/Stage 2, 5 times/AFP_MFP sites/Stage 2, 5 times/other sites/Stage 3, 5 times/AFP_MFP sites/Stage 3)
1.3. FIG formulation and activities in other sites				<u>19,802,950</u>	2 FIGs/ WUA in selected Sub-project
Stage 1 farmers					
1.3.2. Guidance for group activities	time	12	7,250	87,000	20 FIG leaders/time
1.3.3. Exposure visit to Cooperative demonstration groups	time	9	16,250	146,250	50 members from 25 FIGs/time
1.3.4. Accessing loan	set	225	2,000	450,000	10-20 members/FIG

Attachment 7.2.5
Estimated cost for Agro-processing, Marketing and Promotion of
High-value Added Agricultural Produce

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
1.3.5. Group procurement of agricultural inputs	set	225	3,000	675,000	ditto
1.3.6. Repairing/maintenance of common farm properties	set	225	12,300	2,767,500	ditto
1.3.7. Collective marketing	set	225	15,250	3,431,250	ditto
Stage 2 farmers					
1.3.2. Guidance for group activities	time	11	7,250	79,750	20 FIG leaders/time
1.3.3. Exposure visit to Cooperative demonstration groups	time	9	16,250	146,250	50 members from 25 FIGs/time
1.3.4. Accessing loan	set	208	2,000	416,000	10-20 members/FIG
1.3.5. Group procurement of agricultural inputs	set	208	3,000	624,000	ditto
1.3.6. Repairing/maintenance of common farm properties	set	208	12,300	2,558,400	ditto
1.3.7. Collective marketing	set	208	15,250	3,172,000	ditto
Stage 3 farmers					
1.3.2. Guidance for group activities	time	8	7,250	58,000	20 FIG leaders/time
1.3.3. Exposure visit to Cooperative demonstration groups	time	7	16,250	113,750	50 members from 25 FIGs/time
1.3.4. Accessing loan	set	156	2,000	312,000	10-20 members/FIG
1.3.5. Group procurement of agricultural inputs	set	156	3,000	468,000	ditto
1.3.6. Repairing/maintenance of common farm properties	set	156	12,300	1,918,800	ditto
1.3.7. Collective marketing	set	156	15,250	2,379,000	ditto
1.4. FIG formulation and activities in other sites (AFP/MFP sites)				<u>6,817,350</u>	
Stage 1 farmers					
1.4.2. Guidance for group activities	time	4	7,250	29,000	20 FIG leaders/time
1.4.3. Exposure visit to Cooperative demonstration groups	time	3	16,250	48,750	50 members from 25 FIGs/time
1.4.4. Accessing loan	set	70	2,000	140,000	10-20 members/FIG
1.4.5. Group procurement of agricultural inputs	set	70	3,000	210,000	ditto
1.4.6. Repairing/maintenance of common farm properties	set	70	12,300	861,000	ditto
1.4.7. Collective marketing	set	70	15,250	1,067,500	ditto
Stage 2 farmers					
1.4.2. Guidance for group activities	time	4	7,250	29,000	20 FIG leaders/time
1.4.3. Exposure visit to Cooperative demonstration groups	time	4	16,250	65,000	50 members from 25 FIGs/time
1.4.4. Accessing loan	set	78	2,000	156,000	10-20 members/FIG
1.4.5. Group procurement of agricultural inputs	set	78	3,000	234,000	ditto
1.4.6. Repairing/maintenance of common farm properties	set	78	12,300	959,400	ditto
1.4.7. Collective marketing	set	78	15,250	1,189,500	ditto
Stage 3 farmers					
1.4.2. Guidance for group activities	time	3	7,250	21,750	20 FIG leaders/time
1.4.3. Exposure visit to Cooperative demonstration groups	time	3	16,250	48,750	50 members from 25 FIGs/time
1.4.4. Accessing loan	set	54	2,000	108,000	10-20 members/FIG
1.4.5. Group procurement of agricultural inputs	set	54	3,000	162,000	ditto
1.4.6. Repairing/maintenance of common farm properties	set	54	12,300	664,200	ditto
1.4.7. Collective marketing	set	54	15,250	823,500	ditto
1.5. Guidance for FPO formulation	time	27	12,250	<u>330,750</u>	30 FIG leaders/time

Prepared by JICA Survey Team

Table 3: Estimated cost for Sub-component 2

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
2 Connecting with large-size consumers (Matching meeting)				<u>2,634,000</u>	
2.1. Training of trainers (ToT) for Matching meetings	time	3	23,000	69,000	Once/Stage, 3 training/Project = 1 training/Stage x 3 Stages/Project
Stage 1 farmers					
2.3. Information analysis					
Training	time	8	8,250	66,000	min. 4 FIGs - max. 24 FIGs
2.4. Matching meeting (1st)	time	8	25,950	207,600	min. 4 FIGs - max. 24 FIGs
2.5. Review & improvement	time	8	7,250	58,000	min. 4 FIGs - max. 24 FIGs
2.6. Matching meeting (2nd)	time	8	25,950	207,600	min. 4 FIGs - max. 24 FIGs
2.7. Gap filling training for postharvest quality					
Training	time	8	17,100	136,800	min. 4 FIGs - max. 24 FIGs
Implementation	set	140	2,500	350,000	
Stage 2 farmers					
2.3. Information analysis					
Training	time	8	8,250	66,000	min. 4 FIGs - max. 24 FIGs
2.4. Matching meeting (1st)	time	8	25,950	207,600	min. 4 FIGs - max. 24 FIGs
2.5. Review & improvement	time	8	7,250	58,000	min. 4 FIGs - max. 24 FIGs
2.6. Matching meeting (2nd)	time	8	25,950	207,600	min. 4 FIGs - max. 24 FIGs
2.7. Gap filling training for postharvest quality					
Training	time	8	17,100	136,800	min. 4 FIGs - max. 24 FIGs
Implementation	set	156	2,500	390,000	
Stage 3 farmers					
2.3. Information analysis					
Training	time	4	8,250	33,000	min. 4 FIGs - max. 24 FIGs
2.4. Matching meeting (1st)	time	4	25,950	103,800	min. 4 FIGs - max. 24 FIGs
2.5. Review & improvement	time	4	7,250	29,000	min. 4 FIGs - max. 24 FIGs
2.6. Matching meeting (2nd)	time	4	25,950	103,800	
2.7. Gap filling training for postharvest quality					
Training	time	4	17,100	68,400	min. 4 FIGs - max. 24 FIGs
Implementation	set	54	2,500	135,000	

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Table 4: Estimated cost for Sub-component 3

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
3 Connecting with small-size consumers (exotic vegetables)				<u>6,379,000</u>	
3.1. Training of trainers (ToT) for supporting exotic vegetables sales	time	3	23,000	<u>69,000</u>	Once/Stage, 3 training/Project = 1 training/Stage x 3 Stages/Project
3.2. Demonstration				<u>5,649,000</u>	
3.2.1/3.2.2. Sales to public markets (3.2.1) & Door-to-door sales to hotels/restaurants (3.2.1)					
Fixed expenditure for one season (for 5 months)	place_season	21	4,000	84,000	7 places x 3 years
Other cost for sales	place_month	105	53,000	5,565,000	5 months / year / Agri Demo Farm x 3 years x 7 Agri Demo Farms
3.3. Extension to farmers				<u>661,000</u>	40% of trainees who had training for exotic vegetable production (7 farms = 1 farm/district x 7 districts)
Stage 1 farmers					
3.3.1/3.3.2. Sales to public markets (3.3.1) & Door-to-door sales to hotels/restaurants (3.3.2)					
Training	time	7	5,400	37,800	30 farmers/time
Implementation	set	28	10,000	280,000	15 farmers/set
Stage 2 farmers					
3.3.1/3.3.2. Sales to public markets (3.3.1) & Door-to-door sales to hotels/restaurants (3.3.2)					
Training	time	4	5,400	21,600	30 farmers/time
Implementation	set	16	10,000	160,000	15 farmers/set
Stage 3 farmers					
3.3.1/3.3.2. Sales to public markets (3.3.1) & Door-to-door sales to hotels/restaurants (3.3.2)					
Training	time	4	5,400	21,600	30 farmers/time
Implementation	set	14	10,000	140,000	15 farmers/set

Prepared by JICA Survey Team

Table 5: Estimated cost for Sub-component 4

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
4 Brand building for high-value added agricultural produce				<u>80,863,129</u>	
4.1. Coordination				<u>439,100</u>	
4.1.2. VC actors' evaluation forum	time	5	75,900	379,500	
4.1.4. Preparation for leaflet	set	5	4,800	24,000	
4.1.5. Preparation for poster	set	4	3,900	15,600	
4.1.6. Preparation for logo sticker					
Designing	time	1	2,000	2,000	
Printing	set	6	3,000	18,000	
4.2. Experiment for quality improvement (TSS and quality control)				<u>27,903,079</u>	
<u>Market-oriented experimental plots (vegetables)</u>					
4.2.1. Establishment of experimental plots (0.4ha)	place	3	145,412	436,236	3 experimental plots in/near Jaipur district
4.2.2. Operation of experimental plots	place_year	9.25	604,950	5,595,788	3 experimental plots
<u>Market-oriented experimental plots (kinnow)</u>					
4.2.3. Establishment of experimental plots (1ha)	place	3	330,530	991,590	3 experimental plots in Ganganagar district
4.2.4. Operation of experimental plots	place_year	8.5	1,169,875	9,943,938	3 experimental plots
<u>Market-oriented experimental plots (Santra orange)</u>					
4.2.5. Establishment of experimental plots (1ha)	place	3	330,530	991,590	3 experimental plots in Jhalawar or Kota district
4.2.6. Operation of experimental plots	place_year	8.5	1,169,875	9,943,938	3 experimental plots
4.3. Sales promotion				<u>22,865,100</u>	
4.3.1. Tasting events (catering style) - vegetables and citrus	time	92	38,000	3,496,000	
4.3.2. Tasting events (catering style) - melon	time	32	18,000	576,000	
4.3.3. Tasting events (invitation style) - vegetables and citrus	time	42	56,000	2,352,000	
4.3.4. Tasting events (invitation style) - melon	time	12	35,000	420,000	
4.3.5. Sales visit with tasting samples - vegetables and citrus	set	112	22,000	2,464,000	1 set = 10~20 places/week
4.3.6. Sales visit with tasting samples - melon	set	32	12,800	409,600	1 set = 10~20 places/week
4.3.7. Delivery to customers (MOE plots: vegetables incl. melon)	place_month	63	70,500	4,441,500	3 experimental plots (MOE plots) x 21 months
4.3.8. Delivery to customers (MOE plots: kinnow)	place_month	45	76,000	3,420,000	3 experimental plots (MOE plots) x 15 months
4.3.9. Delivery to customers (MOE plots: santra orange)	place_month	27	76,000	2,052,000	3 experimental plots (MOE plots) x 9 months
4.3.10. Staff salary	MM	147	22,000	3,234,000	
4.4. Application of experimental results to farmers				<u>5,720,000</u>	
<u>Market-oriented experimental plots (vegetables)</u>					
Stage 1 farmers					
(Vegetables at Rabi season)					
4.4.1. TSS/nutrients improvement					
Training	time	4	50,400	201,600	30 farmers / time
4.4.2./4.4.3. Quality control (4.4.2) & Sales/packaging (4.4.3)					
Training	time	4	10,400	41,600	30 farmers / time
Implementation	set	7	40,000	280,000	1 farmer/set
(Melon at Zayed season)					
4.4.4. TSS/nutrients improvement					
Training	time	4	50,400	201,600	30 farmers / time

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
4.4.5./4.4.6. Quality control (4.4.5) & Sales/packaging (4.4.6)					
Training	time	4	10,400	41,600	30 farmers / time
Implementation	set	104	500	52,000	1 farmer/set
Stage 2 farmers					
(Vegetables at Rabi season)					
4.4.1. TSS/nutrients improvement					
Training	time	2	50,400	100,800	30 farmers / time
4.4.2./4.4.3. Quality control (4.4.2) & Sales/packaging (4.4.3)					
Training	time	2	10,400	20,800	30 farmers / time
Implementation	set	4	40,000	160,000	15 farmers/set
(Melon at Zayed season)					
4.4.4. TSS/nutrients improvement					
Training	time	2	50,400	100,800	30 farmers / time
4.4.5./4.4.6. Quality control (4.4.5) & Sales/packaging (4.4.6)					
Training	time	2	10,400	20,800	30 farmers / time
Implementation	set	56	500	28,000	1 farmer/set
Stage 3 farmers					
(Vegetables at Rabi season)					
4.4.1. TSS/nutrients improvement					
Training	time	2	50,400	100,800	30 farmers / time
4.4.2./4.4.3. Quality control (4.4.2) & Sales/packaging (4.4.3)					
Training	time	2	10,400	20,800	30 farmers / time
Implementation	set	48	500	24,000	1 farmer/set
(Melon at Zayed season)					
4.4.4. TSS/nutrients improvement					
Training	time	2	50,400	100,800	30 farmers / time
4.4.5./4.4.6. Quality control (4.4.5) & Sales/packaging (4.4.6)					
Training	time	2	10,400	20,800	30 farmers / time
Implementation	set	4	40,000	160,000	15 farmers/set
<u>Market-oriented experimental plots (kinnow)</u>					
Stage 1 farmers					
4.4.7. TSS/nutrients improvement					
Training	time	8	50,400	403,200	30 farmers / time
4.4.8./4.4.9. Quality control (4.4.8) & Sales/packaging (4.4.9)					
Training	time	8	10,400	83,200	30 farmers / time
Implementation	set	16	40,000	640,000	15 farmers/set
Stage 2 farmers					
4.4.7. TSS/nutrients improvement					
Training	time	4	50,400	201,600	30 farmers / time
4.4.8./4.4.9. Quality control (4.4.8) & Sales/packaging (4.4.9)					
Training	time	4	10,400	41,600	30 farmers / time
Implementation	set	8	40,000	320,000	15 farmers/set
Stage 3 farmers					
4.4.7. TSS/nutrients improvement					

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Training	time	5	50,400	252,000	30 farmers / time
4.4.8./4.4.9. Quality control (4.4.8) & Sales/packaging (4.4.9)					
Training	time	5	10,400	52,000	30 farmers / time
Implementation	set	10	40,000	400,000	15 farmers/set
Market-oriented experimental plots (Santra orange)					
Stage 1 farmers					
4.4.10. TSS/nutrients improvement					
Training	time	4	50,400	201,600	30 farmers / time
4.4.11/4.4.12. Quality control (4.4.11) & Sales/packaging (4.4.12)					
Training	time	4	10,400	41,600	30 farmers / time
Implementation	set	8	40,000	320,000	15 farmers/set
Stage 2 farmers					
4.4.10. TSS/nutrients improvement					
Training	time	5	50,400	252,000	30 farmers / time
4.4.11/4.4.12. Quality control (4.4.11) & Sales/packaging (4.4.12)					
Training	time	5	10,400	52,000	30 farmers / time
Implementation	set	10	40,000	400,000	15 farmers/set
Stage 3 farmers					
4.4.10. TSS/nutrients improvement					
Training	time	3	50,400	151,200	30 farmers / time
4.4.11/4.4.12. Quality control (4.4.11) & Sales/packaging (4.4.12)					
Training	time	3	10,400	31,200	30 farmers / time
Implementation	set	5	40,000	200,000	15 farmers/set
4.5. Antenna shops/corners				<u>15,563,200</u>	
Banner	set	1	8,000	8,000	
4.5.1. Establishment and operation of shops at airports/railway stations					
Airport	shop_month	46	104,000	4,784,000	2 shops x 23 months
Railway stations	shop_month	66	90,000	5,940,000	3 shops x 22 months
4.5.2. Operation of antenna corners at high-grade groceries	shop_month	66	73,200	4,831,200	3 shops x 22 months
4.6. Farmers' fairs				<u>1,602,250</u>	
Banner	set	1	8,000	8,000	
4.6.1. Participation in State-level Farmers' fairs	time	7	150,425	1,052,975	-2 places (for 3 years) -1 place (for 1 year)
4.6.2. Participation in National-level Farmers' fairs	time	3	180,425	541,275	-2 places (for 1 year) -1 place (for 1 year)
4.7. Multimedia advertising				<u>6,457,200</u>	
4.7.1. TV commercial					
Designing	time	1	100,000	100,000	
Advertising	month	9	200,000	1,800,000	
4.7.2. Newspaper					
Designing	time	1	5,000	5,000	
Advertising	month	9	400,000	3,600,000	
4.7.3. Gourmet magazine					
Designing	time	1	5,000	5,000	
Advertising	month	9	20,000	180,000	
4.7.4. Public transportation					

*Attachment 7.2.5
Estimated cost for Agro-processing, Marketing and Promotion of
High-value Added Agricultural Produce*

Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Remarks
Designing	time	1	4,400	4,400	
Advertising	month	9	79,200	712,800	
4.7.5. DoA/DoH's website					
Designing	time	1	50,000	50,000	
4.8. Extension to outside the Project				<u>313,200</u>	
Workshop for government officials outside the Project	time	3	104,400	313,200	

Prepared by JICA Survey Team

Attachment 7.2.6
Unit prices for Component 4:
Agro-processing, Marketing and
Promotion of High-value Added
Agriculture Produces

Attachment 7.2.6
Unit prices for Component 4:
Agro-processing, Marketing, and Promotion of High-value Added Agricultural Produce

1 FIG formulation for cooperative activities

1.1. Training of trainers (ToT) for FIG activities

Trainees	15 prs.	NGO (Team leader/WUA) x 5 and NGO (FVC/Agri) + (Agri) x 5
Facilitator	2 prs.	PMC
Extra participants	3 prs.	PMU
Total	20 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (hotel at Jaipur)	hall	1	15,000	15,000
Tea & lunch	set	20	300	6,000
Stationary	set	20	100	2,000
Total				23,000

1.2. Support for Cooperative demonstration groups

1.2.2. Guidance for demonstration group activities

Trainees	22 prs.	Cooperative demonstration members + NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC/Agri)+(Agri)
Lecturer	1 prs.	Bank manager No charge
Total	25 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	25	150	3,750
Stationary	set	25	100	2,500
Total				7,250

1.2.3. Accessing loan

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance cost for guarantee deposit for opening bank account (check book)	time	1	2,000	2,000
Total				2,000

1.2.4. Group procurement of agricultural inputs

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for loading/unloading	bag	100	10	1,000
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	2,000	2,000
Total				3,000

1.2.5. Repairing/maintenance of common farm properties

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Financial assistance for repairing properties	set	1	10,000	10,000
Labour for loading/unloading	set	1	300	300
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	1	2,000	2,000
Total				12,300

1.2.6. Collective marketing

Total expenditure (20 members/FIG)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labour for grading/cleaning cereals, etc.	prs/day	20	250	5,000
Labour for loading/unloading	bag	100	10	1,000
Weighing scale (hanging)	set	1	1,000	1,000
Plastic sheets for postharvest activities	sheet	3	750	2,250
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	3	2,000	6,000
Total				15,250

1.2.7. Review and planning for coming seasons

Trainees	20 prs.	Cooperative demonstration members
Facilitator	4 prs.	NGO (FVC/Agri)+(Agri) NGO (Comm. Motiv.)
Total	24 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	24	150	3,600
Stationary	set	24	100	2,400
Total				7,000

1.2.8. Experience sharing with potential FIGs (Joining General meeting of WUA)

Transportation

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Allowance	prs.	3	200	600
Transportation	prs.	3	100	300
Total				900

1.3. FIG formulation and activities in other sites

- 1.3.2. Guidance for group activities
 Trainees 22 prs. 20 FIG leaders + NGO (Comm. Motiv.)
 Facilitator 2 prs. NGO (FVC/Agri)+(Agri)
 Lecturer 1 prs. Bank manager No charge
Total 25 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	25	150	3,750
Stationary	set	25	100	2,500
Total				7,250 time

- 1.3.3. Exposure visit to Cooperative demonstration groups
 Trainees 50 prs. FIGs (2 members) x 25 groups
 Facilitator 3 prs. NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
 Cooperative demonstration group representatives 2 prs.
Total 55 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	55	150	8,250
Bus	bus/day	1	7,000	7,000
Total				16,250 time

- 1.3.4. Accessing loan refer to 1.2.3 set
 1.3.5. Group procurement of agricultural inputs refer to 1.2.4 set
 1.3.6. Repairing/maintenance of common farm properties refer to 1.2.5 set
 1.3.7. Collective marketing refer to 1.2.6 set

1.4. FIG formulation and activities in other sites (AFP/MFP sites)

- 1.4.2. Guidance for group activities refer to 1.3.2 set
 1.4.3. Exposure visit to Cooperative demonstration groups refer to 1.3.3 set
 1.4.4. Accessing loan refer to 1.3.4 set
 1.4.5. Group procurement of agricultural inputs refer to 1.3.5 set
 1.4.6. Repairing/maintenance of common farm properties refer to 1.3.6 set
 1.4.7. Collective marketing refer to 1.3.7 set

1.5. Guidance for FPO formulation

- Trainees 30 prs. FIG leaders (30FIGs/time)
 Facilitator 2 prs. NGO (Comm. Motiv.)
 Lecturer 1 prs. SFAC No charge
Total 33 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	33	150	4,950
Stationary	set	33	100	3,300
Transportation (trainees)	prs.	30	100	3,000
Total				12,250 time

2 Connecting with large-size consumers (Matching meeting)

- 2.1. Training of trainers (ToT) for Matching meetings refer to 1.1

2.3. Information analysis

- Training**
 Trainees 18 prs. FIG leaders (average 18 FIGs)
 Trainees 2 prs. NGO (Community motivator)
 Facilitator 4 prs. Consultant, NGO (FVC/Agri)+(Agri)
 Lecturer 1 prs. President of Unit owner association of AFP or MFP
Total 25 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Lecturer	prs.	1	1,000	1,000
Tea & lunch	set	25	150	3,750
Stationary	set	25	100	2,500
Total				8,250 time

2.4. Matching meeting (1st)

- Trainees 36 prs. FIG leaders/representative (average 36 members from 18
 Unit owners 20 prs. FIGs, min. 4 FIGs- max. 24 FIGs)
 President of Unit owner association of AFP or MFP 1 prs. At least 10 commodities
 Facilitator 6 prs. Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Total 63 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1	3,000	3,000
Tea & lunch	set	63	150	9,450
Stationary	set	63	100	6,300
Transportation (trainees)	prs.	36	200	7,200
Total				25,950 time

2.5. Review & improvement

Trainees (maximum number)	18 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Lecturer	1 prs.	President of Unit owner association of AFP or MFP
Total	25 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue	hall	1	1,000	1,000
Tea & lunch	set	25	150	3,750
Stationary	set	25	100	2,500
Total				7,250 time

2.6. Matching meeting (2nd)

refer to Matching meeting (1st)

2.7. Gap filling training for postharvest quality

Trainees (maximum number)	18 prs.	FIG leaders (average 18 FIGs)
Facilitator	6 prs.	Consultant, NGO (FVC/Agri)+(Agri) & (Comm. Motiv.)
Lecturer	6 prs.	Processors of AFP/MFP
Total	30 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (AFP or MFP)	place	1	3,000	3,000
Lecturer	prs.	6	1,000	6,000
Tea & lunch	set	30	150	4,500
Transportation (trainees)	set	18	200	3,600
Total				17,100 time

Implementation

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Plastic sheets for postharvest activities (2 sheets/FIG)	sheet	2	750	1,500
Weighing scale (hanging) (1 set/FIG)	set	1	1,000	1,000
Total				2,500 set

3 Connecting with small-size consumers (exotic vegetables)

3.1. Training of trainers (ToT) for supporting exotic vegetables sales

Trainees	15 prs.	NGO (Team leader/WUA) x 5 and NGO (FVC/Agri) + (Agri) x 5
Facilitator	2 prs.	PMC
Extra participants	3 prs.	PMU
Total	20 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (hotel at Jaipur)	hall	1	15,000	15,000
Tea & lunch	set	20	300	6,000
Stationary	set	20	100	2,000
Total				23,000 time

3.2. Demonstration

3.2.1&2. Sales to public markets (3.2.1) & Door-to-door sales to hotels/restaurants (3.2.2)

Period	1 month	(5 months/year, 5 years)
Area	1 acre	
Labour	5 prs.	

Fixed expenditure for one season (5 months)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Weighing scale (hanging)	set	1	1,000	1,000
Wheelbarrow	set	3	1,000	3,000
Total				4,000 place_season

Other cost for sales (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Labor for harvesting/packing/loading/unloading (3prs./acre)	prs/day	90	250	22,500
Packing materials (Jute bags, shopping bags, plastic crates, etc.)	set	1	500	500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	15	2,000	30,000
Total				53,000 place_month

3.3. Extension to farmers

3.3.1&2. Sales to public markets (3.3.1) & Door-to-door sales to hotels/restaurants (3.3.2)

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total	36 prs.	

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36	150	5,400
Total				5,400 time

Implementation

Farmers 15 prs./set

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Truck rental to transport agricultural produces (incl. driver, 35km/day)	set	5	2,000	10,000
Total				10,000 set

4 Brand building for high-value added agricultural produce

4.1. Coordination

4.1.2.	VC actors' evaluation forum			
	Participants	15 prs.	Consumer groups, restaurants, farmers, etc.	
	Facilitator	6 prs.	Brand building working group	
	Total	21 prs.		

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	21	300	6,300
Venue (hotel at Jaipur)	hall	1	15,000	15,000
Allowance	day/prs	21	500	10,500
Accommodation	night/prs	21	2,000	42,000
Stationary	set	21	100	2,100
Total				75,900

4.1.4. Preparation for leaflet

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Printing (4,800 sheets, both sides with color)	set	1	4,800	4,800
Total				4,800

4.1.5. Preparation for poster

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Printing (1,000 sheets 18 inch x23 inch)	set	1	3,900	3,900
Total				3,900

4.1.6. Preparation for logo sticker

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	2,000	2,000
Total				2,000

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Printing (100 pcs., diameter 3cm)	set	5	200	1,000
Printing (100 pcs., diameter 7cm)	set	5	400	2,000
Total				3,000

4.2. Experiment for quality improvement (TSS, marketing and quality standards)

Market-oriented experimental plots (vegetables)

4.2.1. Establishment of experimental plots (0.4ha)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tank	ha	0.4	117,899	47,160
Solar panel and pump set	ha	0.4	97,984	39,194
Pipes and drip lines	ha	0.4	30,147	12,059
Fence	acre	1	25,000	25,000
Hand-held reflectometer A	set	1	20,000	20,000
Hand-held reflectometer B	set	1	2,000	2,000
Total				145,412

4.2.2. Operation of experimental plots

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Mulching sheets (black & white, Rs. 3,125/(150cm width x 200m) x 14roles)	acre	1	43,750	43,750
Seed (Cherry tomato, broccoli, leaf lettuce, etc.)	set/acre	1	1,000	1,000
Liquid fertilizer	acre	1	50,000	50,000
Insecticide/fungicide	acre	1	200	200
Labor (5prs/acre)	MM	60	7,500	450,000
Lecturer fee for resource person (incl. allowance, transportation)	time	6	2,500	15,000
Lecturer fee for resource person (incl. transportation)	time	1	20,000	20,000
Lab test	set	1	25,000	25,000
Total				604,950

Market-oriented experimental plots (kinnow)

4.2.3. Establishment of experimental plots (1ha)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tank	ha	1.0	117,899	117,899
Solar panel and pump set	ha	1.0	97,984	97,984
Pipes and drip lines	ha	1.0	30,147	30,147
Fence	acre	2.5	25,000	62,500
Hand-held reflectometer A	set	1	20,000	20,000
Hand-held reflectometer B	set	1	2,000	2,000
Total				330,530

4.2.4. Operation of experimental plots

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Mulching sheets (black & white, Rs. 3,125/(150cm width x 200m) x 14roles)	acre	2.5	43,750	109,375
Liquid fertilizer	acre	2.0	50,000	100,000
Insecticide/fungicide	acre	2.5	200	500
Labor (10prs/ha)	MM	120	7,500	900,000
Lecturer fee for resource person from outside Rajasthan (incl. allowance, transportation)	time	1	20,000	20,000
Lecturer fee for resource person inside Rajasthan (incl. transportation)	time	6	2,500	15,000
Lab test	set	1	25,000	25,000
Total				1,169,875

Market-oriented experimental plots (Santra orange)

- 4.2.5. Establishment of experimental plots refer to 4.2.3 set
 4.2.6. Operation of experimental plots refer to 4.2.4 place_year

4.3. Sales promotion

- 4.3.1. Tasting events (catering style) - vegetables and citrus
 Participants 60 prs. (average) Individual staff at private companies, etc.
Total 60 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (companies' canteen, etc.)	hall	1	2,000	2,000
Payment for cooking	person	60	300	18,000
Miscellaneous (advance fee for fruits/vegetables, other cooking materials, etc.)	set	60	300	18,000
Total				38,000

time

- 4.3.2. Tasting events (catering style) - melon
 Participants 60 prs. (average) Individual staff at private companies, etc.
Total 60 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (companies' canteen, etc.)	hall	1	3,000	3,000
Payment for preparation	set	60	100	6,000
Miscellaneous (advance fee for melon, other cooking materials, etc.)	set	60	150	9,000
Total				18,000

time

- 4.3.3. Tasting events (invitation style) - vegetables and citrus
 Participants 30 prs. Members of social services group /Purchasers of vegetable delivery services, etc.
 Sales staff 1 prs. Staff to be hired for tasting events
 Facilitator 3 prs. Consultant, NGO (FVC)
Total 34 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (hotel/restaurant at Delhi)	hall	1	20,000	20,000
Payment for cooking	prs/set	30	600	18,000
Miscellaneous (advance fee for fruits/vegetables, other cooking materials, etc.)	set	30	600	18,000
Total				56,000

time

- 4.3.4. Tasting events (invitation style) - melon
 Participants 30 prs. Members of social services group /Purchasers of vegetable delivery services, etc.
 Sales staff 1 prs. Staff to be hired for tasting events
 Facilitator 3 prs. Consultant, NGO (FVC)
Total 34 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (hotel/restaurant at Delhi)	hall	1	20,000	20,000
Payment for preparation	prs/set	30	300	9,000
Miscellaneous (advance fee for melon, other cooking materials, etc.)	set	30	200	6,000
Total				35,000

time

- 4.3.5. Sales visit with tasting samples -vegetables and citrus
 5~20 places/week

Total expenditure (set_week)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance fee for fruits/vegetables	set	1	10,000	10,000
Preparation/cooking cost (fee, materials)	set	1	2,000	2,000
Truck rental	set	1	10,000	10,000
Total				22,000

set

- 4.3.6. Sales visit with tasting samples -melon
 5~20 places/week

Total expenditure (set_week)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advance fee for melon	set	1	2,300	2,300
Preparation/cooking cost (fee, materials)	set	1	500	500
Truck rental	set	1	10,000	10,000
Total				12,800

set

- 4.3.7. Delivery to customers (MOE plots: vegetables incl. melon)
 Total expenditure (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set	1	500	500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Truck rental to transport agricultural produces to Delhi (incl. driver, 150km/day)	time	5	10,000	50,000
Delivery to Delhi using parcel delivery services	time	10	1,000	10,000
Total				70,500

place_month

- 4.3.8. Delivery to customers (MOE plots: kinnow)
 Total expenditure (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set	2	500	1,000
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Truck rental to transport agricultural produces to Delhi (incl. driver, 150km/day)	time	5	10,000	50,000
Delivery to Delhi using parcel delivery services	time	10	1,500	15,000
Total				76,000

place_month

- 4.3.9. Delivery to customers (MOE plots: santra orange) refer to 4.3.8 place_month
- 4.3.10. Staff salary

Total expenditure				
Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Staff salary	MM	1	22,000	22,000
Total				22,000 MM

4.4. Application of experimental results to farmers

Market-oriented experimental plots (vegetables)

Vegetables at Rabi season

4.4.1. TSS/nutrients improvement

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total		36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Tea & lunch	set	36	150	5,400
Accommodation (farmers)	prs./night	30	1,000	30,000
Allowance (farmers)	prs./day	30	200	6,000
Transportation (farmers)	prs.	30	300	9,000
Total				50,400 time

4.4.2&3 Quality control (4.4.2) & Sales/Packaging (4.4.3)

Training

Trainees	30 prs.	Exotic vegetable farmers who receive production training at Agriculture sector
Trainees	2 prs.	NGO (Comm. Motiv.)
Facilitator	2 prs.	NGO (FVC) & (FVC/Agri)
Lecturer	2 prs.	Agriculture Demonstration Farm owner/worker (to share experiences, no charge)
Total		36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set	1	5,000	5,000
Tea & lunch	set	36	150	5,400
Total				10,400 time

Implementation (Stage 1&2)

Total expenditure (for 15 farmers/set)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held reflectometer B (75% financed for Rs. 2,000)	set/prs.	15	1,500	22,500
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15	500	7,500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Total				40,000 set

Implementation (Stage 3)

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	1	500	500
Total				500 set

Melon at Zayed season

4.4.4. TSS/nutrients improvement

Training

refer to 4.4.1

4.4.5&6 Quality control (4.4.5) & Sales/Packaging (4.4.6)

Training

refer to 4.4.2&3 (Training)

Implementation (Stage 1&2)

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	1	500	500
Total				500 set

Implementation (Stage 3)

Total expenditure (for 15 farmers/set)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held reflectometer B (75% financed for Rs. 2,000)	set/prs.	15	1,500	22,500
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15	500	7,500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Total				40,000 set

*At Stage 1&2, "Training and implementation for Vegetables at Rabi season" will be conducted first and "Training and implementation for Melon at Zayed season" second.

*At Stage 3, "Training and implementation for Melon at Zayed season" will be conducted first and "Training and implementation for Vegetables at Rabi season" second.

Refer to Figure B 6.3.4 for the detailed schedule.

Market-oriented experimental plots (kinnow)

4.4.7. TSS/nutrients improvement

Training

refer to 4.4.1

4.4.8&9 Quality control (4.4.8) & Sales/Packaging (4.4.9)

Training

refer to 4.4.2&3

Implementation

Total expenditure (for 15 farmers/set)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held reflectometer B (75% financed for Rs. 2,000)	set/prs.	15	1,500	22,500
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15	500	7,500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Total				40,000 set

Market-oriented experimental plots (Santra orange)

4.4.10. TSS/nutrients improvement Training refer to 4.4.1 time

4.4.11&12 Quality control (4.4.11) & Sales/Packaging (4.4.12) Training refer to 4.4.2&3 time

Implementation

Total expenditure (for 15 farmers/set)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Hand-held reflectometer B (75% financed for Rs. 2,000)	set/prs.	15	1,500	22,500
Packing materials (carton box, wrapping materials, buffer materials, etc.)	set/prs.	15	500	7,500
Truck rental to transport agricultural produces (incl. driver, 35km/day)	time	5	2,000	10,000
Total				40,000

set

4.5. Antenna shops/corners

Total expenditure (fixed for 5 months)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Banner (0.5m x 0.2m)	set	8	1,000	8,000
Total				8,000

set

4.5.1. Establishment and operation of shops at airports/railway stations

Total expenditure (1 month@airport)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Space rental (5m x 5m)	month	1	54,000	54,000
Staff	MM	1	20,000	20,000
Miscellaneous (advance payment for fruits/vegetables, etc.)	month	1	30,000	30,000
Total				104,000

shop_month

Total expenditure (1 month@railway station)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Space rental (5m x 5m)	month	1	40,000	40,000
Staff	MM	1	20,000	20,000
Miscellaneous (advance payment for fruits/vegetables, etc.)	month	1	30,000	30,000
Total				90,000

shop_month

4.5.2. Operation of antenna corners at high-grade groceries

Total expenditure (1 month@high-grade groceries)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Space rental	month	1	23,200	23,200
Staff	MM	1	20,000	20,000
Miscellaneous (advance payment for fruits/vegetables, etc.)	month	1	30,000	30,000
Total				73,200

shop_month

4.6. Farmers' fairs

Total expenditure (fixed for whole period)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Banner (0.5m x 0.2m)	set	8	1,000	8,000
Total				8,000

set

4.6.1. Participation in State-level Farmers' fairs

Total expenditure (State level)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Registration	plot	4	10,000	40,000
Table rent	table	16	50	800
Chair rent	chair	25	25	625
Tent rent	set	4	1,000	4,000
Award for TSS competition (1st: Rs. 50,000, 2nd: Rs. 25,000, 3rd: Rs. 10,000)	set	1	85,000	85,000
Miscellaneous (advance fee for fruits/vegetables, etc.)	set	1	20,000	20,000
Total				150,425

time

4.6.2. Participation in National-level Farmers' fairs

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Registration	plot	4	15,000	60,000
Table rent	table	16	50	800
Chair rent	chair	25	25	625
Tent rent	set	4	1,000	4,000
Award for TSS competition (1st: Rs. 50,000, 2nd: Rs. 25,000, 3rd: Rs. 10,000)	set	1	85,000	85,000
Miscellaneous (advance fee for fruits/vegetables, etc.)	set	1	30,000	30,000
Total				180,425

time

4.7. Multimedia advertising

4.7.1. TV commercial

Designing

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	100,000	100,000
Total				100,000

time

Advertising (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advertising (10 seconds)	time	4	30,000	120,000
Advertising (10 seconds)	time	4	20,000	80,000
Total				200,000

month

4.7.2. Newspaper

Designing

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	5,000	5,000
Total				5,000

time

Advertising (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advertising (A4 (630cm x Rs. 1,000), color, back page)	time	1	400,000	400,000
Total				400,000

month

4.7.3. Gourmet magazine

Designing

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	5,000	5,000
Total			5,000	5,000

time

Advertising (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advertising	time	1	20,000	20,000
Total			20,000	20,000

month

4.7.4. Public transportation

Designing

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	4,400	4,400
Total			4,400	4,400

time

Advertising (1 month)

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Advertising (20 buses, Rajasthan)	month	40	1,980	79,200
Total			79,200	79,200

month

4.7.5. DoA/DoH's website

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Designing	time	1	50,000	50,000
Total			50,000	50,000

time

4.8. Extension to outside the Project

Workshop for government officials outside the Project

Trainees

30 prs.

DoA/DoH from districts outside the Project

Facilitator

6 prs.

Brand building working group

Total 36 prs.

Total expenditure

Item	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)
Venue (hotel at Jaipur)	hall	1	15,000	15,000
Tea & lunch	set	36	300	10,800
Allowance	day/prs	30	500	15,000
Accommodation	night/prs	30	2,000	60,000
Stationary	set	36	100	3,600
Total			104,400	104,400

time

Attachment 7.2.7
Cost Estimate for Component 5:
Gender Mainstreaming in Agriculture and
Water Sector

Attachment 7.2.7 Cost Estimate for Component 5: Gender Mainstreaming in Agriculture and Water Sector

1. Cost for Component 5: Gender Mainstreaming in Agriculture and Water Sector

Overall cost for component 5: gender mainstreaming in agriculture and water sector is summarized in the following tables and details are described in the following sections:

Table 1.1 Summary of Estimated Cost for Component 2: Fostering and Capacity Enhancement of Water Users Organization (Sub-component Basis)

No.	Item	Total Cost (INR)
1.	Sub-component 1: Supporting the Institutionalization of Gender Mainstreaming in Water Management	0
1.1	Developing and Adopting Gender-Responsive Rules and Guidelines of Participatory Irrigation Management Act	0
1.2	Incorporating Gender Perspectives into Existing Capacity Building Activities in Water Management	0
1.3	Establishment of Gender Disaggregated Data Collection System	0
2.	Sub-component 2 : Enhancement of Women's Capability and Participation in WUA	14,988,410
2.1	Formulation of WUA Women Wing	
	a) Orientation on WW activities	1,791,000
2.2	Facilitating to Introduce the Women Friendly Activities	0
2.3	Encouraging Women to Participate in WUA Activities	0
2.4	Providing Trainings and Exposure Activities on Water Management and Organizational Management	
	a) Fund Management Training (auditing) at Sub-PMU Level	3,174,000
	b) Exposure Visit (Sub-PMU wise)	5,653,400
	c) Annual WW's Review Meeting at Sub-PMU Level	4,370,010
3.	Sub-component 3 : Capacity Building on Agricultural Technologies through SHGs	32,882,540
1.1	Selection of the Group	
	a) Developing work plan on the activity in SP level	217,300
	b) Conducting Orientation to Selected Groups	1,869,600
1.2	Strengthening Capacity on Group Management	
	a) Providing Training on Group Management	2,496,000
1.3	Strengthening Capacity on Agricultural Technique	
	a) ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators	2,485,360
	b) ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers	2,485,360
	c) Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies	12,742,800
	d) Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth	7,073,320
	e) Lecture on nutrition for women's health	570,000
	f) Training for SHGs on How to Cook Nutritious Vegetable Swiss Chard, Kale and Amaranth	1,918,800
	g) Booklet for cooking	1,024,000
4.1	Regular Monitoring and Provide Necessary Support to Groups	0
	Total (1. - 4.)	47,870,950

Source: JICA survey team

2. Breakdown of Estimated Cost for Sub-component

2.1 Cost for Supporting the Institutionalization of Gender Mainstreaming in Water Management (Sub-component 1)

There is no activity required specific budget under Sub-component 1.

2.2 Cost for Enhancement of Women's Capability and Participation in WUA (Sub-component 2)

The following Tables show breakdown cost for each activities under sub-component 2.

2.2.1 Orientation on WW activities

The 1 day orientation is conducted in WUA level in each stage immediately after the formation of WW for 12 WW main members.

Table 2.2. 1 Breakdown of Estimated Costs for Orientation on WW activities

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Venue	day	1	700	700	In WUA level
Tea and snacks	times	12	30	360	2 WW members each from TCs (mostly 6 TCs) 2 x 6 TCs = 12 participants
Lunch	head	12	120	1,440	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	2,000	2,000	
Sub-total = Unit cost per training	times			4,500	
set cost per meeting	times	398	4,500	1,791,000	No of WUA: 1 st 150, 2 nd 143, 3 rd 105, in total 398
Total				1,791,000	

Source: JICA survey team

2.2.2 Fund Management Training (auditing) at Sub-PMU Level

The training is conducted in each stage in KVK for 2 days in Sub-PMU wise for 3 members each from WW. Capacity of KVK for training is 30 participants.

Table 2.2. 2 Breakdown of Estimated Costs for Orientation on WW activities

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Boarding and lodging charges for participants	KVK	person/day	60	250	15,000	30 people x 2 days = 60
Registration kit, Supply of literature and training Ad. Etc.	KVK	head	30	350	10,500	30 people for 1 st day = 30
Honorarium to resource persons.	KVK	session	8	500	4,000	(4 session per day) x 2 days = 8
POL of field trip and T.A for participants	KVK	lump-sum	1	9,000	9,000	
Miscellaneous and supporting staff	KVK	lump-sum	1	2,000	2,000	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	4,500	For total cost for KVK
Baby-sitter (crèche)	Other	person/day	4	1000	4,000	2person /days x 2 days = 4
Transportation for Participants	Other	person	30	500	15,000	
Honorarium & travel charges for lecturers (1 person)	Other	lump-sum	1	5000	5,000	Guest lecturers or sessions are planned (3000Rs/session, travel cost, etc.)
Sub-total = Unit cost per training		times			69,000	

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
set cost per training (in KVK, 3days, 30 participants)		times	46	69,000	3,174,000	Number of training: 1 st 18, 2 nd 16, 3 rd 12 Breakdown on quantity is given below
Total					3,174,000	

Source: JICA survey team

The training is conducted Sub-PMU wise and 30 participants per training, thus number of participants is sum up in each Sub-PMU and divided by 30 to calculate number of the training.

Table 2.2. 3 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of WUA	17	31	22	41	39	= (Total number of participants in Sub-PMU)/ 30 Stage total: 18 times
	Participants (WUA x3)	51	93	66	123	117	
	No. of Training	2	4	3	5	4	
2 nd stage	No of WUA	14	38	36	18	37	= (Total number of participants in Sub-PMU)/ 30 Stage total: 16 times
	Participants	42	114	108	54	111	
	No. of Training	2	4	4	2	4	
3 rd stage	No of WUA	9	16	44	6	30	= (Total number of participants in Sub-PMU)/ 30 Stage total: 12 times
	Participants	27	48	132	18	90	
	No. of Training	1	2	5	1	3	
Number of Training		5	10	12	8	11	Total No of training: 46 times

Source: JICA survey team

2.2.3 Exposure Visit (Sub-PMU wise)

The exposure visit is conducted in each stage in Sub-PMU wise for 3 days for 3 members each from WW.

Table 2.2. 4 Breakdown of Estimated Costs for Exposure Visit

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Bus rent	day	3	4000	12,000	30 people x 3 days = 90
Hotel	person/night	90	800	72,000	
Food(tea snack, lunch, dinner)	person/day	90	250	22,500	
Honorarium for visited places (4 places per trip)	place	4	350	1,400	
Travel cost (village to Sub-PMU) for WW members	person	30	500	15,000	
Sub-total = Unit cost per exposure visit	times			122,900	
set cost per exposure visit (Sub-PMU wise, 3 days, 30 participants)	person	46	122,900	5,653,400	Number of training: 1 st 18, 2 nd 16, 3 rd 12 Breakdown on quantity is given below
Total				5,653,400	

Source: JICA survey team

The exposure visit is conducted Sub-PMU wise and 30 participants per visit, thus number of participants is sum up in each Sub-PMU and divided by 30 to calculate number of the visit.

Table 2.2. 5 Breakdown of Quantity for Number of Exposure Visit

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of WUA	17	31	22	41	39	= (Total number of participants in Sub-PMU)/ 30 Stage total: 18 times
	Participants (WUA x3)	51	93	66	123	117	
	No. of Training	2	4	3	5	4	
2 nd stage	No of WUA	14	38	36	18	37	= (Total number of participants in Sub-PMU)/ 30 Stage total: 16 times
	Participants	42	114	108	54	111	
	No. of Training	2	4	4	2	4	
3 rd stage	No of WUA	9	16	44	6	30	= (Total number of participants in Sub-PMU)/ 30 Stage total: 12 times
	Participants	27	48	132	18	90	
	No. of Training	1	2	5	1	3	
Number of Training		5	10	12	8	11	Total No of training: 46 times

Source: JICA survey team

2.2.4 Annual WW's Review Meeting at Sub-PMU Level

The meeting is conducted in twice in each stage in KVK for 2 days per meeting for WW members. Since number of participants is too big, it needs to limit up to 100 participants for fruitful program.

Table 2.2. 6. Breakdown of Estimated Costs for Annual WWs' review meeting in Sub-PMU

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	Other	person/day	200	30	6,000	100 participants x 2 days – 100
Lunch	Other	person/day	200	120	24,000	
Boarding and lodging charges for participants	KVK	head/day	200	250	50,000	
Mics. Exp (banner, stationery items, LCD, etc.)	KVK	lump-sum	1	700	700	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	8,967	For total cost for KVK
Rent for place	Other	day	2	1,000	2,000	
Baby-sitter (crèche)	Other	person/day	4	1,000	4,000	2person /days x 2 days = 4
Transportation for participants	Other	person/day	100	500	50,000	To and fro 500 INR per person
Sub-total = Unit cost per meeting		times			145,667	
set cost per training		person	30	145,667	4,370,010	
Total					4,370,010	

Source: JICA survey team

The following participants are expected in the meeting. The budget is estimated of 100 participants, but it depends on the situation in the Sub-PMU.

Here is an example for Sub-PMU with 12 sub-projects and 44 WUA.

Table 2.2. 7. Sample Composition of Participants

Organization		Representative		Total
WUA	WW members	1-2	x 44	Up to 61 (same as WUA/MC's annual meeting)
GO	Sub-PMU	2	x 1	2
	TSG-SP	1	x 12	12
NGO	Team Leader	1	x 1	1
	Sector expert	5	x 1	2
	Community Motivator	1	x 44 / 2	22
Total				100

Source: JICA survey team

2.3 Capacity Building on Agricultural Technologies through SHGs (Sub-component 3)

The following Tables show breakdown cost for each activities under sub-component 3.

2.3.1 Developing work plan on the activity in SP level

The meeting is conducted in Sub-project wise for 1 day. There are 13 participants expected: 7 staff from TSG-SP, 6 staff from NGO (Sector expert 1, Community Motivator 5 in average)

Table 2.3. 1 Breakdown of Estimated Costs for Developing Work Plan on the Activity in SP Level

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Tea and snacks	times	13	30	390	TSG-SP (7 person) + NGO staff (Sector expert 1 and Community motivator, 5 person in average) = 13
Lunch	person/day	13	120	1,560	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum	1	700	700	
Sub-total = Unit cost per training	times			2,650	
Set cost per meeting	Sub-project	82	2,650	217,300	No of Sub-project: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				217,300	

Source: JICA survey team

2.3.2 Conducting Orientation to Selected Groups

The orientation is conducted in each stage in each Sub-project for 1 day for 4 vegetable cultivation groups separately in total 20 participants per orientation.

Table 2.3. 2 Breakdown of Estimated Costs for Conducting Orientation to Selected Groups

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Venue	day	1	700	700	In Sub-project level
Tea and snacks	times	20	30	600	1 group = 20 memebtrs
Lunch	head	20	120	2,400	
Mics. Exp (banner, stationery items, LCD, etc.)	lump-sum/day	1	2000	2,000	
Sub-total = Unit cost per training	times			5,700	
set cost per meeting	times	328	5,700	1,869,600	(No of SP: 1 st 34, 2 nd 24, 3 rd 24, in total 82) x 4 group
Total				1,869,600	

Source: JICA survey team

2.3.3 Providing Training on Group Management

The training is conducted in each stage in KVK for 2 days in Sub-PMU wise for 3 members each from groups. Capacity of KVK for training is 30 participants.

Table 2.3.3 Breakdown of Estimated Costs for Providing Training on Group Management

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Boarding and lodging charges for participants	KVK	person/day	60	250	15,000	30 people x 2 days = 60
Registration kit, Supply of literature and training Ad. Etc.	KVK	head	30	350	10,500	30 people for 1 st day = 30
Honorarium to resource persons.	KVK	session	8	500	4,000	(4 session per day) x 2 days = 8
POL of field trip and T.A for participants	KVK	lump-sum	1	9,000	9,000	
Miscellaneous and supporting staff	KVK	lump-sum	1	2,000	2,000	
Institutional Charges 11.1%	KVK	lump-sum	1	11.1%	4,500	For total cost for KVK
Baby-sitter (crèche)	Other	person/day	4	1000	4,000	2person /days x 2 days = 4
Transportation for Participants	Other	person	30	500	15,000	
Sub-total = Unit cost per training		times			64,000	
set cost per training (in KVK, 3days, 30 participants)						Number of training: 1 st 15, 2 nd 12, 3 rd 12 Breakdown on quantity is given below
		times	39	64,000	2,496,000	
Total					2,496,000	

Source: JICA survey team

The training is conducted Sub-PMU wise and 30 participants per training, thus number of participants is sum up in each Sub-PMU and divided by 30 to calculate number of the training.

Table 2.3.4 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of SP	6	6	10	7	5	= (Total number of participants in Sub-PMU)/ 30 Stage total: 15 times
	No of group (SP x 4)	24	24	40	28	20	
	Participants (group x3)	72	72	120	84	60	
	No. of Training	3	3	4	3	2	
2 nd stage	No of SP	3	7	7	3	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 12 times
	No of group (SP x 4)	12	28	28	12	16	
	Participants (group x3)	36	84	84	36	48	
	No. of Training	2	3	3	2	2	
3 rd stage	No of SP	3	3	12	2	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 12 times
	No of group (SP x 4)	12	12	48	8	16	
	Participants (group x3)	36	36	144	24	48	
	No. of Training	2	2	5	1	2	
Number of Training		7	8	12	6	6	Total No of training: 39 times

Source: JICA survey team

2.3.4 ToT on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies for DoA, DoH, NGO and Community Motivators

The ToT is conducted twice in each stage in KVK for 2 days in Sub-PMU wise for DoA/DoH of TSG-SP and Community Motivator. Capacity of KVK for training is 40 participants.

Table 2.3.5 Breakdown of Estimated Costs for ToT on Basic Vegetables Cultivation Techniques

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Facilitator (PMU and lead NGO)	Other	persons	2	1,500	3,000	
Venue (KVK)	KVK	hall			0	
Boarding and lodging charges	KVK	head	80	270	21,600	(4 session per day) x 2 days = 8
Trainers (KVK)	KVK	persons	8	540	4,320	
Cost of transportation for field trip and TA	KVK		1	9,720	9,720	
Materials (registration kit, supply of literature and training aid)	KVK	head	40	378	15,120	
Miscellaneous and supporting staff	KVK		1	2,160	2,160	
Institutional Charges 11.1%	KVK		1	11.1%	6,214	For total cost for KVK
Sub-total = Unit cost per training		times			62,134	
set cost per training (in KVK, 2days, 40 participants)		times	40	62,134	2,485,360	Number of training: 1 st 7 x 2, 2 nd 7 x 2, 3 rd 6 x 2 Breakdown on quantity is given below
Total					2,485,360	

Source: JICA survey team

The training is conducted Sub-PMU wise and 40 participants per training, thus number of participants is sum up in each Sub-PMU and divided by 40 to calculate number of the training.

Table 2.3.6 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of SP	6	6	10	7	5	= (Total number of participants in Sub-PMU)/ 40 Stage total: 7 times
	Participants (SP x2 group x 3)	36	36	60	42	30	
	No. of Training	1	1	2	2	1	
2 nd stage	No of SP	3	7	7	3	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 7 times
	Participants (SP x3)	18	42	42	18	24	
	No. of Training	1	2	2	1	1	
3 rd stage	No of SP	3	3	12	2	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 6 times
	Participants (SP x3)	18	18	72	12	24	
	No. of Training	1	1	2	1	1	
Sub total		3	4	6	4	3	
Number of Training (Sub total x 2 season)		6	8	12	8	6	Total No of training: 40 times

Source: JICA survey team

2.3.5 ToT on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth for DoA, DoH, NGO and Anganwadi Workers

The ToT is conducted twice in each stage in KVK for 2 days in Sub-PMU wise for DoA, DoH, Anganwadi staff of TSG-SP. Capacity of KVK for training is 40 participants.

Table 2.3. 7 Breakdown of Estimated Costs for ToT on Nutritious Vegetables Cultivation Techniques

Particular	Source	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Facilitator (PMU and lead NGO)	Other	persons	2	1,500	3,000	
Venue (KVK)	KVK	hall			0	
Boarding and lodging charges	KVK	head	80	270	21,600	(4 session per day) x 2 days = 8
Trainers (KVK)	KVK	persons	8	540	4,320	
Cost of transportation for field trip and TA	KVK		1	9,720	9,720	
Materials (registration kit, supply of literature and training aid)	KVK	head	40	378	15,120	
Miscellaneous and supporting staff	KVK		1	2,160	2,160	
Institutional Charges 11.1%	KVK		1	11.1%	6,214	For total cost for KVK
Sub-total = Unit cost per training		times			62,134	
set cost per training (in KVK, 2days, 40 participants)		times	40	62,134	2,485,360	Number of training: 1 st 7 x 2, 2 nd 7 x 2, 3 rd 6 x 2 Breakdown on quantity is given below
Total					2,485,360	

Source: JICA survey team

The training is conducted Sub-PMU wise and 40 participants per training, thus number of participants is sum up in each Sub-PMU and divided by 40 to calculate number of the training.

Table 2.3. 8 Breakdown of Quantity for Number of Training

		Jaipur	Kota	Udaipur	Ganganagar	Hanumangarh	Remarks
1 st stage	No of SP	6	6	10	7	5	= (Total number of participants in Sub-PMU)/ 40 Stage total: 7 times
	Participants (SP x2 group x 3)	36	36	60	42	30	
	No. of Training	1	1	2	2	1	
2 nd stage	No of SP	3	7	7	3	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 7 times
	Participants (SP x3)	18	42	42	18	24	
	No. of Training	1	2	2	1	1	
3 rd stage	No of SP	3	3	12	2	4	= (Total number of participants in Sub-PMU)/ 30 Stage total: 6 times
	Participants (SP x3)	18	18	72	12	24	
	No. of Training	1	1	2	1	1	
Sub total		3	4	6	4	3	
Number of Training (Sub total x 2 season)		6	8	12	8	6	Total No of training: 40 times

Source: JICA survey team

2.3.6 Training for SHGs on Basic Vegetables Cultivation Techniques on Tomato, Onion and Chilies

The 1 day training is conducted twice in each stage in Rabi and Kharif in group wise for 2 basic vegetable cultivation groups separately, in total 20 participants per training.

Table 2.3. 9 Breakdown of Estimated Costs for Training for Basic Vegetables Cultivation group

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Facilitator (NGO)	persons	2	0	0	In Sub-project level
Venue (Sub-project site)	place	2	1,000	2,000	
Tea and snack		80	30	2,400	1 group = 20 members
Lunch		80	120	9,600	20 x 2 group x 2 season = 80
Trainers (NGO, community motivator)	persons	2	0	0	
Miscellaneous expenses(Banner, stationaries)		2	700	1,400	
Transportation for participants		80	100	8,000	1 group = 20 members
Seed		80	320	25,600	20 x 2 group x 2 season = 80
Mulch sheet (100m2)		40	1,800	72,000	
Mulch sheet (100m2 for non-member)		8	1,800	14,400	8 non-member women/WUA
Nursery kit (1 set/20person)		2	10,000	20,000	
Sub-total = Unit cost per training	times			141,000	20 participants x 2 group x 2 times
set cost per meeting	times	82	155,400	12,742,800	No of SP: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				12,742,800	

Source: JICA survey team

2.3.7 Training for SHGs on Nutritious Vegetables Cultivation Techniques on Swiss Chard, Kale and Amaranth

The 1 day training is conducted twice in each stage in Rabi and Kharif in group wise for 2 nutritious vegetable cultivation groups separately, in total 20 participants per training.

Table 2.3. 10 Breakdown of Estimated Costs for Training for Nutritious Vegetables Cultivation group

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Facilitator (NGO)	persons	2	0	0	In Sub-project level
Venue (Sub-project site)	place	2	1,000	2,000	
Tea and snack		80	30	2,400	1 group = 20 members
Lunch		80	120	9,600	20 x 2 group x 2 season = 80
Trainers (NGO, community motivator)	persons	2	0	0	
Miscellaneous expenses(Banner, stationaries)		2	700	1,400	
Transportation for participants		80	100	8,000	1 group = 20 members
Seed (Swiss chard, kale, amaranth)		80	320	25,600	20 x 2 group x 2 season = 80
Fertilizer		2	100	200	
Insecticide, fungicide		2	750	1,500	
Water can		2	350	700	
Sprayer		2	780	1,560	
Shade net		2	1,400	2,800	
Poly-pots for nursery (1000pieces)		2	1,850	3,700	

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Blood test for Anemia, CBC (Complete Blood Count)		120	220	26,400	20 members x 3 times x 2 groups = 120
Seed distribution to Anganwadi staff	Packet	5	80	400	
Sub-total = Unit cost per training	times			59,460	20 participants x 2 group x 2 times
set cost per meeting	times	82	86,260	7,073,320	No of SP: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				7,073,320	

Source: JICA survey team

2.3.8 Lecture on nutrition for women's health

The 1/2 day lecture is conducted 20 times per year from 4th year of the Project for 5 years in total 30 participants per lecture.

Table 2.3. 11 Breakdown of Estimated Costs for Lecture on Nutrition for Women's Health

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Venue (Lecture room)	place	1	1,000	1,000	
Resource person	person	1	500	500	
Tea and snack	set	30	30	900	30 participants per lecture
Handout	set	30	30	900	
Seed ditribution	set	30	80	2,400	
Sub-total = Unit cost per lecture	times			5,700	
set cost per meeting	times	100	5,700	570,000	20 times x 5 years = 100 times
Total				570,000	

Source: JICA survey team

2.3.9 Training for SHGs on How to Cook Nutritious Vegetable Swiss Chard, Kale and Amaranth

The 1 day training is conducted twice in each stage in Rabi and Kharif in group wise for 2 nutritious vegetable cultivation groups separately, in total 20 participants per training.

Table 2.3. 12 Breakdown of Estimated Costs for Training on How to Cook Nutritious Vegetables

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Facilitator (NGO)	persons	2	0	0	In Sub-project level
Venue (Sub-project site)	place	2	1,000	2,000	
Tea and snack		80	30	2,400	1 group = 20 members
Lunch		80	120	9,600	20 x 2 group x 2 season = 80
Trainers (NGO, community motivator)	persons	2	0	0	
Miscellaneous expenses(Banner, stationaries)		2	700	1,400	
Transportation for participants		80	100	8,000	1 group = 20 members
Sub-total = Unit cost per training	times			23,400	20 x 2 group x 2 season = 80
set cost per meeting	times	82	23,400	1,918,800	No of SP: 1 st 34, 2 nd 24, 3 rd 24, in total 82
Total				1,918,800	

Source: JICA survey team

2.3.10 Booklet for Cooking

The 1/2 day meeting is conducted 10 times in 4th year of the Project (after harvest of nutritious vegetable) for compile recipe and publish 5,000 copies of the recipe book.

Table 2.3. 13 Breakdown of Estimated Costs for Booklet for Cooking

Particular	Unit	Quantity	Unit Price (INR)	Amount (INR)	Remarks
Meeting among universities, KVKs and WCD for compilation	Person/day	10	1,000	10,000	
Tea and snack	head	300	30	9,000	30 person x 10 times
Cooking materials (for photo)	session	10	500	5,000	
Printing of booklet	Lump-sum	5,000	200	1,000,000	5,000 booklet x INR200
Total				<u>1,024,000</u>	

Source: JICA survey team

Attachment 7.2.8
Cost Estimate for Component 6:
Project Management and Monitoring

Attachment 7.2.8 Cost Estimate for Component 6

Procurement of Equipment						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
Sub-Component 6-1: Procurement of Office Equipment						
Transportation cost for PMU officer	VM	2184	105,000	229,320,000	Market price	26 vehicles (6 vehicles for PMU 4 vehicles for each Sub-PMU) / month
Computer, desk top type, including software	nos	35	100,000	3,500,000	Market price	7 set for each Sub-PMU
Photo Copier	nos	5	250,000	1,250,000	Market price	1 set for each Sub-PMU
Furniture	nos	5	200,000	1,000,000	Market price	1 set for each Sub-PMU
Survey Equipment	nos	5	500,000	2,500,000	Market price	1 set for each Sub-PMU
Total (Sub-Component 6-1)				237,570,000		
Sub-Component 6-2: NGO Services						
I Sub-PMU:Jaipur						
1 personal expenses	No. of WUA					
Team leader/Water	man-	72	35,000	2,520,000	NGO	
Sector expert (Agri and WUA/Gender)	man-	288	25,000	7,200,000	NGO	
Community Motivator	man-	1,413	8,000	11,304,000	NGO	
Sub total				21,024,000		
2 Tarvel allowance						
Team leader	man-day	960		0		
Sector expert (Agri and WUA/Gender)	man-day	2,880		0		
Community Motivator	man-day	1,920		0		
Sub total		0		0		
2 Nomal transportation	No. of trip					
Vehicle charge and Motor bike	trip	2,880	1,900	5,472,000	NGO	
Transportation cost for Community Motivator	trip		0	0		
Sub total				5,472,000		
3 Other expenditure				0		
Stationery and others	month	72	10,000	720,000	NGO	
Sub total		0		0		
Sub total				720,000		
4 Management cost						
Contingency & Quality Control Charges	%	1	2%	544,320		
NGO Administration Charges	%	1	5%	1,360,800		
Sub total				1,905,120		
Total				29,121,120		
II Sub-PMU:Kota						
1 personal expenses	No. of SP, WUA					
Team leader/Water	man-	72	35,000	2,520,000	NGO	
Sector expert (Agri and WUA/Gender)	man-	336	25,000	8,400,000	NGO	
Community Motivator	man-	2,913	8,000	23,304,000	NGO	
Sub total				34,224,000		
2 Tarvel allowance	No. of trip/WUA/ month					
Team leader	man-day	1,968		0		
Sector expert (Agri and WUA/Gender)	man-day	5,904		0		
Community Motivator	man-day	3,936		0		
Sub total		0		0		
2 Nomal transportation	No. of trip					
Vehicle charge and Motor bike	trip	5,904	1,900	11,217,600	NGO	
Transportation cost for Community Motivator	trip	3936	0	0		
Sub total				11,217,600		
3 Other expenditure						
Stationery and others	month	72	10,000	720,000	NGO	
Sub total		0		0		
Sub total				720,000		
4 Management cost						
Contingency & Quality Control Charges	%	1	2%	923,232		
NGO Administration Charges	%	1	5%	2,308,080		
Sub total				3,231,312		
Total				49,392,912		

Procurement of Equipment						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
III Sub-PMU:Udaipur/Jodhpur						
1 personal expenses	No. of WUA					
Team leader/Water	man-	72	35,000	2,520,000	NGO	
Sector expert (Agri and WUA/Gender)	man-	360	25,000	9,000,000	NGO	
Community Motivator	man-	3,639	8,000	29,112,000	NGO	
		0		0		
Sub total				40,632,000		
2 Tarvel allowance	No. of trip/WUA/month					
Team leader	man-day	2520	0	0		
Sector expert (Agri and WUA/Gender)	man-day	7560	0	0		
Community Motivator	man-day	5040	0	0		
		0		0		
Sub total				0		
2 Nomal transportation	No. of trip					
Vehicle charge and Motor bike	trip	7,560	1,900	14,364,000	NGO	
Transportation cost for Community Motivator	trip	5040	0	0		
Sub total				14,364,000		
3 Other expenditure						
Stationery and others	month	72	10,000	720,000	NGO	
		0		0		
Sub total				720,000		
4 Management cost						
Contingency & Quality Control Charges	%	1	2%	1,114,320		
NGO Administration Charges	%	1	5%	2,785,800		
Sub total				3,900,120		
Total				59,616,120		
IV Sub-PMU:Ganganagar						
1 personal expenses	No. of SP, WUA					
Team leader/Water	man-	72	35,000	2,520,000	NGO	
Sector expert (Agri and WUA/Gender)	man-	288	25,000	7,200,000	NGO	
Community Motivator	man-	2,322	8,000	18,576,000	NGO	
		0		0		
Sub total				28,296,000		
2 Tarvel allowance						
Team leader	man-day	1560		0		
Sector expert (Agri and WUA/Gender)	man-day	4680		0		
Community Motivator	man-day	3120		0		
		0		0		
Sub total				0		
2 Nomal transportation	No. of trip					
Vehicle charge and Motor bike	trip	4,680	1,900	8,892,000	NGO	
Transportation cost for Community Motivator	trip	3120	0	0		
Sub total				8,892,000		
3 Other expenditure						
Stationery and others	month	72	10,000	720,000	NGO	
		0		0		
Sub total				720,000		
4 Management cost						
Contingency & Quality Control Charges	%	1	2%	758,160		
NGO Administration Charges	%	1	5%	1,895,400		
Sub total				2,653,560		
Total				40,561,560		
V Sub-PMU:Hanumangarh						
1 personal expenses	No. of WUA					
Team leader/Water	man-	72	35,000	2,520,000	NGO	
Sector expert (Agri and WUA/Gender)	man-	360	25,000	9,000,000	NGO	
Community Motivator	man-	3,726	8,000	29,808,000	NGO	
		0		0		
Sub total				41,328,000		
2 Tarvel allowance	No. of trip/WUA/month					
Team leader	man-day	2544		0		
Sector expert (Agri and WUA/Gender)	man-day	7632		0		
Community Motivator	man-day	5088		0		
		0		0		
Sub total				0		
2 Nomal transportation	No. of trip					
Vehicle charge and Motor bike	car day	7,632	1,900	14,500,800	NGO	
Transportation cost for Community Motivator	trip	5088	0	0		
Sub total				14,500,800		

Procurement of Equipment						
Particular	Unit	Quantity	Unit price (Rs.)	Amount (Rs.)	Source of unit price	Remarks
3 Other expenditure						
Stationery and others	month	72	10,000	720,000	NGO	
Sub total				720,000		
4 Management cost						
Contingency & Quality Control Charges	%	1	2%	1,130,976		
NGO Administration Charges	%	1	5%	2,827,440		
Sub total				3,958,416		
Total				60,507,216		
Total (Sub-Component 6-2)				239,198,928		
Sub-Component 6-3						
1 Training of Project Staff on ESC	Sub-PMU	5		250,000		
Resource person fees and travel	person·day	5	10,000	50,000	Estimated by JICA Survey Team	
Refreshment for participants	person·day	200	500	100,000	Estimated by JICA Survey Team	
Training materials for participants	No.	200	250	50,000	Estimated by JICA Survey Team	
Venue and other organising costs - Lump sum	times	5	10,000	50,000	Estimated by JICA Survey Team	
2 Monitoring the soil and water qualities, pollution testing during construction	lumpsum	1	600,000	600,000	Estimated by JICA Survey Team	
3 Annual Environmental Assessments (In-house) for 10 sub-projects for 5 years	Sub-Project	50	20,000	1,000,000	Estimated by JICA Survey Team	
4 Third party environmental assessment				4,500,000		
Consultants fees	person·day	255	10,000	2,550,000	Estimated by JICA Survey Team	
Field travel and accommodation	person·day	255	5,000	1,275,000	Estimated by JICA Survey Team	
Travel of consultants to Jaipur	trip	9	20,000	180,000	Estimated by JICA Survey Team	
Technical assessments, surveys, testing etc.	lumpsum	3	100,000	300,000	Estimated by JICA Survey Team	
Meetings, workshop and other expenses	lumpsum	3	65,000	195,000	Estimated by JICA Survey Team	
Total (Sub-Component 6-3)				6,350,000		
Sub-Component 6-4: Monitoring and Evaluation						
Monitoring and Evaluation Expert 1	MM	15.00	328,000	4,920,000		
Monitoring and Evaluation Expert 2	MM	22.00	328,000	7,216,000		
Car rental	MM	23.00	105,000	2,415,000	Estimated by JICA Survey Team	
House rental cost for local consultant (for 2 persons)	HM	23.00	44,800	1,030,400		
Total (Sub-Component 6-4)				15,581,400		
Sub-Component 6-5: Transportation Cost for Consultant						
Transportation cost for consultant	nos	450	105,000	47,250,000	Market price	
Total (Sub-Component 6-5)				47,250,000		
Grand Total				545,950,328		

Attachment 7.2.9
Cost Breakdown for the
Consulting Services

Attachment 7.2.9 : Cost Breakdown for the Consulting Services

USD = JPY 113.1
 INR = JPY 1.69

	Unit	Qty.	Foreign Portion		Local Portion		Combined Total
			(JPY)		INR		
			Rate	Amount ('000)	Rate	Amount ('000)	('000) JPY
A Remuneration							
1 Professional (A)	M/M	224	2,765,700	619,517	0	0	619,517
2 Professional (B)	M/M	628	0	0	328,000	205,984	348,113
3 Supporting Staffs	M/M	1850	0	0	60,000	111,000	187,590
Subtotal of A				619,517		316,984	1,155,220
B Direct Cost							
1 International Travel Cost							
(a) International Air Fare							
TYO-DEL/One Way	trip	8	448,000	3,584	0	0	3,584
DEL-TYO-DEL/Round	trip	58	0	0	186,000	10,788	18,232
DEL-TYO/One Way	trip	8	0	0	186,000	1,488	2,515
(b) Excess Charge							
TYO-DEL	kg	100	6,760	676	0	0	676
DEL-TYO	kg	100	0	0	3,000	300	507
(c) Mobilization Cost							
1st Trip	trip	8	84,500	676	0	0	676
Other Trip	trip	58	33,800	1,960	0	0	1,960
2 Duty Trip Cost for International Consultants							
(a) Domestic Air Fare							
DEL-JAI-DEL/Round	trip	65	0	0	9,000	585	989
JAI-JOD-JAI/Round	trip	30	0	0	9,000	270	456
JAI-UDA-JAI/Round	trip	30	0	0	9,000	270	456
3 Office supporting staff							
Office manager	MM	77	0	0	60,000	4,620	7,808
Secretary	MM	77	0	0	40,000	3,080	5,205
Other assistants	MM	231	0	0	40,000	9,240	15,616
4 Hotel Accommodation Charge for Assignment & Duty Trip							
(a) Stay at Delhi	nights	75	0	0	5,500	413	697
(b) Stay at Jaipur	nights	60	0	0	3,500	210	355
5 Per Diem Allowance in Jaipur for	MM	224	0	0	119,000	26,656	45,049
6 International Communication Cost	month	75	0	0	15,000	1,125	1,901
7 Transportation-Motorbike							
(a) Motorbike Procurement	nos	25	0	0	148,000	3,700	6,253
(b) O&M cost for bikes (incl. insurance)	VM	1,830	0	0	5,000	9,150	15,464
8 Office rental cost	months	75	0	0	120,000	9,000	15,210
9 Office supply cost	months	75	0	0	60,000	4,500	7,605
10 Office furniture & equipment (PC)	LS	1	0	0	888,000	888	1,501
11 House rental cost							
For international consultant (for	HM	83	0	0	80,000	6,640	11,222
For local consultant (for 5 persons)	HM	142	0	0	64,000	9,088	15,359
12 Report and documentation cost	month	77	0	0	20,000	1,540	2,603
Subtotal of B				6,896		103,551	181,897
C Overseas Training Cost	LS	1	0	0	3,000,000	3,000	5,070
Subtotal of C				0		3,000	5,070
Total				626,413		423,535	1,342,187

Chapter 8
Attachment

Attachment 8.11.1
Program and Material of
Japanese Technology Seminar



**The Preparatory Survey on Rajasthan Water Sector
Livelihood Improvement Project in the Republic of India**

Office Ground Floor of the Chief Engineer Office of
MID, Snichai Bhawan, Jaipur, Rajasthan
Telephone: +91-97729-84307 (Team Leader)

Introduction Seminar on Japanese Technologies for Agriculture

(Refractometer, Mulching, Roll Planter, Ice Battery and etc)

Program

Time	Topic	Speaker
13 May 2016		
10:00 -10:30	Registration (Hall in Hotel Royal Orchid)	JICA Survey Team
10:30 - 10:40	Opening remarks	Mr. Akihiro Kimura, JICA India
10:40 -10:50	Concept and strategies of RWSLIP (Potential of high value agri- product in Rajasthan)	Mr. Fumiaki Murakami, JICA Survey team
10:50 - 11:35	How to use refractometer for sweetness measurement	ATAGO India
11:35 - 11:50	Tea break	
11:50 - 12: 50	How to improve sweetness of fruits and vegetables	JICA Survey team
12:50 - 13:00	Ice battery to improve transportation	Innovation thru Energy (JICA Survey team)
13:00 - 14:00	Lunch	Video by ITE
14:00 -15:00	Water saving agricultural materials (plastic mulch, mulch sheet, roll planter and etc)	Kuraray India, Mitsukawa & others (JICA Survey team)
15:00 -15:50	How to save water using agro-materials	JICA Survey team
15:50 - 16:00	Ending remarks	Dr. S.S. Manohar (JICA Survey team)



Introduction Seminar on Japanese Technologies for Agriculture

by
Preparatory Survey Team
on Rajasthan Water Sector
Livelihood Improvement Project
(RWSLIP)

13 May 2016



NIPPOK KOEI
Technology and Training Agency

RWSLIP

Background)

- RAJAMIP (Rajasthan Minor Irrigation Improvement Project) has been completed in 2015.
- WRD requested to formulate a new project, RWSLIP, for medium and minor irrigation scheme covering 24-27 districts.
- JICA (Japan International Cooperation Agency) dispatched a preparatory team for RWSLIP on Feb 2016. The preparatory study will be completed by middle of August 2016.

2

Japanese Technologies for Agriculture

In addition to the project formulation, the team has a task for introduction of Japanese technologies for agriculture to officers in Rajasthan.

Refractometer (Atago India)	Cultivation
Water saving agricultural materials (Kuraray India)	
Roll Planter (MitsuiKawa Co. Ltd.)	
Ice battery (ITE)	Marketing

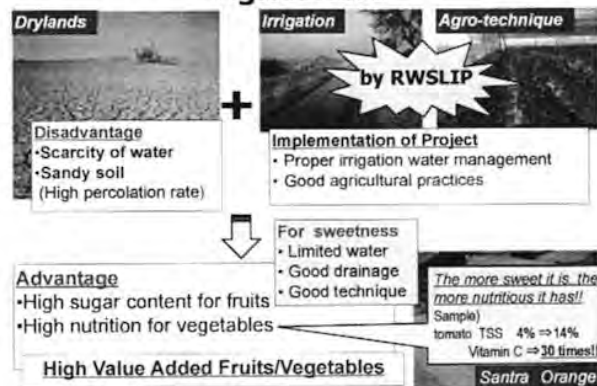
3



RWSLIP Project Area



Strategy: Rajasthan's Irrigation & Agriculture




Strategy for Promoting Rajasthan's Agriculture
Rajasthan High Quality Agro-Brand:
"RAJASTHAN's SWEET FRUITS & VEGETABLES"

Fruits and vegetables in Rajasthan have higher sugar content than those of products in Japan

	Orange	Cucumber	Tomato	Fruit/Tomato
In Japan	12-14 %	2-3 %	4-5 %	8-10 %
In Rajasthan	14-16 %	8 %	10 %	

Cucumber
 Himachal: 4.0%
 Chandigarh: 3.5%



Comparison: High Value Added Fruits/Vegetables

- (1) Organic → Invisible (cannot check it instantly)
 → Need the certificate
 → Not tangible (cannot feel it)
- (2) Sugar-content → Visible (can check instantly by Refractometer)
 → Tangible by the taste



1. Overall Activities

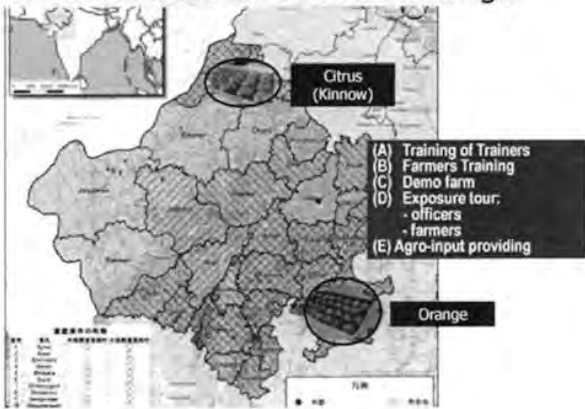
Agriculture/ Agro-Processing/ Marketing

- (1) Improvement productivity & diversification to water-wise crops:
 - by rehabilitation
 - by ToT/farmers training & agro-input
- (2) Promotion/ToT/farmers training & agro-input for:
 - Spices (cumin, coriandar, ...)
 - Medicinal plants (isabgol, linseed ...)
 - Basic vegetable by SHG
 - Nutritious vege. by SHG (Kale ...)

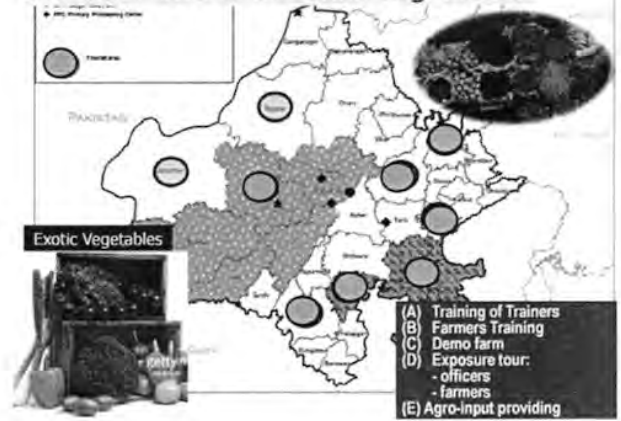


- (3) Improvement of Supporting System
 - Farmer-Friendly Manual preparation
 - NGO strengthening
 - TSG reinforcement

1a. Focal Areas for Citrus & Orange



1b. Focal Towns for Exotic Vegetables



END



Automatic Refractometer



Automatic Polarimeter



Index

- ❖ Bits of Knowledge
- ❖ Uses of Refractometer in fruit testing
- ❖ Method of testing
- ❖ Chart for Fruits
- ❖ Chart for Vegetable

Bits of knowledge

Our specialist can help provide you the general concept of Atago products .

Ichiro, A Japanese Confectioner

Click on any of the specialist for more details

Let's go over how to measure sweetness and concentration with a refractometer



©Cott

A REFRACTOMETER MEASURES THE CONCENTRATION OF A SAMPLE BY USING BASIC PRINCIPLE OF LIGHT REFRACTION

Bits of Knowledge



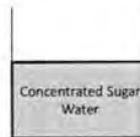
Ichiro, A Japanese confectioner

The figure below shows two cups. One contains only water while the other contains a solution sucrose and water.

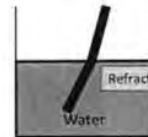
Let's put a straw into the glass with the water.

Can you see how the straw looks bent?

When light passes from one medium to another, in this case from air to water, the light slows down and makes any object appear to be bent. This is the principle of light refraction



Concentrated Sugar Water



Water

Refraction of Light

A REFRACTOMETER MEASURES THE CONCENTRATION OF A SAMPLE BY USING BASIC PRINCIPLE OF LIGHT REFRACTION

Bits of Knowledge



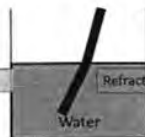
Ichiro, A Japanese confectioner

Now, We will place a straw into the sugar solution Can you see. That this straw appears to be more bend in this glass??

The Refraction of Light causes an object to appear more Bend in a substance of higher concentration interesting, huh?



Concentrated Sugar Water



Water

Bends more than in water

Refraction of Light

A REFRACTOMETER MEASURES THE CONCENTRATION OF A SAMPLE BY USING BASIC PRINCIPLE OF LIGHT REFRACTION

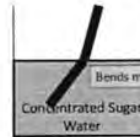
Bits of Knowledge



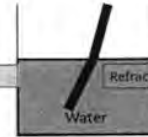
Ichiro, A Japanese confectioner

A Refractometer is an instrument that measures the refraction of light through a substance. The refractive index becomes in a substance of higher concentration.

A refractometer has a wide variety of uses such as measuring sugar and liquid concentration. Refractometer are sometimes called "Sugar concentration meters," and "Density Meters," depending on the application



Concentrated Sugar Water



Water

Bends more than in water

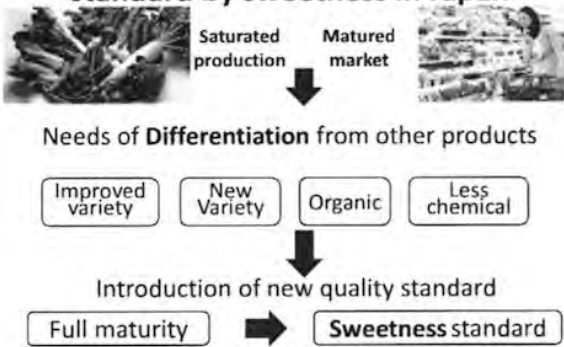
Refraction of Light



Contents

1. Background of Introduction of quality standard by sweetness in Japan
2. Branding of high value fruits and vege. with high sweetness & rich nutrition
3. Branding and Promotion Maharaja fruit and vegetables
4. Use of measurement tools and machinery for Sweetness check
5. Measuring principle of internal sensor
6. Relevance between sweetness and nutrition (Tomato)
7. Content of Vitamin C in vegetables with different method
8. Technical input for sweet and nutritious vegetables and fruit
9. Basic strategies
10. Why mulch? (1), (2), (3)
11. Why drip irrigation?
12. Drip irrigation + Mulch Vegetables
13. Drip irrigation + Mulch Fruit
14. Design of drip irrigation + Mulch
15. Water application & Fertigation (Japanese orange)
16. Effects of drip irrigation + Mulch
17. Distribution of sugar contents
18. Nutritional improvement

Background of Introduction of quality standard by sweetness in Japan



Branding of high value fruits and vege. with high sweetness & rich nutrition

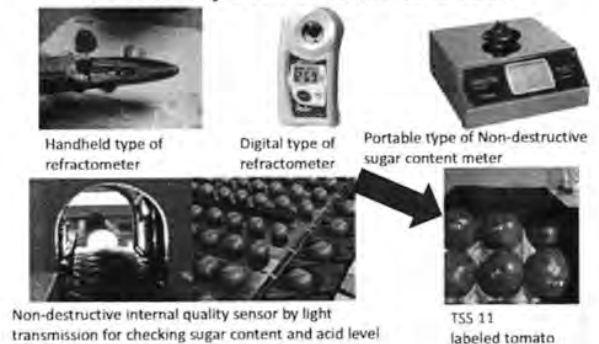


Branding and Promotion Maharaja fruit and vegetables

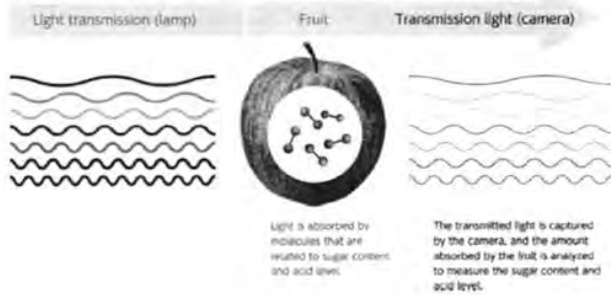
- Products from Rajasthan (Country of Maharaja)
- High quality (superb taste, high nutrition)
- Good aroma
- Good for health
- Brand image
- Brand icon
- Promotion to rich people



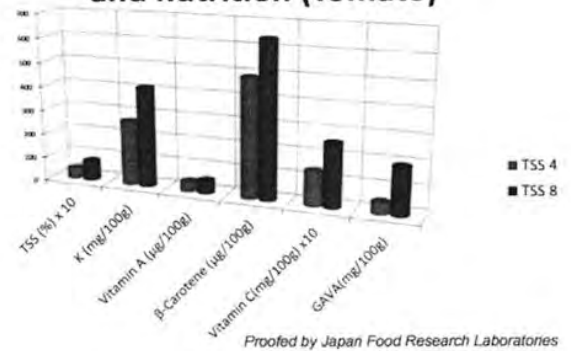
Use of measurement tools and machinery for Sweetness check



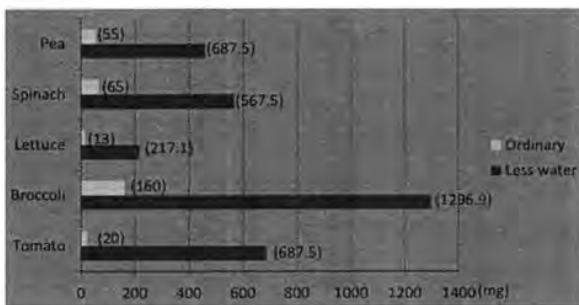
Measuring principle of internal sensor



Relevance between sweetness and nutrition (Tomato)



Content of Vitamin C in vegetables with different method



Source: National Institute of Health and Nutrition, Japan (Dr. Kaga)

Technical input for sweet and nutritious vegetables and fruit

Prerequisites for high sweetness

- **Water stress**
caused by less irrigation and sandy soil
- **Temperature stress**
caused by gap between day and night
- **Nutrition stress (intermittence of fertilizer)**
caused by percolation through sandy soil

Basic strategies

How to improve the quality

- **Reduce application of water** and give **intermittence** of irrigation using **drip irrigation**
- **Use poly-mulch/sheet mulch**
- Apply not continuous nutrition but **on time nutrition** using **drip irrigation**
- Use **refractometer** to check sugar content and do **on time harvest**

Why mulch? (1)

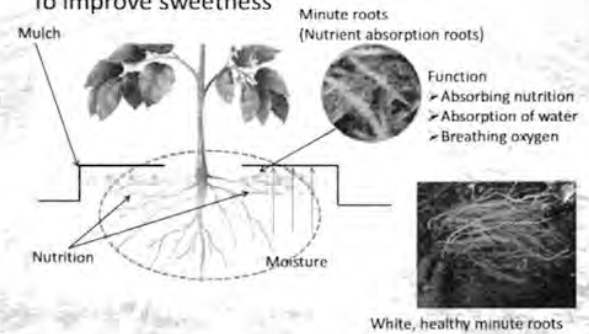
- ❖ It prevents the direct evaporation of moisture 35% from the soil and thus limits the water losses and **conserves moisture**
- ❖ Mulch can facilitate **fertilizer placement** and reduce the loss of plant nutrient through leaching
- ❖ Opaque mulches **prevent germination of annual weeds** from receiving light
- ❖ Reflective mulches (Silver mulch) will **repel certain insects** and **promote photosynthesis** through backside of leaves results in **hastening of growth** and **increase production**, **reduce soil temperature 2-5.9°C**
- ❖ Mulches maintain a warm temperature even during night time which enables **seeds to germinate quickly** and for young plants to rapidly **establish a strong root growth system** and **increase transplant survival**

Why mulch? (2)

- ❖ Early germination almost 2-3 days.
- ❖ Early harvesting of many crops like maize, tomatoes and capsicum
- ❖ Better nodulation in crops like groundnut
- ❖ Less nematodes population and decrease of diseases
- ❖ Water erosion is completely averted since soil is completely covered from bearing action of rain drops
- ❖ Wind erosion is also averted since soil is totally covered.
- ❖ Reduce soil compaction
- ❖ Plastic mulch when compared to organic mulches, it serves for a longer period

Why mulch? (3)

To improve sweetness



Why drip irrigation?

● Merits

- Easy to control water amount and to give intermittence
- Easy to control fertilizer application and to give intermittence

● Demerits

- Need of initial investment

Drip irrigation + Mulch Vegetables

- Water saving (30-50%)
- Increase of production 2-3 times (in case of chilli)
- Labor saving
- Quality improvement
- Decrease of cost of fertilizer, insecticide and fungicide



Drip irrigation + Mulch Fruit

Poly-mulch/Sheet mulch

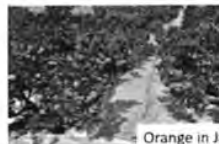
- Water saving
- Reflection from the sheet promote photosynthesis and early coloring
- Protection from weeds
- IPM



Guava at PAU

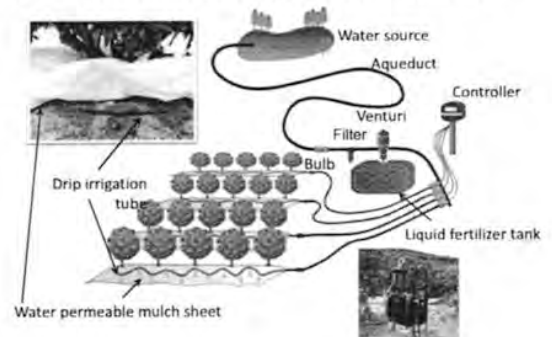
Drip irrigation

- Less water application
- Easy and less fertigation



Orange in Japan

Design of drip irrigation + Mulch



Water application & Fertigation (Japanese orange)

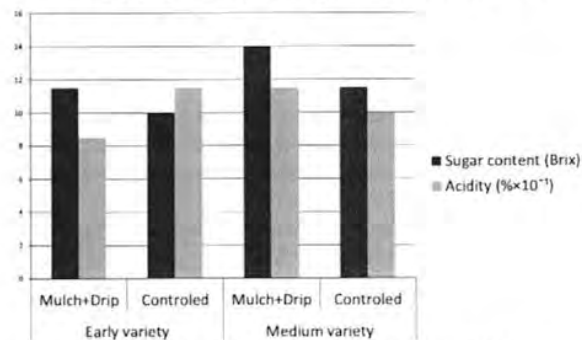
Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Irrigation timing	Early Mid Late	Mid	Early Mid Late	Early Mid			Late	Late	Early			Early Mid Late
Times	3	2	9	6			2	2	2			6
L/tree/time	30	15		30			30	30	60			30
L/month	90	30		180			60	60	120			180
Fertigation timing				Mid Late	Early Mid Late	Early Mid Late	Early Mid			Early Mid Late	Early Mid Late	
Times				6	19	30	20			12	13	
L/tree/time				30	15	15	15			15	15	
L/month				180	285	450	300			180	195	
(Nitrogen g)				(27)	(43.5)	(67.5)	(45)			(27)	(28.5)	

Planting density: 650 trees/ha. Rate of dilution: 150 ppmN, 240 g/tree/year

Irrigation: 2,600 L/tree/year

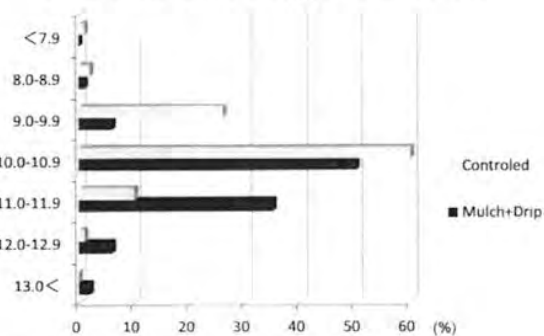
Source: Kinki Chugoku Shikoku Agriculture Research Center, Japan

Effects of drip irrigation + Mulch



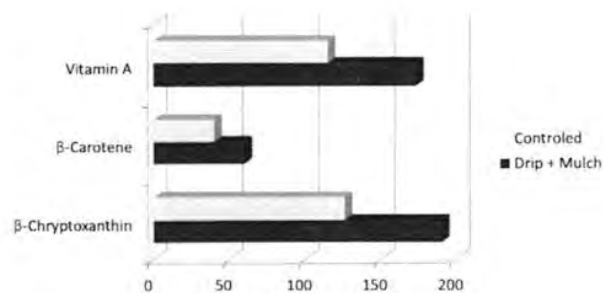
Source: National Agriculture Research Center for Western Region, Japan

Distribution of sugar contents



Source: National Agriculture Research Center for Western Region, Japan

Nutritional improvement



Source: National Agriculture Research Center for Western Region, Japan



Thank you!



Pankaj Garg, CEO

ShinMarubuilding 10F 1-5-1 Marunouchi
Chiyoda-ku Tokyo100-6510 Japan

IceBattery Express™
Chilled & Frozen Logistics System without power



Multi-dimensional Impacts for Environment



Preserve Sea Foods



Preserve Vaccines



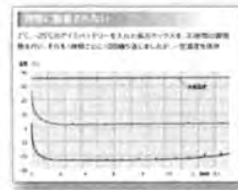
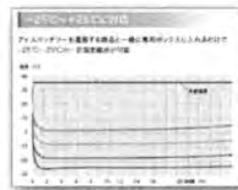
Preserve Perishables

About IceBattery®



What is IceBattery®?

- › Cold plate with setting of multiple temperature
- › Support -25°C to +25°C
- › The colors of IceBattery® mean the differences on temperature of IceBattery®
- › Keep a constant temperature more than 160 hours
- › Scalability: Extend the length of hours by increasing number of IceBattery® plate
- › Maintains constant temperature even after opening and closing Lid operation many times



IceBattery: Refrigerated logistics system that does not use electricity

The Reasons of Guaranteed Results from IceBattery®

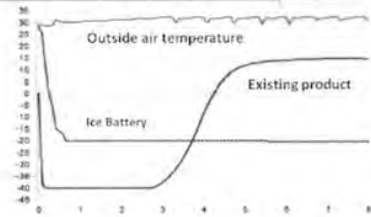
BEFORE	AFTER
<p>Frozen Refrigerator</p>	<p>Icebattery</p>
<p>Trains/ Ships</p>	<p>20 Feet Container</p>

Functions	Now	IceBattery®
Require electricity for start	Yes	Charging 12 hours only
72-200 hours working without electricity	No	Yes
Eco-friendly, CO ₂ Cutting, Energy Saving	No	Yes
Reduce costs for maintaining systems	Same	10%
Preserve freshness without electricity	No	Yes
Hybrid mode	No	Yes
Scale Payload Size from 4 liter box to 20F Container	No	Yes
Keep food fresh, keep temperature/humidity	No	Yes
Possibility for standardization and globalization	No	Yes
Thematically management	NO	Yes

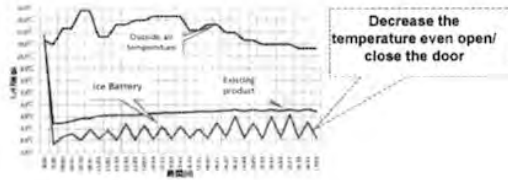
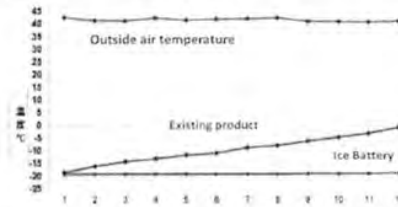
Comparing Dry Ice & Other Products



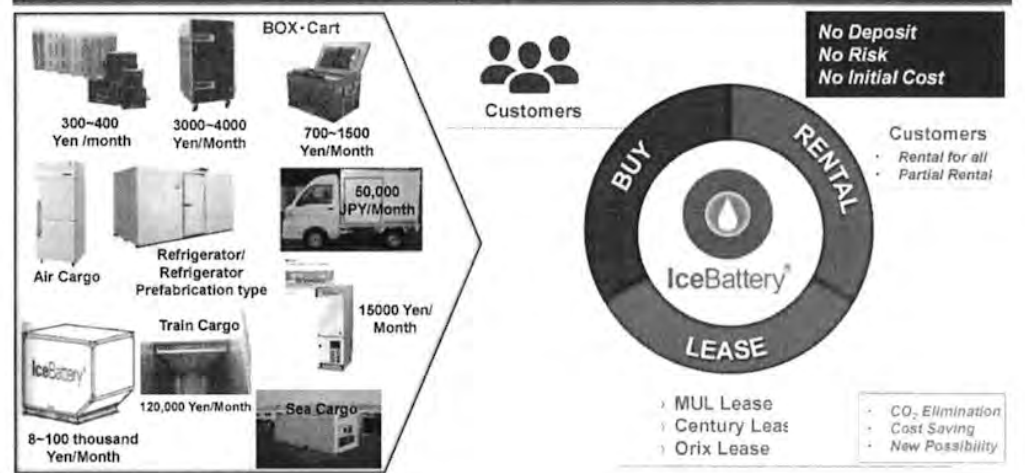
Comparison of IceBattery & dry Ice



Comparison of IceBattery & ice packs



Business Model (Revenue Generation)



Company Profile



Preservation of the natural environment is essential to maintain community's sustainability. Researches have been conducted to protect, restore and conserve natural resources such as air, water and energy. We proudly present customers the best method to use natural resources efficiently. For the ideal lifestyle, we would like to introduce the IBP system (IceBattery Preservation System). We strongly believe that IBP will solve the global problems about the fact that our earth is facing global warming and limited resources.



Pankaj Kumar Garg, CEO

Company Name	IceBattery Co. Ltd
Address	Nihon-sousei Village Shin Marunouchi Building 10F Marunouchi 1-5-1 Chiyoda-ku Tokyo Japan
Contact	Tel : 03-3287-7327 Fax : 03-3287-7328
Website	www.icebattery.jp
Capital	10,000,000 Yen (ITE Co., Ltd 50% funded, 50% Pankaj Garg)
Established	15 th December, 2014
Company Name	ITE Co., Ltd (50% funded)
Capital & Established Date	50,000,000 Yen on 2 nd August 2008
Bank	Bank of Mitsubishi Tokyo UFJ, Mizuho Bank
Management Team	Pankaj Garg, Jerry Tsai (In Taiwan), Hiroshi Hino
Board Members	Ryoji Yamaguchi, manager of Rugby Club at Kyoto Fushimi Engineering High School, Yusuke Fukujin (Affresa)
Job Description	Sales of equipment for saving energy, rent the product, lease, marketing/consultant



Water Saving Agricultural Materials



Contents (Items of Agro-materials)

1. Black and White mulch
2. Silver mulch
3. Mulch sheet
4. Shade net
5. Floating row cover (Betagake) sheet
6. Low tunnel
7. Insulation curtain
8. Superior heat insulation sheet
9. Roll planter

2

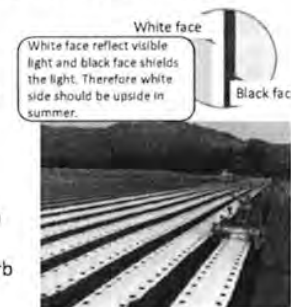
1. Kuraray: Black & White mulch

White face up

- Prevention of soil temperature rise from April to September

Black face up

- Keep soil moisture
- Increase and retention of soil temperature since black color absorb sun light in winter



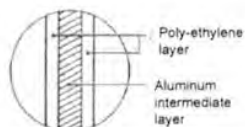
3

2. Kuraray: Bochu silver mulch

- Reduction of soil temperature
- Increase yield
- Improve quality
- Prevent insects

Aphid, *Lampides boeticus*,
Macrostelus striifrons,
Trips palmi

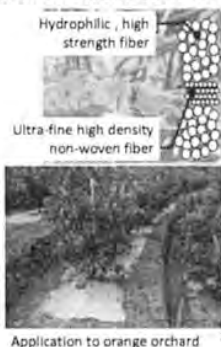
- Reduction of occurrence rate of cucumber mosaic virus



4

3. Kuraray: Urumaru mulch sheet

- Soil temperature suppression
Compared with silver mulch, 5.8°C more suppressed
- Permeability
- Water retention
- High durability (long life)
- Weed-preventing sheet
99% of shading rate



5

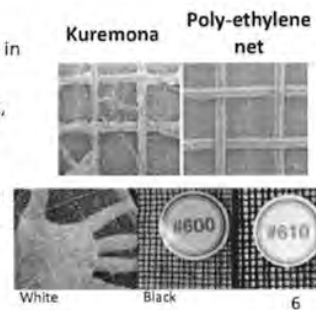
4. Kuraray: Kuremona shade net

White

- Preparation of shade in poly-house
- Protection from frost, wind and insects

Black

- Preparation of shade
- Protection from high heat, frost and cold

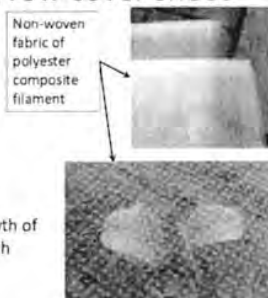


6

5. Mitsubishi Plastics Agri Dream: Paopao floating row cover sheet

- Paopao 90
Light transmittance rate 90%
- Paopao M6
Light transmittance rate 70%

- Blue Paopao
Compared to red light, blue Paopao transmit far-red light. Therefore it can promote growth of long day vegetables like spinach



7

6. Kuraray: Vegita-rich low poly-tunnel

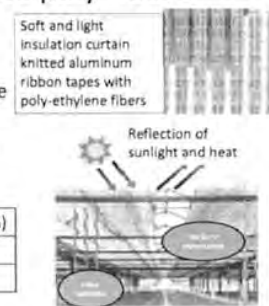
- Light and high retention of temperature in winter
- Promotion of growth
- Early harvest



8

7. Kuraray: Cross-line insulation curtain inside poly-house

- Heat reduction effect
- Shading effect
- Transmitting of moisture
- Retention of temperature in winter



Item No.	Shading rate (%)
AAC55	55
AAC65	65

9

8. Kuraray: Stainless sputtering sheet (Super-heat insulation sheet)

- 4S Stainless net 80
Shading rate: 75-80%
- Control of extreme heat and excessive sunshine
- Acceleration of germination of heat sensitive vegetable seed
- Application on roof top of poly-house



10

9. Mitsukawa & Toray: Roll planter

- Knitted tube type planter for greening
- Easy filling of sand or soil
- Bio-degradable plastic fiber after 5-10 years
- Movable planter
- Good drainage and aeration
- Preventing root temperature by evaporation heat
- Healthy roots and healthy plant → Good products



11

List of Contact

Kuraray India

Unit No-16,17&18, 1st Floor, Southern Park, D-2, District Centre, Saket, New Delhi 110-017, India
TEL : +91-11-4610-2900 FAX : +91-11-4610-2911

Kuraray trading Co.Ltd

Ote center Bldg. F6 1-3-1 Ote-machi Chiyoda-ku, Tokyo 100-0004
TEL: 03-6701-2000

<http://www.kuraray-trading.co.jp/eng/>

Mitsubishi Plastics Agri Dream (Paopao: Floating row cover)

1-2-2 Nihonbashi Hongokucho, Chuo-ku, Tokyo 103-0021, Japan
TEL : +81-3-3279-3241

Toray & Mitsukawa (Roll planter)

http://www.toray.com/csr/focus/gr/gr_003.html

12



PLA ROLL PLANTER AND DRIP IRRIGATION



2016 May
Mitsukawa

What is " PLA-Roll Planter " ?

Knitted tube made of PLA* fiber (*Poly Lactic Acid - biodegradable plastic) that was filled with sand or soil.



PLA fiber : by Toray
Roll Planter: by Mitsukawa

Bio-degradation of PLA Roll Planter



5~10 years later

Soil Filling



Farming in Degraded Land

Greenhouse test - Cabbage



From seeds From seedlings

Greenhouse test - Cabbage



From seeds From seedlings

Greenhouse test - Sweetcorn



From seeds From seedlings

Greenhouse test - Tomato



Open field test Rice (Japonica)



Japonica rice variety growing on concrete rooftop



Onion growing in a plastic container with Roll Planter



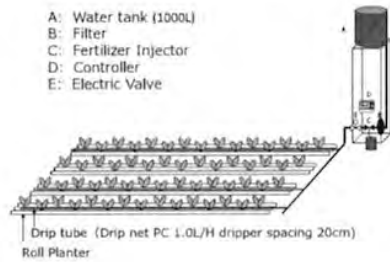
Field test in South Africa



South Africa Experiment Site

South Africa Experiment Site

- A: Water tank (1000L)
- B: Filter
- C: Fertilizer Injector
- D: Controller
- E: Electric Valve



South Africa Experiment Site



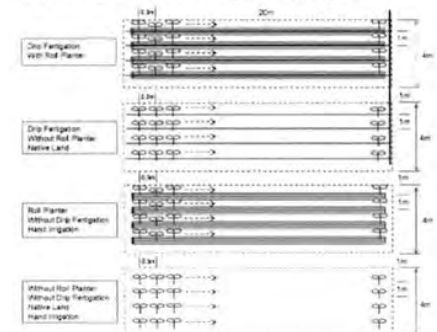
Bell Pepper (Peman)



Feasibility Survey for Expanding Production of Agricultural Products in the Dry Areas of India with Roll Planter Drip Fertigation

With Tamil Nadu Agricultural University
2015-2016

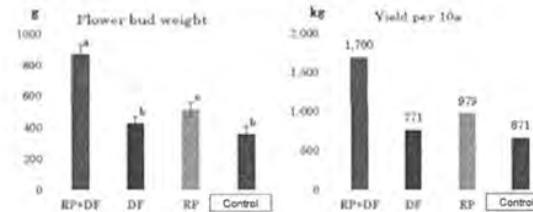
PLA Roll Planter - Farmer's Site (Semmedu) Layout







The flower bud weight of each examination ward and 10a conversion yield

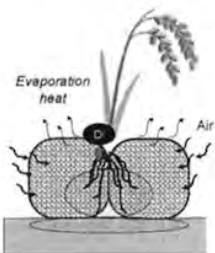


The flower bud weight is mean ± standard deviation (N=5)
 Bars with different superscripts are significantly different at p<0.05 (Tukey's Test)

Merits of PLA Roll Planter

- Light weight -> Easy to Install
- No need for tilling
- No soil erosion -> Good for roof garden etc
- Not limited to specific soil or medium
- Good aeration -> Good for roots
- Enable farming even in devastated land

Plant growth promoting mechanism by combining Roll planter (RP) & Drip irrigation (DI)



1. Effective irrigation (DI)
2. Good Air-Water balance (RP) (good drainage & aeration)
3. No soil solidification (RP)
4. Prevent root temperature rising by evaporation heat (RP)

↓
 Healthy Roots , Healthy Plants

Possibilities of PLA Roll Planter

Agricultural Field

- Farming in degraded land (salt accumulated or bad drainage etc...)

Kitchen garden

- Environment Field
- To suppress desert moving
- Greening of waste land
- Roof top greening

Thank you





Contents

1. Use of Kuraray black & white mulch
2. Use of Kuraray Bochu Silver mulch
3. Use of Kuraray Urumaru mulch sheet
4. Use of Kuraray Kuremona shade net for nursery production tunnel
5. Use of Kuremona shade net for vegetable cultivation
6. Use of Paopao (floating row cover sheet) for germination
7. Use of Paopao (Floating row cover) /Kuremona shade net
8. Use of low poly-tunnel in open field
9. Cross-line insulation curtain for suppression of temperature
10. Kuraray Stainless sputtering sheet for heat insulation

Use of Kuraray Black & White mulch

Purpose: Control of weeds and soil temperature in summer

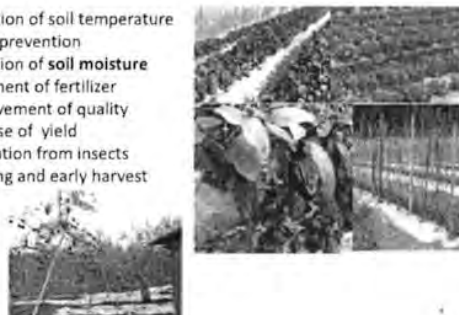
Expected effect:

- Prevention from weed prevalence
- Retention of soil temperature and moisture



Use of Kuraray Bochu Silver mulch

- Reduction of soil temperature
- Weed prevention
- Retention of soil moisture
- Placement of fertilizer
- Improvement of quality
- Increase of yield
- Prevention from insects
- Coloring and early harvest



Use of Kuraray Urumaru mulch sheet

- Water permeability
- Water retention
- Soil temperature suppression
- Weed-prevention



Orange farm with drip irrigation



Permeability in slope



Penetration of liquid fertilizer

Use of Kuraray Kuremona shade net (vinyon) for nursery production tunnel

- Kuremona shade net has higher shading effect compared with polyethylene net
- Kuremona shade net can preserve moisture 20% more compared to polyethylene net
- Kuremona shade net can retain temperature inside of net even in cold winter
- Kuremona shade net prevent crops from insect attack



Use of Kuremona shade net (vinyon) for vegetable cultivation

Purpose: Protection from heat, wind, frost and insects

Expected effect: To supply enough aeration, shade, temperature control and moisture control

White : Preparation of shade in poly-house, protection from frost, wind and insects

Black: Preparation of shade, protection from high heat, frost, cold



Type of Kuremona and their use

Ser.No.	Width(m)	Length (m)	Color	Shading rate (%)	Mech size (mm)	Insect	Coldness	Frost	Fuel	Wind (Sand, Salt)	Translocation
#100	180		100 White	34	1.40	○	◎	◎	○	◎	◎
#200	92-135-180-230		100 White	18	2.10	◎	○	○		○	
#300	92-135-150-180-210-230		100 White	22	1.04	◎	◎	◎			◎
#600	92-135-180		100 Black	51	1.24	◎	○	○	○		◎
#810	180		100 Black	58	1.40	○	○	◎	◎		◎

◎: Very good
○: Good

Use of Paopao (floating row cover sheet) for germination

Purpose: To promote early germination

- 15-20g/m² (very light)
- Width: 60-350cm
- Direct covering

Expected effect:

- Increase of soil surface temperature
- Keeping soil moisture
- Keeping soil softness
- In fine days, it is more remarkable.



After sowing After germination
Floating row cover

Seed germination rate (%) of Spinach after 10 days

Sowing date	Without sheet	With sheet
1 st November	64.5	90.5

Effects of levels of irrigation and trash mulching on cane yield(t/ha) of sugarcane ratoon (average of 1998-99 to 1999-2000)

Treatments	Cane yield(t/ha)	Water Use(mm)	Net return(Rs/ha)	B:C ratio
Irrigation levels				
IW/CPE 0.6(12)*	47.56	1091	33330	2.41
IW/CPE 0.9(18)	49.86	1421	35317	2.44
	49.97	1751	34537	2.37
IW/CPE 1.2(23)				
At 21 days interval (12)	48.76	1091	34802	2.46
CD at 5%	0.86	---	---	---
Mulching				
No mulch	41.08	1339	26273	2.12
Trash mulch 3 t/ha	49.38	1339	35001	2.44
Trash mulch 6 t/ha	56.65	1339	42219	2.68
CD at 5%	0.96	---	---	---

Effects of levels of irrigation and trash mulching on cane yield(t/ha) of sugarcane ratoon (average of 1998-99 to 1999-2000)

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CD at 5%	0.96	---	---	---

**H.P. Agriculture University Palam (H.P.)
Grain yield (kg ha⁻¹) of rainfed wheat under different treatment**

Treatment	Nitrogen	1989-90 ^a	1990-91 ^b	1991-92 ^c
Mulch-tillage(T)				
T ₁ (10 ton/ha.jwild sage in maize and incorporation)	N ₀	2810	3492	2271
	N ₂₀	3271	4291	2711
T ₂ (10 ton/ha.jwild sage in maize and retaining mulch)	N ₀	3102	4123	2532
	N ₂₀	3382	4272	2942
T ₃ (No mulch) farmers practice in maize	N ₀	1531	2231	1231
	N ₂₀	1830	2270	1282
LSD (p=0.05)	Mulch-tillage (T)	333	532	433
	Nitrogen (N)	210	335	274
	Interaction (TxN)	470	750	610

**Under National Horticulture Mission
progress of various activities from 2013-13 to 2015-16(Dec,2015)**

Name of Activity	Unit	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16
Establishment of orchards	ha.	5428	6629	9238	4400
Spice area development	ha.	3341	3488	2213	1933
Renovation of old orchards	ha.	266	238	1161	121
Integrated pest management	ha.	3742	2745	1318	150
Plastic Mulching	ha.	151	324	738	990

Source: Administrative progress report of DOH for the year 2015-16

Yield of yellow sarson as influenced by mulch types

Treatments	Seed yield (kg ha ⁻¹)	
	1996-97 ^a	1997-98 ^b
No mulch	758	941
Water-hyacinth mulch (mulch was spread at 0.5kg M ⁻² after crop emergence-ie 15 DAS)	1035	1288
Rice-straw mulch (mulch was spread at 0.5kg M ⁻² after crop emergence-ie 15 DAS)	1146	1278
L.S.D. (P=0.05) mulch	115	118

S.Sarkar*, M.Paramanick, S.B. Goswami
All India Coordinated Research Project on Water Management, ICRS Gayestpur,
Radhan Chandra Krishi Viswavidyalaya, Gayestpur, Nadia 741234, West Bengal, India

Water use and tuber yield of potato as influenced by mulching and irrigation

	2002-2003		2003-2004		Mean of 2 years	
	M0	M1	M0	M1	M0	M1
Water use (mm)						
I ₀	375 ^a	305 ^a	368 ^a	285 ^a	372 ^a	295 ^a
I ₁	435 ^a	342 ^a	425 ^a	348 ^a	430 ^a	345 ^a
I ₂	491 ^a	375 ^b	485 ^b	395 ^b	488 ^b	385 ^b
I ₃	535 ^a	428 ^b	528 ^b	445 ^b	532 ^b	437 ^b
LSD (0.05)	24.81	34.83	26.77	37.22	42.77	46.78
Tuber yield(kg ha⁻¹)						
I ₀	3200 ^a	6350 ^a	3710 ^a	5650 ^a	3455 ^a	6000 ^a
I ₁	6950 ^a	9130 ^b	6550 ^b	8850 ^b	6750 ^b	8990 ^b
I ₂	9025 ^a	12650 ^c	8980 ^b	12960 ^c	9003 ^b	12805 ^c
I ₃	11,150 ^a	14,500 ^c	11,250 ^b	15090 ^c	11,200 ^b	14,925 ^c
LSD (0.05)	1848.5	2212.5	1235.7	2150.1	1447.5	2209.2

The same superscript letter within the column indicates no significant difference at the 5% level.
Treatments: (Irrigation treatments in main plot and mulching treatments in sub plot)
M⁰=No mulching M¹=6 tons/ha. Rice straw
I₀ = Main irrigation I₁ = Main irrigation + tubularization
I₂ = Main irrigation + tubularization + mulch
I₃ = Early vegetative growth + tubularization + tubularization + mulch
Degree of irrigation: -Irrigation
*Gouranga Kar, Acharya Kumar -Water technology centre (All India Region)(ICAR), Bidhanbari(Bidhanbari)

Chapter 9
Attachment

Attachment 9.1
Policies and Laws Concerning
Environment and Social Consideration

Attachment 9.1: Policies and Laws Concerning Environment and Social Consideration

National policies and laws

Sl.	Act/Policy	Summary
1	National Water Policy, 2002	National level policy addresses the water issues including prioritization, allocation, pricing and interstate issues related to water sharing. Policy states about the consumptive use of water, water conservation and quantification of water pollution.
2	National Environment Policy, 2006	The Policy deals mostly with the issues related to the control and regulation of environmental degradation. Its main concerns are the conversion of wetlands and forestland into agricultural land; adverse impacts from intensive agriculture, the adverse impacts of use of chemical fertilizers and pesticides. Policy underlines the need of water conservation and appropriate management. It also states integrated water resource management.
3	National Forest Policy, 1988	The National Forest Policy brought a radical departure from the conventional forestry governance to a decentralized forestry governance involving communities living in and around forest. Some salient features are <ul style="list-style-type: none"> • High priority to environment and basic needs and economic benefits become last priority • Needs of tribal and local communities first charge on forests • Ban on clear felling of natural forests • Restrictions on introduction of exotic species in forest • No Mining leases unless sufficient safeguards are placed • No subsidy to industries and Industry to depend on farmers for raw materials
4	National Conservation Strategy and Policy Statement and Development, 2002	This policy is a statement of commitment by the National Government for reorienting the existing policies and action with an environmental perspective to give added thrust towards conservation and sustainable development. The strategies and action points were set out for agriculture, horticulture, animal husbandry and irrigation, have guided the states to formulate their environmental policies and guidelines.
5	National Resettlement and Rehabilitation Policy (NRRP) 2007	The Policy recognizes the rights of vulnerable groups such as SCs/STs and calls for minimizing involuntary resettlement and provision of adequate compensation.
6	Environment (Protection) Act, 1986 & EIA Notification, 2006	This Act is the umbrella legislation, which provides for the protection and improvement of environment by preparation of manuals, codes or guides for prevention, control and abatement of environment pollution. EIA Notification governs all environmental clearances for projects mentioned in the Schedule of the Notification. For water sector development projects EIA study is mandatory for any water resources development project having more than 10000 ha of command area and power production > 25 MW.
7	Forest Conservation Act, 1980 (with amendment till date)	The Act provides a central oversight and regulations for forestland diversion for non-forestry purposes. Prior clearance is required from relevant authorities under the Forest (Conservation) Act, 1980 for diversion of any forestland for non-forestry purposes. The State Governments can't de-reserve any forestland or authorize its use for any non-forest purposes without prior approval from the Central government.
8	The Biological Diversity Act 2002	The Act provides for institutional mechanisms and functions for biodiversity conservation in the country. The Act provides for constitution of the National Biodiversity Authority (NBA), State Biodiversity Boards and Biodiversity Management Committees at the local level to ensure biodiversity conservation and disapprove any activity that is detrimental to protection of biodiversity. The Act provides for the mandatory environmental clearance of the projects that may be detrimental to the biological diversity of an area.
9	The Wildlife Protection Act, 1972 (With amendment till date)	The Act provides for protection of wildlife, protection of specified plants and establishment of National Parks, Sanctuaries, Closed Areas, Conservation Reserves and Community Reserves etc. It empowers the forest officers for prevention and detection of offences related to protection of wild animals and plants.
10	Water (Prevention & Control of Pollution) Act, 1974 (with amendment till date)	The act provides for prevention and control of water pollution. Pollution Control Boards have been set up at the national and state level to prevent and control pollution. Pollution Control Boards at the Central and State level play important roles in environmental clearance of River Valley and Irrigation Projects.

11	The Water (Prevention and Control of Pollution) Cess Act, 1977 (With amendment till date)	The Act provides for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution.
12	Air (Prevention and Control of Pollution) Act, 1981	This Act provides for measures to implement effective prevention of air pollution.
13	Municipal Solid Wastes (Management and Handling) Rules, 2000	These Rules include procedures for collection, segregation, storage, transportation, processing and disposal of municipal solid waste.
14	The Insecticide Act, 1968 (Act No. 46 of 1968)	Insecticide trade i.e., import, manufacture, sale and transport, stock and distribution of pesticides, is governed by this Act.
15	The Fertilizer Control Order, 1985	It regulates the movement, quality assurance and fair distributions of chemical fertilizers to the public.
16	The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013	The act provides the framework for the Government to acquire private land for public as well as other purposes. The act ensures consultation with institutions of self-governance and Gram Sabha before land acquisition. The act calls for a humane, participative, informed and transparent process of land acquisition for industrialization, development of essential infrastructure and urbanization.
17	The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	It recognizes forest rights and rights of occupation on forestland by the forest dwellers. Forest dwellers include scheduled tribes and other traditional forest dwellers who have been residing in such forests and/or using the forests for generations but their rights were not recorded or recognized earlier. The Act provides for issuing of forestland titles to individual right holders as well as to communities under Community Rights and Community Forest Resource Rights.
18	The Provisions of Panchayat (Extension to Scheduled Areas) Act, 1996	It is a historic legislation for extension of three tier panchayat raj system to the Fifth Schedule Areas/ tribal areas. The Gram Sabha and Panchayats at appropriate levels have been empowered to establish local self-governance. It empowers the Gram Sabha for approving and sanctioning all matters affecting tribal society, economy and polity. It provides for empowerment of Gram Sabha over natural resources and endows ownership right over Minor Forest Produces, which is the major source of livelihood of tribal people in the Scheduled Areas.
19	The National Green Tribunal Act, 2010	The Act provides for the establishment of a National Green Tribunal for effective and expeditious disposal of cases relating to environmental protection and conservation of forest and other natural resources including enforcement of any legal right.

State policies and laws

Sl.	Act/Policy	Summary
1	The Rajasthan State Water Policy 2010	The Policy prescribes for adoption of a multi-sectoral and integrated approach to water resources planning and development on sustainable basis taking river basin/sub basin as the unit. The state intends to develop all utilizable water resources to the maximum possible extent including surface water - local and imported, groundwater and wastewater, for optimal economic development and social well-being. The policy also takes an approach for assuring an integrated and multidisciplinary approach to planning, evaluation, approval and implementation of Irrigation & Drainage projects, including river basin management, of surface and ground water. The policy also talks about integrated approach to address issues related to water supply and development, water quality, environmental management, water pricing, capacity building, research, monitoring and evaluation of water policy and interventions.
2	The Rajasthan Environment Policy 2010	The draft policy was prepared during 2010 as part of its efforts for preparation of climate change agenda and action plan. It highlights the priority environmental issues of the state and different strategies to address them; actions to be undertaken under environment mission and the climate change agenda for 2010-2014.
3	The Rajasthan State Forest Policy 2010	The key objective is to protect, conserve and develop natural forests of the state in community participation for ecological security of human society. The state intends to achieve environment stability and ecological security through increased vegetal cover, increased carbon sequestration, reduced soil erosion etc. The policy includes provisions for afforestation, wildlife conservation, development of forest communities etc. Combating desertification by undertaking various measures, such as, in-situ soil and water conservation and water

		harvesting, sand dune stabilisation and promoting combined production systems, namely, agro-forestry, silvi-pastoral, agri-silvi-pastoral, agri-horticultural systems. It prescribes for support services and incentives to farmers for promotion of agro-forestry.
4	The Resettlement and Rehabilitation Policy for Water Sector Development	The policy prescribes for R&R in case of Water Sector development projects including the provisions for compensation to displaced families.
5	The Rajasthan Industrial Policy, 1998	The policy deals with regulations and provisions of infrastructural facilities to industries. Water is a priority sector after power and communication. The policy prescribes for establishment of Common Effluent Treatment Plants for large industries to control pollution.
6	The Rajasthan River Basin and Water Resources Planning Act 2015	The Act provides for establishment of State Water Resources Advisory Council and Rajasthan River Basin and Water Resources Planning Authority for sustainable management of River Basins and Sub-Basins through adoption of integrated water resources management approach. The Act provides for planning of all watersheds, irrigation projects, drinking water projects covering all basins, sub-basins, aquifers etc. to prepare state water resources management plan with the emphasis on optimal and efficient utilization of surface and ground water. One of the functions of the Authority is to ensure the Integrated State Water Resources Plan and Water Resource Management Projects prepared by the Water Resource Department are in conformity with economic, hydrologic and environmental viability.
7	The Rajasthan Farmers Participation in Management of Irrigation Systems Act 2000 and Rules 2002 (amended in June 2010)	The Act and Rules provide for formation and governance of farmers organisations / water users associations in the command area for management of irrigation systems. The Water User Associations are expected to promote and secure distribution of water among its users; maintain the irrigation systems; ensure efficient utilization of water for optimal agricultural production; protect the environment and ensure ecological balance.
8	Rajasthan Panchayat Raj Act	The Act provides for the constitution and governance of 3-tier Panchayat Raj system in the state i.e. Village Panchayat, Panchayat Samiti and Zilla Parishad levels.
9	The Rajasthan Irrigation and Drainage Act and Rules, 1954	This act deals with the issues related to the irrigation and drainage, to maintain the quality aspects of the surface and ground water resources.
10	The Rajasthan Regulation and Control of The Development and Management of Ground Water Bill, 2006 (Draft)	This bill deals with establishment of State Ground Water Authority with the powers to notify areas and uses for regulation and control of the development and management of ground water.
11	The Rajasthan Minor Irrigation Works Act	This act deals with critical issues related to the minor irrigation works in the state.
12	The Rajasthan Forest Act, 1953	It regulates conservation and management of forest resources in the state.
13	The Dam Safety Act of Rajasthan, 2002	The Act specifies the importance of dam regulation and responsibilities of State Dam Safety Organization. This Act ensures proper inspection, maintenance and surveillance of existing dams and integration of safety standards in planning, investigation, designing and construction of new dams.
14	The Rajasthan Land Revenue (Allotment of Tank – Bed Lands for Cultivation) Rule 1961	These rules are applicable for allotment of land of tank- bed only for cultivation but not for construction of School, Boarding house and allied purpose.
15	The Rajasthan Soil and Water Conservation Act, 1964	This Act provides for the conservation and improvement of soil and water resources in the state
16	The Rajasthan Flood Plain Zoning Act, 1990	The Act empowers the State Government to notify areas as flood plain zones.

Attachment 9.2
Procedures for Environmental
Clearance in India and Agencies
Responsible for Environmental Clearance

Attachment 9.2: Procedures for Environmental Clearance in India and Agencies Responsible for Environmental Clearance

1. Procedures for Environmental Clearance

The Environment (Protection) Act of 1986 regulates environment clearance of any Project, Industry or Activity. Projects / Industries/ Activities, which would adversely impact the environment, are required to get prior environmental clearance from the Central or State Government according to their scale and type of activity. The environmental clearance process for projects comprises of four stages i.e. a) Screening, b) Scoping, c) Public Consultation and d) Appraisal. A Project Proponent has to identify the site, prepare a pre-feasibility report/ conceptual note and then submit application seeking prior environmental clearance in the prescribed Form 1. If the Project falls in Category A then applications will be submitted to MOEF&CC along with pre-feasibility report and draft ToR for Environment Impact Assessment. The necessary steps for environmental clearance are presented in Fig. 9.1. If the Project falls in Category B and then application is submitted to SEIAA at the state level. If the Project is classified as B1 then EIA has to be carried out and no EIA is required if classified as B2. For B2 category of projects, decisions shall be taken based on screening. Environmental clearance for Category B projects has been presented in Fig. 9.2.

2. Agencies associated with Environment Clearance in India and Rajasthan

2.1 Ministry of Environment, Forest & Climate Change (MOEF&CC, Government of India)

The Ministry of Environment, Forests and Climate Change (MOEF&CC) is the nodal Ministry for the planning, promotion, co-ordination and overseeing the implementation of environmental and forestry policies and programmes including conservation of the country's natural resources including its lakes and rivers, its biodiversity, forests and wildlife, ensuring the welfare of animals, and the prevention and abatement of pollution. While implementing these policies and programs, the Ministry is guided by the principle of sustainable development and enhancement of human well-being.

2.2 National Green Tribunal (NGT)

National Green Tribunal was set up on 18th October 2010 under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources. Tribunal is a specialized body to handle environmental disputes involving multi-disciplinary issues. It shall provide speedy justice for environmental cases and reduce the burden of the higher courts. The Tribunal is mandated to dispose the applications within 6 months of filing of the same.

2.3 Department of Environment, Government of Rajasthan

The Department of Environment set up in September 1983 is responsible for all matters directly and indirectly linked with protection of environment. It is the nodal agency for environment and ecology, research and studies on environmental matters. Rajasthan State Pollution Control Board and State Biodiversity Board have been constituted under the auspices of the Environment Department. There is also a Cell in the Department to look into the water pollution issues.

2.4 Rajasthan State Pollution Control Board

State Pollution Control Board implements the provisions of these Acts and Rules in the State. The functions of the Board are provided under section 17 of the Water (Prevention and Control of Pollution) Act, 1974 and the same section of the Air (Prevention and Control of Pollution) Act, 1981 and under the remaining Acts and Rules. EIA procedure and EC are not required if project activities does not fall under categories in EIA notification 2006. Rajasthan State Pollution Control Board and Central Pollution Control Board (CPCB) are regularly monitoring the surface water quality at 117 places which includes 12 for rivers, 17 locations for lakes, 3 for canals, 9 for reservoirs and 70 for wells. Central Water Commission monitors the quality of water of four rivers in 5 locations.

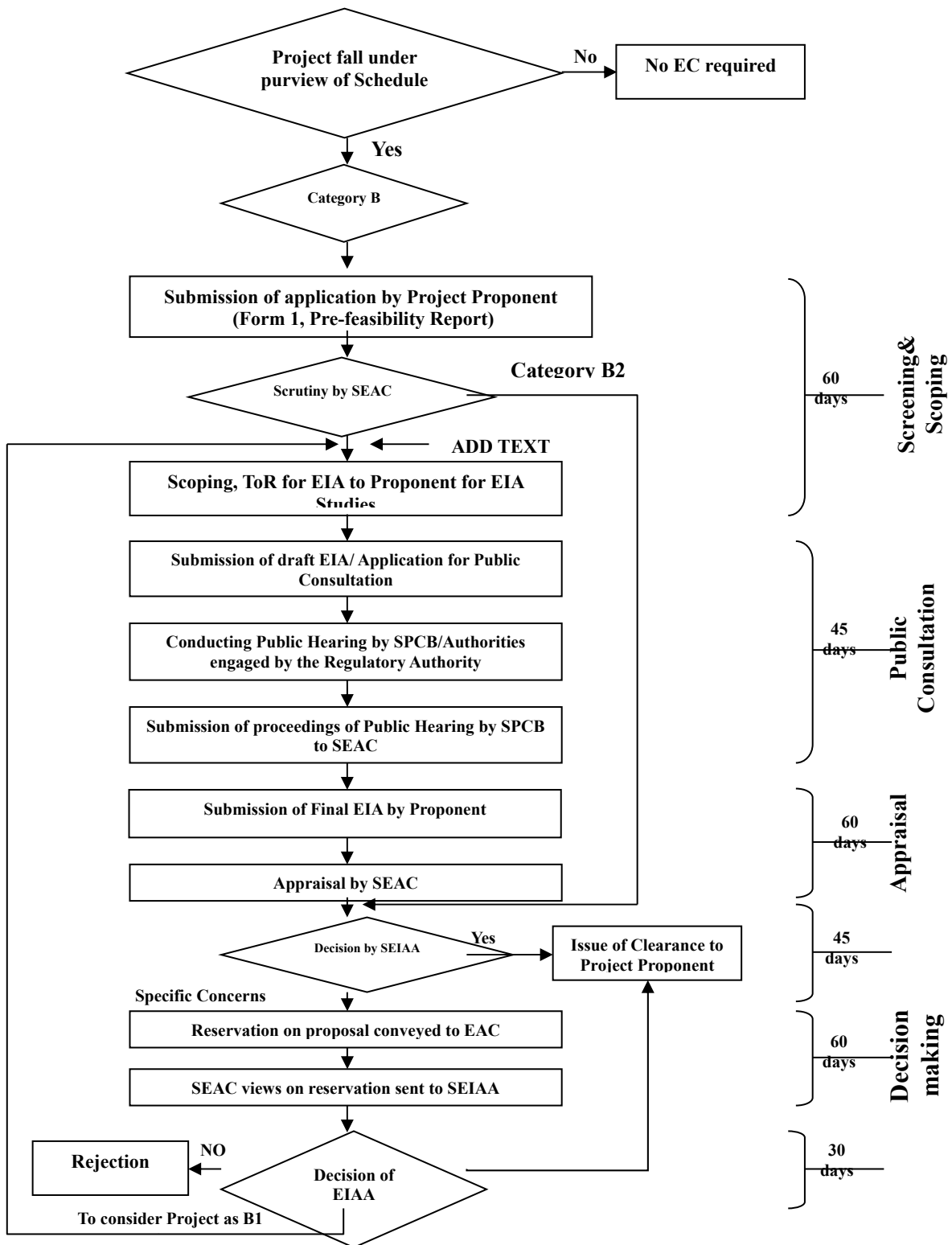


Fig. 9.2 Environment Clearance Process for Category B Projects

2.5 Rajasthan State Level Environmental Impact Assessment Authority (SEIAA) and State Level Expert Appraisal Committee (SEAC)

The Central Government has decentralized the process of environmental clearance for Category B Projects/ Activities by creating an independent State Level Environment Impact Assessment Authority (SEIAA) supported by a State Level Expert Appraisal Committee (SEAC) as per the Notification S.O. No. 255(E) dated 7th February, 2011. SEIAA comprises of 3 members and SEAC comprises of 6 members and a Secretary. The term of office for SEIAA and SEAC is 3 years from the date of Notification, and they will function as per the notification. SEIAA shall decide the environmental clearance of Projects/ Activities on the recommendations of the SEAC, and SEAC shall function on the principle of collective responsibility and endeavour to reach a consensus in each case.

2.6 Department of Forest, Government of Rajasthan

The Forest Department is responsible for protection, management and conservation of forest and protected areas including wildlife. Wherever a water resources project involves activities on the forestland and felling of trees on the Government land, the Forest Department comes into the picture for forest clearances. If forestland has to be diverted for dams, canal and any other non-forestry purposes then the process has to be initiated under Forest Conservation Act, 1980 for necessary forest clearance.

2.7 Water Resources Department (WRD), State Water Resources Planning Department (SWRPD), Irrigation Department

The Water Resource Department is the key to plan and execute Irrigation Project. The SWRPD was created to achieve an integrated and multi-sectoral approach to the planning, development and use of the State's Water Resources. During the implementation of Rajasthan Water Sector Restructuring Project, Environment Management Guidelines and Action Plan were prepared. For management of environmental issues separate units were formed under SWRPD, Environmental Department and Irrigation Department. At present there is no dedicated cell or wing related to the environmental management in SWRPD. A Superintending Engineer in SWRPD has been assigned with the responsibility of looking into environment matters.

Attachment 9.3
ESMS Checklist

Attachment 9.3 ESMS Checklist

Environmental and Social Management System (ESMS) Checklist was completed as required under the JICA Environmental and Social Considerations Guidelines, April 2010

Sl.	Questions	Answer	Improvement Plan
1. Policy (environmental and social policy)			
(1)	Does the financial intermediary / executing agency have any formal environmental policy or procedures? If yes, please describe them and provide appropriate documentation. If no, does the financial intermediary /executing agency have any plan to set such policy or procedures?	<p>Both the Central Government and Rajasthan Government have well established policy, laws and procedures for protection of environment and conservation of ecological resources. The Environment (Protection) Act of 1986 regulates environment clearance of any Project, Industry or Activity. Projects / Industries/ Activities, which would adversely impact the environment, are required to get prior environmental clearance from the Central or State Government according to their scale and type of activity.</p> <p>Water Resource Department, Government of Rajasthan shall be the Executing Agency of the Project. The Department has to follow the Environmental Policy and Procedures of both Central as well as State Government. Some of the important policies, legislations and rules have been given below:</p> <p><u>The Environment (Protection) Act, 1986</u> <u>EIA Notifications issued by MOEF & CC, Sep 2006 and subsequent modifications</u> <u>The National Forest Policy, 1988</u> <u>The National Environment Policy 2006</u> <u>Wildlife (Protection) Act, 1972</u> <u>Forest (Conservation) Act, 1980</u> <u>The Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006</u> <u>Air Pollution (Control of Pollution) Act, 1981</u> <u>Water Pollution (Control of Pollution) Act, 1974</u> <u>Insecticides Act, 1968</u> <u>The Fertilizer (Control) Order, 1985</u> <u>The Seed Act, 1966</u> <u>Biological Diversity Act, 2002</u></p> <p>In addition to the adherence to the national policies, laws and rules, Rajasthan has also its own forest, environment, water policies and rules. The important policies and rules have been mentioned below: <u>Rajasthan State Water Policy, 2010</u></p>	<p>There is no need for any improvement or setting up separate policy on environment by the Project Executing Agency. The policy and procedures are sufficient for addressing the environmental concerns.</p> <p>The Water Resources Department will not require any environmental clearance for the proposed Project as the Project activities includes repair and maintenance of the existing irrigation structures. As per the EIA Notification of Ministry of Environment, Forest and Climate Change of September 2006 no environmental clearance is required for the irrigation projects for mere repair and maintenance. When the capacity of the dam/ irrigation system is enhanced beyond the approved capacity then it would require environmental clearance. No new area will be acquired and no involuntary resettlement will be there for implementation of the Project. No activities of the Project shall be carried out on the forestland; hence no forest clearance is required.</p> <p>The Executing Agency has Environment Management Guidelines and Field Operational Manual, which can be used for the Proposed Project to look into the Environmental and Social Consideration. Each sub-project will be screened by the Project Executing Agency and sub-project with significant adverse impact shall not be included.</p>

		<u>Rajasthan Forest Policy, 2010</u> <u>Rajasthan Irrigation and Drainage Act, 1954</u> <u>Rajasthan River Basin and Water Resource Planning Act, 2015</u> <u>Rajasthan Forest Act, 1953</u> <u>Rajasthan Dam Safety Act, 2002</u>	<p>Environment and Social Management System, which will be part of the Project Monitoring System, will be set up at the beginning of project implementation. An Environment Expert will be placed in PMU to oversee implementation of Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP). A Tribal Development Plan shall be prepared for sub-projects, where there will be significant adverse impact on the Scheduled Tribes.</p> <p>The Executing Agency shall equip the sub-PMUs and deploy NGOs to ensure proper implementation of ESC activities. The E&M Consultants to be engaged by the EA will have clear responsibilities to ensure proper planning and implementation of EMP, EMoP and TDP. The EA shall be working with Water User Organisations for management of irrigation systems and capacity of these WUOs shall be enhanced to monitor some of the environmental and social concerns.</p>
(2)	Are there any types of projects in which the financial intermediary / executing agency will not take part due to the environmental risks? (e.g. projects involving handling of hazardous wastes or endangered plants or animals).	Yes. There are some sub-projects which have significant environmental risk, e.g. increase of reservoir inundation area due to increment of dam height. However WRD did not include those sub-project or eliminated such adverse impact works on environment in the screening process. Thus there are no any sub-projects with the environmental risk in the present project list.	N/A
2. Procedures (screening category classification and review procedures)			
(3)	Does the financial intermediary / executing agency have any environmental procedures such as screening, categorization and environmental review? If yes, please describe.	For the purpose of Environmental Clearance under EIA Notification of September 2006 the Project Screening and Categorization are being done by the Impact Assessment Authorities at the Central and State levels. Projects or Activities with significant adverse impact on the environment are classified as Category A (As per the Schedule given in EIA Notification 2006) and the Project Proponents have to get clearance from Ministry of Environment, Forest and Climate Change, Government of India. For Category B Projects or Activities environmental clearance shall be obtained from State Environmental Impact Assessment Authority.	<p>As per the EIA Notification September 2006 with amendments till date, environmental clearance is not required for this Project because it involves mere repair and maintenance of existing irrigation structures without any change in its approved Culturable Command Area.</p> <p>The EA will screen all the sub-projects for positive and adverse environmental and social</p>

		<p>MOEF&CC at Central level: Formulation of policies, rules, guidelines on EIA, constitution of Expert Appraisal Committees, constitution of State Environment Impact Assessment Authorities, appraisal of EIA reports and clearances for Category A projects.</p> <p>State Level EIA Authority: Projects or Activities of Category B may be appraisal/approved at the state level and this is done by SEIAA and SEAC at Rajasthan.</p> <p>The EA (Water Resources Department) has got its own procedure for environmental screening of Dam Projects/ Sub-projects as mentioned in the Environment Management Guidelines of 2013.</p>	<p>impacts, and help identification of mitigation measures. The Preparatory Survey Team has prepared screening format, sample EMP and EMoP, environmental monitoring forms, which will help EA to implement ESC activities.</p>
(4)	<p>Please describe how you ensure that your subproject companies and their subprojects are operated in compliance with the national laws and regulations and applicable JICA's requirements.</p>	<p>The Executing Agency (WRD) will implement the Project through its Departmental Structure in the Field (Zones, Divisions and Sub-Divisions) and 5 nos. of sub-PMUs would be established at the Zonal level for project implementation. For repair of dams, canals, minors etc., Construction Contractors will be hired through competitive bidding. The EA has a very elaborate legally binding contract document to be executed between the EA and Contractor (<u>Public Works Financial and Accounts Rules, Government of Rajasthan - General Rules and Directions for the Guidance of Contractors - Conditions of the Contract</u>). Stringent terms and conditions are already included in the Contract for violation of laws and rules of the land (Minimum wages, proper work place facilities, adoption of safety standards, use of quality materials, control of water, air and noise pollution, soil excavation, waste disposal etc.). The Officers of Implementation and Construction Unit of sub-PMU will monitor the work of Contractor periodically and based on the satisfactory performance of work payments are made to the Contractor. Violations of conditions in the contract shall attract penalty for the Contractors.</p> <p>The EA will also take the help of local NGOs for mobilization and capacity building of Water User Organisations (Project Committee, Distribution Committees and Water Users Associations) and for promotion of agriculture related activities. Contracts will be executed with them and stringent monitoring systems will be in place to ensure that there is no non-compliances with the laws and rules.</p>	<p>The EA has to prepare DPR for each sub-project as per the model DPR framework prepared by the Survey Team. The process of DPR preparation includes screening of the sub-projects for ESC and accordingly preparation of EMP, EMoP and TDP, if needed. The EMoP will help check the compliances to laws, rules and standards set by the EA. The E&M Consultants to be engaged by the EA will assist the EA in monitoring the works of the Contractors and NGOs.</p>
(5)	<p>How are environmental considerations taken into account in the credit review and approval process for project loans or equity</p>	<p>The Project will neither provide any loans nor make any equity investments.</p>	<p>N/A</p>

	investments?		
(6)	How are environmental issues taken into account in deciding whether to offer or extend commercial credit, working capital finance, trade finance, payment services and other financial services to a company?	The EA will not offer or extend commercial credit, working capital finance, trade finance, payment services and other financial services to any company under the project.	N/A
3. Organization and Staff			
(7)	Please provide us with the organization chart of the financial intermediary / executing agency's Environmental and Social Management System (ESMS).	Proposed Organizational Structure for implementation of the Project has been provided in Chapter 6 of DFR and also in Chapter 9 for implementation of ESC activities.	The WRD confirms to establish the Project Implementation Structure as suggested in the Report.
(8)	Who is responsible for environmental and social management within the financial intermediary / executing agency? (name/role and title)	<p>Designation and Name: Chief Engineer cum Project Director, RWSLIP, Jaipur (State level)</p> <p>Role:</p> <ul style="list-style-type: none"> • Establish system for implementation of ESC as suggested in Preparatory Survey Report. • Overall responsibility for execution of ESC. <p>Designation and Name: Environment Expert at PMU (To be hired from the market or to be brought from Environment Department on deputation).</p> <p>Role:</p> <ul style="list-style-type: none"> • Facilitate formulation of necessary guidelines and directives on ESC. • Facilitate capacity building of Project Staff for implementation of ESC activities. • Monitor the screening of sub-projects and preparation of EMP and EMoP, wherever necessary and also preparation of TDP, wherever necessary. • Monitor the implementation of EMPs, EMoP and TDPs. • Facilitate environmental audits and assessments. 	The NGOs engaged by the EA for implementation of Project Activities concerning WUAs, will also be trained to implement various activities under ESC.
(9)	Are there any staff with training for environmental and social considerations in the financial intermediary / executing agency? If so, describe.	The majority of the staffs of EA are well aware of the environmental aspects but they have limited capacity to deal with social concerns.	Specific training would be provided to Project Staff, NGOs and WUAs for implementation of actions addressing various environmental and social issues.
(10)	Are there any technical staff with	N/A	N/A

	an engineering/industry background responsible for technical analysis of credit proposals?		
(11)	What experience, if any, does the financial intermediary / executing agency have of hiring or dealing with environmental consultants?	The EA has got the experience of hiring E&M Consultants, Construction Contractors, NGOs etc. But it has not hired any Environmental Consultants.	The E&M Consultants will help the EA in hiring the services of Environmental Consultants.
(12)	What was the budget allocated to the ESMS and its implementation during a year? Please provide budget details including staff costs and training as well as any actual costs.	Budgetary provisions have been made in the Project for preparation of DPR, which includes screening for ESC and preparation of EMP, EMoP and TDP, wherever necessary. Provisions have been made for environmental assessments (4 sub-projects) and third party environmental audit/ assessment for 15 sub-projects, tree planting and green belt development (0.5% of the total cost of sub-project), testing of soil and water etc.	EA has to ensure timely deployment of Environment Expert in the PMU.
4. Monitoring and Reporting (Reporting procedures and monitoring)			
(13)	Do you receive environmental and social monitoring reports from subproject companies that you finance?	The Construction Contractors submit progress report on a monthly basis and this includes some information on ESC aspects. The NGOs engaged during implementation of RAJAMIIP were submitting progress reports on a periodical basis.	Necessary improvements shall be made in the reporting formats and schedule of reporting. Efforts shall be made for orientation of the Contractors and NGOs on the ESC aspects and preparation of periodical reports on ESC.
(14)	Please describe how you monitor the subproject company and their subprojects' social and environmental performance.	The Environment Management Guidelines of WRD provide the details of monitoring of Environmental and Social Concerns. The responsibility has been fixed on Officers at the State, Dam Management Authority, Division and Sub Division levels for monitoring of environment and social concerns. These Officers based on the conditions of the Contract executed between the WRD and the Contractor monitor the performance of the Construction Contractor.	The Preparatory Survey Report provides modified structure, functions and procedures for monitoring of the works of the Construction Contractors and NGOs.
(15)	Is there an internal process to report on social and environmental issues to senior management?	An elaborate procedure has been set as mentioned in the Environment Management Guidelines, 2013 of Water Resource Department. This calls for reporting from other Line Departments (PHED, Ground Water Dept., Forest Dept. Agriculture Dept. etc.) on specific environment matters. One annual report was produced in 2013 on the environmental status by WRD.	The EA will adopt a simplified system and procedure for monitoring and reporting of environment and social issues and response mechanisms.
(16)	Do you prepare any social and environmental reports: - For other multilateral agencies or other stakeholders - E&S reporting in the Annual Report	One Annual Report was prepared during 2013 and thereafter WRD has not prepared any specific report on Environment and Social issues. SWRPD is expected to prepare Annual Report on the State of Environment (Water Sector) based on the reports generated from the field as well as from other Line Departments.	The EA with the help of E&M Consultants, Environment Expert, PMU and NGOs will prepare periodical reports on ESC.
5. Experience (Results of the environmental and social management)			

(17)	Has the financial intermediary / executing agency signed any national or international agreements or declarations concerning environmental issues?	<p>The Government of India is a signatory to different international agreements and treaties for environment protection, conservation of natural resources, climate change adaptation and mitigation etc. Some of the important treaties have been mentioned below:</p> <ul style="list-style-type: none"> • Convention on International Trade in Endangered Species of Fauna and Flora (CITES) • Ramsar Convention on Wetlands of International Importance • Bonn Convention on the Conservation of Migratory Species of Wild Animals (CMS) • Convention Concerning the Protection of the World Cultural and Natural Heritage • Convention on Biological Diversity • UN Framework Convention on Climate Change • Nagoya Protocol • Kyoto Protocol • United Nations Declaration on Rights of Indigenous Peoples 	N/A
(18)	Has the financial intermediary / executing agency ever received any criticism of its environmental record? If so, what was the criticism?	No	N/A
(19)	Does the financial intermediary / executing agency carry out environmental audits of its properties to analyze health and safety issues, waste disposal, etc.?	No environmental audits have been done yet.	The EA has to carry out periodical environmental assessment as well as third party environmental assessments/audits as per the EMP and EMoP.
(20)	Please state any difficulties and/or constraints related to the implementation of the ESMS.	The major challenge is the limited human resources available with the WRD at the Division and Sub Division level and the capacity of the local staff to carry out Environmental and Social Assessments, preparation of EMPs, TDPs, and monitoring of Environmental and Social Concerns. Another challenge is to get the support for other Line Departments such as Agriculture, PHED, Ground Water, Environment, Forest in this regard.	The Survey Team in its report suggests for engagement of Environment and Social Experts at PMU and NGOs at sub PMU level to assist EA in implementation of ESC activities. NGOs will be engaged to help strengthen the WUAs. These NGOs will be capacitated to look into environment and social concerns.

6. Need of Capacity Development and Improvement Plan (Improvement and the need for capacity building measures)

The Project Staff, NGOs and WUOs shall be oriented and trained for execution of ESC activities. The training and capacity building would focus on the following areas:

- JICA Guidelines on Environmental and Social Concerns
- The World Bank Operational Policy 4.10 on Indigenous Communities and Social Assessment
- Environment Management Guidelines 2013 and Field Manual of WRD 2013
- Screening of sub-projects for ESC
- Preparation of EMP and EMoP, wherever necessary
- Preparation of Tribal Development Plan, wherever necessary
- Free, Prior and Informed Consultation with Tribal Communities
- Mainstreaming of gender and development concerns in the Project Planning, gender mainstreaming in WUOs
- Monitoring of Environmental and Social Concerns

Attachment 9.4
Environmental Checklist: 16 Agriculture,
Irrigation and Livestock Industry

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (1)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) N (b) N (c) N (d) N	(a) As per the EIA notification of 14th Sep 2006 of Ministry of Environment and Forest, no Environmental Clearance (EC) is required for repair and maintenance of existing irrigation projects if their Culturable Command Area is not going to be increased. No Irrigation sub-projects will be included, which has CCA more than 10,000 ha. Preparation of Environment Impact Assessment report is not required. (b) Not applicable (c) Not applicable (d) There is no need for obtaining any environmental permit and also forest clearance as there will be not be any work on the forestland.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a) Y (b) N	(a) Rajasthan is a water scare region and there has been always demand from the public for water conservation and supply. WRD gets repeated requests from the local farmers as well as elected People's Representatives for repair and maintenance of existing irrigation structures as well as construction of new ones. Since it is merely a repair and maintenance work of existing irrigation structures no formal public consultation is required under the law. WRD has undertaken a rapid assessment to review the status of the irrigation structure. Wherever the Detailed Project Reports have been prepared for the sub-projects, farmers were consulted during the preparation of these DPRs. For other sub-projects, consultation with farmers and other stakeholders shall be organised during the preparation of DPR. The Survey Team consulted different stakeholders including the farmers, Water Users Associations, Agriculture and Horticulture Departments etc. during the preparatory survey. (b) While preparation of DPRs the EA shall consult with different stakeholders including the local residents and their comments and suggestions shall be included in the DPR. The Survey Team has consulted a wide range of stakeholders and their suggestions and comments have been incorporated in the Preparatory Survey Report.

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (2)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) N	(a) Since the Project will repair and maintain the existing irrigation systems to increase their efficiency no alternative plans were examined. There will not be any acquisition of land; there will not be any involuntary resettlement; no forest clearance is required for implementation of the Project. Rather the Project shall reduce the water loss, enhance the availability of water for agriculture. The alternative is to use ground water, which is expensive and has an adverse effect on the ground water table. Currently in some of the proposed project sites the farmers are using ground water for irrigation and there are cases of over exploitation of ground water. The Project will directly contribute to reduction of use of ground water for irrigation. Project shall contribute to the increase in income and enhancement of livelihood opportunities.
	(1) Water Quality	(a) Are considerations given to water pollution of the surrounding water bodies, such as rivers and groundwater by effluents or leachates from agricultural lands? Are adequate use/disposal standards for fertilizers, agrochemicals, and livestock wastes established? Is a framework established to increase awareness of the standards among farmers? (b) Is a monitoring framework established for water pollution of rivers and groundwater?	(a) Y (b) N	(a) For repair and maintenance of irrigation systems there will not be any water pollution. Stringent conditions are included in the construction contractor's contract to avoid any pollution and to properly handle the wastes. The farmers in the sub-projects areas are already using chemical fertilizers and pesticides. The Project will make efforts for introduction of organic manures, integrated pest management, integrated nutrient management etc. The Project will create awareness among the farmers, Water User Associations and Women SHGs for controlled use of agro-chemicals and promote organic farming. Some on farm demonstrations shall be organised on IPM, INM etc. to help farmers adopt appropriate package of practice for cultivation of different crops. In the Project area use of ground water for irrigation is already practiced by the farmers. Rehabilitation of irrigation systems - dams and canals will substantially contribute to reduction of use of ground water. (b) The Central Pollution Control Board and Rajasthan State Pollution Control Board, Central Water Commission, Public Health Engineering Departments are carrying out regular testing of water quality in selected places. There is a monitoring framework established to regularly monitor the water and soil quality - especially water used by farmers (from the wells) for their toxicity and contamination level and take appropriate measures to improve the quality of water and soil, and address the environmental concerns. There is no monitoring mechanism established for monitoring of pollution of river and ground water. The State Pollution Control Board as part of its regular functions periodically conducts the tests in specific locations.

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (3)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
2 Pollution	(2) Wastes	(a) Are wastes properly treated and disposed of in accordance with the country's regulations?	(a) Y	<p>(a) The Project as such will not create any huge wastes. During the repair and maintenance of irrigation systems (dams, canals and minors) some weeds, bushes, trees will be cleared, which will be auctioned by appropriate authority following the rules of land. Wastes from construction activities will be disposed by the Contractor as per the rules of the Government. The EA along with the Project Management Consultants, NGOs and WUA shall monitor the process of disposal of wastes.</p> <p>The Project shall promote intensification and diversification of agriculture. There will not be much waste from agriculture. The agriculture crop residues shall be used as fodder, fuel and compost.</p>

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (4)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
Control	(3) Soil Contamination	<p>(a) Is there a possibility that impacts in irrigated lands, such as salinization of soils will result?</p> <p>(b) Are adequate measures taken to prevent soil contamination of irrigated lands by agrochemicals, heavy metals and other hazardous substances?</p> <p>(c) Are any agrochemicals management plans prepared? Are any usages or any implementation structures organized for proper use of the plans?</p>	<p>(a) Y</p> <p>(b) Y</p> <p>(c) Y</p>	<p>(a) The possibility of salinization of soil is less in case of sub-projects located in areas other than Hanumangarh and Sri Ganganagarh districts, where canals are perennial. But it can't be ruled out. Rehabilitation of irrigation systems will reduce seepage and water logging. Involvement of WUAs and NGOs will help increasing the efficiency of water use, regulated use of chemical fertilizers and pesticides, regular testing of soil and water, promotion of IPM and INM. All these will contribute to reduction of possibility of salinity of soil.</p> <p>The Project will promote micro irrigation systems (drip and sprinkler) in selected clusters, which will enhance the water use efficiency and controlled application of water and fertilizers. Wherever micro drips will be used water consumption shall be reduced atleast by 50 per cent. Precise application of nutrients through drip irrigation shall reduce the losses of soluble nutrients. Soil and water shall be tested periodically to avoid salinization of soil.</p> <p>(b) The WUAs and farmers in the Project area will be sensitized, capacitated and supported for testing of the soil, soil health management, Integrated Nutrient Management, fertigation techniques, controlled use of fertilizers, IPM, waste management. This would reduce the possibility of soil and water contamination. Each member of WUA shall be encouraged and supported to obtain a soil health card from the Agriculture Department and go for periodic testing of soil samples.</p> <p>(c) There will not be plans specifically for promotion of agrochemicals. The Project with the help of Agriculture Department and NGOs will prepare cropping plan for the WUAs, which will include package of practices for cultivation of different crops. Standard use of agrochemicals, use of organic manures, INM, IPM etc. will be included in the cropping plan of WUA. The sub-PMU and NGOs shall monitor the implementation of these plans. The Environment Expert at PMU will monitor the environment related activities as per EMP and EMoP.</p>

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (5)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(4) Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?	(a) N	(a) The Project activities do not include extraction of ground water. The rehabilitation of dams and canals will rather help farmers in reduction of use of ground water for irrigation.
	(5) Odor	(a) Are there any odor sources? Is there a possibility that odor problems will occur to the inhabitants?	(a) N	(a) There shall not be any problems relating to odor. The Project does not involve any activity, which would create any odor problem.
3 Natural Environment	(1) Protected Areas	(a) Is the project site or discharge area located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) The EA/ WRD confirmed that no activities will be carried out inside the Protected Areas (National Parks and Wildlife Sanctuaries). The Project activities include repair and maintenance of existing irrigation systems. The Government of Rajasthan is in the process of declaration of Eco Sensitive Zones/ Areas for each National Park and Wildlife Sanctuary. If any repair work will be carried out in any eco sensitive zone then necessary permission will be obtained from the Forest Department.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site or discharge area encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) Is there a possibility that the project will result in the loss of breeding and feeding grounds for valuable wildlife? If they are lost, are there substitutes for the grounds near the original locations? (d) Is there a possibility that overgrazing will cause ecological degradation, such as impacts on wildlife habitats and desertification? (e) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(a) N (b) N (c) N (d) N (e) N	(a) The Project sites shall not be located within the forest and ecologically valuable habitats. (b) The Project does not involve activities which are going to have huge discharge of wastes and effluents. (c) From the preliminary listing of sub-projects it was found that the majority of the sites not located near to the Protected Areas. If any site is located within 10 km of any Protected Area the EA will discuss with the Forest Department for necessary precautionary measures and approvals and accordingly carry out the repair and maintenance work. (d) The Project does not have any component or activities related to promotion of livestock. Rather the Project sites shall produce more agricultural crop residues, which can be used for fodder. (e) The Project activities include repair and maintenance of existing irrigation systems. No significant ecological impacts are anticipated. The Project shall establish Project Monitoring System, which would include monitoring of environmental and social aspects. Environment Management Plan (EMP) shall be prepared for the sub-projects, which are going to create significant environmental impacts. Environmental Monitoring Plan (EMoP) shall also be prepared for these sub-projects.

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (6)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Is the compensations going to be paid prior to the resettlement? (e) Is the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(a) N (b) NA (c) NA (d) NA (e) NA (f) NA (g) NA (h) NA (i) NA (j) NA	The Project shall not have any activity, which involves involuntary resettlement or relocation of villages/ habitations.

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (7)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
4 Social Environment	(2) Living and Livelihood	<p>(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>(b) Is proper allotment made for rights to agricultural land use? Is there a possibility that the allotment will result in inequitable distribution or usurpation of land and available resources?</p> <p>(c) Are proper allotments, such as water rights allotment in the project area made? Is there a possibility that the allotments will result in inequitable distribution or usurpation of water rights and available resources?</p> <p>(d) Is there a possibility that the amount of water used (surface water, groundwater) by the project will adversely the downstream fisheries and water uses?</p> <p>(e) Is there a possibility that water-borne or water-related diseases (e.g., schistosomiasis, malaria, filariasis) will be introduced? Is adequate consideration given to public health education, if necessary?</p>	<p>(a) N (b) NA (c) Y (d) N (e) N</p>	<p>(a) The Project will not adversely affect the living condition of the inhabitants. The Project will enhance the efficiency of Irrigation Systems, which will contribute to the increased income from the farm. The local inhabitants will get wage employment from the Project for repair and maintenance work. The Project will form Water Users Associations and build their capacity to manage and maintain the irrigation systems.</p> <p>(b) There is no allotment of land or land rights to the Project beneficiaries for agriculture. The Project shall target the farmers, who are already having land in the command area of irrigation projects.</p> <p>(c) There are established laws and rules in Rajasthan for use of irrigation water. The Project will repair and maintain the existing irrigation projects, where the culturable command areas have already been delineated and water users have been identified. There will be no change in the approved culturable command areas of each irrigation sub-project. The Rajasthan Farmers Participation in Management of Irrigation Systems Act 2000 and Rules 2002 (amended in June 2010) provide for formation of Water Users Associations. The Revenue Authorities prepare the list of water users every year for each Irrigation Project. The Water User Association will be responsible for equitable distribution of water among the members/ users.</p> <p>(d) The Project will rehabilitate the existing irrigation structures (Dams, Canals and Minors). It may not create any new issues related to fisheries and water use in the downstream areas.</p> <p>(e) The chances of waterborne diseases will be less for minor irrigation structures with less CCAs as water. But the EA (PMU and sub-PMUs) and NGOs will closely monitor the incidences of water-borne diseases and respond to them, if need be.</p>
	(3) Heritage	<p>(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?</p>	<p>(a) N</p>	<p>(a) The Project is going to rehabilitate the existing irrigation structures and will not damage the heritage sites. Necessary precautions will be taken, while the repair and maintenance work is going on nearer to any heritage place.</p>
	(4) Landscape	<p>(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p>	<p>(a) N</p>	<p>(a) The Project is not going to adversely affect the local landscape. The Project will take steps for creation of green belts surrounding the dams and canals. It will sensitize the farmers for tree planting on their farm bunds.</p>

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (8)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) Y (b) Y	(a) The Project will not take up any construction of new irrigation structures. It will cover the existing irrigation structures for repair and maintenance. There will not be any change in cuturable command area as well as in the existing water use rights. The existing water users will continue to get irrigation benefits. If ethnic minorities/ tribal people are already there in the command area and hold land in the CCA, they will continue to get the benefits from the irrigation system.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) The Project Proponent is a State Government Department (Water Resource Department) and it has to abide by all laws and rules of land associated with the working conditions. (b) Repair and maintenance of dams and canals will be done by construction contractors engaged by the EA. They will be bound by the provisions of the contract executed between the EA and Contractors. The EA has an elaborate procurement guidelines and contracts (Public Works Financial and Accounts Rules, Government of Rajasthan - General Rules and Directions for the Guidance of Contractors - Conditions of the Contract). The provisions of safety and security, fair working conditions, fair wage/ minimum wages, basic work place facilities are included in the contract. The EA confirmed that all these terms and conditions will be closely monitored during the repair and maintenance. (c) These aspects will be looked into during the repair and maintenance phase as mentioned in (b). (d) The Construction Contractor will be responsible for providing safety and security. The EA will closely monitor the work of the Contractors.

Attachment 9.4: Environmental Checklist: 16. Agriculture, Irrigation and Livestock Industry (9)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(a) Y (b) Y (c) Y	(a) The Construction Contractor is bound to take adequate measures to reduce the impact on the environment as per the conditions of the contract. The EA will add further compliances required to safeguard the environment as well as social concerns in the legally binding contract. (b) Mitigation measures against different environmental problems have been identified and included in the contract document. (c) Mitigation measures against different social problems have been identified and included in the contract document.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) Y (c) Y (d) NA	(a) , (b) and (c) The EA shall establish a Project Monitoring System once the Project is initiated. The system envisages preparation of environment management plan and monitoring plan for monitoring of environmental aspects. The EA published Environment Management Guidelines in 2013 and an annual report on environmental aspects was prepared for 2012-13. After initiation of the Project the EA shall prepare periodical reports as per the monitoring system.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry checklist should also be checked. (b) For the projects including construction of large-scale weirs, reservoirs, and dams, where necessary, pertinent items described in the Hydropower, Dams and Reservoirs checklist should also be checked.	(a) NA (b) Y	(a) There is no need for cross reference to forestry checklist as the activities don't involve forestland. (b) The Project will rehabilitate medium and minor irrigation projects. No new construction of dam is involved.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) NA	(a) NA

- 1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).
- 2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which the project is located.

Attachment 9.5
Overview of Natural, Physical and Social
Capitals of Rajasthan

Attachment 9.5: Overview of Natural, Physical and Social Capitals of Rajasthan

Overview of Natural Capitals

Items	Summary
Land-use	<p>Rajasthan, the largest state of India, has a geographical area of 342,239 sq. km occupying 10.41 per cent of country's area. The state has four major physiographical regions – the Western Desert, the Aravallis, The Eastern Plain and the South Eastern Plateau. The Aravalli Range running from North West to South East divides the state diagonally into two distinct regions i.e. Western Arid region and Eastern Semi-Arid region. 61 per cent of the geographical area of the state is desert (mostly in the western part). Major of part of the state is considered as dry and infertile.</p> <p>During 2013-14, the net area sown was 53.31 per cent of the reported geographical area. 8 per cent area is under forest; 12.47 per cent is not available for cultivation; 9.48 per cent is fallow land.</p>
Water	<p>The whole of Rajasthan has been categorized as water scarce region with per capita water availability of less than 1000 cum per year. The status of water resources in Western Rajasthan is critical and West-Central part is devoid of any drainage network. Replenishment of water resources in this region is poor because of low and erratic rainfall, and evapotranspiration due to high atmospheric temperature and low humidity.</p> <p>Rajasthan is the largest state with 10.41 per cent of the country's geographical area and with 1.16 per cent of country's surface water resources. Surface water available in the state is 21.71 BCM and 16.05 BCM of which can be economically utilized but so far, 11.84 BCM has been harnessed. Further, there exists a huge deficit between the available water and demand. Per capita annual availability of water is about 0.000780 BCM against minimum requirement of 0.001 BCM. There are 14 river basins but only two are perennial. 50 per cent of the state's area is outside of any river basin with only 10 per cent of the surface water resources. 50 per cent of the surface water</p> <p>The increasing demand of water because of irrigation, industrialization and urbanization is a key challenge before the Government. The ground water table has depleted at an alarming rate. Nearly 90 per cent of the population in Rajasthan Depend on ground water fully or partially for drinking, other domestic use and irrigation. Out of 237 blocks assessed during 2004 for ground water status, 140 blocks (59%) were identified as over exploited. 50 blocks (21%) were categorized as dark zones or critical areas and only 32 blocks (14%) were categorized as safe blocks.</p>
Forest and Protected Areas	<p>Recorded forest area in the state is 32,737 sq. km, which is 9.57 per cent of the state's geographical area. As per the State of Forest Report, 2015 published by Forest Survey of India the total forest and tree cover in the state is 24,440 sq. km i.e. 7.14 per cent of the state's geographical area. An increase of 85 sq. km of forest cover has been recorded in the FSI report of 2015. The state has three National Parks, 26 Wildlife Sanctuaries and 10 Conservation Reserves. The major forest types are dry deciduous scrubs, <i>Anogeissus pendula</i> forests. The state is home to some of the important wildlife such as Great Indian Bustard, Tiger, Chinkara, Black Buck etc. A lot of migratory birds come to the state every year and the wetlands of the state remain as one of the major attractions of tourists.</p>
Rainfall	<p>The normal rainfall in the state is 57.51 cm. The rainfall varies significantly in different regions of the state. The average annual rainfall of different regions have been given below:</p> <ul style="list-style-type: none"> • <10 cm in north-west part of Jaisalmer region • 20 to 30 cm in the regions of Ganganagar, Bikaner and Barmer • 30 to 40 cm in the regions of Nagaur, Jodhpur, Churu and Jalor • >40 cm in the regions of Sikar, Jhunjhunu, Pali • 55 cm rainfall in Ajmer • 102 cm rainfall in Jhalawar • 163.8 cm – the highest in the state is in Mount Abu (Sirohi district) <p>Very recently the state has experienced excess rainfall in the months of June and July, and long dry spells from mid-August.</p>
Minerals	<p>The state is quite rich in minerals. There are 79 major and minor minerals available in the state but 57 minerals are extracted at present. The state is the sole producer of Zinc, Feldspar, Wollastonite, Silver, Rock Phosphate, Gypsum and Red ochre. The state is also well known for its marble and granite. The state has good Petroleum and natural gas, lignite coal reserves. There are 23 cement plants in the state because of the availability of limestone.</p>

Sources: Compiled from Economic Review of Rajasthan 2015-16, Basic Statistics of Rajasthan, 2013, Rajasthan State Water Policy, 2010.

Overview of some Physical Capitals/Infrastructure

Items	Summary
Housing	<p>According to the Census of India, 2011, 12.58 million Households in the state and out of them 6.41 million households were living in good houses; 5.68 million in livable houses; and 0.49 million households were living in dilapidated houses. As per the Census 2011, 0.43 million households in rural areas of Rajasthan were living in dilapidated houses.</p> <p>Rajasthan Government implements Indira Awas Yojana, a flagship programme of the Central Government for rural housing. Since the inception of the scheme and till 2014, nearly 1.2 million families have been supported under the scheme.</p>
Drinking Water	<p>There are 121,683 habitations in the state and 56 per cent of these habitations are fully covered under different drinking water systems. 31,564 (26%) habitations are partially covered under safe drinking water systems. In 21,707 habitations the drinking water sources have been contaminated by salinity, fluoride and nitrate.</p>
Electrification	<p>As on 31 May 2015, 90.4 per cent villages in Rajasthan have been electrified. 4,166 villages are yet to be electrified. The state has a huge potential for power generation from different sources such as solar, wind, biomass, lignite, petroleum and natural gas. The total installed capacity as of Dec 2015 is 17,281 MW</p>
Roads	<p>Rajasthan has a good road network. 90 per cent of the villages have road connectivity (35,423 nos.). The total length of road network in in the state is 208,342 km, of which black topped road length is 166,195 km (80%). The length of national highway network in the state is 8,016 km.</p>

Sources: Compiled from *Economic Review of Rajasthan 2015-16, Basic Statistics of Rajasthan, 2013, Census of India, 2011, Reports of Rural Development and Panchayati Raj Dept.*

Overview of Social Capitals

Items	Summary
Population	<p>The State has a population of 68.5 million as per 2011 Census, which is 5.65% of country's population. The decadal growth rate of population was 21.3 per cent during 2001 – 2011. The population density is 200 per sq. km. Sex ratio is 928 per 1000 male. The child sex ration is 888, much lower than the national average. 75 per cent people live in rural areas. The Scheduled Tribe population is 13.5 per cent and that of Scheduled Caste is 17.8 per cent.</p>
Literacy	<p>The literacy rate is 66.1 per cent, which is lower than the national average. The female literacy is only 52.1 per cent. The literacy rate for ST is 52.8 per cent and the same for SC is 59.7 per cent.</p>
Workforce	<p>The workers participation rate of Rajasthan is 43.6 per cent, which is higher than the national average of 39.8 per cent. The total work force as per Census, 2011 is 29.9 million including 11.6 million women. 91 per cent of the women workers of the state are from the rural areas and 77 per cent of them are engaged as cultivators and agricultural labourers.</p>
Health	<p>The state has a good network of hospitals and health care centres – 114 hospitals, 571 community health centres, 2,132 primary health centres, 118 mother and child welfare centres, 14,408 health sub centres. The IMR is 47 (2013), which is higher than the national average of 40. MMR is 244, which is much higher than the national average of 167. Life expectancy at birth is 67.5 year.</p>
Local self-governance	<p>Traditionally village panchayats were existed prior to independence of India (during the days of princely states. Bikaner State had its own Gram Panchayat Act in 1928). Three tier Panchayati Raj system was introduced in October 1959. At present the state has 33 District Panchayats (Zilla Parishads), 295 Block Panchayats (Panchayat Samities) and 9,894 Village Panchayats (Gram Panchayats). For the Urban Areas there are 187 Urban Local Bodies in the state (7 Corporations, 35 Councils and 145 Municipalities).</p>

Sources: Compiled from *Economic Review of Rajasthan 2015-16, Basic Statistics of Rajasthan, 2013*

Attachment 9.6
Environmental Management Plan for
RWSLIP

Attachment 9.6: Environmental Management Plan for RWSLIP

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
A	Construction/ Rehabilitation phase								
1	Environment Pollution								
1.1	Air quality (Less impact is anticipated because of repair and maintenance works)	Use of machines for construction – concrete mixtures, vibrators, compressors, rollers, earth excavators etc. Vehicles for transportation of materials Excavation of soil/ quarrying	National Air Quality Standards set by the Central Pollution Control Board (Notification – 18 th Nov 2009)	To ensure compliances with the laws and rules. To prevent air pollution.	Effectiveness of the mitigation measures undertaken – use of pollution reduction devices in the machines and equipments, certification of vehicles with compliances to the Air Act, covering of transportation vehicles, water spraying, proper stockpiling of materials and wastes etc.	Work sites – dams and main canals	During period of construction/ repair	Primary responsibility is with the Construction Contractor Monitoring will be done by WRD (Environment Expert, PMU and Executive Engineer, Construction, sub-PMU)	Cost for pollution prevention is included in the cost of Construction Contractor
1.2	Noise and vibration (Less impact is anticipated because of repair and maintenance works and use of normal concrete mixtures and vibro-compactors)	Use of machines, vibrators, compressors, rollers, earth excavators and movers Transportation of machines, equipments, materials etc. Blasting, if any	Standards set as per the Noise Pollution (Regulation and Control) Rules 2000 and notifications issued by Central Pollution Control Board	To prevent noise pollution and ensure compliances with the provisions of law.	Proper maintenance of the machines and equipments. Use of sound barriers, when needed. Allowing the operations of machines only during the day hours. Workers operating near the machines to wear noise protective	Work sites – dams and main canals	During period of construction/ repair	Primary responsibility is with the Construction Contractor Monitoring will be done by WRD (Environment Expert, PMU and Executive Engineer, Construction, sub-PMU)	Cost for pollution prevention is included in the cost of Construction Contractor

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
					equipments – earmuffs and earplugs. Adoption of standard norms for blasting				
1.3	Waste disposal/ management (Anticipated impact would be minimum because of repair and maintenance work.)	Construction debris Sewage Any other waste	Environmental Guidelines of WRD, 2013	To prevent environment pollution, soil degradation, wastes discharged to the water bodies. To meet the legal compliances.	Proper management of borrow areas and restoration/ reclamation of borrow areas after completion of construction works Proper disposal of construction wastes/ debris	Construction sites – dams, canals and minors Labour camps Borrow areas	During construction – repair of the dam and lining of the canal	Primary responsibility is with the Construction Contractor Monitoring will be done by WRD - Executive Engineer, sub-PMU, Implementation and Construction Unit Environment Expert, PMU	Cost for pollution prevention is included in the cost of Construction Contractor
2	Threats to forest, wildlife and other environmental resources								
2.1	Tree felling (No activities shall be taken up on forestland without forest clearance. Anticipated impact on trees)	Clearance of the dam sites, canals, minors (In many places <i>Prosopis juliflora</i> – the weed has to be removed. There is no restriction on removing this plant,	Provisions of Rajasthan Forest Act, 1953 to be complied in case of tree felling from forest as well as felling of	To prevent felling of trees and develop green belt, wherever possible.	In case of <i>Prosopis juliflora</i> , efforts should be made to completely uproot it. Sensitization of the workers to prevent felling of important trees.	Dams, canals and minors Labour camps	During repair of the dams and lining of canals and minors.	Construction Contractor Monitoring responsibility is with WRD as well as WUAs	Cost for tree planting and green belt development need to be included in the rehabilitation cost.

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
	and forests will be less.)	rather there is ban on planting of this species)	certain trees from the government and private land.		To ensure that the labourers don't fell trees for fuel and other use. Undertake tree planting along the canals and green belt development, wherever possible.				As the DPR of each sub-project are going to be prepared, 1% of the total cost of the sub-project (depending on the site conditions and land availability) may be kept for tree planting and green belt development
2.2	Disturbances to the wildlife (In case of sub-projects located near WL Sanctuaries/ National Parks/ Conservation Reserves)	Construction works – noise pollution, movement of vehicles and workers	Provisions of Wildlife (Protection) Act and notifications on Eco-sensitive Zones/ Areas need to be complied.	To prevent any threat to the wildlife habitat, corridors, breeding grounds.	Work in areas nearer to WL Sanctuaries to be undertaken as per the advice of local Forest Officials.	Construction sites located near WL habitats.	During construction/ rehabilitation	Construction Contractor WRD - Environment Expert, PMU	No significant cost is involved.
2.3	Extraction of ground water for the rehabilitation works	Use of water for construction works and for labour camps (Majority of the sub-projects are located in ground water over-exploited zones.)	Water quality standards set by Central Pollution Control Board and BIS – IS:2296, 1992 and IS:10500, 2012	To ensure desired quality of water is used for construction and for labour camps.	Periodical water sample testing. Monitoring of extraction of ground water.	Construction sites Water sources Labour camps	During construction	Construction Contractor WRD - Executive Engineer, sub-PMU, Implementation and Construction Unit	Costs for sourcing water and water quality testing are included in the cost of Construction Contractor

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
				To prevent over-exploitation of ground water.				Environment Expert, PMU	
3	Socio-economic impacts								
	Socio-economic environment – safe work environment for the labourers, (There shall be no involuntary resettlement)	Accidents / safety hazards during construction Pollution and spread of diseases	To ensure the compliances as per the Guidelines of WRD, Labour Laws, Contractual Obligations	To prevent accidents, occupational hazards and ensure proper work environment to the workers.	Ensure registration of labourers. Temporary labour camps to be set up away from the residential area – toilets, sewerage disposal, fuel, basic facilities are to be arranged by the Contractor Safety gears, helmets, gloves, spectacles, ear plugs etc. to be supplied to the workers Proper orientation and training to the contractors and workers on environment and social considerations	Construction sites Labour camps	During construction	Primary responsibility lies with the Construction Contractor	Costs for safe working environment and basic amenities are included in the cost of Construction Contractor
B	Post Rehabilitation – operation and maintenance phase								
1	Environment pollution - water quality								
1.1	Water Quality – Reservoir,	Weed growth	Water quality standards set	To ensure dam safety.	Regular site inspections and	Dam, Canals,	Reservoir - water	WRD - Environment	Lump sum INR 200, 000

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
	downstream canal, command area	Silt deposit Waste / effluent discharge Other sources of contamination	by Central Pollution Control Board and BIS – IS:2296, 1992 and IS:10500, 2012	To prevent water pollution. To prevent waterlogging and salinization.	corrective measures in case of any problem. Training and capacity building of WUAs for proper maintenance of irrigation systems (dams, canals, minors). Timely water quality testing and interventions as needed. Sensitizing the local people to prevent waste disposal to the dams and canals.	Minors, villages in command area	testing in pre-monsoon and during irrigation For canals – during the period of irrigation	Expert, PMU and Executive Engineer, Monitoring and Coordination Unit, sub-PMU	(Free testing facilities available with Public Health Engineering Dept. shall also be availed) Budget for training and capacity building of WUA has been included in Project Component – WUA Strengthening.
1.2	Soil quality	Application chemical fertilizers and pesticides Water logging Soil erosion	Standards set by DOA and Soil Health Card Scheme, Government of India (Standards for macro-nutrients, secondary nutrients, micro-nutrients and physical parameters)	To arrest soil degradation and improve soil fertility	Sensitization of WUA members on soil degradation and regular soil testing, adoption of INM and IPM, other environment friendly farming practices. Timely testing of soil samples and orientation of farmers to adopt INM. Orientation of WUA members on proper	Irrigated farmland in the command area	Before <i>kharif & Rabi</i> cropping season	WRD - Environment Expert, PMU with the support of NGO and WUA	INR 200, 000 Soil testing laboratories of the government at the district level charge INR 5 per one sample. Free testing is also available under Soil Health Card Scheme.

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
					crop-watering schedules.				
2	Resource conservation and climate resilient farming								
2.1	Water use efficiency	Water theft Adoption of water intensive crops Excessive use of irrigation water	Norms and standards set by the Rajasthan Participatory Irrigation Management Act, 2000 and subsequent Rules	To enhance irrigation efficiency and make water available to the water uses in the tail end	Institutional strengthening of WUOs to efficiently manage the irrigation system. Sensitization of water users to adopt environment friendly farming practices and contribute to the maintenance of irrigation system.	Villages in command area	Round the year but intensively during operation of canals/ irrigation systems	WRD NGOs WUOs	Cost has been included in Project Component – WUA Strengthening.
2.2	Ground water quality and water availability	Over-exploitation for irrigation Contamination because of application of agro-chemicals	Water quality standards set by Central Pollution Control Board and BIS – IS:10500, 2012	To regulate extraction of ground water. To prevent contamination of ground water	Regular monitoring of water table and regular testing water quality. Promotion of micro irrigation. Promotion of conjunctive use of ground water and surface water for irrigation. Sensitization of WUA members to adopt less water intensive cropping patterns.	Villages in command area	Pre-monsoon, post-monsoon and Rabi cropping season	WRD – Environment Expert with the support of NGOs and WUAs	Cost for water testing – INR 200,000 (Free testing facilities of Public Health Engineering Department will be availed. For detailed analysis some samples shall be sent to accredited labs.) Other costs such as promotion of micro irrigation,

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
									capacity building etc. are included in respective Project Components.
2.3	Tree planting and green belt development	Tree felling Forest degradation Soil erosion	Commitments under State Forest Policy, State Climate Change Action Plan	To enhance green cover and protect the dams, canals and farmland	Sensitize farmers to plant trees on their farm funds, both sides of irrigation channels. Explore possibilities for canal side plantations in collaboration with Forest Department and other Agencies.	Canals, Minors, Command area	Round the year	WRD	1% of the total cost of the sub-project (depending on the site conditions and land availability) may be kept for tree planting and green belt development
2.4	Climate resilient farming	Natural disasters and extreme weather variations	Globally accepted standards for sustainable agriculture/ climate smart agriculture	To promote climate resilient farming practices To conserve water resources	Build capacity of WUAs and Farmers Organisations to develop appropriate cropping pattern and prepare preparedness plans for weather variations/ disasters	Villages in command area	<i>Kharif and Rabi</i> cropping season	WRD - Environment Expert, PMU with the help of NGOs and WUAs	Cost has been included in Project Components – Agriculture and WUA Strengthening
3	Overall environmental assessments								
3.1	Overall environmental impact of the Project – annual assessments	Rehabilitation of irrigation systems Agriculture extension		Water conservation and sustainable agriculture		Selected sub-projects	Annual	Environment Expert with the support of NGOs	INR 400, 000 for annual assessment (INR 20, 000 per sub-project x 4

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
		WUA strengthening		Proper management of irrigation system					sub-projects x 5 years)
3.2	Third party environmental assessments			To ensure compliances to the environmental standards and enhance performance of the EA to address environment issues		15 sub-projects (5 sub-projects during each assessment)	4 th , 6 th and 8 th year	WRD	INR 4, 500, 000 INR 1, 500, 000 per one assessment x 3

Attachment 9.7
West Banas Irrigation Project
– Environmental Management Plan

Attachment 9.7 West Banas Irrigation Project – Environmental Management Plan

1. Introduction

West Banas Medium Irrigation Project is located in Sirahi district of Rajasthan with a CCA of 7,952 ha. The irrigation project was completed in 1963 and has been providing water to the farmers in 36 villages of Pindwara and Abu Road Tehsils. The Project has a total canal network of 72.671 km including a Left Main Canal, a Right Main Canal and 5 nos. of minors of Right Main Canal. Besides irrigation this Project provides water to Laxmi Cement Industry located in Pindwara. As the reservoir has a dead storage of 2.83 M cum, leasing for fishery is also being done by the Fishery Department. WRD has proposed to include West Banas Medium Irrigation Project in RWSLIP for its rehabilitation. A rapid assessment was undertaken by the Preparatory Survey Team to understand the environmental challenges in the context of rehabilitation of the irrigation project. Discussions were held with the WRD Officials, WUAs, Farmers, Agriculture Extension Workers, Forest Officials etc. Rehabilitation of the irrigation project will not create any significant environmental problem. An environmental management plan has been prepared to prevent environmental pollution during the construction as well as during the operation phase.

Salient features of the Irrigation Project	
Basin	West flowing rivers of Kutch and Saurashtra including Luni
Catchment	507.64 sq.km (414.40 sq. km free)
Reservoir capacity	Gross storage – 39.05 M cum Live storage – 36.22 M cum Dead storage – 2.83 M cum FTL – 334.45 m MWL – 335.50 m TBL – 337.04 m
Utilization	Irrigation – 36.22 M cum Industry (Laxmi Cement – Pindwara) – 1.41 M cum Fisheries
Length of Dam and Canals	Dam – 5 km Right Main Canal – 34.74 km Left Main Canal – 21.64 km Minors (5 nos.) – 16.29 km
Irrigation	CCA – 7,952 ha Annual Irrigation – 4,079 ha 36 villages from Pindwara and Abu Road Tehsil area are in command area. 9,288 people are benefited by the irrigation project and 40 per cent of them are tribal people. Authorised outlets – 236 nos. Unauthorised outlets – 172 nos.
Annual rainfall	610 mm
Annual evaporation	1,764 mm
Operation of Canals for irrigation	10 times in last 21 years Canal was operated during last Rabi season (2015-16 – three times) after 3 years
Crops grown with irrigation	Mustard, Wheat, Castor, Fennel seed, Gram, Cotton etc.

2. Proposed rehabilitation works under RWSLIP

During implementation of Rajasthan Water Sector Reforms Project supported by the World Bank, some rehabilitation works such as lining of the canal at vulnerable places were undertaken. WRD has proposed to undertake the following activities under RWSLIP.



Proposed rehabilitation works

Sl.	Activities	Amount in INR
1	Remodelling of Dam- *Jungle clearance from RD 0.0 to 4,000.0 m *E/W for strengthening and repair of dam at RD 3,500 m to RD 4,200 m filer toe *Spreading of quarry spalls over top of dam 4,000 m	14012450.60
2	Construction, repairs and restoration of canal lining – RMC	18203445.00
3	Construction, repairs and restoration of canal lining – LMC	47793011.00

4	Construction, repairs and restoration of outlets of Canals and Minors	7513200.00
5	Construction of Cross Regulators of Canals and Minors	854765.00
6	Repair and restoration of VRB on Canals	909150.00
7	Repair and restoration of Aqueducts of RMC at Ch. 373 & 510	3117468.00
8	Measuring devices	660000.00
9	Construction of pucca water course – 240 nos.	8822160.00
	Total cost without price escalation	101885649.60

3. Challenges in the rehabilitation and maintenance of the Irrigation Project including the environmental problems

Some parts of the RMC and minors are located nearer to the Mt. Abu Wildlife Sanctuary. Eco-sensitive zone of the Sanctuary is one kilometre from the boundary of the sanctuary. The rehabilitation work needs to be done in consultation with the local Forest Officials.



The Dam, canals and minors are poorly maintained because of lack of financial (revenue collection is poor as operation of canal is occasional and no regular funds are available for maintenance) and human resources (One AEN and one Workcharge are available for the management/maintenance of the Irrigation Project). Dumping of wastes into the dam and canals is common. Sewage is released to the LMC in Swaroopganj area. In some places canal area has also been encroached. There seems to be the problem of seepage and water loss. The water users have made unauthorized outlets to take water to their field. At number of places canal is damaged. *Prosopis juliflora* has taken over the dam area/ both sides of the embankment; its complete removal would be a difficult task.



Status of canal near Swaroopganj



Status of LMC near Swaroopganj

The WUOs have been challenging the supply of water to the industry (Laxmi Cement, Pindwara). While the farmers/ registered water users are unable to get water every year, the industry is allowed to pump water throughout the year. Farmers in the command area are already using chemical fertilisers and pesticides. The consumption is on the rise. Use of water intensive crops such as Castor and Wheat is common.



Status of canal at the head



Breaching of canal



Status of canal



Canal lined during RWSRP



Status of LMC



Water pumped by Laxmi Cement

4. Environmental Management Plan for West Banas Irrigation Project

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
A	Construction/ Rehabilitation phase								
1	Environment Pollution								
1.1	Waste disposal/ management	Construction debris Sewage Any other waste	Environmental Guidelines of WRD, 2013	To prevent environment pollution, soil degradation, wastes discharged to the water bodies.	Proper management of borrow areas and restoration/ reclamation of borrow areas after completion of construction works Proper disposal of construction wastes/ debris	Construction sites – dams, canals and minors Labour camps Borrow areas	During construction – repair of the dam and lining of the canal	Primary responsibility is with the Construction Contractor Monitoring by WRD - Executive Engineer, sub-PMU, Implementation and Construction Unit Environment Expert, PMU	Construction Contractor has to take care of expenses of pollution prevention.
2	Threats to forest, wildlife and other environmental resources								
2.1	Disturbances to the wildlife (The sub-project is located close to Mt. Abu Wildlife Sanctuary)	Construction works – noise pollution, movement of vehicles and workers	Provisions of Wildlife (Protection) Act and notifications on Eco-sensitive Zones/ Areas need to be complied.	To prevent any threat to the wildlife habitat, corridors.	Work in areas nearer to WL Sanctuaries to be undertaken as per the advice of local Forest Officials.	Mungthala minor and Kyaria Minor. Some parts of RMC	During construction/ rehabilitation	Construction Contractor WRD - Environment Expert, PMU	No significant cost is involved.
2.2	Complete	Clearance of		To prevent	In case of <i>Prosopis</i>	Dams,	During	Construction	Removal of

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
	removal of <i>Prosopis juliflora</i>	<i>Prosopis juliflora</i> – the weed from dam site. There is no restriction on removing this plant, rather there is ban on planting of this species.		further spread of <i>Prosopis juliflora</i> To prevent felling of trees and develop green belt, wherever possible.	<i>Juliflora</i> , efforts should be made to completely uproot it. Sensitization of the workers to prevent felling of important trees. Undertake tree planting along the canals and green belt development, wherever possible.	canals and minors	repair of the dams and lining of canals and minors.	Contractor Monitoring responsibility is with WRD as well as WUAs	Juliflora is included in the Construction cost. Cost for tree planting and green belt development need to be included in the rehabilitation cost. INR 1, 000, 000 for green belt development.
2.3	Extraction of ground water for the rehabilitation works	Use of water for construction works and for labour camps	Water quality standards set by Central Pollution Control Board and BIS – IS:2296, 1992 and IS:10500, 2012	To ensure desired quality of water is used for construction. To prevent over-exploitation of ground water.	Periodical water sample testing. Monitoring of extraction of ground water.	Construction sites	During construction	Construction Contractor WRD - Executive Engineer, sub-PMU, Implementation and Construction Unit Environment Expert, PMU	Costs for sourcing water and water quality testing are included in the cost of Construction Contractor
3	Socio-economic impacts								
	Socio-economic	Accidents / safety	To ensure the	To prevent	Ensure registration of	Constructi	During	Primary	Costs for safe

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
	environment – safe work environment for the labourers, (There shall be no involuntary resettlement)	hazards during construction Pollution and spread of diseases	compliances as per the Guidelines of WRD, Labour Laws, Contractual Obligations	accidents, occupational hazards and ensure proper work environment to the workers.	labourers. Temporary labour camps to be set up away from the residential area – with necessary facilities. Safety gears, helmets, gloves, spectacles, ear plugs etc. to be supplied to the workers	on sites Labour camps	construction	responsibility lies with the Construction Contractor	working environment and basic amenities are included in the cost of Construction Contractor
B	Post Rehabilitation – operation and maintenance phase								
1	Environment pollution - water quality								
1.1	Water Quality – Reservoir, downstream canal, command area	Weed growth Silt deposit Waste / effluent discharge Other sources of contamination	Water quality standards set by Central Pollution Control Board and BIS – IS:2296, 1992 and IS:10500, 2012	To ensure dam safety. To prevent water pollution. To prevent waterlogging and salinization.	Regular site inspections and corrective measures in case of any problem. Training and capacity building of WUAs for proper maintenance of irrigation systems (dams, canals, minors). Timely water quality testing and interventions as needed. Sensitizing the local people to prevent waste disposal to the dams and canals.	Dam, Canals, Minors, villages in command area	Reservoir - water testing in pre-monsoon and during irrigation For canals – during the period of irrigation	WRD - Environment Expert, PMU and Executive Engineer, Monitoring and Coordination Unit, sub-PMU	Lump sum INR 30, 000 (Free testing facilities available with Public Health Engineering Dept. shall also be availed) Budget for training and capacity building of WUA has been included in Project Component – WUA

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
									Strengthening.
1.2	Soil quality	Application chemical fertilizers and pesticides Water logging Soil erosion	Standards set by DOA and Soil Health Card Scheme, Government of India	To arrest soil degradation and improve soil fertility	Sensitization of WUA members on soil degradation and regular soil testing, adoption of INM and IPM, other environment friendly farming practices. Timely testing of soil samples and orientation of farmers to adopt INM. Orientation of WUA members on proper crop-watering schedules.	Irrigated farmland in the command area	Before <i>kharif & Rabi</i> cropping season	WRD - Environment Expert, PMU with the support of NGO and WUA	INR 20, 000 Soil testing laboratories of the government at the district level charge INR 5 per one sample. Free testing is also available under Soil Health Card Scheme.
2	Resource conservation and climate resilient farming								
2.1	Water use efficiency	Water theft/ large number of unauthorised outlets Adoption of water intensive crops Excessive use of irrigation water	Norms and standards set by the Rajasthan Participatory Irrigation Management Act, 2000 and subsequent Rules	To enhance irrigation efficiency and make water available to the water uses in the tail end	Institutional strengthening of WUOs to efficiently manage the irrigation system. Sensitization of water users to adopt environment friendly farming practices and contribute to the maintenance of irrigation system.	36 villages	Round the year but intensively during operation of canals/ irrigation systems	WRD NGOs WUOs	Cost has been included in Project Component – WUA Strengthening.
2.2	Ground water quality and	Over-exploitation for irrigation	Water quality standards set	To regulate extraction of	Regular monitoring of water table and regular	36 villages	Pre-monsoon,	WRD – Environment	Cost for water testing – INR

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
	water availability	Contamination because of application of agro-chemicals	by Central Pollution Control Board and BIS – IS:10500, 2012	ground water. To prevent contamination of ground water	testing water quality. Promotion of micro irrigation. Sensitization of WUA members to adopt less water intensive cropping patterns.		post-monsoon and Rabi cropping season	Expert with the support of NGOs and WUAs	30,000 (Free testing facilities of Public Health Engineering Department will be availed. For detailed analysis some samples shall be sent to accredited labs.)
2.3	Tree planting and green belt development	Tree felling Forest degradation Soil erosion	Commitments under State Forest Policy, State Climate Change Action Plan	To enhance green cover and protect the dams, canals and farmland	Sensitize farmers to plant trees on their farm funds, both sides of irrigation channels. Explore possibilities for canal side plantations in collaboration with Forest Department and other Agencies.	Canals, Minors, Command area	Round the year	WRD	INR 1, 000, 000
2.4	Climate resilient farming	Natural disasters and extreme weather variations	Globally accepted standards for sustainable agriculture/ climate smart agriculture	To promote climate resilient farming practices To conserve water resources	Build capacity of WUAs and Farmers Organisations to develop appropriate cropping pattern and prepare preparedness plans for weather variations/ disasters	16 Villages in command area (2 villages to be adopted by each WUA)	<i>Kharif and Rabi</i> cropping season	WRD - Environment Expert, PMU with the help of NGO and WUAs	Cost has been included in Project Components – Agriculture and WUA Strengthening

Sl.	Potential Impact to be managed	Sources of Potential Impact	Standard of Impact	Objectives	Management Efforts/ Mitigation Measures	Location of the management efforts	Period of Management	Institution Responsible	Cost
3	Overall environmental assessments								
3.1	Overall environmental impact of the Project – annual assessments	Rehabilitation of irrigation systems Agriculture extension WUA strengthening		Water conservation and sustainable agriculture Proper management of irrigation system		8 villages (one village from each WUA)	Annual	Environment Expert with the support of NGOs	INR 100, 000 for annual assessment (INR 20, 000 per annum x 5 years)

Attachment 9.8
Environmental Monitoring Plan
(EMoP) of RWSLIP

Attachment 9.8: Environmental Monitoring Plan (EMoP) of RWSLIP

Environmental monitoring shall be done in 4 sub-projects (the list of sub-projects has been provided at the end of this attachment) consistently - during construction/ rehabilitation and post rehabilitation phases. The broad contours of environmental monitoring plan for the Project have been presented below:

No.	Impact to be Monitored	Source of Impact	Environmental Parameters to be Monitored	Purpose of Monitoring	Monitoring Methods			Monitoring Responsibility	Cost
					Methods of data collection and analysis	Location	Duration and Frequency		
1	Construction/ Rehabilitation of Irrigation Systems								
1.1	Air Quality (Less impact is anticipated because of repair and maintenance work)	<ol style="list-style-type: none"> Use of machines for construction – concrete mixtures, vibrators, compressors, rollers, earth excavators etc. Vehicles for transportation of materials Excavation of soil/ quarrying 	Effectiveness of the mitigation measures undertaken – use of pollution reduction devices in the machines and equipments, certification of vehicles with compliances to the Air Act, covering of transportation vehicles, water spraying, proper stockpiling of materials and wastes etc.	<p>To ensure the standards set by CPCB are not violated</p> <p>To ensure the obligation of JICA ESC are complied</p>	<p>Site inspection</p> <p>Pollution testing, wherever needed, shall be conducted with the help of accredited service providers</p>	Work sites	<p>One in a month during construction</p> <p>Quarterly</p>	<p>Executive Engineer, sub-PMU, Implementation and Construction Unit</p> <p>Environment Expert, PMU</p>	<p>No separate cost is required as it will be done as part of the scheduled project monitoring.</p> <p>No air quality testing is required as less impact is anticipated. If testing is necessary, then funds available under pollution testing budget head shall be used.</p>
1.2	Noise and Vibration level (Less impact is anticipated)	<ol style="list-style-type: none"> Use of machines, vibrators, compressors, rollers, earth excavators and movers Transportation of machines, equipments, materials etc. 	<p>Proper maintenance of the machines and equipments.</p> <p>Adoption of standard norms for blasting</p>	To ensure the standards set by CPCB are not violated	Site inspection / physical observation	Construction sites	<p>During the construction period – once in a month</p> <p>Quarterly</p>	<p>Executive Engineer, sub-PMU, Implementation and Construction Unit</p> <p>Environment Expert, PMU</p>	No separate cost is required as it will be done as part of the scheduled project monitoring.

No.	Impact to be Monitored	Source of Impact	Environmental Parameters to be Monitored	Purpose of Monitoring	Monitoring Methods			Monitoring Responsibility	Cost
					Methods of data collection and analysis	Location	Duration and Frequency		
		3. Blasting, if any							
1.3	Waste management / Disposal (Less impact is anticipated because of repair and maintenance work)	1. Construction debris 2. Sewage 3. Any other waste	Proper management of borrow areas and restoration/ reclamation of borrow areas after completion of construction works Proper management of construction wastes/ debris	To meet the compliances under the WRD guidelines	Field based monitoring	Construction site Labour camp Borrow areas	Once in a month Quarterly	Executive Engineer, sub-PMU, Implementation and Construction Unit Environment Expert, PMU	No separate cost is required as it will be done as part of the scheduled project monitoring.
1.4	Ecosystem and Biodiversity (Less impact is anticipated. Some sites are closer to WL areas – there can be some impact in these areas)	1. Tree felling 2. Disturbances to the wildlife as well as domestic animals because of construction works 3. Impact on aquatic fauna	Regulation of tree felling and plan for green belt development Work in areas nearer to WL Sanctuaries to be undertaken as per the advice of local Forest Officials.	To meet the legal compliances (Forest and WL laws)	Site visits	Construction sites and neighbouring areas Reservoir Labour camps	Once in a month Quarterly	Executive Engineer, sub-PMU, Implementation and Construction Unit Environment Expert, PMU	No separate cost is required as it will be done as part of the scheduled project monitoring.
1.5	Socio-economic environment (There shall be no	1. Accidents / safety hazards during construction 2. Pollution and spread of diseases	Temporary labour camps to be set up away from the residential area – toilets, sewerage disposal, fuel, basic facilities are to be	To ensure the compliances as per the Guidelines of WRD, Labour	Site visits Verification of necessary records	Construction sites Labour camps	Once in a month	Executive Engineer, sub-PMU, Implementation and Construction Unit	No separate cost is required as it will be done as part of the scheduled project monitoring.

No.	Impact to be Monitored	Source of Impact	Environmental Parameters to be Monitored	Purpose of Monitoring	Monitoring Methods			Monitoring Responsibility	Cost
					Methods of data collection and analysis	Location	Duration and Frequency		
	involuntary resettlement)		<p>arranged by the Contractor</p> <p>Safety gears, helmets, gloves, spectacles to be supplied to the workers</p> <p>Proper orientation and training to the contractors and workers on ESC aspects</p>	Laws, Contractual Obligations			Quarterly	Environment Expert, PMU	The cost for mitigation measures to be borne by the Contractor.
2	Operations and Maintenance Phase (Monitoring will be done mostly in 4 selected sub-projects)								
2.1	Water Quality – Reservoir, downstream canal, command area	<p>Weed growth</p> <p>Silt deposit</p> <p>Waste / effluent discharge</p> <p>Other sources of contamination</p>	Pollution level and quality of water for drinking, irrigation, habitat for aquatic fauna	Water quality standards for drinking, irrigation and other purposes are maintained	<p>Physical observation</p> <p>Water quality testing in laboratories</p>	<p>Reservoir</p> <p>Canals – main and minors</p> <p>Sites to be determined based on size of the command area, number of canals and minors</p>	<p>Reservoir - water testing in pre-monsoon and during irrigation</p> <p>For canals – during the period of irrigation</p> <p>Quarterly field inspection</p>	<p>Environment Expert, PMU</p> <p>NGO and WUA for water sample collection and testing</p> <p>Executive Engineer, Monitoring and Coordination Unit, sub-PMU</p>	<p>Lump sum INR 200, 000</p> <p>Most of tests will be carried out in laboratories of Public Health Engineering Department without any cost.</p> <p>For detailed analysis some samples shall be sent to accredited labs.</p>

No.	Impact to be Monitored	Source of Impact	Environmental Parameters to be Monitored	Purpose of Monitoring	Monitoring Methods			Monitoring Responsibility	Cost
					Methods of data collection and analysis	Location	Duration and Frequency		
2.2	Ground water quality and water availability	Over-exploitation for irrigation Contamination because of application of agro-chemicals	Water quality for drinking and irrigation Conjunctive use of surface water and ground water for irrigation Water table	Reduction in exploitation of ground water	Interviews with the farmers Physical observation Water quality testing in laboratories	Well and tube wells located in the command area Sites will be sampled in consultation with WUAs	Pre-monsoon and post monsoon period During Rabi cropping season Water table monitoring on a monthly basis	Environment Expert, PMU NGO and WUA for water sample collection and testing WUA for monitoring of water table	INR 200, 000 Most of tests will be carried out in laboratories of Public Health Engineering Department without any cost. For detailed analysis some samples shall be sent to accredited labs.
2.3	Soil quality	Application chemical fertilizers and pesticides Water logging Soil erosion	Organic matters, soil nutrients, pesticide residue, salinity etc.	Ensuring adequate efforts for IPM, INM etc. and arresting soil degradation	Physical observation as well as testing of soil samples Farmers interview on application of different fertilizers and pesticides	Irrigated farmland in the command area- sites to be sampled (One village from each WUA and within the village 10% of farmers)	Soil samples to be tested before <i>Kharif</i> and <i>Rabi</i> seasons Application of fertilizers and pesticides to be recorded during <i>Kharif</i> and <i>Rabi</i> seasons	Environment Expert, PMU NGO and WUA for soil sample collection and testing	INR 200, 000 Soil testing laboratories of the government at the district level charge INR 5 per one sample. Free soil testing under Soil Health Card Scheme can be availed wherever possible.
2.4	Ecosystem, biodiversity, climate	Intensive farming and application of agro-chemicals	Promotion of agri-biodiversity	To ensure adoption of sustainable agriculture	Farmers interview	One village from each sub-project selected on	Annual assessments	Environment Expert, PMU with the help of	INR 400, 000 (INR 20, 000 per sub-project x 4

No.	Impact to be Monitored	Source of Impact	Environmental Parameters to be Monitored	Purpose of Monitoring	Monitoring Methods			Monitoring Responsibility	Cost
					Methods of data collection and analysis	Location	Duration and Frequency		
	resilient farming	Tree felling/ forest degradation Environment pollution/ water pollution - Effluent discharge to reservoir, canals etc. Natural disasters and extreme weather variations	Proper waste management Tree planting/ green belt development Promotion of fisheries/ proper habitat for aquatic fauna Climate resilient farming/ disaster preparedness	practices, proper waste management , develop greenbelt	Focus Group Discussions Physical observation	the basis of purposive sampling All villages under the jurisdiction of WUA		NGO and WUA collectively	sub-projects x 5 years)
2.5	Third party environmental assessment (three assessments)	Rehabilitation of irrigation system and operation Agriculture extension	Soil and water qualities Water use efficiency Management of irrigation systems Environment friendly cropping patterns Reduction of GHG emissions from agriculture Exploitation of ground water, conjunctive use of surface and ground water Impact on forest and biodiversity	To ensure compliances to environmental standards and monitor the performance of the Project on ESC aspects	Specialised surveys, interviews, Scientific analysis Site inspections Participatory appraisals Consultation of records, documents, databases Consultation with other stakeholders	5 sites to be selected jointly by JICA and PMU for each assessment	4 th year (one month) 6 th year (one month) 8 th year (one month)	Project Director Environment Expert, PMU	INR 4, 500, 000 INR 1, 500, 000 per one assessment x 3

Environmental Monitoring Schedule

Sl.	What is to be monitored?	Who will monitor?	When/ Frequency of monitoring?	Whom to submit the report	Formats to be used	Remarks
1	During Construction/ Rehabilitation					
1.1	Environmental Pollution – air, water, noise, soil and waste disposal, borrow area management	Executive Engineer – Implementation and Construction Unit, sub-PMU	Once in a month during construction	Sub-PMU	Monitoring Format A	No significant impact is anticipated as the Project will undertake only repair and maintenance work. The Contractor is expected to take measures for pollution control. Whenever significant environment pollution is noticed necessary tests will be conducted.
1.2	Environment Pollution – air, noise, water, soil etc., Waste Management, Socio-Economic Environment – labour camps, working environment and facilities, engagement local labour etc., Ecosystem and Biodiversity – efforts for protection of native, rare and endangered species,	Environment Expert, PMU	Once in a quarter	PMU as well as to sub-PMU	Monitoring Format A	The NGO and WUA will assist the Expert in Monitoring and collection of data.
1.3	Waste disposal, borrow area management, tree felling, disturbances to the wildlife and domestic livestock, engagement of local labour, safety standards	Concerned Staff of NGO	Once in a month	Sub-PMU	Monitoring Format A	
1.4	Waste disposal, borrow area management, tree felling, disturbances to the wildlife and domestic livestock, engagement of local labour, safety standards	WUA	Once in every week (In their respective area where rehabilitation work is going on)	No report will be prepared but the results will be recorded in the monthly		The WUA leaders and Members will physically visit the worksites and monitor the rehabilitation work. In case of problems they will report to the Contractor as well as WRD Officers.

Sl.	What is to be monitored?	Who will monitor?	When/ Frequency of monitoring?	Whom to submit the report	Formats to be used	Remarks
				meeting of WUA		The NGO will build the capacity of WUA for monitoring the environmental aspects.
2	During Operations and Maintenance (Post-rehabilitation phase)					
2.1	Water logging, seepage, dam safety, canal safety etc.	Executive Engineer from Monitoring & Coordination Unit of sub-PMU	Once in a quarter	Sub-PMU	Monitoring Format B	All the sub-projects in their respective jurisdictions.
2.2	Water use efficiency, water use conflicts, water quality, use of agro-chemicals, use of ground water, farm waste management, GHG emissions, green belt development, catchment treatment	Environment Expert, PMU	Once in a quarter	PMU as well as to sub-PMU	Monitoring Format B	This will be done for only selected sites (4 nos. of sub-projects identified for environmental monitoring).
2.3	Water use efficiency, water use conflicts, use of fertilizers and pesticides, use of micro irrigation, use of water efficient cropping pattern, use of ground water, use of farm machineries	Staff of NGO with the help of WUA	Once in a month	Sub-PMU	Monitoring Format B	This will be done for selected sub-projects (4 nos. of sub-projects identified for environmental monitoring). The WUA leaders and Members will physically visit different sites, farms and organise meetings with the farmers. NGO will assist the WUA to develop the monitoring practices in WUA.
2.4	Ecosystem and biodiversity aspects	Environment Expert, PMU with the help of NGOs and WUAs	Annual assessment	PMU	Monitoring Format B and additional formats as per requirement	The NGO shall carry out similar exercises once in six month, which will help the Environment Expert during annual assessment.
2.5	Third party environmental assessment	External specialised agency Environment Expert, PMU will coordinate	4 th year – 5 sub-projects 6 th year – 5 sub-projects 8 th year- 5 sub-projects	PMU	Formats to be developed by the Agency contracted for the purpose	Sub-projects from dam & canals, only canals will be sampled for its significance to environment. Both medium and minor irrigation will be included.

List of prioritized sub-projects to be monitored for environmental concerns:

Sl. No.	Name of sub-Project	Zone	District / division	Category of scheme	CCA in ha	Year of construction	Estimated Cost (Rs in Lacs)			Remark
							Total	Dam	Canal	
1	Gambhiri Irrigation Project	Udaipur	Chittorgarh	Medium	7,575.00	1958	4,545.00	1,845.00	2,700.00	On the basis of volume of work and cost on the renovation of the dam
2	Rehabilitation of Mansarovar Irrigation Project	Jaipur	Alwar	Minor	843.00	State time	239.16	78.26	160.90	Location of sub-project in environmental sensitive areas
3	Rehabilitation of West Banas Irrigation Project	Jodhpur	Sirohi	Medium	7,952.00	1963	1,715.75	226.97	1,488.78	Location of sub-project in environmental sensitive area as well as Schedule V area
4	Rehabilitation of Phulad Minor Irrigation Project	Jodhpur	Pali	Minor	787.79	1976	526.88	NA	NA	Location of sub-project in environmental sensitive areas
5	Rehabilitation of Abhaypura Bimlat Medium Irrigation project	Kota	Bundi	Medium	3,402.00	1982	2,285.00	1,253.16	1,031.84	On the basis of volume of work and cost on the renovation of the dam
6	Rehabilitation of Arthuna Distributary & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributary at R.D 7.765 Km.	Udaipur	Banswara	Medium	6,760.00	1986	4,056.00	0.00	4,056.00	Location of sub-project in environmental sensitive area as well as Schedule V area Volume of work and cost in canal renovation
7	Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	Udaipur	Banswara	Medium	9,598.00	2007	5,758.80	0.00	5,758.80	Location of sub-project in environmental sensitive area as well as Schedule V area Volume of work and cost in canal renovation

Sl. No.	Name of sub-Project	Zone	District / division	Category of scheme	CCA in ha	Year of construction	Estimated Cost (Rs in Lacs)			Remark
							Total	Dam	Canal	
8	Rehabilitation of Udaisagar Medium Irrigation Project	Udaipur	Udaipur	Medium	5,110.00	State time	7,281.42	1,655.97	5,625.45	Volume of work and cost in dam and canal renovation
9	Rehabilitation of Bhimsagar Medium Irrigation Project	Kota	Jhalawar	Medium	9,986.00	1990	6,504.54	0.00	6,504.54	Volume of work and cost in canal renovation
10	Rehabilitation of Karnisingh Distributary from Km 0 to 33.320. of Bhakra canal system	North	Hanumangarh	Medium	9,269.23	1953	5,595.01	0.00	5,595.01	Volume of work and cost in canal renovation

Attachment 9.9
Environmental Monitoring Forms

Attachment 9.9: Environmental Monitoring Forms

**Environmental Monitoring Form – A
(To be used during Construction/ Rehabilitation of Irrigation System)**

Name of the Sub-Project: ID: Period of reporting (Quarter/Month/Fortnight): Name and signature of the Reporting Officer: Date of reporting:
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1. Monitoring of environmental pollution in the construction/ rehabilitation site (This shall be used in the sites, where significant environmental pollution is expected. The Environment Expert/ Monitoring Officer feels the need for testing of samples for environmental pollution then a form – A1 appended to this form may be used)

Date and time of site inspection	Construction Site/ Location	Issues relating to pollution	Mitigation measures undertaken	Remark
1.1	Air/ dust pollution			
2.2	Noise pollution			
2.3	Surface water used for construction and quality			
2.4	Ground water extraction for construction and quality of water			

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2. Waste disposal / management

a) Date (s) of site inspection:

Type of Waste	Measures for disposal/management	Remarks based on site inspection
Waste from land clearance – bush cutting, tree felling etc.		
Construction wastes		
Silt		
Metals		
Oils		
Wastes from workers' camps		
Any hazardous waste, specify		
Any other – specify		

3. Burrow area management

a) Date of site inspection:

Site/ Location (Submergence area/ other government land/ private land)	Issues relating to Burrow area management	Mitigation measures undertaken	Remark

4. Ecosystem and Biodiversity

a) Date of site inspection:

b) Description of site:

c) Issues and mitigation measures:

Themes/ Parameters	Issues	Mitigation measures undertaken	Remark
Impact on forest and natural vegetation			
Impact on			

Wildlife/ corridor			
Impact on aquatic fauna			
Impact on domestic animal			

d) Green Belt Development/Tree planting:

Location	Area in ha covered for tree planting	No. of seedlings planted	Remark

6) Socio-economic environment

a) Employment for the local people

Reporting period:

Social category	Total Employment Generated during reporting period (Person-days)			Employment Generated during reporting period (Person-days) for the local people		
	Men	Women	Total	Men	Women	Total
ST						
SC						
OBC						
Others						

Note: Information to be provided by the Contractor on monthly basis.

b) Workers' safety and work environment

Themes/ Parameters	Observations on the compliances	Recommendations
Safety gears		
Camps/ resting facilities		
First aid		
Special provisions/ facilities for women workers		

c) Details of any accident during the reporting period and measures taken

Environmental Monitoring Form – B (To be used after Rehabilitation Irrigation System – Operations and Maintenance)

Name of the sub-project:
ID:
Period of reporting (Annual/Half-yearly/Quarter/Month):
Name and signature of the Reporting Officer:
Date of reporting:

1) Maintenance of Dam/ Reservoir/ Canal (To be monitored through routine site inspection) (Seepage, waterlogging, weed growth, waste dumping/ effluent discharge etc.)

Date and time of site inspection	Site/ Location	Issues	Mitigation measures undertaken	Remark

2) Water Quality Management (To be monitored through site inspection, water table survey and laboratory testing for water quality)

a) Surface water quality

Date (s) of testing:

Parameter	Unit	Measurements				Average of water quality for the sub-project	Permissible limit (E class water)	Remark
		Site 1	Site 2	Site 3	Site 4			
pH	-						6.0 - 8.5	
BOD ₅	g/m ³						200	
COD	g/m ³						500	
Suspended Solids	g/m ³						300	
DO	mg/l						6mg/l & above	
Dissolved solids	mg/l						1500	
EC	μ mhos/cm						2, 250	

Note: Water samples from the Reservoir (Pre-monsoon and during the period of irrigation and water samples from the Canal to be tested during operation of canals (sites to be selected from head to tail).

b) Water table monitoring (To be done on a monthly basis in selected sites through site inspection and interaction with WUAs)

Reporting period:

Site/ Location	Availability of water in feet			Availability of water in tube well in feet			Remark
	Well	Well	Well	Tube	Tube	Tube	

Note: The NGO shall assist WUAs to maintain records on water availability and use of water.

c) Groundwater Quality (To be done through laboratory testing – pre-monsoon, post-monsoon and during Rabi cropping season)

Date (s) of testing:

Item	Unit	Measurements*			Average of Ground Water quality	Permissible limit IS 10500:2012 (drinking water)	Remark
		Well 1	Well 2	Well 3			
Colour	Hazen					5 Hazen	
Odour	Unobjectionable					Unobjectionable	
Taste	Agreeable						
pH	6.5 – 8.5					6.5 to 8.5	
Turbidity	NTU					5 NTU	
Total Hardness	mg/l					600 mg/l	
Total Dissolved Solids	mg/l					2000 mg/l	
Iron as Fe	mg/l					0.3 mg/l	
Chloride as Cl	mg/l					1000 mg/l	
Nitrate as NO3	mg/l					100 mg/l	
Fluoride as F	mg/l					1.5 mg/l	
Sulphate as SO4	mg/l					400 mg/l	
Mercury as Hg	mg/l					0.001 mg/l	
Arsenic as As	mg/l					0.05 mg/l	

*Note: * The number of wells to be sampled depends on the size of the command area. Standards set by Central Pollution Control Board as well as BIS – IS 2296, 1992 may be referred.*

d) Exploitation of ground water (To be monitored during Rabi Cropping season and source of information is WUA)

Reporting period:

a) Use of ground water

Name of the WUA	No of tube wells	No of wells	No of tube well used for irrigation	Area irrigated in ha – tube wells	Crops grown – tube wells	No of wells used for irrigation	Area irrigated in ha - wells	Crops grown - wells

Note: The NGO shall assist WUAs to maintain records on water availability and use of water for irrigation.

b) Observations on conjunctive use of ground water:

e) Suggested mitigation measures for improving the water quality, if any

Site/ Location	Issues relating to water quality management	Mitigation measures to be undertaken	Responsibility

3) Wastes/ effluents discharged to Reservoir and Canals (To be done through routine site inspection and interaction with WUAs)

a) Reporting period:

b) Date (s) of site inspection:

Site/ Location	Issues	Mitigation measures to be undertaken	Responsibility

4) Soil quality (This will be done through site inspection as well as laboratory testing)

a) Date (s) of testing:

b) Results of soil sample testing:

Parameter	Unit	Measurements				Remark
		Site 1	Site 2	Site 3	Site 4	
pH						
Moisture	%					
Electrical conductivity	µS/cm					
Bulk density	gm/cc					
Texture						
Calcium as Ca	kg/ha					
Magnesium as Mg	kg/ha					
Iron as Fe	kg/ha					
Chloride as Cl	kg/ha					
Sulphate as SO ₄	kg/ha					
Sodium as Na	kg/ha					
Potassium as K	kg/ha					
Phosphorous as P	kg/ha					
Total Nitrogen as N	kg/ha					
Organic matter	kg/ha					
SAR						

Note: Soil samples to be tested before Kharif and Rabi Seasons. Each WUA has to identify sample sites for testing. Under Soil Health Card Scheme of the Government, health cards are being issued to the farmers. The NGO and WUA shall assist the farmers to send their soil samples for testing.

c) Suggested mitigation measures for soil quality improvement, if any

Site/ Location	Issues in soil quality	Mitigation measures to be undertaken	Responsibility

5) Application of fertilizers and pesticides (To be monitored through interaction with WUAs, farmers, service providers/ input suppliers, sample surveys and sourcing information from DOA – at the end of *Kharif and Rabi* seasons)

- a) Period of reporting:
- b) WUA name:
- c) Village/ location:
- d) Use of fertilizer:

Crop	Approx. area in ha	Approx. quantity of fertilizers used in kg.				Approx. quantity of pesticides used (specify the unit)			Remark
		N	P	K	FYM	Name	Name	Name	

Note: The NGO shall assist WUAs to maintain records on the use of fertilizers, pesticides, organic manures etc.

6) Adoption of INM, IPM and other environment friendly farming practices by the WUA members (To be monitored through site inspections and interaction with WUAs)

Village/ Location	Total water users	No of water users adopted improved practices of soil management			Crops for which INM has been adopted	Crops for which IPM has been adopted	Remark
		INM	IPM	Any other, specify			

Note: The NGO shall assist WUAs to maintain records on adoption of environment friendly farming practices.

7) Adoption of micro irrigation systems by WUA members (To be monitored through interaction with WUAs and site inspection – at least twice a year)

Village/ Location	Total water users	No of water users adopted micro irrigation systems			Crops grown with the micro irrigation systems	Approximate area irrigated using micro irrigation in ha
		Drip	Sprinklers	Any other, specify		

8) Other environmental aspects

a) Tree planting and green belt development

Site/ Location	Activities undertaken during the reporting period	Issues	Recommendations

b) Disaster preparedness/ climate resilient farming

Name of the WUA	Is there a plan available to address the weather variations/ disasters?	Efforts made by farmers to address the issues in weather variations	Recommendations

9) Socio-economic environment (To be monitored twice a year through interaction with WUAs, SHGs, Farmers Organisations etc.)

Period of reporting:

Parameters	Observations	Recommendation
Representation of women in WUA		
Participation of women in WUA related activities		
Representation of Tribal communities in WUA		
Participation of tribal people in WUA related activities		

Environmental Monitoring Form – A1

(Whenever the Environmental Expert or other Monitoring Officers feel the necessity for carrying out tests for environmental pollution during construction/ rehabilitation, this form may be used)

Name of the Sub-Project: ID: Name and signature of the Reporting Officer: Date of reporting:

1. Air quality testing:

- a) Period of testing (Consecutive 2 days of testing):
- b) Time of testing:
- c) Site/ Location (s):
- d) Results of testing

Parameter	Unit	Maximum Concentration				Remark
		Site1	Site2	Site3	Site4	
CO	mg/m ³					
SO ₂	µg/m ³					
NO ₂	µg/m ³					
NH ₃	µg/m ³					
Dust	µg/m ³					
PM (PM ₁₀)	µg/m ³					
PM (PM _{2.5})	µg/m ³					
Any other, specify						
Any other, specify						

Note: The Ambient Air Quality Standards of Central Pollution Control Board need to be followed for air quality testing/ monitoring (Notification of 18th November 2009).

2. Noise level monitoring

- a) Date (s) of testing:
- b) Unit of measurement: dBA
- c) Results:

Location (Construction/ activity sites)	Measurement (LAeq)		National Standards		Remark
	Day	Night	Permission limit (Day)	Permission limit (Night)	

3. Surface water quality

- a) Date (s) of testing:
b) Results:

Parameter	Unit	Measurements				Average of water quality for the sub-project	Permissible limit (E class water)	Remark
		Site 1	Site 2	Site 3	Site 4			
pH	-					6.0 - 8.5		
BOD ₅	g/m ³					200		
COD	g/m ³					500		
Suspended Solids	g/m ³					300		
DO	mg/l					6mg/l & above		
Dissolved solids	mg/l					1500		
EC	μ mhos/cm					2, 250		

Note: Standards set by Central Pollution Control Board as well as BIS – IS:2296, 1992 may be referred.

4. Groundwater Quality

- a) Date (s) of testing:
b) Results:

Item	Unit	Measurements*			Average of Ground Water quality	Permissible limit IS 10500:2012	Remark
		Well 1	Well 2	Well 3			
Colour	Hazen				5 Hazen		
Odour	Unobjecti onable						
Taste	Agreeable						
pH	6.5 – 8.5				6.5 to 8.5		
Turbidity	NTU				5 NTU		
Total Hardness	mg/l				600 mg/l		
Total Dissolved Solids	mg/l				2000 mg/l		
Iron as Fe	mg/l				0.3 mg/l		
Chloride as Cl	mg/l				1000 mg/l		
Nitrate as NO ₃	mg/l				100 mg/l		
Fluoride as F	mg/l				1.5 mg/l		
Sulphate as SO ₄	mg/l				400 mg/l		
Mercury as Hg	mg/l				0.001 mg/l		
Arsenic as As	mg/l				0.05 mg/l		

*Note: * The number of wells to be sampled depends on the size of the command area*

Attachment 9.10
Screening of Sub-Projects for
Environmental and Social Consideration
before Preparation of DPR

Attachment 9.10: Screening of Sub Projects for Environmental and Social Consideration before Preparation of DPR

Name of the Sub-Project: Location: Name and signature of the Screening Officer: Date of Screening:

S. No	Key areas of screening	Yes/No	Recommended Action	If yes, it likely falls into JICA category (A, B or C)
1	Forests/ Tree Cover outside the forest			
1.1	Will there be any repair and maintenance work of dam and/or canal in recorded forest areas of the state?		If yes, then WRD has to obtain necessary permission from the State Forest Department.	Category B
1.2	Will there be any tree felling from the recorded forest area?		If yes, then WRD has to obtain necessary permission from the State Forest Department before felling of trees.	Category B
1.3	Will there be any tree felling from the Revenue Land and/ or private land?		If yes, necessary permission to be obtained from Revenue as well as Forest Department before felling of trees.	Category B
2	Protected Areas (National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves)			
2.1	Is there a Protected Area within 10 km of the dam and/ or canal to be rehabilitated?		If yes, then WRD has to inform the State Forest Department about the activities to be carried out and take up the work as per the advice of the Forest Department.	Category B
2.2	Will there be any rehabilitation work in the Eco Sensitive Zones declared by the Forest Department (the Forest Department is in the process of declaring Eco Sensitive Zones for each Protected Area)?		If yes, then WRD has to inform the State Forest Department about the activities to be carried out and take up the work as per the advice of the Forest Department. Rain water harvesting is a permissible activity in Eco Sensitive Zones. In some sites there may huge construction work using machineries. It is better to consult the Forest Department before carrying out the rehabilitation work.	Category B
2.3	Does the work involve wildlife habitat areas (WL corridors, migratory birds, breeding ground etc.) outside the Protected Areas?		If yes, then the rehabilitation activities have to be carried out in consultation with the Forest Department of the State and adequate safeguards are to be incorporated into the DPR along with monitoring protocols.	Category B
3	Catchment of the irrigation system/project			
3.1	Is there any assessment of catchment area done?		If yes, what prescribed actions are to be included in the DPR. If no, WRD may carry out a rapid assessment of the catchment area and prescribe actions for catchment treatment in the DPR (afforestation, soil and moisture	No categorization

S. No	Key areas of screening	Yes/No	Recommended Action	If yes, it likely falls into JICA category (A, B or C)
			conservation, proper drainage etc.). If the catchment area includes recorded forest area then catchment treatment plan has to be planed and implemented through the Forest Department.	
4	Green belt/ Tree cover/ Landscaping			
4.1	Is there land available for plantations/ developing green belt?		If yes, required activities may be included in the DPR along with budget.	No categorization
4.2	Are the farmers/WUA members willing to take up tree plantation on their farmland/ farm bunds?		If yes, some activities for tree planting with farmers' participation may be included in the DPR along with budget.	No categorization
5.	Dam			
5.1	Does the rehabilitation work involve a dam of 10 meters high or more?		If yes, Dam Safety Plan along with emergency response action to be prepared and included in DPR.	Category B
6.	Use of Chemical Fertiliser and Pesticides			
6.1	Is there any assessment made on the use of chemical fertilizers and pesticides? Will agriculture intensification lead to increased use of chemical fertilizers and pesticides?		If yes, kindly provide quantum of use of different chemical fertilizers and pesticides (crop and season wise). Please include concrete action for a) mitigation measures, b) alternatives to the use of chemical fertilizers and pesticides.	If seriously, Category B. If not serious, C
7	Water use conflicts			
7.1	Are there any conflicts in the community/ target area on the water use?		If yes, the context has to be properly analysed and actions for addressing these conflicts need to be included in the DPR.	If seriously, Category B. If not serious, C
7.2	Will there be any significant problem in the water use and fisheries in the downstream areas?		If yes, then possible action to address the problem may be included in DPR.	Category B
7.3	Does the rehabilitation work cause risk of floods and damage to downstream resources?		If yes, then actions for flood management and drainage may be included in the DPR.	Category B
8	Pollution			
8.1	Will the rehabilitation work create water, air, noise pollution and soil/ land degradation?		If yes, then extent of pollution along with appropriate mitigation measures needs to be included in DPR.	If seriously, Category B. If not serious, C
9	Indigenous People/ Tribal, Women			
9.1	Are there tribal communities living near the irrigation structure?		If yes, detailed information shall be provided in the DPR on their demography, habitation, distance from the dam and canal, landholding and benefits from irrigation	No categorization

S. No	Key areas of screening	Yes/No	Recommended Action	If yes, it likely falls into JICA category (A, B or C)
			structure/ system etc..	
9.2	Does the rehabilitation work involve land acquisition, involuntary resettlement or construction on private land?		If yes, necessary environment clearance has to be obtained or the Sub Project will not be included the Project.	Category A
9.3	Does the rehabilitation of irrigation structure and canal involve eviction of people from the encroached land or release of land under encroachment?		If yes, then details of encroachment area and persons to be identified and necessary action permitted under the law, shall be included in the DPR. In case of tribal and other vulnerable communities, some mitigation measures shall be included in the Tribal Development Plan.	Category A
9.4	Will the rehabilitation of irrigation system and agriculture intensification works have any adverse impact on tribal communities?		If it has adverse impact, basically this sub-project should not be implemented.	Category A
9.5	Will the rehabilitation of irrigation system and agriculture intensification works have any adverse impact on women?		If yes, then women development plan shall be prepared and included in the DPR. Efforts shall be made to proactively engage women in implementation of different project activities.	Category B
10	Heritage/ Cultural/ Religious			
10.1	Will the work under the Sub Project cause damage/ adverse impact to/on places of religious, historical and cultural importance?		If yes, then such action may be avoided in DPR and precautionary measures shall be included in the DPR.	Category B

Final Evaluation (Please put a circle at those categories)	Category A	Category B	Category C
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Note:

1. If the sub-project is located in environmental sensitive areas, then environmental management plan and environmental monitoring plan need to be prepared.
2. If rehabilitation of the sub-project will cause significant environment pollution (air, noise, dust, water, waste etc.), then environmental management plan and environmental monitoring plan need to be prepared.
3. If rehabilitation of the sub-project will negatively affect the tribal people, then tribal development plan needs to be prepared.
4. Those categorisation in case of "Yes" are just samples which likely falls into JICA categories (A, B or C). Final decision should be made by evaluators who prepare this sheet.

Attachment 9.11
Note on Preparation of
Tribal Development Plan

Attachment 9.11: Note on Preparation of Tribal Development Plan

1. Legal Safeguards for the Scheduled Tribes in India:

The Government of India and the Constitution of India don't provide any legal definition of Indigenous People. In Indian context Scheduled Tribes are commonly referred as Adivasi – meaning the original inhabitants of the land or the indigenous people. Communities based on their primitive traits, geographical isolation, economic backwardness, shyness of contact with community at large and cultural distinctiveness are categorized and notified as Scheduled Tribes by the President of India under Article 342 of Constitution of India. Initially 744 communities have been notified as Scheduled Tribe. The Constitution of India provides social, economic and political guarantees to the STs. Some of the provisions/ guarantees have been mentioned below:

- Equality before law [Article 14]
- The State to make special provisions for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes [Article 15(4)]
- Equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State [Article 16]. The State to make provisions for reservation in appointment, posts in favour of any backward class citizens which in the opinion of the State is not adequately represented in the services under the State [Article 16(4)]. The State to make provisions in matters of promotion to any class or classes of posts in the services in favour of the Scheduled Castes and the Scheduled Tribes [Article 16 (4A) and 16(4B)]
- Appointment of a Commission to report on the administration of the Scheduled Areas and the welfare of the Scheduled Tribes in the States [Article 339(1)]
- Specify the tribes or tribal communities to be Scheduled Tribes [Article 342]
- The State to promote with special care the educational and economic interests of the weaker sections of the society and in particular, of the Scheduled Castes and Scheduled Tribes and shall protect them from social injustice and all forms of exploitation [Article 46]
- Grants-in-aid from the Consolidated Fund of India each year for promoting the welfare of the Scheduled Tribes and administration of Scheduled Areas [Article 275(1)]
- Reservation of seats for STs and SCs in Lok Sabha [Article 330]; Reservation of seats in State Legislatures [Article 337]; Reservation of seats in Panchayats [Article 243D] and Reservation of seats in Municipalities/ Urban Local Bodies [Article 243T]
- Creation of Agencies for monitoring the safeguards for the STs and SCs – National Commission for ST and National Commission for SC [Article 338 and 338A]

Some of the laws for the safeguards of STs are listed below:

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 - This Act popularly known as Forest Rights Act (FRA) recognizes rights of forest dwellers (ST and other Traditional Forest Dwellers) on forest land and forest resources. The forest dwellers can claims for individual entitlement over forestland cultivated or used by them as well as for community forest rights.
- The Provisions of Panchayats (Extension to Scheduled Areas), Act 1996 - The Act extends the provisions of Panchayats contained in Part IX of the Constitution to the Schedule Areas. The Act redefines a village based on its people and their customs and traditions. It empowers the Gram Sabha for local self-governance.

- The Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Rules, 1995 - This Act provides for specific provisions to prevent atrocities on the Scheduled Castes and the Scheduled Tribes.

2. Schedules Tribes in Rajasthan:

The state of Rajasthan has 12 different Scheduled Tribe communities and one of them i.e. Seharria/Sahariya is notified as Particularly Vulnerable Tribal Group. The total tribal population of the state is 9.238 million, which is 13.5 per cent of the total population of the state. The following table presents the district wise tribal population of the state as per Census 2011.

Table 1 District-wise Tribal Population of Rajasthan

Sl. No.	District	Population	Sex Ratio	Literacy	ST	ST %
1	Jaipur	66,26,178	910	75.51%	527966	7.97
2	Jodhpur	36,87,165	916	65.94%	118924	3.23
3	Alwar	36,74,179	895	70.72%	289249	7.87
4	Nagaur	33,07,743	950	62.80%	10418	0.31
5	Udaipur	30,68,420	958	61.82%	1525289	49.71
6	Sikar	26,77,333	947	71.91%	75349	2.81
7	Barmer	26,03,751	902	56.53%	176257	6.77
8	Ajmer	25,83,052	951	69.33%	63482	2.46
9	Bharatpur	25,48,462	880	70.11%	54090	2.12
10	Bhilwara	24,08,523	973	61.37%	229273	9.52
11	Bikaner	23,63,937	905	65.13%	7779	0.33
12	Jhunjhunun	21,37,045	950	74.13%	41629	1.95
13	Churu	20,39,547	940	66.75%	11245	0.55
14	Pali	20,37,573	987	62.39%	144578	7.10
15	Ganganagar	19,69,168	887	69.64%	13477	0.68
16	Kota	19,51,014	911	76.56%	183816	9.42
17	Jalor	18,28,730	952	54.86%	178719	9.77
18	Banswara	17,97,485	980	56.33%	1372999	76.38
19	Hanumangarh	17,74,692	906	67.13%	14289	0.81
20	Dausa	16,34,409	905	68.16%	433344	26.51
21	Chittaurgarh	15,44,338	972	61.71%	201546	13.05
22	Karauli	14,58,248	861	66.22%	324960	22.28
23	Tonk	14,21,326	952	61.58%	178207	12.54
24	Jhalawar	14,11,129	946	61.50%	182229	12.91
25	Dungarpur	13,88,552	994	59.46%	983437	70.82
26	Sawai Madhopur	13,35,551	897	65.39%	285848	21.40
27	Baran	12,22,755	929	66.66%	276857	22.64
28	Dhaulpur	12,06,516	846	69.08%	58594	4.86
29	Rajsamand	11,56,597	990	63.14%	160809	13.90
30	Bundi	11,10,906	925	61.52%	228549	20.57
31	Sirohi	10,36,346	940	55.25%	292470	28.22
32	Pratapgarh	8,67,848	983	55.97%	550427	63.42
33	Jaisalmer	6,69,919	852	57.22%	42429	6.33
	Total	685,48,437			9238534	13.48

Source: Census of India, 2011

3. Scheduled Areas of Rajasthan and Project Activities to be Undertaken in Scheduled Areas:

The Fifth Schedule under article 244 (2) of the Constitution of India defines Scheduled Areas. The President of India declares areas based on the following criteria as Scheduled Areas after consultation with the Governor of the concerned State:

- Preponderance of tribal population,
- Compactness and reasonable size of the area,
- Available administrative entity such as district, block or taluk, and
- Economic backwardness of the area as compared to neighbouring areas.

The Governor of a State having Scheduled Areas is empowered to make regulations for safeguarding the STs. The Governor may repeal or amend any Act of Parliament or of the Legislature of the State for safeguarding the interests of the STs. The Governor can direct that any particular Act of Parliament or Legislature of the State shall not apply to a Scheduled Area. Tribes Advisory Council shall be set up in States having Scheduled Areas to advise the State Government on the welfare and advancement of the Scheduled Tribes.

The Scheduled Areas of Rajasthan have been presented in Table 9.9.2a. This table also presents the number of sub-projects, out of 156 sub-projects to be included in the Project. It is noted that those numbers are not the number of the sub-project located in the Schedule Areas but the number of sub-projects which are located in the District which include the Schedule Areas. The name of those sub-project and type of the irrigation schemes are summarized in Table 9.9.2b.

Table 2a Fifth Schedule Areas of Rajasthan

Sl.	Name of the District	Scheduled Areas	Prioritized sub-projects located in the District which include Scheduled Areas
1	Banswara	Entire district	26
2	Dugarpur	Entire district	0
3	Pratapgarh	Pratapgarh Tehsil	2
4	Sirohi	Abu Road Block of Abu Road Tehsil	6
5	Udaipur	Some villages in Kotra, Salumber, Kherwara, Phalasia, Sarada, Lasadia Tehsils	11

Source: Ministry of Tribal Affairs, GOI and List of sub-projects submitted by WRD

Since there are no detail data, it is not clear whether those following sub-projects are located in the Scheduled Areas exactly or not. Thus exact location of the sub-projects should be clarified when DPRs are prepared.

Table 2b Fifth Schedule Areas of Rajasthan

Sub-project Name	Zone	District	Minor/ Medium	CCA
Akhelao Mansarowar	Jodhpur	Sirohi	Minor	327.80
Kui Sagna	Jodhpur	Sirohi	Minor	393.25
Luneri	Jodhpur	Sirohi	Minor	376.00
Mahadev Nallah	Jodhpur	Sirohi	Minor	317.92
Gokul Bhai Bhatt Dam	Jodhpur	Sirohi	Medium	5,000.16
Rehabilitation of West Banas Irrigation Project	Jodhpur	Sirohi	Medium	7,952.00
Rehabilitation of Left Main Canal from R.D 0 km to 15 Km.	Udaipur	Banswara	Medium	3,160.00
Rehabilitation of Left Main Canal from R.D. 15.km to 26.34 Km.	Udaipur	Banswara	Medium	2,351.00
Rehabilitation of Left Main Canal from R.D26.34km to 36.12Km.	Udaipur	Banswara	Medium	2,769.00
Rehabilitation of Banka Distributory offtaking from Left Main Canal from R.D 0 km to Tail	Udaipur	Banswara	Medium	4,776.00
Rehabilitation of Chhinch Distributory, RD 0 to 7.765 km offtaking from Left	Udaipur	Banswara	Medium	2,707.00

Sub-project Name	Zone	District	Minor/ Medium	CCA
Main Canal at R.D. 26.34 Km.				
Rehabilitation of Chhinch Distributory from R.D. 15.00 Km to 44.22Km(Tail)	Udaipur	Banswara	Medium	5,267.00
Rehabilitation of Parsolia Distributory system, offtaking from Arthuna Distributory at R.D 20.73 Km.	Udaipur	Banswara	Medium	5,878.00
Rehabilitation of Gopinath ka gada Distributory system, offtaking from Arthuna Distributory at R.D 11.74 Km.	Udaipur	Banswara	Medium	3,150.00
Rehabilitation of Survaniya Dam Medium irrigation Project	Udaipur	Banswara	Medium	2,228.00
Rehabilitation of Haro Dam Minor irrigation Project	Udaipur	Banswara	Minor	1,846.00
Rehabilitation of Bhagora Tank Minor irrigation Project	Udaipur	Banswara	Minor	573.00
Rehabilitation of Phootan Tank Minor irrigation Project	Udaipur	Banswara	Minor	546.00
Rehabilitation of Chhinch Distributory & its system from R.D. 7.765 Km to 15.00 Km	Udaipur	Banswara	Minor	1,070.00
Rehabilitation of Arthuna Distributory & its system, excluding Gopinath ka Gada and Parsoliya distribution system offtaking from Chhinch Distributory at R.D 7.765 Km.	Udaipur	Banswara	Medium	6,760.00
Rehabilitation of Anandpuri Canal & its system RD 0 to 40 km. (Tail)	Udaipur	Banswara	Medium	9,598.00
Rehabilitation of Bhungra Canal & its system RD 28.5 to 39.81 km. (Tail)	Udaipur	Banswara	Medium	2,100.00
Rehabilitation of Right Main Canal & its system RD 0 to 6 km.	Udaipur	Banswara	Minor	1,083.00
Rehabilitation of Right Main Canal & its system RD 30 to 52km	Udaipur	Banswara	Medium	2,707.00
Rehabilitation of Bhanwarwad disty. & its system Offtaking from Right Main Canal	Udaipur	Banswara	Medium	2,113.00
Rehabilitation of Narwali Disty. & its system RD 3.52 km to 16 km Offtaking from Right Main Canal	Udaipur	Banswara	Medium	4,625.00
Rehabilitation of Jagpura Canal & its system Offtaking from Narwali disty	Udaipur	Banswara	Minor	1,005.00
Rehabilitation of Kanthav Minor & its system Offtaking from Narwali disty	Udaipur	Banswara	Medium	4,053.00
Rehabilitation of Karanpur disty. & its system Offtaking from Right Main Canal	Udaipur	Banswara	Medium	2,281.00
Rehabilitation of Badi Saredi disty. & its system Offtaking from Right Main Canal	Udaipur	Banswara	Medium	2,530.00
Rehabilitation of Asoda disty. & its system Offtaking from Right Main Canal	Udaipur	Banswara	Medium	2,290.00
Rehabilitation of Khodan disty. & its system Offtaking from Right Main Canal	Udaipur	Banswara	Medium	3,348.00
Wagan dam	Udaipur	Pratapgarh	Medium	8,270.00
Gadola	Udaipur	Pratapgarh	Minor	1,098.00
Baxa ka Naka	Udaipur	Udaipur	Minor	348.00
Ogna	Udaipur	Udaipur	Minor	1,252.00
Jaisamand	Udaipur	Udaipur	Medium	9,500.00
Rehabilitation of Sagwara Ki Pal Irrigation Project	Udaipur	Udaipur	Minor	303.00
Rehabilitation of Udaisagar Medium Irrigation Project	Udaipur	Udaipur	Medium	5,110.00
Rehabilitation of Som Pick Up Weir Medium Irrigation Project	Udaipur	Udaipur	Minor	968.85
Rehabilitation of Sei Pick up Weir canal system	Udaipur	Udaipur	Minor	390.43
Rehabilitation of Dundia Minor Irrigation Project	Udaipur	Udaipur	Minor	389.00

Sub-project Name	Zone	District	Minor/ Medium	CCA
Vallabh Nagar	Udaipur	Udaipur	Medium	6,480.00
RESTORATION and RENOVATION OF Chawand Tank and Canal its minors under RWSLIP	Udaipur	Udaipur	Minor	359.00
RESTORATION and RENOVATION OF Harchand Tank and Canal its minors under RWSLIP	Udaipur	Udaipur	Minor	966.00

Source: JICA Survey Team

4. Preparation of Tribal Development Plan:

4.1 Screening of Sub-projects:

The Preparatory Survey Team reviewed the DPRs of sub-projects submitted by WRD and also visited some of the sub-projects located in scheduled areas as well as tribal dominated areas. From the existing DPRs as well as consultation with WRD, it was confirmed that the Project will not have any negative impact on the tribal communities because the Project will carry out repair and maintenance activities and there will not be any land acquisition and involuntary resettlement. But DPRs of other sub-projects are yet to be prepared and reviewed by the Survey Team. The Survey Team suggests that WRD would undertake screening of sub-projects, for which DPRs are to be prepared using the Screening Form provided in Attachment 9.10. If any sub-project will have potential adverse impact on the local tribal communities then Tribal Development Plan has to be prepared and implemented.

Since significant adverse impacts on the Scheduled Areas may not be occurred, the following issues might be observed during the implementation of the works. The Project should be give special caution on those matters:

- In the scheduled areas the landholding is relatively small in comparison to other areas. In general the tribal communities have small landholdings and there may be cases that the local tribal people don't own land in the command area. Although they live in the target villages they would be excluded from the benefits of the Project such as access to irrigation, membership in WUA, capacity building, access to agriculture extension services, membership in FPOs and access to value addition services. The Project may consider proactive engagement of local tribal communities in agriculture extension and value addition activities. Adequate efforts need to be made to avoid elite capture of all the project benefits and enhance participation of tribal communities in project implementation.
- There will not be any land acquisition for repair of the canals but there may be some cases of encroachment of the canal area by the local population, which may include tribal communities. The possibility of such cases may be very less; special care should be taken in the Project period.

4.2 Methods and processes for preparation of Tribal Development Plan:

The TDP shall be prepared at the sub-Project/ WUA level and it will form as part of the DPR. The steps for preparation of TDP have been explained below:

Table 3 Methods and Processes for Preparation of TDP

Step	Methods/ Processes	Responsibility
1 – Screening - Whether TDP is necessary or not?	Site visit and review of activities proposed in the DPR and consultation with WUA, tribal communities and others.	Sub-PMU with the help of NGO.
2 – If TDP is necessary then – Social Assessment	Participatory Rural Appraisal tools.	NGO with the help of WUA.
3 – Consultation with Tribal Communities for identification of	Community Workshop. Focus Group Discussions.	NGO with the help of WUA.

mitigation measures and other support activities		
4 – Consultation with other Line Department	Review of Activities undertaken by different Departments. Meetings	Sub-PMU and NGO
5 – Drafting of the Plan	Data analysis and compilation Prioritization of interventions Cost estimation	NGO
6 – Approval of the Plan by sub-PMU and PMU	Meeting of Technical Support Group at sub-PMU Meeting of PMU	PMU and sub-PMU

Table 4 Social Assessment Framework

Step	Themes to be covered	Methodology to be followed
1 - Analysis of Social Context	<ul style="list-style-type: none"> • Demographic details – population, sex ratio, literacy etc. • Social diversity - castes, social interaction processes • Gender • Social, economic, cultural, political and historical factors – well-being analysis, poverty situation, occupations, income and expenditure, health, education, analysis of institutions etc. • Identification of stakeholders 	<ul style="list-style-type: none"> • Social Mapping • Socio-economic baseline survey – Household level (sample basis) • Review of available secondary data on the area/village – Block and Gram Panchayat
2 - Analysis of the natural resource environment	<ul style="list-style-type: none"> • Land, water, forest and other resources used and managed by the tribal people • Agricultural activities by the Tribal people and access to irrigation 	<ul style="list-style-type: none"> • Resource mapping • Transect walk • Focus Group Discussions with the tribal communities
3 - Free, prior and informed consultations with Tribal communities on potential impact of the Project on them and mitigation measures	<ul style="list-style-type: none"> • Potential social and environmental impact on Tribal communities – positive and adverse • Mitigation measures 	<ul style="list-style-type: none"> • Focus Group Discussions

4.3 Responsibility for Preparation of Tribal Development Plan:

The sub-PMU will have the key responsibility of screening and preparation of Tribal Development Plan. The following table presents the responsibilities of different Project Implementation Structures/ Agencies.

Table 5 Responsibility of Project Implementing Agencies

Sl.	Project Implementation Structure/ Agencies	Responsibilities / activities
1	PMU, Jaipur	<ol style="list-style-type: none"> 1. Prepare and circulate of guideline for preparation of TDP. 2. Organise training programmes for the Project Staff i.e. sub-PMUs and NGOs on the preparation of TDP, how to carry out social assessments, free, prior and information consultations with tribal communities as per the World Bank OP 4.10. 3. Approval of TDPs and organise funds for implementation of TDPs from the Project as well as from other Agencies. 4. Periodically monitor the progress of implementation of TDPs.
2	Sub-PMU, Zones	<ol style="list-style-type: none"> 1. Undertake screening of the sub-projects for identify the impact on tribal communities and determine the necessity of preparation of TDP. 2. Assist NGO in preparation of TDPs. 3. Facilitate organisation of training programmes for the WUAs on preparation and implementation of TDP 4. Arrange funds for implementation of TDPs - negotiate with the State PMU and other Departments/ Agencies for sourcing of funds 5. Monitor the implementation of TDPs and ensure that the progress reports on implementation of TDPs are prepared and submitted timely.
7	NGO	<ol style="list-style-type: none"> 6. Orient WUAs on the preparation of TDP – TDP is a part of DPR. 7. Prepare TDP with the help of WUAs. 8. Assist sub-PMU and WUA in implementation of the TDP. 9. Prepare periodical progress reports on TDP and submit them to sub-PMU.

4.4 Basic things to be included in Tribal Development Plan:**1. Basic Information**

1	Name of the sub-project:	2	Name of the WUA:
3	Name of the Village (s)	4	Name of Gram Panchayat
3	Name of the Block:	4	Name of the District:
5	Households - Total: ST: SC: OBC: Gen:	6	Population - Total: ST: SC: OBC: Gen:
7	No of Tribal Voters in WUA:	8	Landholding of Tribal Voters:
9	No of Tribal Households who don't have land		

	in command area:		
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2. Summary of the Social Assessment and Free, Prior and Informed Consultation with Tribal Communities

i. Sources of Livelihood of the Tribal Communities

Sl.	Primary / Main Source of livelihood	Number of Households	Problems related to livelihood
1			
2			
3			

ii. Consultation with Different Stakeholders

Sl.	Key Stakeholders/ groups	Problems identified by the stakeholders/ group	Suggested interventions
1			
2			

iii. Different Development Programmes Implemented in the Area for Tribal Communities

Activities	Programme/ Scheme	Department / Agency	Benefits

iv. Potential Social and Environmental Impact of Project Interventions on the Tribal Communities

Activities to be carried out by sub-project and WUOs	Positive environmental and social impact	Negative environmental and social impact

3. Mitigation Measures for the Potential Adverse Effects/ Impacts on Tribal Communities

Sl.	Activities	Physical target	Benefits

4. Cost estimates and Financing TDP

Sl.	Activities	Physical Target	Cost Estimate in INR	Possible sources for support - Departments/Agencies/ Schemes

5. Monitoring of Implementation of TDP

Sl.	Activities for monitoring	Time frame	Responsibility

Chapter 10
Attachment

Attachment 10.1
Implementation Programme (Draft)

**Water Resources Department (WRD),
The State of Rajasthan
Republic of India**

**RAJASTHAN WATER SECTOR
LIVELIHOOD
IMPROVEMENT PROJECT**

**IMPLEMENTATION PROGRAMME
(DRAFT)**

Chapter 1 INTRODUCTION

1.1 General

The Government of Rajasthan takes cognisance of the fact that the irrigation system in the State is deteriorating and needs immediate attention to improve the condition of the water delivery system for optimising water use. It also recognises that a holistic approach for agriculture sector, such as development of agricultural technique, food value chain improvement, promotion of high value agriculture produces, as well as gender mainstreaming aspect should be taken in the Project activities in order to foster better livelihood of people dwelling in the project target area.

1.2 Background of the Project

(1) Current Status and Challenges for Agriculture and Irrigation Sector in India

Agriculture plays a critical role in the Indian economy and forms the backbone of the rural India, which is home to approximately 70% of the population of the country and the main income source of about half of the total workers in the country. While the percentage of agriculture and allied sector in the Gross Domestic Product (GDP) of India has decreased from 28.5% in 2000-01 to 13.9% in 2013-14 on account of structural transformation of Indian economy, the agriculture sector continues to play a pivotal role in combating poverty as well as ensuring more balanced socio-economic growth by providing employment and ensuring food and nutrition security to the majority of the population in the country.

India is endowed with diverse agro-climatic and topographic conditions as well as varied soil regime. Rain-fed area is account for 60% of the Net Sown Area and 55% of the Gross Cropped Area of the country. The rain fed areas are characterized by delayed, deficient or erratic rainfall and in general only a single crop is cultivated in a year. In such a condition, development of irrigation system is imperative to improve the uncertainty of agricultural production.

However, there is a significant gap between the Irrigation Potential Created and Irrigation Potential Utilised suggesting inefficient use of water resources. In India, water use efficiency in irrigated agriculture is 38%, which is lower than other countries. Low water use efficiency is caused by deficiencies in operation and maintenance. The gap is most serious in major and medium irrigation systems. One of the reasons for the gap comes from the seepage from the canal or reservoir due to incomplete or aged and deteriorated lining of the structure due to the lack of finance in the state governments. Another factor is institutional, that is, inequitable water distribution among water users, overflow in the head portion of the canal and water shortage in the tail end portion. In many states, Water Users Association (WUA) doesn't have sufficient capacity and finance to maintain irrigation facility.

Women comprise 55% to 66% of the workforce in the agricultural sector and play significant and crucial role in agricultural development and allied fields including, main crop production, horticulture, post-harvesting operations, daily maintenance of watercourse etc. However, due to lack of land ownership right, women have very limited access to irrigation water, agriculture support service, productive resources etc. and do not authorized to take part in WUA as well as Farmers Organization, thereby women's needs and voices tend to be ignored.

(2) Status and Challenges for Agriculture and Irrigation Sector in Rajasthan

Rajasthan located in the northwest of India is the largest state in the country with 3.427 Lakh km², occupying 10.40 % of the country. The total population of the state as per census 2011 was 68.55 million (5.7% of country), which has now been estimated as 74 million (as of 2016) and is 7th in population among Indian states. Since 62% of the population is engaged in agriculture, the agriculture sector is the one of the most important industry in the state with holding about 30% of the State GDP of Rajasthan. On the other hand, 100 years average annual rainfall of the state is 583.7 mm, about 54% of the National average of 1,083mm. In order to cope with such limited water resources in the state, irrigation scheme has been developed from few centuries ago.

Net irrigated area is 7.5 million ha, which is 25.6 % of the total cropped area, about 25 % irrigated area

under command of major, medium and minor irrigation projects. However, many of these irrigation facilities became aged and increasingly degraded due to insufficient maintenance and such degradation causes various problems such as decrease of water flow due to leakage and/or sedimentations and difficulties of adequate water distribution. This situation makes it hard to stable agriculture production and improve productivity based on sufficient water discharge and distribution.

On the other hand, the rest of net irrigated area is by wells and tube wells. The status of ground water in the state is much more grave and alarming with over use to the tune of more than 135%. 90% of drinking water and 60% of the irrigation demands depend on ground water, which leads serious overuse of ground water in 196 blocks out of 249 blocks in the state (about 80% of state).

Decision-making is a fundamental process that incorporates all the functions of family resource management. Same as other states, rural women in Rajasthan perform all the duties of household, attending to farm labour, caring of domestic animals, simple maintenance, but in spite of discharging all the duties of household, no recognition is given to her immense contribution. Additionally, at community level, since traditionally women were not allowed to register land under her name or inherit father's land, women can not be a member of Farmer's Organization or Water Users Association. At household level, her involvement in decision-making process remained in a very low position as all important decisions are made by head of the family or the male members. In this kind of situation, women's needs and voices often do not get much credit in this sector and important family matters.

(3) Agriculture and Irrigation Sector Development Policy in India and Rajasthan

The National Twelfth Five Year Plan (FY2012-2017) confirms that the objective of development of India is the improvement of economic and social conditions of the people in wide-range of the fields. Thus, not only rapid and sustainable growth but also inclusiveness of multidimensional concept is emphasised, i.e., (i) to reduce poverty, (ii) to improve regional equality across states and within states, (iii) to improve conditions of the Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs) and minorities, (iv) to close the gender gap, and (v) to generate attractive employment opportunities for the youth. Meanwhile, the plan also focuses on other priorities such as resource use efficiency and technology to ensure sustainability of natural resources, adaptation to climate change, and improvements in total factor productivity.

In Rajasthan, State Water Policy (SWP) has been adopted in 2005, which was in conformity with the National Water Policy (NWP) which, that outlines the government's development framework for the long term sustainable development and management of water resources in the state. SWP was further refined in the year 2010 and adopted. SWP was in line with best international practices in water sector radically shifting from predominantly engineering based solutions to local community based water management solutions. This policy has directed the state to take necessary measure towards reducing irrigation water demand through both increased irrigation efficiency and optimum utilization of available surface water resources as well as adopting Integrated Water Resource Management approach etc. In terms of agriculture, the state have framed State Agriculture Policy 2013 to ensure food and nutritional security and economic empowerment and doubling the production of food grains in the next 10 years to attain a minimum 4 % of agriculture per annum, through promotion of micro irrigation, development of agricultural infrastructure facilities, and promotion of agro-processing and value-addition etc.

(4) JICA's policy and development assistance plan to India

JICA's country analysis paper for India is stating that poverty alleviation and food security are the main target of the agriculture sector in India, which are to be overcome by means of (i) counter measures for water shortage for irrigation, (ii) development of rural infrastructure, and (iii) investment on research and development of agriculture technology. JICA also recognized the significance of livelihood improvement in rural area. Thus, the Project coincides with such JICA's policy.

(5) Necessity of the Project

Rajasthan state has been facing scarcity of water resources for ages and has developed irrigation system from many centuries ago. Presently, performance of these irrigation systems became poorer on account of physical disabilities of the systems affecting it, which are caused by not only aged deterioration but also lack of proper water management and maintenance of the system. This poor performance of surface

irrigation system has resulted in inequitable and unreliable water delivery service, low agricultural productivity, overdependence on ground water etc. Since it is foreseen that increase of population as well as economic growth in the state will accelerate the tight demand-supply of water resources, therefore the surface irrigation systems performance as well as water use efficiency in command area need to be improved. Also since women plays significant role in both agriculture production as well as maintenance of irrigation facility, women have been excluded from community group activity such as farmer's organization and water users association. In order to realize improvement water use efficiency in irrigated agriculture production as well as productivity, women's participation and capacity enhancement will be a key.

For the purpose of the improvement of irrigation performance as well as agricultural production in state, the government implemented the "Rajasthan Minor Irrigation Improvement Project (RAJAMIIP)" from 2005 to 2015 under JICA ODA Loan. Based on lessons and learns from RAJAMIIP, the Project was designed with aims of improvement of 1) irrigation efficiency, 2) agricultural productivity, 3) marketing capacity, and 4) gender mainstreaming in agriculture and irrigation sector, which will encourage meeting the targets set by Twelfth Five Year Plan and will be in line with JICA's policy and development assistance plan to India. Furthermore, the project targets on gender mainstreaming in both agriculture and irrigation sectors through formulation of women-wing within WUA and agriculture support activities to Self-help Group (SHG).

1.3 Rational of the Project

(1) Timing

1) The agriculture sector in India contributes 17% share of gross domestic product (GDP) and sustains most of rural people which dominates about 69% of total population in India. The present government emphasizes importance of the agriculture sector for the purpose of poverty reduction as well as food security of the Country.

2) In Rajasthan, drastic increase of population and economic growth has lead extremely tight supply and demand of water resources recent years and per capita water availability will reach the FAO's level of "absolute scarcity", which is less than 500m³ per year per capita, in 2024. Moreover, the status of ground water in the state is much more grave and alarming with risk of exhaustion in 80% of total blocks in the state.

3) On the basis of such a situation, the GoR implemented "Rajasthan Minor Irrigation Improvement Project (RAJAMIIP)" from 2005 to 2015 under JICA ODA Loan. Although water use efficiency has been improved, water demand has been drastically increasing and agricultural production needs to be increased and stabilized in wider area. In order to improve livelihood of both male and female farmer, through improvement of water use efficiency and agriculture productivity, the Project is necessary to be implemented based on both man and women's equal participation.

(2) Scale and technology of the Project

1) Subproject of Irrigation Rehabilitation and modernization

Eligible irrigation subprojects under the Project consist of both 61 medium and 21 minor irrigation schemes. These irrigation subprojects were selected on the basis of specific criteria. Implementation of these subprojects shall be done in stage-wised; Stage-1: 32 subprojects, State-2: 24 subprojects, and Stage-3: 26 subprojects. Specific number of subprojects to be implemented in the State-2 and 3 will be determined through screening after the review of short-list based on maturity of the project during Detail Design priod.

Micro Irrigation System will be promoted in command area of subprojects, through provision of incentives, in order to realize expansion of irrigation area and increase of water use efficiency (irrigation efficiency) as well as farmer's income. As a part of civil work for rehabilitation of irrigation system, WUA facility, such as office building, as well as women-frinedly facility, such as foot-steps, and trees for WUA Women-wing activity will be constructed/transplanted.

2) Participatory Water Management

The Project shall target on the WUA as beneficiaries in the command areas of project medium and minor irrigation projects. It shall implement following activities with the support from NGOs and Technical Support Group under supervision of the consultant; (i) Training of Trainers (TOT) on Water Management and WUA management to TSG members as well as NGO staff and Community Motivator, (ii) capacity development of WUAs through trainings as well as peer learning opportunity, (iii) enhancement of agriculture linkage, and (iv) provision of Corpus Fund. Since the corpus fund provided in RAJAMIIP hasn't been utilized, evaluation of its impact will be executed by the consultant during Stage-1 and then the operational rules and monitoring structure of the fund will be set and appropriate amount will be decided by WRD and the consultant.

3) Irrigated agriculture Intensification and diversification

In order to realize increase of agriculture productivity and marketability as well as promotion of crop diversification, the Project shall target on effective agriculture supports to be provided by Department of Agriculture (DOA), Department of Horticulture (DOH) and NGOs through following activities; (i) TOT for agriculture techniques, (ii) exposure visit, (iii) creation of farmers friendly manuals, (iv) upgrade and strengthening of Agriculture Information Centre, (v) agriculture training for farmers in command area, and (vi) establishment of Agriculture Demonstration Farm.

4) Agro-Processing, marketing and promotion high value agriculture produces

To materialize increase of farmer's income, following activities shall be carried out for enhancing marketing capacity of farmers with supports from the consultant and NGOs; (i) formulation of Farmer Interest Group (FIG), (ii) matching meeting with large-size consumers, (iii) exotic vegetable marketing to small-size consumers, and (iv) brand building for high value agriculture produces.

5) Gender Mainstreaming in Agriculture and Water sectors

The Project aims to materialize gender mainstreaming in agriculture and water sectors for maximization project impacts and ensuring its sustainability. In order to make full use of women's capacity in both sectors, following activities shall be implemented; (i) amend Participatory Irrigation Management Act to allow female farmers to participate in WUA, (ii) developing and adopting Gender-Responsive Rules and Guidelines of PIM Act, (iii) incorporating gender perspectives into existing capacity building activities in Water Management, (iv) establishment of gender disaggregated data collection system, (v) formulation of WUA Women-wing, (vi) enhancing women's participation in WUA, (vii) enhancing women's capacity on water management, and (viii) capacity building on agricultural technologies through SHGs.

Chapter 2 THE PROJECT

2.1 Project Outlines

Brief summary of the Project outline is given below and the detailed explanations of the project component and activities will be mentioned in Chapter 3.

(5) Project Objectives

The development objectives of proposed Rajasthan Water Sector Livelihood Improvement Project (RWSLIP) are to improve livelihood of beneficiaries in the project target area through:

- i) rehabilitation, and modernisation of the existing medium and small irrigation schemes;
- ii) establishment of sustainable operation and management system of irrigation facilities by implementing the participatory irrigation management on WUAs;
- iii) increase of the productivities and improvement of quality of agriculture produces;
- iv) improvement and diversification of food value chain in agriculture produces market by strengthening farmers groups, and promotion of high value added produces; and
- v) gender mainstreaming of women in agriculture sector.

(6) Executing Agency

The executing agency of the Project is Department of Water Resource (WRD) of the Government of Rajasthan state, which is responsibility agency of development of irrigation facilities. In addition, Department of Agriculture, Department of Horticulture, and Women Child Development Department, Department of Finance will be line departments for the project implementation.

Then it is agreed that the Project Steering Committee (PSC), Project Monitoring Committee (PMC) and Project Management Unit (PMU) will be set up for coordinating and monitoring the project activities at the 3 levels.

(7) Project Location

The Project covers 19 districts in the Rajasthan State as shown in a location map of the project area shown in the top of this report.

(8) Project Component

In order to meet the project objectives and in pursuance of Government policies the major components of the Project are envisaged as follows:

Table A 2.1.1 Project Components

Component No	Component Items
Component-1	Participatory Irrigation Rehabilitation Works
Component-2	Fostering and Capacity Enhancement of Water Users Organizations
Component-3	Irrigated Agriculture Intensification and Diversification
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces
Component-5	Gender Mainstreaming in Agriculture and Water Sector
Component-6	Project Management and Monitoring
Component-7	Consultancy Services
GoR Share	Project Administration, taxes and duties, interest during construction, and front end fee

Source: JICA Survey Team

(9) Project Scopes

The scope of works of each component is explained briefly.

Table A 2.1.2 Project Scopes

Component No	Scopes of Works	
Component-1	Participatory Irrigation Rehabilitation Works	
1.1	Rehabilitation of Irrigation Facilities	1) To execute detail design works through SID subletting works 2) Rehabilitate irrigation facilities as planned
1.2	Micro Irrigation	1) To provide orientation to farmers for their participation to this scheme 2) To select beneficiary group/individuals and make MOU with them 3) To provide micro irrigation system and capacity building for using the facilities
1.3		
1.4	Support to Women Friendly Activities	1) To plan and design the women friendly facilities and the women friendly trees 2) To construct the women friendly facilities, and to plant the women friendly trees
Component-2	Fostering and Capacity Enhancement of Water Users Organizations	
2.1	Establishment of WUA Support Mechanism	1) To develop project materials for WUA establishment 2) To provide orientation and ToT trainings in different level for WUA establishment 3) To establish monitoring system through project management activities
2.2	Capacity Building of WUA Management	1) To formulate WUA 2) To provide capacity development activities, like training, OJT etc. 3) To support WUA regular activities, like regular meeting etc.
2.3	Improvement of Agriculture Linkage	1) To strengthen linkage between farmers and Agriculture organization 2) To conduct agriculture demonstration
Component-3	Irrigated Agriculture Intensification and Diversification	
3.1	Training of Trainers for Agriculture	1) To provide workshops for high-rank officers (state level) and field level officers (sub-PMU level)

Component No	Scopes of Works	
		2) To provide ToT training on cultivation and quality improvement techniques for cereals, pulses, oilseeds, spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables
3.2	Exposure Visit for Agriculture Trainers	1) To provide opportunity to visit advanced state (ex. Punjab agriculture university) for orange cultivation and exotic vegetable cultivation
3.3	Improvement of Agriculture Support System	1) To compile farmer friendly manuals with visual aide 2) To strengthen agriculture information centre
3.4	Agriculture Farmers' training	1) To provide farmers training on cultivation and quality improvement techniques for cereals, pulses, oilseeds, spices, medicinal plants, citrus (Kinnow mandarin and Santra orange) and exotic vegetables 2) To provide marketing survey
3.5	Agriculture Demonstration farm	1) To establish and maintain orange demonstration farm (4 farmers) 1ha 2) To establish and maintain exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha
Component-4	Agro-processing, Marketing, and Promotion of High Value Agriculture Produces	
4.1	FIG formulation for cooperative activities	1) To formulate FIGs and facilitate cooperative activities (collective marketing, etc.) to increase profit of individual farmers
4.2	Connecting with large-size consumers (Matching meeting)	1) To hold matching meetings between FIGs and processors to give options of direct marketing for higher profit for both value-chain players
4.3	Connecting with small-size consumers (exotic vegetables)	1) To support exotic vegetables farmers for sales to market traders and hotels/restaurants
4.4	Brand building for high-value agricultural produces	1) To promote high-value fruits/vegetables produces production and marketing toward future brand building after the Project
Component-5	Gender Mainstreaming in Agriculture and Water Sector	
5.1	Supporting the institutionalization of gender mainstreaming in water management	1) To develop and adopt gender-responsive rules and guidelines of Participatory Irrigation Management Act 2) To incorporate gender perspectives into existing capacity building activities in water management 3) To establish gender disaggregated data collection system
5.2	Enhancement of women's capability and participation in WUA	1) To formulate WUA Women Wing 2) To facilitate to introduce the Women Friendly activities, such as women friendly facilities and women friendly trees 3) To encourage women participation in WUA activities 4) To provide trainings and exposure activities on water management and organizational management
5.3	Capacity building on agricultural technologies through SHGs	1) To conduct orientation to SHG women farmers in target area 2) To select the target groups 3) To provide training for group management 4) To provide training for agricultural technique 5) To monitor and mentor the groups for sustainable activities
Component-6	Project Management and Monitoring	
6.1	Procurement of Office Equipment	1) To procure vehicles for daily operation 2) To procure office furniture 3) To procure office equipment, e.g. personal computers, copiers, UPS, etc. 4) Survey equipment
6.2	NGO Services	1) To procure 5 NOGs for supporting to (a) WUA establishment, (b) agriculture & marketing, and (c) gender mainstreaming activities

Component No	Scopes of Works	
6.3	Monitoring & Training for Environmental and social aspect	1) To provide trainings to Project Staff at the sub-PMU level 2) To monitor the soil and water qualities, pollution testing during construction 3) To execute annual Environmental Assessments (in-house) for 10 sub-projects for 5 years 4) To conduct third party environmental assessment

Source: JICA Survey Team

2.2 General and Specific Approaches in the Project

There are the following 4 major approaches for overall project management.

- (1) Well-balanced Approach in Export and Domestic Consumption
- (2) Changing from the Weakness to the Strength with Project Implementation
- (3) Promotion of High-value Fruits/Vegetables
- (4) Proper Combination of Software Components and Hardware Components

Chapter 3 THE PROJECT COST

3.1 Basic Conditions of the Project Cost Estimation

The basic conditions and assumptions employed for the cost estimates are as follows:

- i) Prices as of 2016 are used.
- ii) The following exchange rate as of March 2016 is applied for the cost estimate:
USD 1.0 = INR 67.0 = JPY 113.1
- iii) Project period is from January 2017 to December 2024.
- iv) Financial year is from April to March.
- v) Price escalation rates are assumed to be 1.6%/annum for F/C and 3.7%/annum for L/C.
- vi) Physical contingency is 5.0% for direct costs and 5.0% for consulting services.
- vii) Project administration cost is 7.0% of the direct cost.
- viii) Service tax is 15.0% of consulting services.
- ix) Labour welfare is 1.0% of consulting services, civil works, and non-government organisations (NGOs).
- x) Income tax is 10.0% for consulting services and NGOs, and 2.0% for civil works.
- xi) Royalty is 1.5% of civil works.
- xii) Interest during construction is 1.4% for works of the accumulated loan portion, and 0.01% for the consulting services.
- xiii) Front-end fee is 0.2% of the accumulated loan portion.
- xiv) The project costs are categorised into F/C portion and L/C portion, as follows:

F/C portion

- Foreign currency portion of the consultancy services.

L/C portion

- Participatory Irrigation Rehabilitation Works,
- Fostering and Capacity Enhancement of Water Users Organisations,
- Irrigated Agriculture Intensification and Diversification,
- Agro-processing, Marketing, and Promotion of High-value Added Agriculture Produce,
- Gender Mainstreaming in Agriculture and Water Sector,
- Project Management and Monitoring, and
- Taxes, duties, and front-end fee.

3.2 Project Cost

The total project cost is estimated at INR 23,655 million (equivalent to JPY 39,977 million) consisting of INR 21,959 million for the L/C portion and JPY 2,866 million (equivalent to INR 1,696 million) for the F/C portion.

Table A3.2.1 Summary of Project Cost

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Participatory Irrigation Rehabilitation Works	0.0	14,235.9	24,058.6	14,235.9
(2)	Fostering and Capacity Enhancement of Water Users Organisations	0.0	125.2	211.6	125.2
(3)	Irrigated Agriculture Intensification and Diversification	0.0	124.5	210.3	124.5
(4)	Agro-processing, Marketing, and Promotion of High-value Agriculture Produces	0.0	117.5	198.6	117.5
(5)	Gender Mainstreaming in Agriculture and Water Sector	0.0	47.9	80.9	47.9
(6)	Project Management and Monitoring	0.0	546.0	922.7	546.0

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
Subtotal of Items (1) - (6)		0.0	15,196.9	25,682.8	15,196.9
(7)	Price Escalation	0.0	2,912.5	4,922.2	2,912.5
(8)	Physical Contingencies	0.0	905.5	1,530.2	905.5
Subtotal of Items (1) - (8)		0.0	19,014.9	32,135.2	19,014.9
(9)	Consultancy Services	626.4	423.5	1,342.2	794.2
(10)	Price Escalation	44.0	73.9	168.9	100.0
(11)	Physical Contingencies	33.5	24.9	75.6	44.7
Subtotal of Items (1) - (11) (Eligible Cost)		703.9	19,537.2	33,721.9	19,953.8
(12)	Administration	0.0	1,396.8	2,360.5	1,396.8
(13)	Tax and Duties	183.0	1,025.0	1,915.3	1,133.3
(14)	Interest During Construction	1,908.4	0.0	1,908.4	1,129.2
(15)	Front-end Fee	71.3	0.0	71.3	42.2
Subtotal of Items (12) - (15) (Non-eligible Cost)		2,162.7	2,421.8	6,255.4	3,701.4
Total		2,866.6	21,959.0	39,977.3	23,655.2

Source: JICA survey team

3.2.1 Cost for Participatory Irrigation Rehabilitation Works

The participatory irrigation rehabilitation works include: (i) rehabilitation of irrigation facilities, (ii) promotion of micro irrigation system, (iii) introduction of water users association (WUA) constructive facilities, and (iv) support to women-friendly activities. The cost for participatory irrigation rehabilitation works is estimated as shown in the following table.

Table A 3.2.2 Summary of Cost for Participatory Irrigation Rehabilitation Works

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
1.	Sub-component 1-1: Rehabilitation of irrigation facilities				
1.1	Rehabilitation of dam and canal system	0.0	12,732.8	21,518.4	12,732.8
1.2	Survey, Investigation and Design (SID) works for preparation of detailed project reports (DPRs), etc.	0.0	210.3	355.4	210.3
1.3	Training program for sub-project management unit (PMU) officers	0.0	1.0	1.8	1.0
	Subtotal of 1.	0.0	12,944.1	21,875.6	12,944.1
2.	Sub-component 1-2 :Promotion of micro irrigation system				
2.1	Construction and installation of micro irrigation system	0.0	906.2	1,531.5	906.2
2.2	Training program for farmers / farmers groups	0.0	1.6	2.8	1.6
	Subtotal of 2.	0.0	907.8	1,534.2	907.8
3.	Sub-component 1-3 :Introduction of WUA constructive facilities				
3.1	Construction of WUA constructive facilities	0.0	180.5	305.0	180.5
	Subtotal of 3.	0.0	180.5	305.0	180.5
4.	Sub-component 1-4: Support for women-friendly activities				
4.1	Construction of women-friendly facilities	0.0	123.8	209.2	123.8
4.2	Planting of women-friendly trees	0.0	79.6	134.5	79.6
	Subtotal of 4.	0.0	203.4	343.7	203.4
	Total (1. - 4.)	0.0	14,235.9	24,058.6	14,235.9

Source: JICA survey team

3.2.2 Cost for Fostering and Capacity Enhancement of Water Users Organisations

The fostering and capacity enhancement of water users organizations includes: (i) establishment of WUA support mechanism, (ii) capacity building of WUA management, and (iii) improvement of

agriculture linkage. The cost for fostering and capacity enhancement of water users organisations is estimated as shown in the following table.

Table A3.2.3 Summary of Cost for Fostering and Capacity Enhancement of Water Users Organisations

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Establishment of WUA support mechanism	0.0	12.0	20.4	12.0
(2)	Capacity building of WUA management	0.0	30.9	52.3	30.9
(3)	Improvement of agriculture linkage	0.0	2.7	4.5	2.7
(4)	Corpus fund for WUAs	0.0	79.6	134.5	79.6
Total		0.0	125.2	211.6	125.2

Source: JICA survey team

3.2.3 Cost for Irrigated Agriculture Intensification and Diversification

The irrigated agriculture intensification and diversification includes: (i) training of trainers for agriculture, (ii) exposure visit for agriculture trainers, (iii) improvement of agriculture support system, (iv) agriculture farmer's training, and (v) agriculture demonstration farm. The cost for irrigated agriculture intensification and diversification is estimated as shown in the following table.

Table A3.2.4 Summary of Cost for Irrigated Agriculture Intensification and Diversification

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Training of Trainers for Agriculture	0.0	10.4	17.6	10.4
(2)	Exposure Visit for Agriculture Trainers	0.0	3.6	6.1	3.6
(3)	Improvement of Agriculture Support System	0.0	26.7	45.1	26.7
(4)	Agriculture Farmer's Training	0.0	72.9	123.2	72.9
(5)	Agriculture Demonstration Farm	0.0	10.8	18.2	10.8
Total		0.0	124.5	210.3	124.5

Source: JICA survey team

3.2.4 Cost for Agro-processing, Marketing, and Promotion of High-value Added Agricultural Produce

The agro-processing, marketing, and promotion of high-value agriculture produces includes: (i) Farmer interest groups (FIG) formulation for cooperative activities, (ii) connecting with large-size consumers (Matching meeting), (iii) connecting with small-size consumers (exotic vegetables), and (iv) brand building for high-value agro produces. The cost for agro-processing, marketing, and promotion of high-value agriculture produces is estimated as shown in the following table.

Table A 3.2.5 Summary of Cost for Agro-processing, Marketing, and Promotion of High-value Added Agricultural Produce

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	FIG formulation for cooperative activities	0.0	27.6	46.7	27.6
(2)	Connecting with large-size consumers (Matching meeting)	0.0	2.6	4.5	2.6
(3)	Connecting with small-size consumers (exotic vegetables)	0.0	6.4	10.8	6.4
(4)	Brand building for high-value added agro produces	0.0	80.9	136.7	80.9
Total		0.0	117.5	198.6	117.5

Source: JICA survey team

3.2.5 Cost for Gender Mainstreaming in Agriculture and Water Sector

The gender mainstreaming in agriculture and water sector includes: (i) Supporting the Institutionalisation of Gender Mainstreaming in Water Management, (ii) enhancing woman's capacity and participation in WUA, and (iii) Increasing women participation in agriculture. The cost for gender mainstreaming in agriculture and water sector is estimated as shown in the following table.

Table A3.2.6 Summary of Cost for Gender Mainstreaming in Agriculture and Water Sector

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Supporting the Institutionalisation of Gender Mainstreaming in Water Management	0.0	0.0	0.0	0.0
(2)	Enhancing women's capacity and participation in WUA	0.0	15.0	25.3	15.0
(3)	Increasing women participation in agriculture	0.0	32.9	55.6	32.9
Total		0.0	47.9	80.9	47.9

Source: JICA survey team

3.2.6 Cost for Overall Implementation

(5) Cost for Project Management and Monitoring

The project management and monitoring includes: (i) procurement of office equipment, (ii) NGO services, (iii) monitoring and training for environmental and social aspect, (iv) monitoring and evaluation, and (v) transportation cost for consultant. The cost for project management and monitoring is estimated as shown in the following table.

Table A3.2.7 Summary of Cost for Management and Monitoring

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Procurement of office equipment	0.0	237.6	401.5	237.6
(2)	NGO services	0.0	239.2	404.2	239.2
(3)	Monitoring and training for environmental and social aspect	0.0	6.4	10.7	6.4
(4)	Monitoring and Evaluation	0.0	15.6	26.3	15.6
(5)	Transportation Cost for Consultant	0.0	47.3	79.9	47.3
Total		0.0	546.0	922.7	546.0

Source: JICA survey team

(6) Consultancy Service

The cost for consultancy services, which is estimated based on the draft terms of reference (ToR), consists of remuneration for international and national experts and direct costs such as transportation, communication, office operational cost, office furniture and equipment, and report preparation. The cost estimate is shown in the following table.

Table A3.2.8 Summary of Cost for Consultancy Services

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Base Cost	626.4	423.5	1,342.2	794.2
(2)	Price Escalation	44.0	73.9	168.9	100.0
(3)	Physical Contingencies	33.5	24.9	75.6	44.7
Total		703.9	522.3	1,586.7	938.9

Source: JICA survey team

(7) Administration and Other Costs

The non-eligible portion of the yen loan shall be funded by the Government of India. This portion includes administration cost, taxes and duties, interest during construction, etc. The non-eligible cost is summarised in the following table.

Table A3.2.9 Summary of Administration and Other Costs

No.	Item	F/C (JPY million)	L/C (INR million)	Total Cost (JPY million)	Total Cost (INR million)
(1)	Administration Cost	0.0	1,396.8	2,360.5	1,396.8
(2)	Tax and Duty	183.0	1,025.0	1,915.3	1,133.3
(3)	Interest During Construction	1,908.4	0.0	1,908.4	1,129.2
(4)	Front-end Fee	71.3	0.0	71.3	42.2
Total		2,162.7	2,421.8	6,255.4	3,701.4

Source: JICA survey team

3.3 Annual Disbursement Schedule

Annual disbursement schedule is prepared using JICA's calculation tool. The disbursement schedule is summarised in the table below.

Table A3.3.1 Summary of Annual Disbursement Schedule

Year	Total Cost (JPY million)	Total Cost (INR million)	JICA Loan (JPY million)	JICA Loan (INR million)	Others (JPY million)	Others (INR million)
FY 2016	75.7	44.8	75.1	44.5	0.5	0.3
FY 2017	283.0	167.4	228.6	135.3	54.4	32.2
FY 2018	2,064.8	1,221.8	1,802.5	1,066.6	262.3	155.2
FY 2019	6,217.6	3,679.1	5,509.7	3,260.2	707.9	418.9
FY 2020	7,930.0	4,692.3	7,068.8	4,182.7	861.1	509.5
FY 2021	7,877.8	4,661.4	7,043.0	4,167.4	834.9	494.0
FY 2022	8,469.3	5,011.4	7,589.4	4,490.8	879.9	520.7
FY 2023	5,849.9	3,461.5	5,253.4	3,108.5	596.5	353.0
FY 2024	1,209.2	715.5	1,131.0	669.2	78.2	46.3
Total	39,977.3	23,655.2	35,701.5	21,125.2	4,275.8	2,530.1

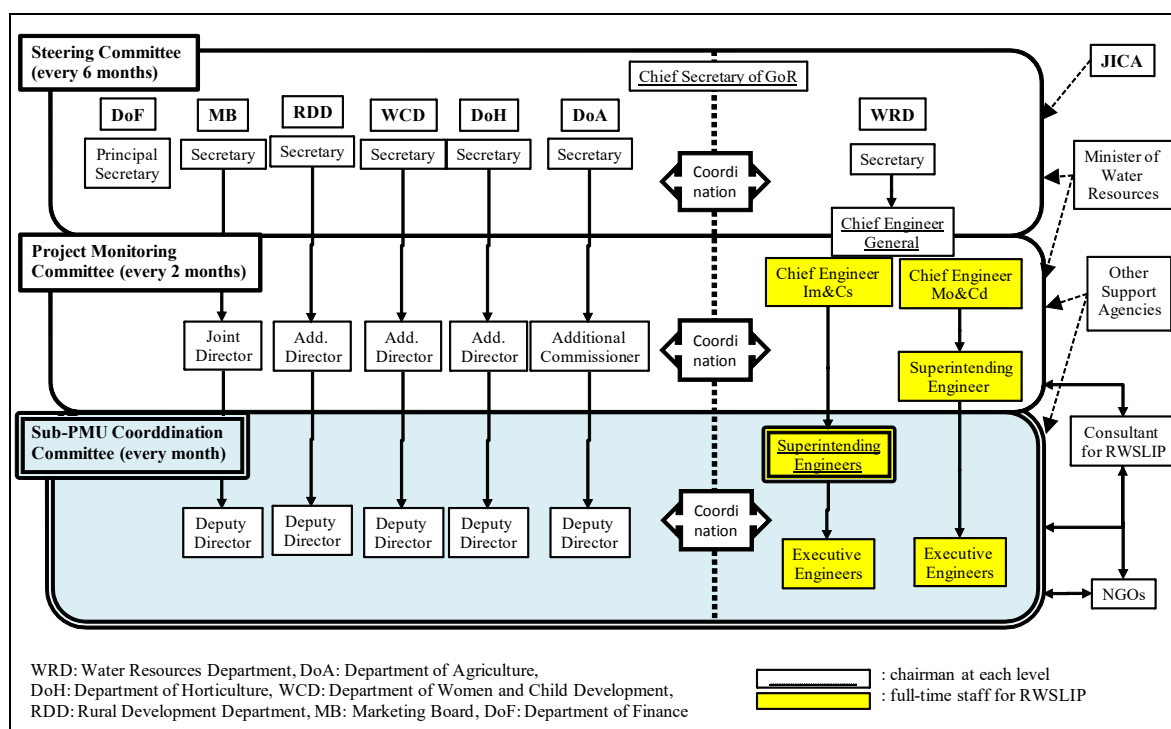
Source: JICA survey team

Chapter 4 IMPLEMENTATION PLAN

4.1 Overall Implementation Structure

4.1.1 Committees for Project Coordination, and Monitoring

There are 3 committees for arranging the project activities inter-department matters, such as the Project Steering Committee at the State level, the Project Monitoring Committee at the Project Management Unit (PMU) level, and the Sub-PMU Coordination Committee at sub-PMU level as described in the following figure.



Source: JICA Survey Team

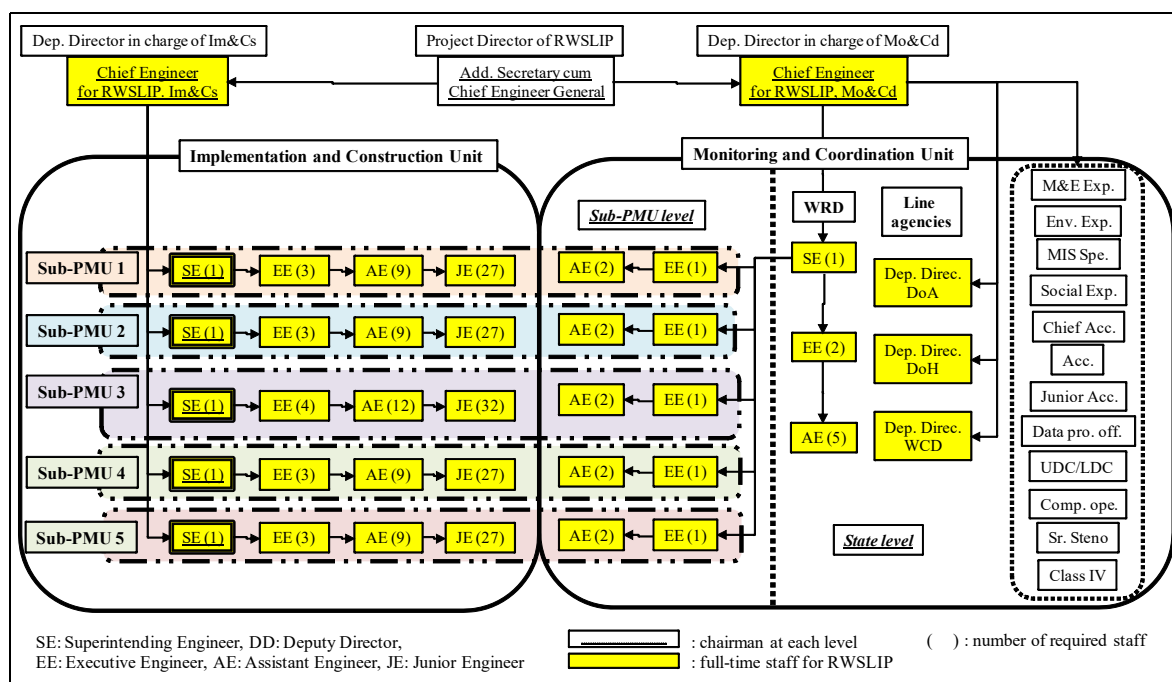
Figure A 4.1.1 Implementation Structure of Steering Committee and Project Monitoring Committee

4.1.2 Project Management Unit (PMU)

As shown in the following figure, the Project Management Unit (PMU) is an execution body which comprises 2 sub-units, i.e. (i) Monitoring and Coordination Unit, and (ii) Implementation and Construction Unit as shown in the following figure. The Monitoring and Coordination Unit has an office in Jaipur, so-called PMU main office. And it plays a role in monitoring the entire progress and quality of the works and activities. In contrast, the Implementation and Construction Unit has 5 sub-PMU offices which are located at and cover the following zones/areas:

- (i) Jaipur zone (Jaipur sub-PMU region),
- (ii) Kota zone (Kota sub-PMU region),
- (iii) Udaipur and Jodhpur zones (Udaipur/Jodhpur sub-PMU region),
- (iv) Ganganagar area in North zone (Ganganagar sub-PMU region), and
- (iv) Hanumangar area in North zone (Hanumangar sub-PMU region).

Those 5 sub-PMU offices play a significant role in supervising construction works and controlling all the other project works on the ground. Each Superintending Engineer of WRD will be full responsible for all the project works including activities for soft components as well as construction works.



Source: JICA Survey Team

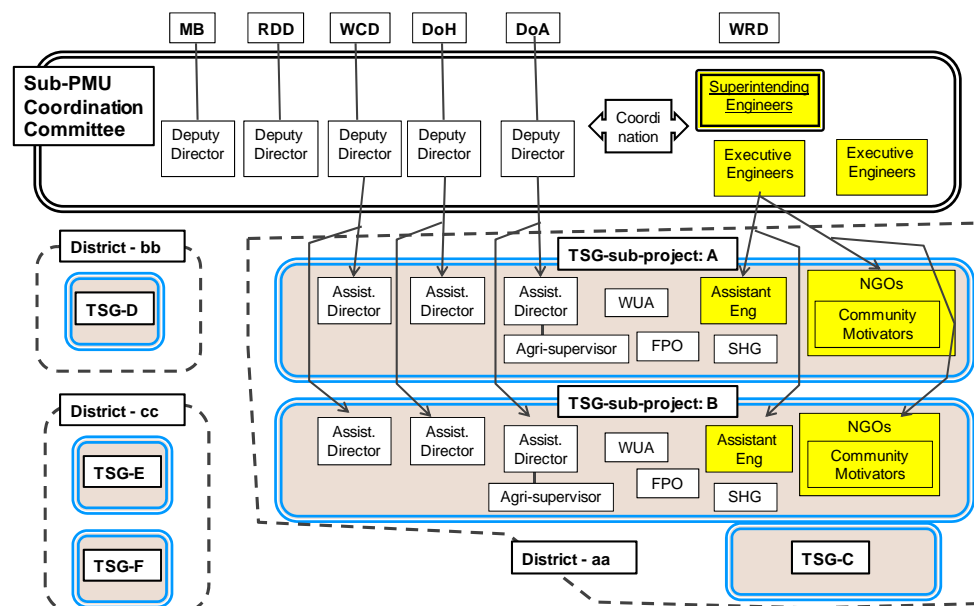
Figure A 4.1.2 Implementation Structure of Project Management Unit (PMU)

4.1.3 Technical Support Group at Sub-project level

The Technical Support Group at sub-project (TSG-SP) should be formulated in each sub-project, which comprises officers and members from:

- xv) Department of Agriculture,
- xvi) Department of Horticulture,
- xvii) Women and Child Development Department,
- xviii) Water Resource Department,
- xix) regional NGO,
- xx) WUAs
- xxi) FIG/FPO, and
- xxii) SHG.

Implementation structure is given in the following figure.



Source: JICA Survey Team

Figure A 4.1.3 Implementation Structure of Technical Support Group at Sub-project Level

At district level the Executing Engineer should be responsible for implementation of the project works, and Additional Engineers should control all the project works at sites under supervision of Executing Engineers/Superintending Engineer of WRD.

4.2 Implementation Schedule

4.2.1 Overall Implementation Schedule for All the Components

Total project period for implementation of RWSLIP is 8 years, and actual construction of rehabilitation works, agriculture training, marketing activities and other most of activities will be started at 3rd years. As explained in the previous sections, construction works and other activities are split into 3 stages, such as Stage-1, Stage-2 and Stage-3.

Most of activities for soft components, such as (i) Fostering and Capacity Enhancement of Water Users Organizations, (ii) Irrigated Agriculture Intensification and Diversification, (iii) Agro-processing, Marketing, and Promotion of High Value Agriculture Produces, and (iv) Gender Mainstreaming in Agriculture and Water Sector will be simultaneously implemented at the same period of the construction works of irrigation facilities in each stage. An activity period of (i) Fostering and Capacity Enhancement of Water Users Organizations, however, has slightly longer activity period, in particular, regarding the timing of termination of the services. Because beneficiaries in Stage-3 need several supports for WUA strengthening for 6 months after transferring the irrigation facilities to WUA at the end of the construction period.

Overall implementation schedule is shown in the following figure and the detailed implementation schedule for each component is given in the following sections.

In order to expedite prompt project commencement at the beginning stage of the Project, it is strongly recommended that a specific input of man-power for supporting the procurement process of the consultant and the SID consultant should be provided by the WRD or JICA, if possible on an appropriate timing and quantity. Because it is preferable that tender documents for bidding of the consultant and SID consultant should be prepared in prior to conclusion of the Loan Agreement between the 2 government.

Description	Year							
	1	2	3	4	5	6	7	8
1) Overall Project Management								
Establishment of Implementation Structure and Assignment of Full-time Staff and Experts	■							
Orientation on the Project and Team Building for PMU & Sub-PMU Members		■						
Orientation on the Project and Team Building for TSG-SP Members			■ Stage-1	■ Stage-2	■ Stage-3			
2a) Construction STAGE 1								
Preparatory Works for Stage 1 (incl. SID works)		■	■	■				
Construction Works			■	■	■	■	■	■
Monitoring for Operation and Maintenance							■	■
2b) Construction STAGE 2								
Preparatory Works for Stage 2 (incl. SID works)			■	■	■	■	■	■
Construction Works				■	■	■	■	■
Monitoring for Operation and Maintenance							■	■
2c) Construction STAGE 3								
Preparatory Works for Stage 3 (incl. SID works)				■	■	■	■	■
Construction Works					■	■	■	■
Monitoring for Operation and Maintenance							■	■
3) Fostering and Capacity Enhancement of Water Users Organizations								
Preparatory Works		■	■	■	■	■	■	■
Stage-1			■	■	■	■	■	■
Stage-2				■	■	■	■	■
Stage-3					■	■	■	■
4) Irrigated Agriculture Intensification and Diversification								
Preparatory Works		■	■	■	■	■	■	■
Stage-1			■	■	■	■	■	■
Stage-2				■	■	■	■	■
Stage-3					■	■	■	■
5) Agro-processing, Marketing, and Promotion of High Value Agriculture Produces								
Preparatory Works		■	■	■	■	■	■	■
Stage-1			■	■	■	■	■	■
Stage-2				■	■	■	■	■
Stage-3					■	■	■	■
6) Gender Mainstreaming in Agriculture and Water Sector								
Preparatory Works		■	■	■	■	■	■	■
Stage-1			■	■	■	■	■	■
Stage-2				■	■	■	■	■
Stage-3					■	■	■	■

Source: JICA Survey Team

Figure A 4.2.1 Overall Implementation Schedule

Chapter 5 ECONOMIC EVALUATION

5.1 Economic Evaluation Methodology

Economic evaluation is carried out to assess the economic viability of the Project from a viewpoint of the national economy. In order to evaluate the Project, indicators such as the economic internal rate of return (EIRR), cost-benefit ratio (B/C), and net present value (B-C) are calculated by estimating the cash outflow (costs) and inflow (benefits) on an annual basis over the project life with a certain discount rate. EIRR is a discount rate at which the present value of the in and out cash flows become equal. This rate shows the return expected from the Project as expressed in the following equation:

$$\sum_{t=0}^n C_t / (1+r)^t - \sum_{t=0}^n B_t / (1+r)^t = 0$$

Where,

C_t	:	Cost
B_t	:	Benefit
t	:	Year
n	:	Project Life (year)
r	:	Discount Rate (EIRR)

Sensitivity analysis is also carried out to evaluate the viability of the Project against possible adverse changes in the future.

Financial internal rate of return (FIRR) is not calculated because FIRR is an indicator to assess the financial sustainability of the implementation agency with direct return from project activities such as water supply scheme.

5.2 Project Cost

Based on the estimated financial project cost shown in Chapter 7, the economic project cost is calculated by using the abovementioned conversion factors. Percentage of unskilled labour cost for total construction cost was estimated to be 3% based on the typical cost breakdown of canal lining work. The total economic project cost is estimated at about INR 17,452 million (JPY 29,488 million). A detailed table of the economic project cost is shown in the following table.

Table A5.25.2.1 Summary of the Project Cost

Description	Unit: F/C JPY million, L/C INR in million, Total JPY million					
	Financial Price			Economic Price		
	F/C	L/C	Total	F/C	L/C	Total
A. Eligible Portion						
I) Procurement/Construction	0	19,015	32,135	0	15,292	25,843
1. Irrigation	0	14,236	24,059	0	13,641	23,053
2. WUA	0	125	212	0	120	203
3. Agriculture	0	124	210	0	119	202
4. Marketing	0	118	199	0	113	191
5. Gender Mainstreaming	0	48	81	0	46	78
6. Project Management	0	546	923	0	524	886
Base Cost	0	15,197	25,683	0	14,563	24,612
Price Escalation	0	2,913	4,922	0	0	0
Physical Contingency	0	905	1,530	0	728	1,231
II) Consulting Services	704	522	1,587	658	427	1,379
Base Cost	626	424	1,342	626	407	1,314
Price Escalation	44	74	169	0	0	0
Physical Contingency	34	25	76	31	20	66

Total (I + II)	704	19,537	33,722	658	15,718	27,222
B. Non Eligible Portion				0	0	0
I) Procurement/Construction	0	0	0	0	0	0
<i>II) Land Acquisition</i>	0	0	0	0	0	0
III) Administration Cost	0	1,397	2,361	0	1,341	2,266
<i>IV) Tax and Duty</i>	183	1,025	1,915	0	0	0
Total (I + II + III + IV)	183	2,422	4,276	0	1,341	2,266
Total A+B	887	21,959	37,998	658	17,059	29,488
<i>C. Interest During Construction</i>	1,908	0	1,908	0	0	0
<i>D. Front End Fee</i>	71	0	71	0	0	0
Grand Total (A + B + C + D)	2,867	21,959	39,977	658	17,059	29,488
Grand Total in INR million						17,452

Source: JICA survey team

Note: *Italicised items are not included in the economic cost.*

Annual disbursement schedule is shown in Table A5.2.2.

Table A5.2.2 Annual Disbursement Schedule (Economic Price)

Unit: INR in millions				
Year	Works/ Procurement	Consulting Services	Administration Cost	Total
FY2016	2	1	0	3
FY2017	96	29	9	134
FY2018	803	142	71	1,016
FY2019	2,624	135	215	2,974
FY2020	3,247	133	274	3,654
FY2021	3,078	126	269	3,473
FY2022	3,166	128	286	3,580
FY2023	2,007	112	191	2,310
FY2024	271	11	26	308
Total	15,294	817	1,341	17,452

Source: JICA survey team

5.3 Operation and Maintenance Cost

Annual operation and maintenance (O&M) cost of the Project was estimated based on the required O&M expenditure per ha recommended by the 13th Finance Commission, which is INR 1,175 per ha for medium irrigation scheme and INR 588 per ha for minor in 2012-13 according to the Draft Implementation Completion Report, RWSRP, 2013. Weighted average of annual O&M cost for the Project is INR 1,148 per ha based on the proportion of irrigated area for medium and minor schemes of the Project. This figure includes administration cost of WRD spent for O&M works for irrigation facilities (establishment cost), which is INR 513 per ha according to the same source. Thus, net annual O&M cost shall be INR 635 per ha based on the 2012 prices.

Price escalation, 1.35 based on consumer price index (CPI) is applied for converting price level in 2012 to 2016 for O&M cost of the Project. Accordingly, annual O&M cost is assumed to be at INR 857 per ha or INR 309 million for the Project. Summary of the calculation of annual O&M cost is shown in the following table.

Table A5.3.1 Annual Operation and Maintenance Cost

	Weighted Average Annual O&M Cost INR/ha	Establishment Cost per ha / INR/ha	Net Annual O&M Cost per ha INR/ha	Net O&M Cost for the Project Area INR in million	Total Construction Cost INR in million
Price in 2012	1,148	513	635	229	
Price in 2016	1,549	693	857	309	14,023

Ratio (O&M cost / construction cost)	2.2%
--------------------------------------	------

Source: Prepared by the JICA survey team based on the Draft Implementation Completion Report, RWSRP, 2013
1/ Establishment cost means administration cost of WRD related to O&M of irrigation facilities.

The annual O&M cost for RWSLIP is shown in Table A5.3.2. For the economic evaluation, only incremental O&M cost is counted. The incremental annual economic O&M cost is estimated at INR 229 million. Annual O&M cost was calculated based on the disbursement of construction cost.

Table A5.3.2 Summary of Incremental Annual O&M Cost

Description	Unit: INR in millions					
	Financial Price			Economic Price		
	F/C	L/C	Total	F/C	L/C	Total
Necessary O&M expense	0	309	309	0	297	297
Current expense for O&M 1/	0	71	71	0	68	68
Incremental Annual O&M cost	0	238	238	0	229	229

Source: JICA survey team

1/ Calculated based on the actual expense for O&M from the "Draft Implementation Completion Report, RWSRP, World Bank, 2013" RWSRP (World Bank) with price escalation (1.35) from 2012 to 2016.

5.4 Project Benefit

5.4.1 Methodology and Basic Assumptions for Estimation of Project Benefit

The benefit from irrigation and water supply of the Project is the increment of net production value of crops derived from increasing cropping intensity and unit yield of cereals, pulses, oil seed, and other crops compared between without and with project condition.

Cropping intensity of 134% without project condition can be increased to 157%, which equates to an increase of about 83,000 ha of cultivated land in the project area with project condition as shown in table below.

Table A5.4.1 Estimated Cropping Intensity

	With Condition		Without Condition	
	Percentage	Cultivated Area (ha)	Percentage	Cultivated Area (ha)
Kharif Crops				
Maize	32%	115,605	28%	101,154
Jowar (Sorghum)	12%	43,352	12%	43,352
Bajra (Pearl Millet)	12%	43,352	11%	39,739
Kharif Pulses/Moong	13%	46,965	13%	46,965
Kharif Oilseed/Other Kharif Crops	4%	14,451	6%	21,676
Kharif Total	73%	263,724	70%	252,886
Rabi Crops				
Wheat	10%	36,127	16%	57,803
Barley	5%	18,063	11%	39,739
Gram	25%	90,317	37%	133,668
Rabi Oilseed	19%	68,641	15%	54,190
Other Rabi Crops	2%	7,225	8%	28,901
Rabi Total	61%	220,372	87%	314,301
Total	134%	484,096	157%	567,188
Increment by the Project			23%	83,091

Source: JICA survey team

5.4.2 Crop Budget

A summary of crop budget for major crops is shown in the table below.

Table A5.4.2 Summary of Economic Crop Budget

Crops	Gross Receipts					Cost of Cultivation				Net Receipts (INR/ha)
	Unit Price (INR/ton)	Unit Yield (ton/ha)	Gross Receipts (INR/ha)	Other Receipts (INR/ha)	Total Receipts (INR/ha)	Labour (INR/ha)	Materials (INR/ha)	Others (INR/ha)	Total Cost (INR/ha)	
Without Project Condition										
Kharif Crops										
Maize	11,892	1.60	19,062	6,467	25,529	28,847	6,448	6,520	41,814	-16,285
Jowar	17,894	0.55	9,770	5,325	15,095	13,107	3,228	2,413	18,748	-3,653
Bajra	13,879	0.91	12,588	6,860	19,448	13,879	2,342	3,109	19,330	119
Kh. Pulses	59,702	0.40	23,642	3,428	27,070	12,839	3,570	5,840	22,249	4,822
Til	93,535	0.29	27,406	1,233	28,639	10,608	1,264	6,769	18,641	9,998
Rabi Crops										
Wheat	13,939	3.36	46,863	14,368	61,231	22,112	9,899	14,485	46,496	14,735
Barley	12,880	2.94	37,803	9,982	47,785	24,537	6,865	10,064	41,466	6,319
Gram	36,400	0.81	29,630	4,296	33,926	13,127	6,563	7,319	27,008	6,918
Mustard	37,824	1.35	50,911	2,291	53,202	16,106	4,792	12,575	33,473	19,729
Other Crops	12,024	9.45	113,598	5,112	118,710	32,886	29,900	28,059	90,845	27,865
With Project Condition										
Kharif Crops										
Maize	11,892	1.68	20,015	6,375	26,390	28,847	6,770	4,906	40,522	-14,132
Jowar	17,894	0.55	9,770	5,178	14,948	13,107	3,228	1,729	18,064	-3,116
Bajra	13,879	0.91	12,588	6,672	19,260	13,879	2,342	2,228	18,449	811
Kh. Pulses	59,702	0.40	23,642	3,073	26,716	12,839	3,570	4,185	20,594	6,122
Til	93,535	0.29	27,406	822	28,228	10,608	1,264	4,851	16,723	11,505
Rabi Crops										
Wheat	13,939	3.70	51,549	14,837	66,386	22,764	10,394	11,418	44,576	21,810
Barley	12,880	3.23	41,583	10,308	51,891	25,390	7,209	7,933	40,531	11,360
Gram	36,400	0.90	32,593	4,237	36,830	13,623	6,891	5,769	26,283	10,547
Mustard	37,824	1.41	53,457	1,604	55,060	16,616	5,032	9,462	31,109	23,951
Other Crops	12,024	9.92	119,278	3,578	122,856	33,361	31,395	21,112	85,869	36,988

Source: JICA survey team

5.4.3 Irrigation Benefit

In accordance with “without” and “with” cropping pattern in the project area and crop budget, annual project benefit is estimated. Economic benefit from irrigation development is estimated at INR 3,331 million per annum as summarised in Table A5.4.3.

Table A5.4.3 Economic Benefit from the Project

Unit: INR million	
Annual Total Benefit	
Without	1,162
With	4,493
Incremental Benefit	3,331

Source: JICA survey team

Increase of annual benefit was estimated to be at 10%, 30%, 70%, and 100% in each year from year one after completion of the construction works. Calculation of the total increase of annual benefit is shown in table below.

Table A5.4.4 Increase of Annual Benefit

Year	Annual Disbursement for Construction Work (INR million)		Increase of Annual Benefit									
	Amount	Ratio	3	4	5	6	7	8	9	10	11	12
3	662	4.7%	0%	0%	1%	3%	5%	5%	5%	5%	5%	5%
4	2,317	16.5%		0%	2%	5%	12%	17%	17%	17%	17%	17%

5	2,975	21.2%		0%	2%	6%	15%	21%	21%	21%	21%	
6	2,886	20.6%			0%	2%	6%	14%	21%	21%	21%	
7	3,006	21.4%				0%	2%	6%	15%	21%	21%	
8	1,935	13.8%					0%	1%	4%	10%	14%	
Total	14,023	100.0%	0%	0%	3%	10%	25%	44%	65%	82%	95%	99%

Source: JICA survey team

5.5 Evaluation Results

EIRR is calculated at 13.4% with B-C at INR 1,124 million and B/C at 1.11, as summarised in the following table.

Table A5.5.1 Economic Evaluation Results

EIRR	Net Present Value (INR million) at Discount Rate of 12%			B/C
	Benefit	Cost	B-C	
	13.4%	11,276	10,152		1,124	1.11

Source: JICA survey team

A sensitivity analysis is made to evaluate the soundness of the Project against unexpected adverse changes in the future. The detailed result of analysis is shown in table below.

Table A5.5.2 Sensitive Analysis of the Project

		Cost		
		Base	5% Up	10% Up
		Benefit	Base	13.4%	12.7%	12.1%
	5% Down	12.7%	12.1%	11.5%
	10% Down	12.0%	11.4%	10.8%

Source: JICA survey team

The EIRR under the following assumptions is also calculated:

- Increase of crop yield stays at lower level (10% to 5%) 11.7%
- Target CCA is not achieved (100% to 90%) 12.0%
- Function of irrigation facilities decreases due to improper O&M 12.9%

The economic indicators calculated are feasible. The Project is also robust against unexpected adverse changes in the future as shown in the result of sensitivity analysis. Therefore, the JICA survey team concluded that the proposed Project is economically feasible.

Chapter 6 OPERATION AND EFFECT INDICATORS

6.1 Operation Indicators

At this moment, the following baseline and operation indicators are provisionally set based on the “Reference of Operation/Effect Indicators for ODA Loan Project, JICA, 2014”.

Table A6.1.1 Operation Indicators

No.	Indicators	Current (2017)	Target (2026)
1.	Area benefited by the Project (ha) (CCA)	-	360,000 ha
2.	Cultivated area by crops (ha)	As shown in the cropping pattern	
3.	Collection rate of irrigation water charge (%) 1/	50%	70%

Source: JICA survey team

Remarks:

1/ The indicator was set based on the Draft Implementation Completion Report, RWSRP, World Bank, 2013. Current and target figures shall be revised based on the actual data collected by NGOs as support to WUA.

Baseline data of operation indicators shall be surveyed by the Survey, Investigation, and Design (SID) consultant and mentioned in the detailed project reports (DPRs). After commencement of the Project, operation indicators will be monitored in the following manner:

Table A6.2.2 Monitoring of Operation Indicators

No.	Indicators	Target of Survey	Responsible Organisation	Frequency of Survey	Reports for Reference
1.	Area benefited by the Project (ha) (CCA)	All sub-projects	PMU, WRD and the consultant	Every quarter during the project period	Quarterly report of the project consultant
2.	Cultivated area by crops (ha)	All sub-projects	NGO	Every year during the project period	Annual report prepared by NGO
3.	Collection rate of water tariff (%)	All sub-projects	NGO	Every year during the project period	Annual report prepared by NGO

Source: JICA survey team

6.2 Effect Indicators

The following baseline and effect indicators are provisionally set at this moment. Baseline and target indicators will be set based on the baseline surveys in sample WUAs.

Table A6.2.1 Effective Indicators

No.	Indicators	Current (2017)	Target (20xx)
1.	Production volume of major crops (t/year)		
	Maize	Set by survey in each sample WUA	Estimates based on increase of cultivation area and unit yield
	Wheat		
	Barley		
	Gram		
	Mustard		
	Other crops		
2.	Yield of major crops per unit area (t/ha) 1/		
	Maize		5% Increase
	Wheat		10% Increase
	Barley	Set by survey in each sample WUA	10% Increase
	Gram		10% Increase
	Mustard		5% Increase
	Other crops		5% Increase

3.	Gross annual average farm income (INR/year/ household)	Set by survey in each sample WUA	Estimates based on increase of crop production
4.	Male/female ratio in WUA committee 2/	Set by survey in each sample WUA	33%

Source: JICA survey team

Remarks:

1/ Target figure of the indicator was set based on the actual increment of unit yield of RWSRP from the Draft Implementation Completion Report, RWSRP, World Bank, 2013.

2/ Target figure of the indicator was set based on Regulation Law of WUA.

Effect indicators will be monitored in the following manner:

Table A6.2.2 Monitoring of Operation Indicators

No.	Indicators	Target of Survey	Responsible Organisation	Frequency of Survey	Reports for Reference
1.	Production volume of major crops (t/year)	Sample WUAs in the sub-projects	The consultant /NGOs	Before the sub-project implementation and two years after the sub-project completion	Monitoring report of the consultant
2.	Yield of major crops per unit area (t/ha)	ditto	ditto	ditto	ditto
3.	Gross annual average farm income (INR/year/ household)	ditto	ditto	ditto	ditto
4.	Male/female ratio in WUA committee	All sub-projects	NGO	Every year during the project period	Annual report prepared by NGO

Source: JICA survey team

At the moment, sub-projects under RWSLIP have not yet been selected. Thus, sample WUAs for monitoring and evaluation will be selected after commencement of RWSLIP. The Engineering and Management Consultant in-charge of project monitoring and evaluation shall prepare the monitoring plan of RWSLIP and based on this, he/she will implement the project monitoring activities.

Two WUAs in the canal irrigation projects, two for the dam and canal irrigation project (medium), and one in dam and canal irrigation project (minor) will be sampled and selected based on the criteria such as agro-climatic conditions among stage 1 sub-projects. Sampled WUAs will be selected on the same way for stage 2 sub-project. Around 50 farm households in each sampled WUA will be the target of baseline and monitoring survey. NGOs of the Project will implement the baseline and monitoring survey according to the monitoring and evaluation plan. Based on the result of the survey, the project consultant will analyse the data. Tentative items of the survey include basic information, cropping pattern, production, yield, farm income, other income, participation rate with the project activities, adaptation of new techniques introduced by the project, etc.

Tentative schedule of the implementation of baseline and monitoring survey is shown in Figure A6.2.1.

Description	Year							
	1	2	3	4	5	6	7	8
Sample Survey								
1. Preparation of monitoring & evaluation plan								
2. Selection of sample sub-projects for stage 1								
3. Baseline survey for stage 1 sub-projects								
4. Monitoring survey for stage 1 sub-projects								
5. Selection of sample sub-projects for stage 2								
6. Baseline survey for stage 2 sub-projects								
7. Monitoring survey for stage 2 sub-projects								
Evaluation								
8. Mid-term evaluation								
9. Terminal evaluation								

Source: JICA survey team

Figure A6.2.1 Tentative Schedule of Monitoring and Evaluation Survey

Monitoring procedure and method proposed in this report is tentative and will be modified based on the actual situation.

6.3 Indicators for Intangible Benefits

In order to monitor the positive effects of RWSLIP as intangible benefit, the following indicators are proposed to be set and monitored in addition to the operation and effect indicators:

No.	Indicators	Current (2017)	Target (20xx)
1.	Increase women's voice in WUA MC meeting* ¹	Set by the baseline survey	Women's voice is recorded in more than 50% of WUA meetings
2.	Increase in number of women participating in meetings* ² other than WUA meeting	Set by the baseline survey	30% of women participated in more than one meeting last year
3.	Increase in women's control over household income	Set by the baseline survey	30% of vegetable cultivation group members had controlled over the income
4.	Number of farmers participating gender session (gender disaggregated data)	Set by the baseline survey	30% of farmers received gender session (number of female and male farmer separately)
5.	Number of farmers participating agricultural technical session (gender disaggregated data)	Set by the baseline survey	30% of farmers received agricultural technical session (number of female and male farmer separately)
6.	WUA participation in the implementation of water management according to the plan	Set by the baseline survey	More than 50% of WUA implement water management according to the plan
7.	Improvement of agriculture techniques (evaluated by the adaptation rate of new techniques)	Set by the baseline survey in each sample WUA	Set based on the baseline
8.	Nutritional (anemia) improvement of women and children (Gender disaggregated data)	-	More than 4 SHGs other than the target SHGs started to cultivate vegetable for nutritional improvement (Number of women and boy and girl child)
9.	Number of FIGs formulated through the Project and their sales activities (number of female member and its ratio)	0 group	2 groups per each WUA
10.	Sales results of high-TSS fruits/vegetables from market-oriented experimental plots (number of women farmers and its ratio)	0 case (INR 0)	To be set for every plot in consideration of the increase in production amount and sales contracts

*1 Need to check whether their voices are accepted or not based on WUA's activities

*2 Meetings other than WUA means meetings conducted by gram panchayat and DoA.

Source: JICA survey team

These indicators will be monitored in the following manner:

Table A6.3.2 Monitoring of Indicators for Intangible Benefits

No.	Indicators	Target of Survey	Responsible Organisation	Frequency of Survey	Reports for Reference
1.	Increase women's voice in WUA MC meeting* ¹	WUA (Minutes of the Meeting)	NGO (Community Motivator)	Once at the end of the year	NGO annual report
2.	Increase in number of women participating in meetings other than WUA meeting* ¹	1 TC from each WUA	NGO (Community Motivator)	Interview at the end of the stage	Stage-wise evaluation report
3.	Increase in women's control over household income	All members of vegetable cultivation group	ditto	ditto	ditto
4.	Number of farmers participating gender session (gender disaggregated data)	1 TC from each WUA	ditto	ditto	ditto
5.	Number of farmers receiving agricultural technical session (gender disaggregated data)	ditto	ditto	ditto	ditto
6.	WUA participation in the implementation of water management according to their plan	All WUAs	NGO (Community Motivator)	Each cultivation season	NGO annual report
7.	Improvement of agriculture techniques	Sample WUAs in sub-projects	The consultant /NGOs	Before the sub-project implementation and two-year after the sub-project completion	Monitoring report of the consultant
8.	Nutritional (anemia) improvement of women and children (Gender disaggregated data)	Sample survey among SHGs	NGO	Every year during the project period	Annual report prepared by NGO
9.	Number of FIGs formulated through the Project and their sales activities (number of female member and its ratio)	All WUAs	NGO staff (Community motivators)	Once per year	NGO's annual report
10.	Sales results of high-TSS fruits/vegetables from market-oriented experimental plots (number of women farmers and its ratio)	All market-oriented experimental plots for high-TSS fruits/vegetables	ditto	ditto	ditto

Source: JICA survey team

*1 Need to check whether their voices are accepted or not based on WUA's activities

*2 Meetings other than WUA means meetings conducted by *gram panchayat* and DoA.

Chapter 7 ENVIRONMENTAL AND SOCIAL CONSIDERATION

7.1 Environment Related Laws, Regulations, and Policies

India has a strong policy, legal, and operative framework for protection of environment and conservation of ecological resources. The policies of the nation are in conformity to management of natural resources for sustainable development. In the recently concluded Conference of the Parties (COP) 21 of the United Nations Framework Convention on Climate Change (UNFCCC) in Paris, France, the country made an ambitious submission of its commitment to nature conservation and reduction of greenhouse gas (GHG) emission intensity. The Constitution of India provides the mandates for the protection of forest, wildlife, and environment. Article 48A dwells on protection and improvement of environment and protection of forest and wildlife. Article 51A emphasises the duty of every citizen to protect and improve the natural environment. Relevant provisions for environment protection has been incorporated in Part IV (Directive Principles) and Part IV A (Fundamental Duties).

All projects/activities are liable for scrutiny under the relevant laws and rules for safeguarding the environment and safeguarding the rights of Scheduled Tribe (ST), Scheduled Caste, Steering Committee (SC), women, and other vulnerable communities. Attachment 9.1 presents some of the relevant environment policies, laws, and rules of the national and state governments. The most important ones are the Environment (Protection) Act, 1986, EIA Notifications issued by the Ministry of Environment, Forest, and Climate Change (MOEF&CC), September 2006 and subsequent modifications in the Wildlife (Protection) Act, 1972, Forest (Conservation) Act, 1980, the Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006, Air Pollution (Control of Pollution) Act, 1981, Water Pollution (Control of Pollution) Act, 1974, and the Land Acquisition Act, 1894 (amended in 2013).

7.2 Procedure for Environmental Clearance

India has a quite elaborate procedure for giving environmental clearances to different projects or activities, which can adversely impact the environment. For the first time, an Environment Impact Assessment Notification was brought out by the then Ministry of Environment and Forest on 27 January 1994 under the Environment (Protection) Act 1986, which was superseded by the EIA Notification 14 September 2006. The notification provides a schedule of eight types of projects and activities that will require environmental clearance. All projects and activities are broadly categorised into two groups based on the spatial extent of potential impacts on human health as well as on natural and man-made resources. The project or activity expected to have high potential impacts is classified as Category A. The project proponent has to obtain environmental clearance from the MOEF&CC of the Government of India (GOI) on the recommendations of the Expert Appraisal Committee (EAC) constituted by GOI. The project or activity expected to have lesser potential impacts than Category A projects will be classified as Category B. For Category B project or activity, the project proponent shall require getting environmental clearance from the State Level Environment Impact Assessment Authority on the recommendations of a State-level Expert Appraisal Committee (SEAC).

Table A7.2.1 Categorisation of River Valley and Irrigation Projects Requiring Prior Environmental Clearance (as per the EIA Notification-14-09-2006)

Project or Activity		Category with Threshold Limit		Conditions, if any
		A	B	
1(c)	(i) River Valley Projects (ii) Irrigation Project	(i) ≥ 50 MW hydroelectric power generation; (ii) $\geq 10,000$ ha. of culturable command area	(i) < 50 MW ≥ 25 MW hydroelectric power generation; (ii) $< 10,000$ ha.- $> 2,000$ ha of culturable command area	General condition shall apply Note: Category B river valley projects falling in more than one state shall be appraised at the central government level.

Note on General Condition (GC) in the context of River Valley Projects: Any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Eco-sensitive areas declared under the Environment (Protection) Act, 1986, (iv) Inter-state boundaries and international boundaries.

Source: EIA Notification of 14 September 2006, EIA Notification of 25 June 2014, MOEF&CC, Government of India

Existing projects, if changed in project mix during expansion or modernisation (expand in space or create new facility other than the existing one), will also require prior environmental clearance. For mere repair and maintenance work, no environmental clearance is required. In case of the Rajasthan Water Sector Livelihood Improvement Project (RWSLIP), environmental clearance is not required as the Project will undertake repair and maintenance of existing irrigation projects.

7.3 Procedures for Forest Clearance

When there is forestland involved in any project or activity, clearance is required from the GOI under the Forest (Conservation) Act. This was enacted in 1980 to ensure conservation of forest and biodiversity. No forestland can be used for non-forestry purpose without the prior approval of the central government. Proposals are to be submitted to the MOEF&CC, GOI for any diversion of forestland for non-forestry purposes by the state government or the user agency. The proposal shall be agreed to in-principle by the central government with stipulated conditions relating to transfer, mutation, and declaration as reserve forest or protected forest under the Indian Forest Act, 1972, of equivalent non-forest land for compensatory afforestation and funds for raising compensatory afforestation. The state government has to prepare the compliance report with respect to the stipulated conditions and submit it to the MOEF&CC, and thereafter based on the compliance report formal approval under the said act shall be issued by GOI.

In case of RWSLIP, forest clearance is not required as existing sub-projects will be rehabilitated and no activities will be undertaken on the forestland.

7.4 Method, Procedure of Environmental and Social Consideration (ESC)

The Japan International Cooperation Agency (JICA), as the responsible agency for official development assistance (ODA) of Japan, has developed the Guidelines for Environmental and Social Consideration. The guidelines re-affirm JICA's policy to respect human rights and environment in its investments, projects, and programmes; and JICA gives utmost priority to ensure transparency, predictability, and accountability in supporting environmental and social consideration. The principles of JICA for environmental and social consideration (ESC) are presented below.

- ESC should cover a wide range of environment and social impacts.
- Environmental and social issues must be considered at an early stage in design and throughout the project cycle.
- JICA confirms its responsibility for accountability and transparency.
- JICA recognises the need for stakeholders' consultation and participation in ESC.
- JICA promotes information disclosure.
- Emphasis is given on the enhancement of organisational capacity to ensure appropriate ESC and monitoring of environmental and social issues.
- JICA emphasises prompt and timely action to address ESCs.

The JICA survey team carried out the reviews for environmental and social consideration as per the Guidelines for Environmental and Social Consideration of JICA, April 2010. The project has been categorised as F1.

7.5 Environmental and Social Condition

Rajasthan is one of the six fastest growing states of India and the pace of development has its own repercussions on the exploitation of natural resources/natural capital of the state. Rajasthan, the land of kings, has remained an important place for both domestic and international tourists and the thriving tourism industry contributes to about 15% of the state economy.

The state is faced with a number of environmental and social challenges. Most important of them is the rising water demand for irrigation, drinking and other domestic use, industries, mines, etc. The surface water is limited and groundwater is depleting in an alarming rate. Nearly 60% of the blocks of Rajasthan have reported an over exploitation of groundwater. Because of overexploitation of groundwater, geochemistry of water resources has been adversely affected. Rajasthan accounts for 51% of fluoride and 42% of salinity-affected areas of the country. As per the World Health Organisation (WHO) Guidelines on quality standards of drinking water, 56% of water resources of the state are unpotable (21,190 villages have salinity problem; 23,297 villages have fluoride problem, and 20,659 villages have nitrate problem). Pollution of water and air has also increased significantly especially in areas specific to mines and industries (Pali and Jodhpur districts and industrial areas of Balotra and Bhiwadi are declared as critically polluted areas in the state by the Central Pollution Control Board). Some other environmental challenges are: increasing soil salinity, forest degradation because of biotic pressure (85% of rural population still depend on the forest for cooking fuel), low water use efficiency, increasing urbanisation with inadequate facilities for sewage, and solid waste management.

While the state has enormous challenges in water resources conservation and management, it presents plethora of traditional systems and practices for water conservation and management. One can find several examples of traditional water harvesting and storage systems (*Kuins* – deep narrow wells, *Kunds* – ponds, *Tankas* – tanks, *Johads* – earthen check dams, *Baories* – community wells) perfectly operating in the state. There were *Khadeens* in the desert areas – oases created through the retention of water in the beds of seasonal rivers to enable crop farming. Rajasthan presents a good example of traditional water security management influenced by a combination of natural, social, and cultural factors.

Some of the social challenges faced by the state are low literacy levels amongst women, access to safe drinking water, quality health services in selected areas, caste and gender based discrimination, etc.