

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

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		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

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		<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

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		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>

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		<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>

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		<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>

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		<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.

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		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								
1.1.1. 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 (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)	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
1.1.2. 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 2. printing cost	consultant PMU			Hindi language will be preferable.

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		Target group/ persons/trainees	Activities/ contents	Inputs	Arranged/ paid by	Inputs	Arranged by	
1.2. Trainings in Different Level								
<p>1.2.1. TOT on Water Management and WUA Support for TSG-SP Members and NGO Staff</p> <p><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</p>	<p><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</p>	<p>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)</p>	<p>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</p>	<p>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</p>	<p>consultant PMU NGO</p>			<p>- 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</p>
<p>1.2.2. Training on Water Management and WUA Support for NGO staff (Community Motivator)</p> <p><u>Objectives:</u> To understand water management and WUA support with gender aspects and how to conduct field activities</p>	<p><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</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 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</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 10. allowance/transportation of NGO staff</p>	<p>consultant PMU NGO</p>			<p>- Training will be done for around 40 participants in each time - Part for "handing over procedure" can be trained later in sub-PMU wise</p>

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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 (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.
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			

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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>	<p>PMU</p>			<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>	<p>PMU</p>			<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>	<p>PMU</p>			
				<p>6. NGO Team leader 7. NGO Sector expert 8. Community Motivator 9. allowance/transportation of NGO staff</p>	<p>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	
2.2. Capacity building activities								
2.2.1. 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 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
				10. facilitator and manager: NGO Team leader 11. facilitator and assistant: NGO Sector expert 12. allowance/transportation of NGO staff	NGO			
2.2.2. 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	PMU		- 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	
				5. NGO Team leader 6. NGO sector expert 7. NGO Com. Motivator 8. 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	
<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"> introduction of financial management of WUA basic principles of accounting how and where to keep record annual budget, financial statement and annual account reporting and auditing 	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. venue 4. stationery</p>	PMU			<ul style="list-style-type: none"> using actual data and account ledgers follow-up/mentoring at least quarterly basis at WUA/MC monthly meeting or WUA visit
<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"> review previous month's activities discuss issues and agendas plan activities for the month in detail provide training/session on seasonal/suitable topics 	<p>1. TSG-SP members 2. allowance/transportation of TSG-SP members 3. stationery</p>	PMU			<ul style="list-style-type: none"> 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>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>	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.</p>
				<p>4. NGO Team leader or sector expert 5. NGO Com. Motivator 6. allowance/transportation of NGO staff</p>	NGO			
<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>	PMU			<p>WW members participate in 1st day session only.</p>
				<p>10. NGO Team leader 11 NGO Sector expert 12 NGO Com. Motivator 13. 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>2.2.7. 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	PMU			- check carefully use of the land along the irrigation canal for tree plantation
				4. NGO Team leader or sector expert 5. NGO Com. Motivator 6.. allowance/transportation of NGO staff	NGO			
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.)	PMU			- 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.
				4. NGO Team leader or sector expert 5. NGO Com. Motivator 6.. 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	
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			
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)	PMU			
				3. NGO sector expert 4.. allowance/transportation of NGO staff	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 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	
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								
<p>5.1. Establishment of orange demonstration farm (4 farmers) 1ha</p> <p><u>Objectives:</u> To provide venue for demonstration of specific agriculture techniques to improve quality of kinnow and santra oranges</p> <p>To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm</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> Advanced farmers and markets</p>	<p><u>Target Group</u></p> <p>1. Kinnow and santra orange farmers in focal area</p>	<p>3 years advises</p> <ul style="list-style-type: none"> • 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 	<p>1.Facilitator</p> <p>2. Tea&lunch</p> <p>3. Training materials</p> <p>4.Resource persons (KVK/NGO)</p> <p>5.Seedling of seedless kinnow/seedless santra orange</p> <p>6. Fences</p>	<p>NGO agri-expert</p> <p>PMU</p>	<p>1. Allowance/ transportation</p> <p>2.Resource person</p>	DoA/DoH	Technical advisory group from concerned scientists
<p>5.2. Establishment of exotic vegetable demonstration farm (7 farmers in focal area) 0.4ha</p> <p><u>Objectives:</u> To provide venue for demonstration of specific agriculture techniques to intimate exotic vegetable cultivation</p> <p>To provide opportunity to learn water saving cultivation techniques with drip irrigation and mulch in demonstration farm</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> Advanced farmers and markets</p>	<p><u>Target Group</u></p> <p>1. Farmers in focal area</p>	<p>3 years advises</p> <ul style="list-style-type: none"> • 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 	<p>1.Facilitator</p> <p>2.Tea&lunch</p> <p>3. Training materials</p> <p>4.Resource persons (KVK/NGO)</p> <p>5. Fences</p> <p>6. Seeds</p>	<p>NGO agri-expert</p> <p>PMU</p>	<p>1. Allowance/ transportation</p> <p>2.Resource person</p>	DoA/DoH	Technical advisory group from concerned scientists
<p>5.3. Mentoring of demonstration farm (oranges and exotic vegetables) (11 farmers)</p> <p><u>Objectives:</u> To provide support to demonstration farmers</p> <p>To provide opportunity to improve quality of concerned crops</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> Advanced farmers and markets</p>	<p><u>Target Group</u></p> <p>1. Farmers in focal area</p>	<p>Mentoring support</p> <ul style="list-style-type: none"> Water application and fertigation Plant protection Pruning and training Harvesting and post harvesting 	<p>1.Facilitator</p> <p>2.Tea&lunch</p> <p>3. Training materials</p> <p>4.Resource persons (KVK/NGO)</p>	<p>NGO agri-expert</p>	<p>1. Allowance/ transportation</p> <p>2.Resource person</p>	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

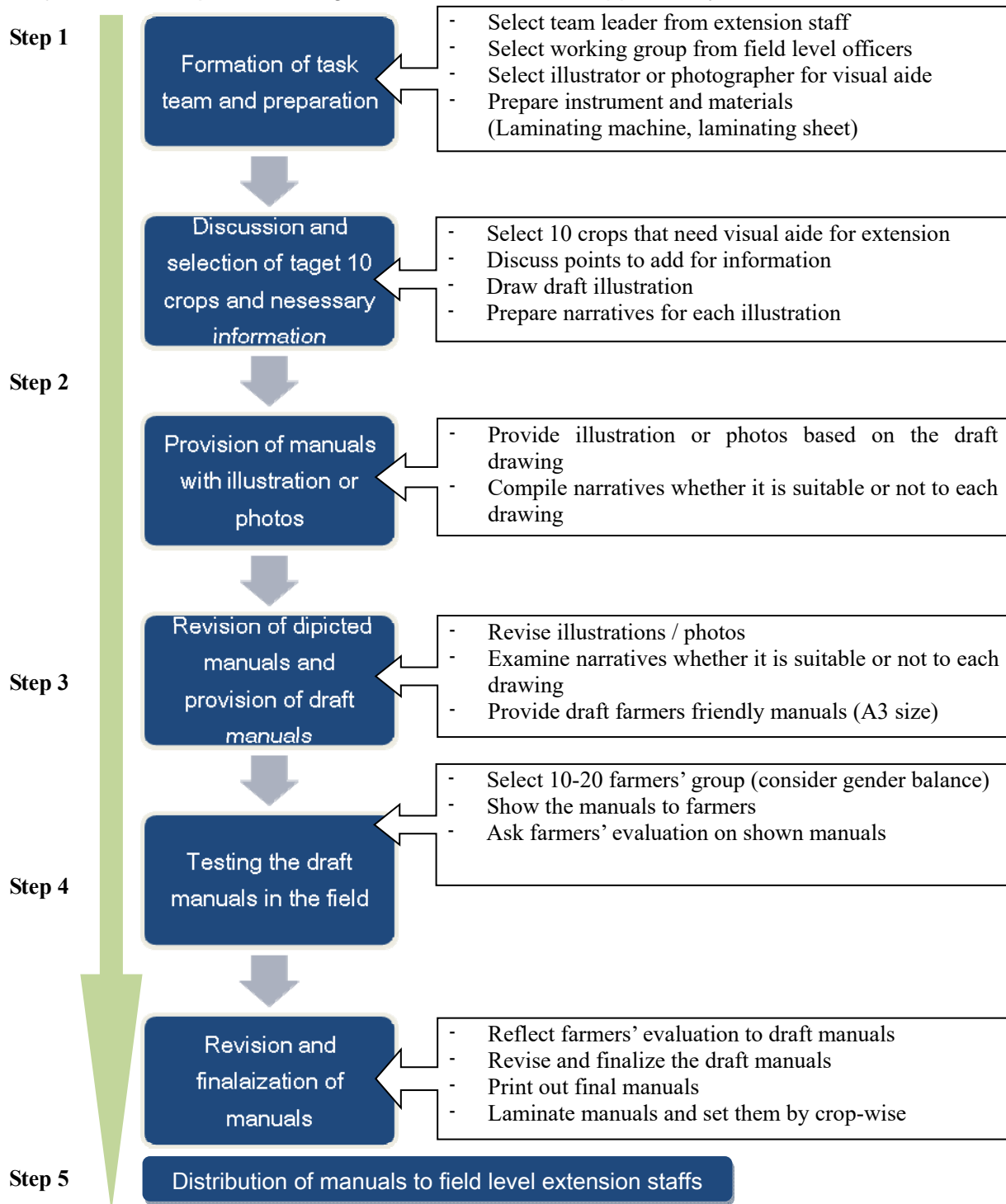
Attachment 5.4.2
Farmer Friendly Manuals

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.

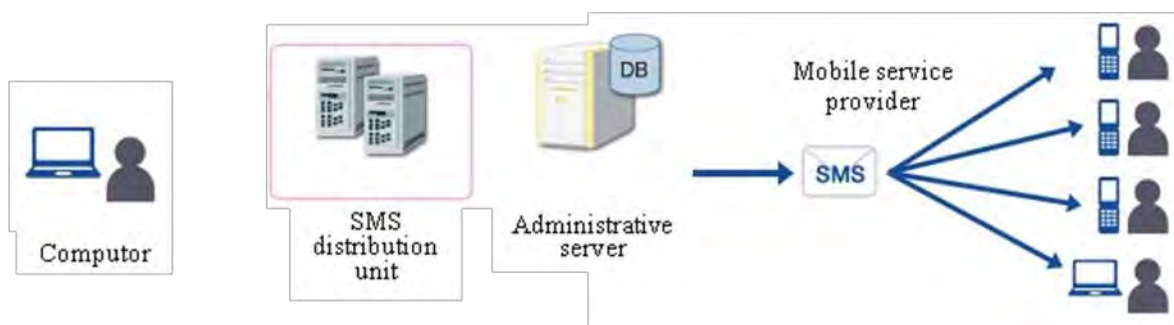
Attachment 5.4.3
Strengthening of Agriculture
Information Centre

Attachment 5.4.3 Strengthening of Agriculture Information Centre

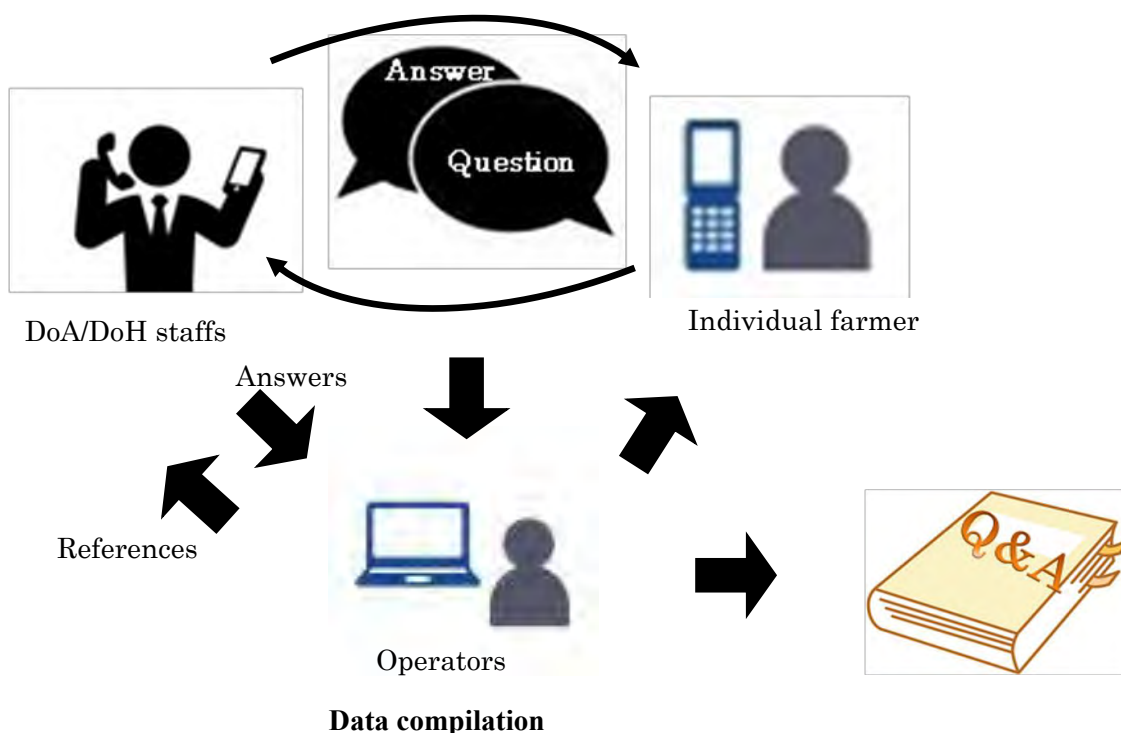
Objectives:

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

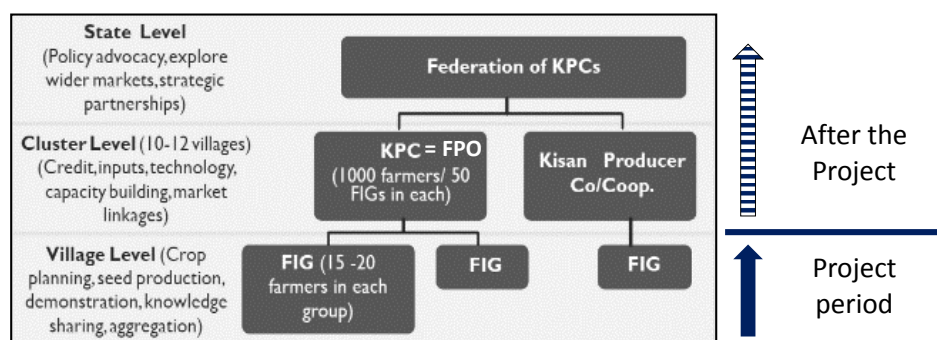
Attachment 5.5.1

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			█	█	█
	2019	2020	2021	2022	2023																																							
	Stage 1																																											
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			Stage 3																																									
	4th year	5th year	6th year	7th year	8th year																																							
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.

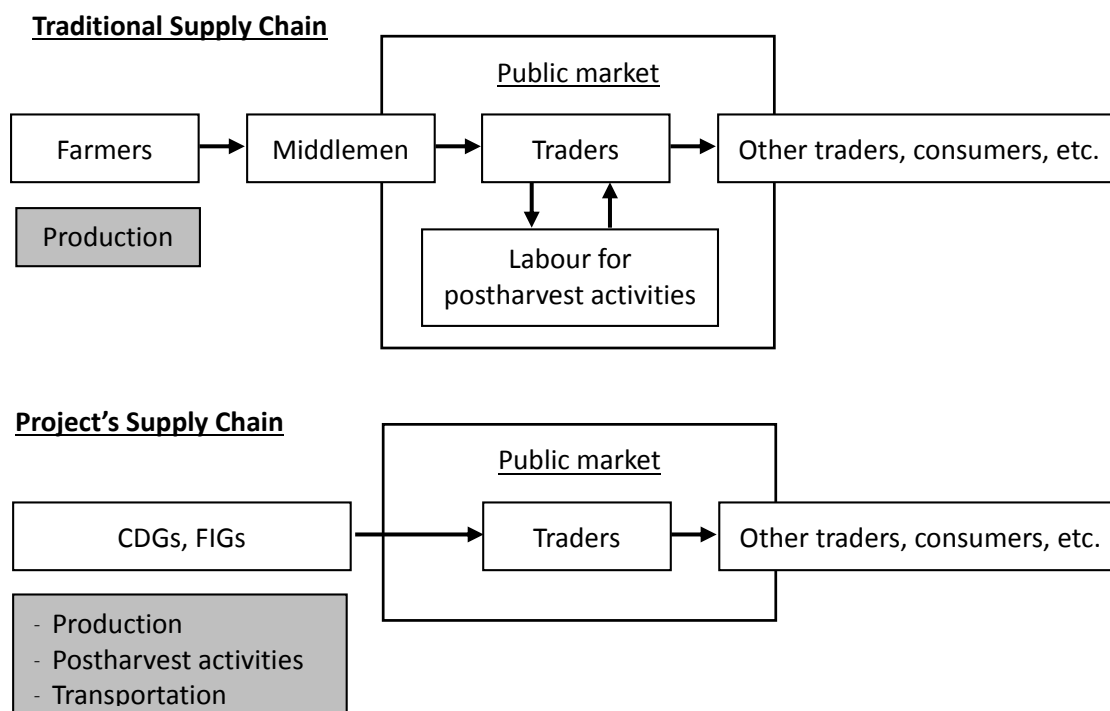
Table 2: Supports for CDGs and FIGs

	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).

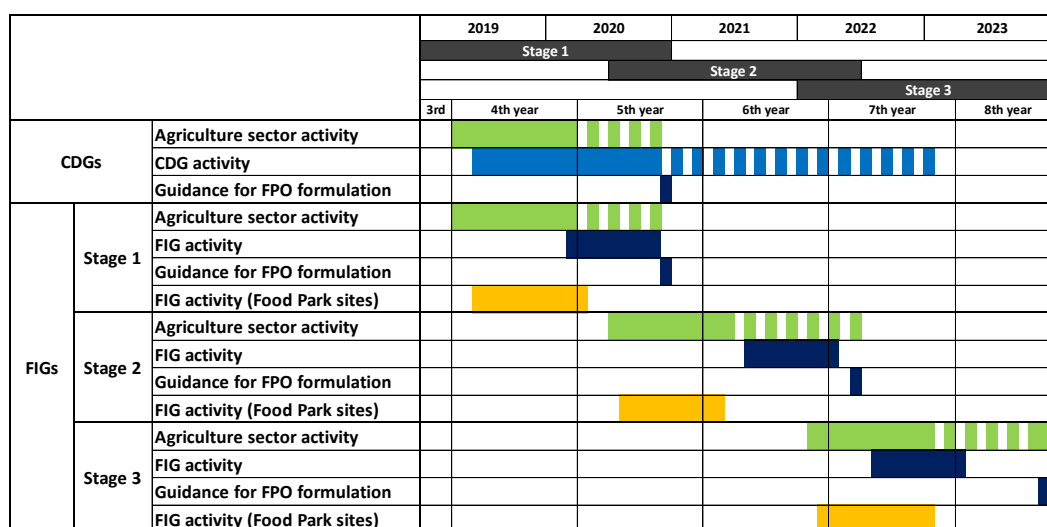
Table 3: Frequency for Implementation and Possible Assistance for CDGs and FIGs

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

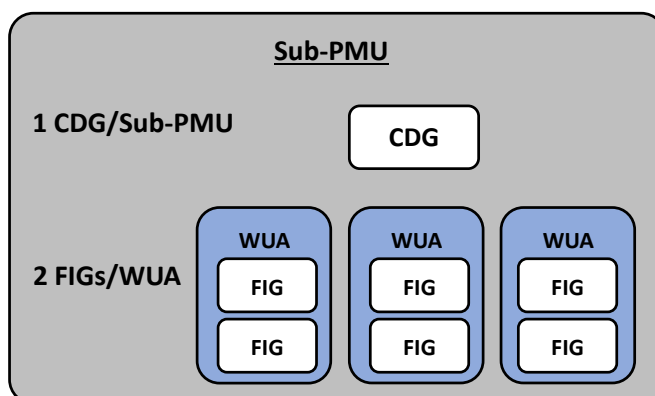
4. Number of Groups to Formulate

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

Prepared by JICA Survey Team

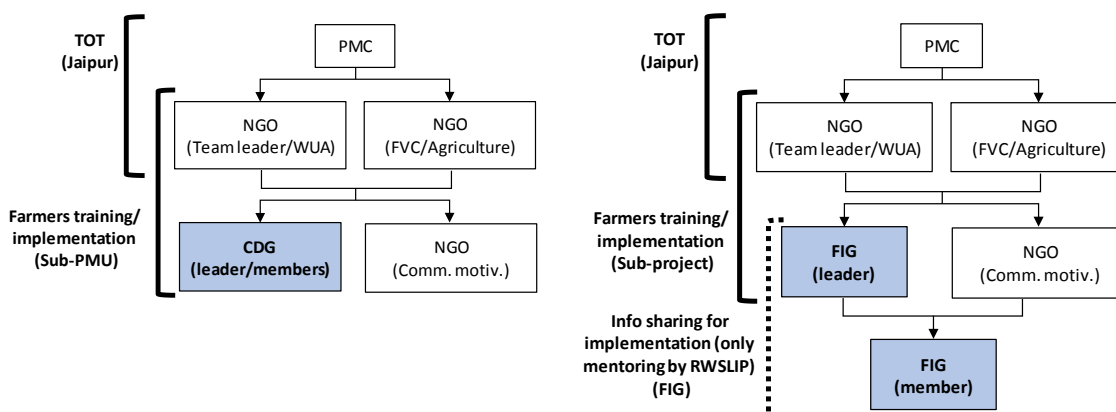


Prepared by JICA Survey Team

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)

Prepared by JICA Survey Team

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

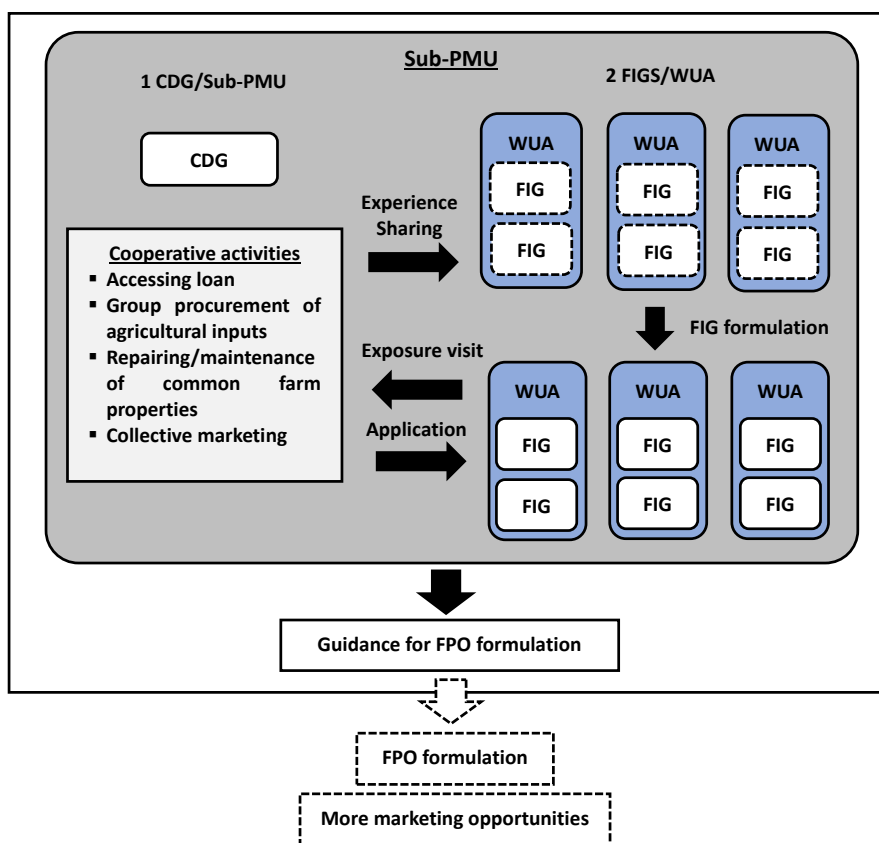
Prepared by JICA Survey Team

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					

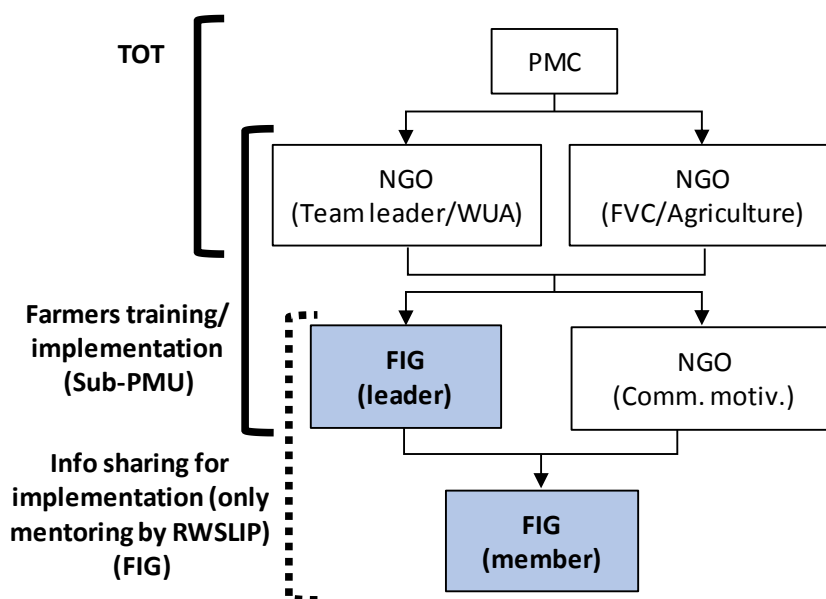
Prepared by JICA Survey Team

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.

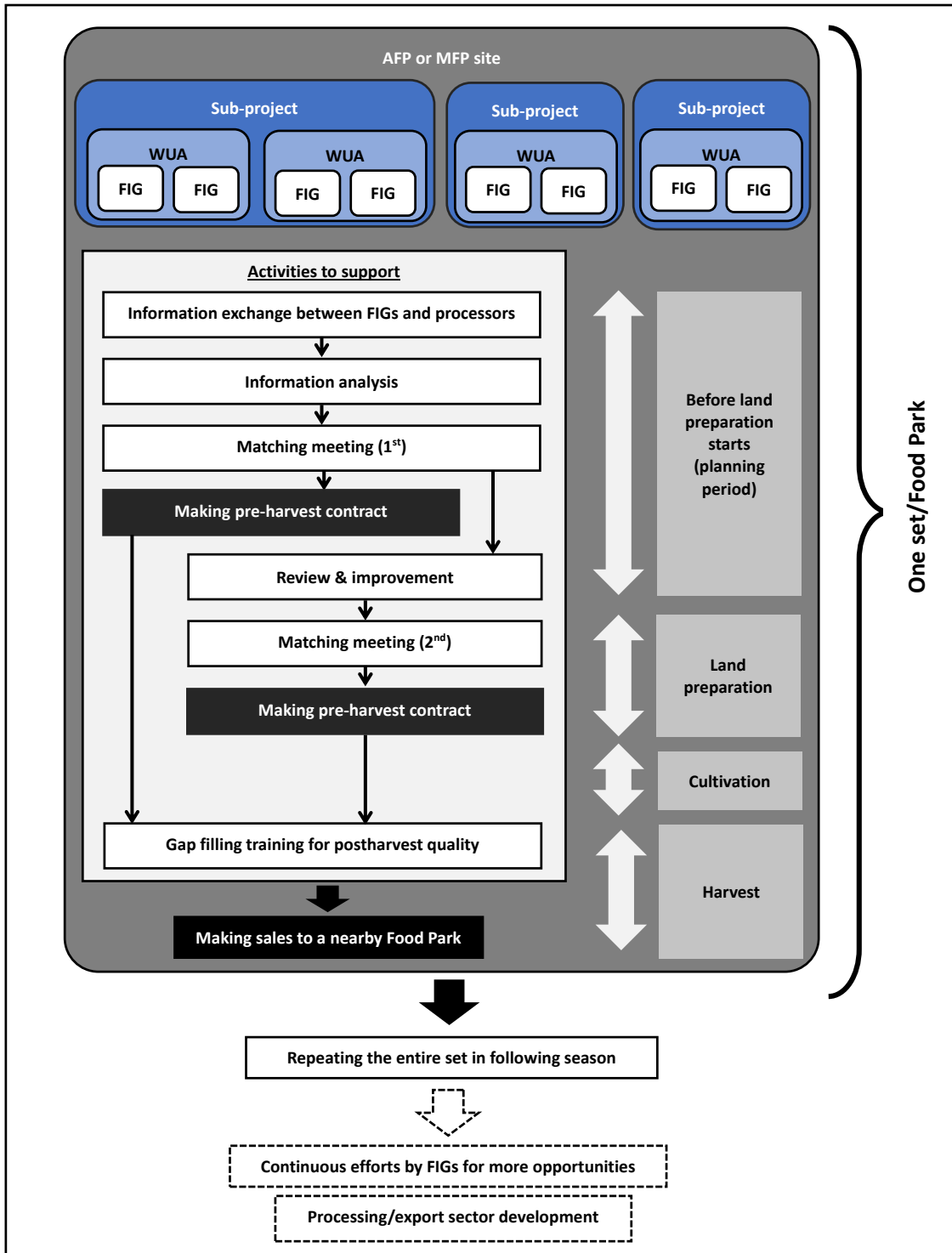


Prepared by JICA Survey Team

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.

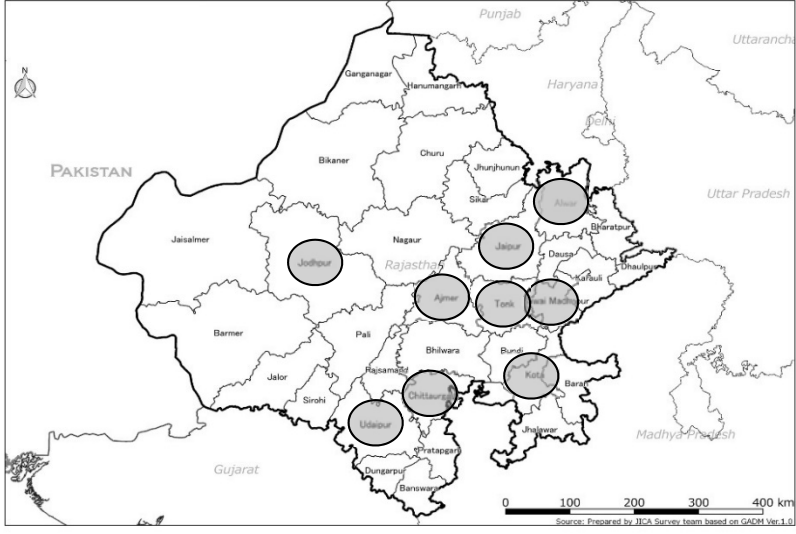
It is then remarkable that Rajasthan, holding many tourist sites such as Jaipur, Udaipur, and Jodhpur, etc., annually accepts more than a million of foreign tourists and more than 20 million including Indian tourists¹. Hotels and restaurants in such areas could be regarded as niche markets to supply 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" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td colspan="2"></td> <td colspan="2" style="background-color: #cccccc;">Stage 1</td> <td colspan="3"></td> </tr> <tr> <td colspan="2"></td> <td colspan="3" style="background-color: #cccccc;">Stage 2</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="5" style="background-color: #cccccc;">Stage 3</td> </tr> <tr> <td colspan="2"></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 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>Extention to farmers</td> <td>Stage 1 & 2 farmers</td> <td></td> <td></td> <td style="background-color: #0070c0;"></td> <td style="background-color: #0070c0;"></td> <td></td> </tr> <tr> <td></td> <td>Stage 3 farmers</td> <td></td> <td></td> <td></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	Demonstration							Extention to farmers	Stage 1 & 2 farmers							Stage 3 farmers					
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	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 several districts highlighted in grey circles, indicating target sites. These include Jaipur, Jodhpur, and Udaipur. Other districts shown include Bikaner, Churu, Sikar, Jaipur, Nagaur, Ajmer, Tonk, Jaipur, Baran, Kota, Bundi, Bhilwara, Pali, Jaisalmer, Barmer, Jalore, Sirsi, Chittaurgarh, Pratapgarh, Durgam, and Barmer. Neighboring states like Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, and Gujarat are also labeled. A scale bar at the bottom indicates 0, 100, 200, 300, and 400 km. Source: Prepared by JICA Survey team based on GADM Ver. 1.0.</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.

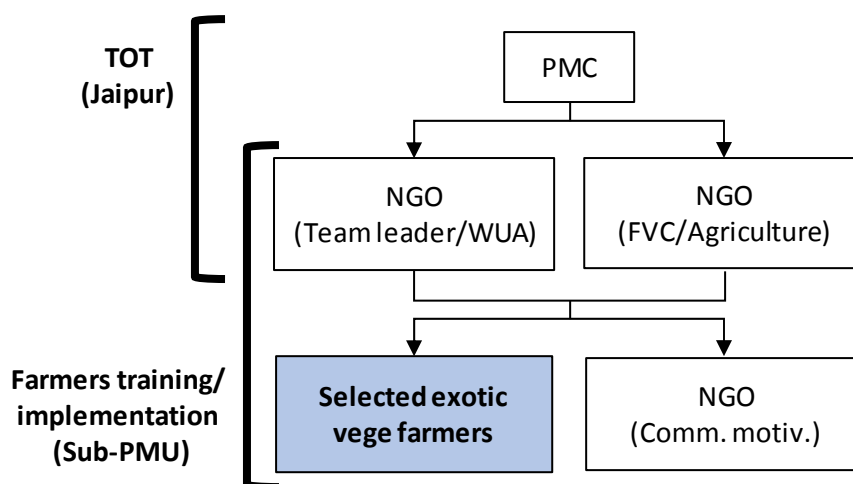
Table 3: Number of farmers for sales training and support for implementation

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.



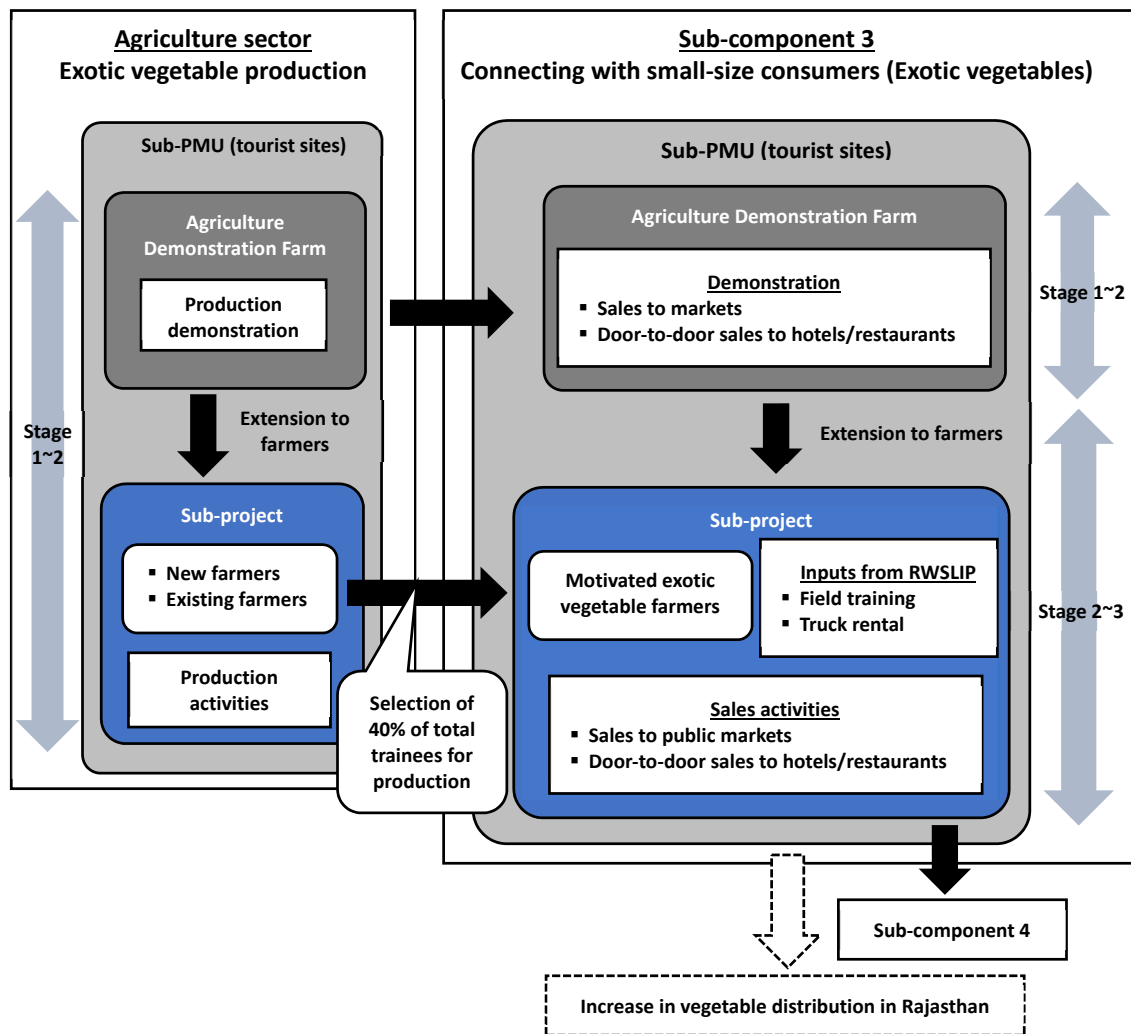
Prepared by JICA Survey Team

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)

Prepared by JICA Survey Team

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)

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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

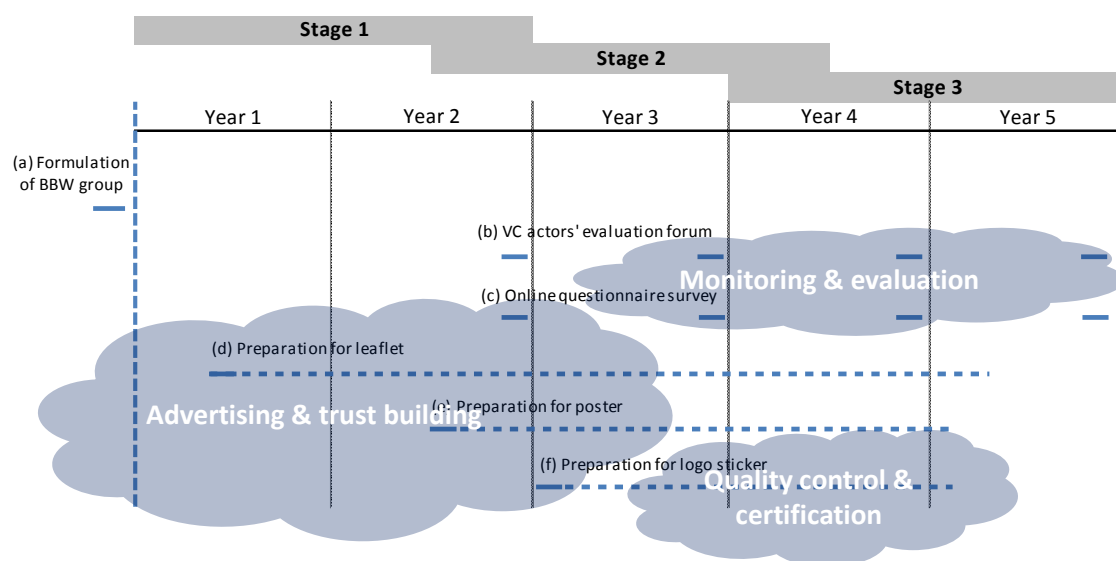
Goal	A basis is established for future branding of high-TSS fruits/vegetables grown in Rajasthan	
Outcomes	<ol style="list-style-type: none"> 1. <u>Market-oriented approaches have been clarified to achieve following objectives:</u> <ol style="list-style-type: none"> (a) To increase TSS of fruits/vegetables 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.



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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

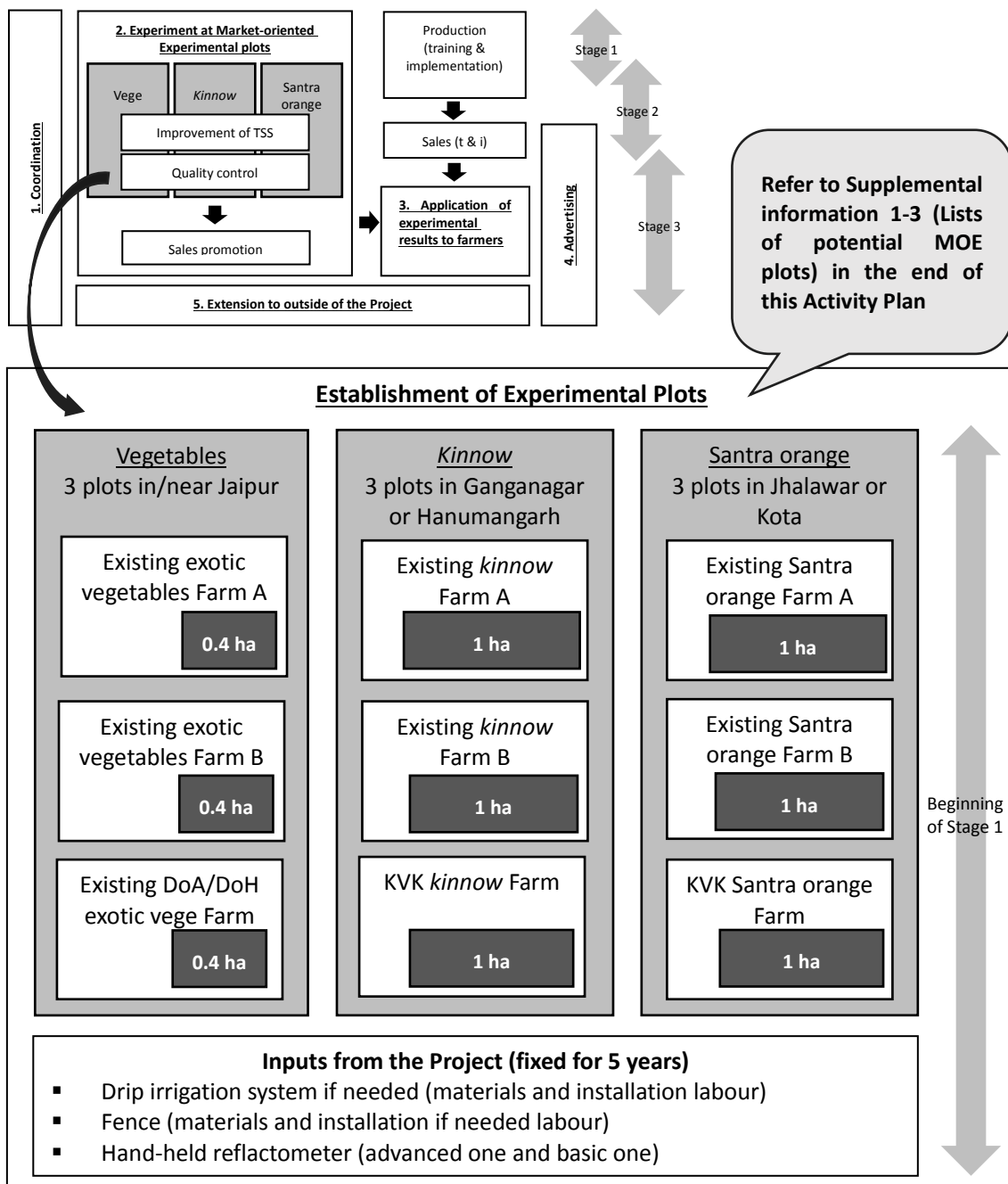
Prepared by JICA Survey Team

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.



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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

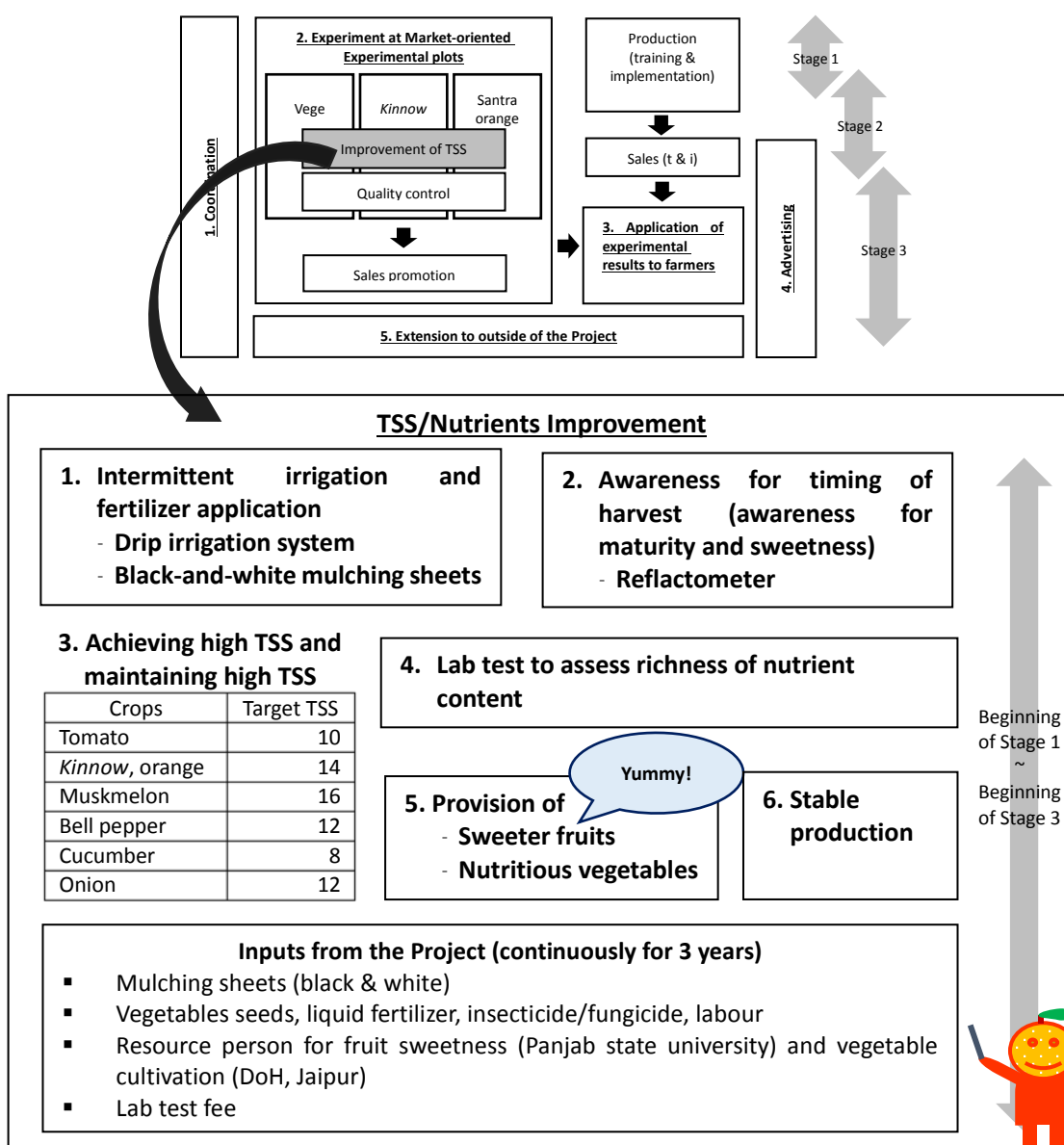
Figure 3: Timing of Activities (above) and Cropping Calendar for Target Crops of Market-oriented Experimental Plots (below)

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.



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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.

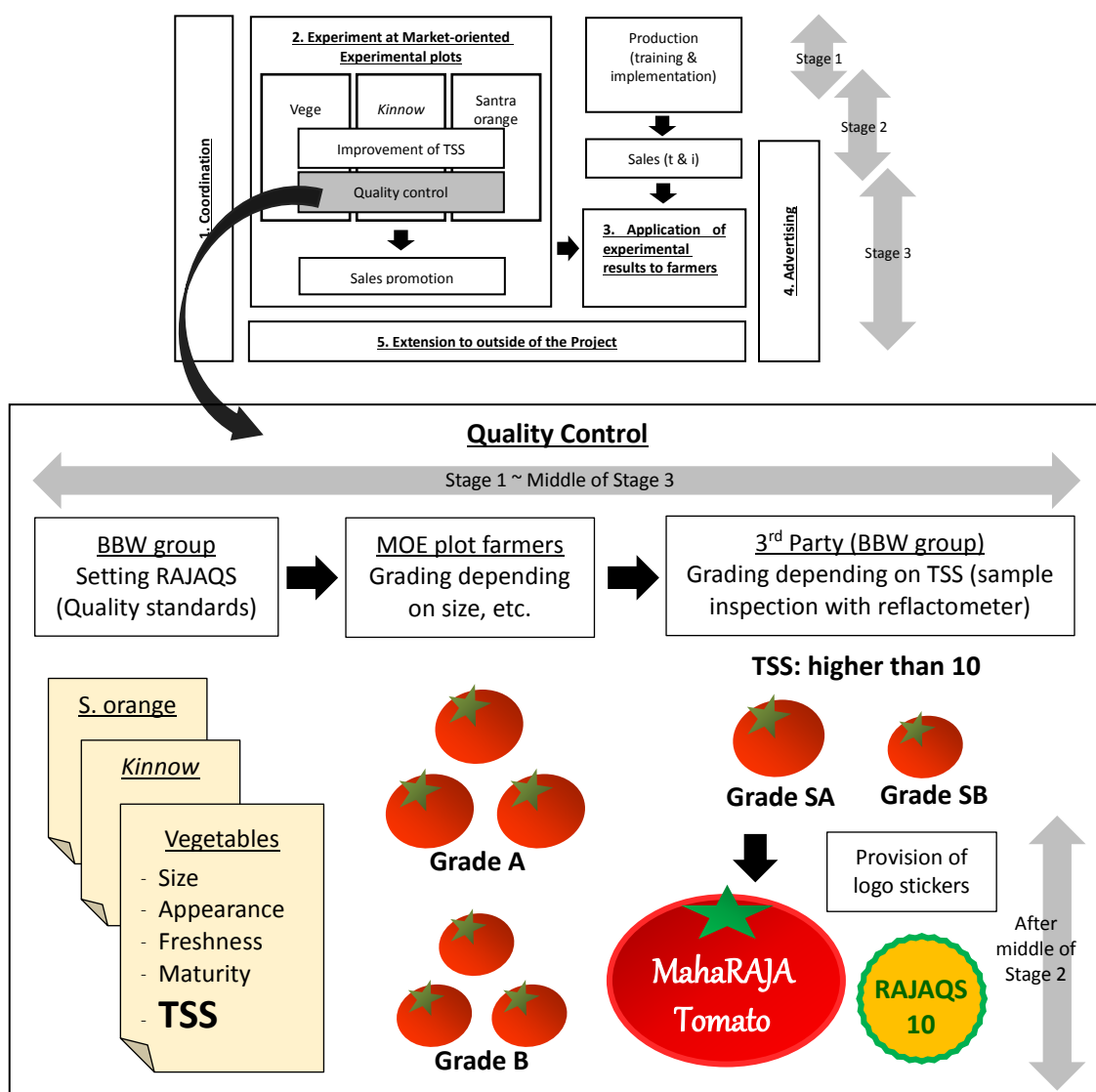
Application of limited water and fertilizer would allow increase in TSS and other nutrients in crops. Combined use of drip irrigation system and black-and-white mulching sheets could realize intermittent irrigation and fertilizer application. Timing of harvest is another point to be aware for maximizing 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.



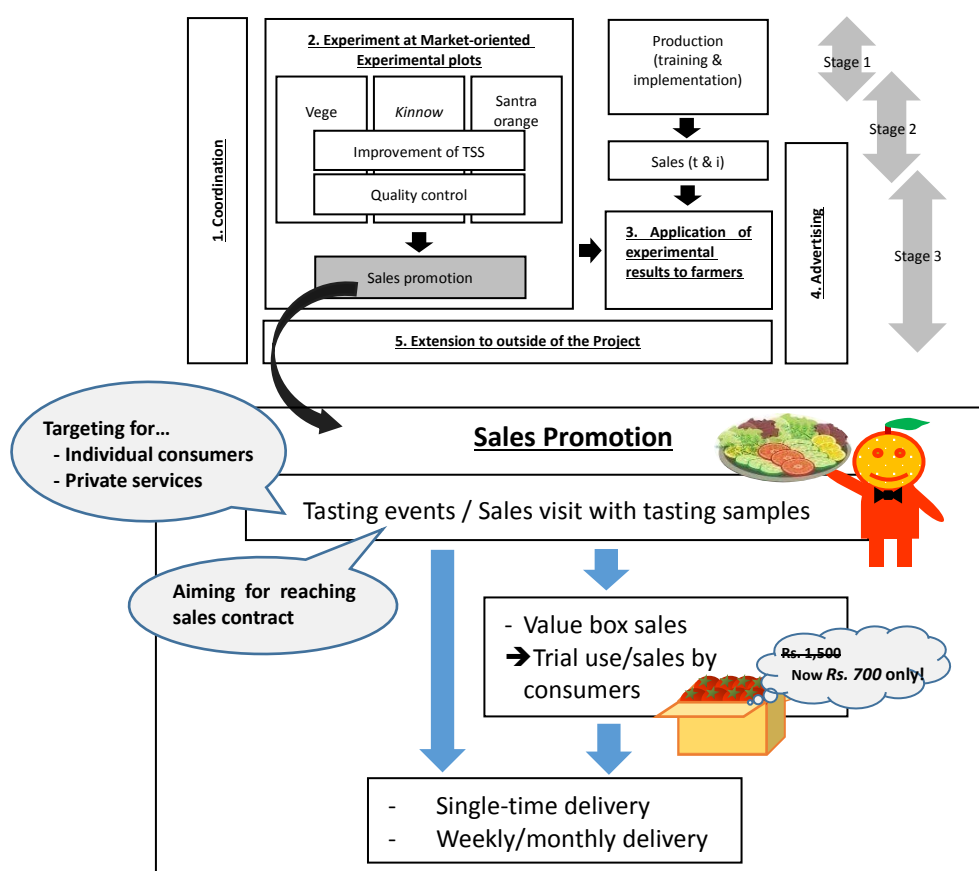
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Figure 5: Quality Control at Market-oriented Experimental Plots

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 <i>(0.5-1 hour during office lunch time)</i> 	<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 <i>(2-3 hours)</i>
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

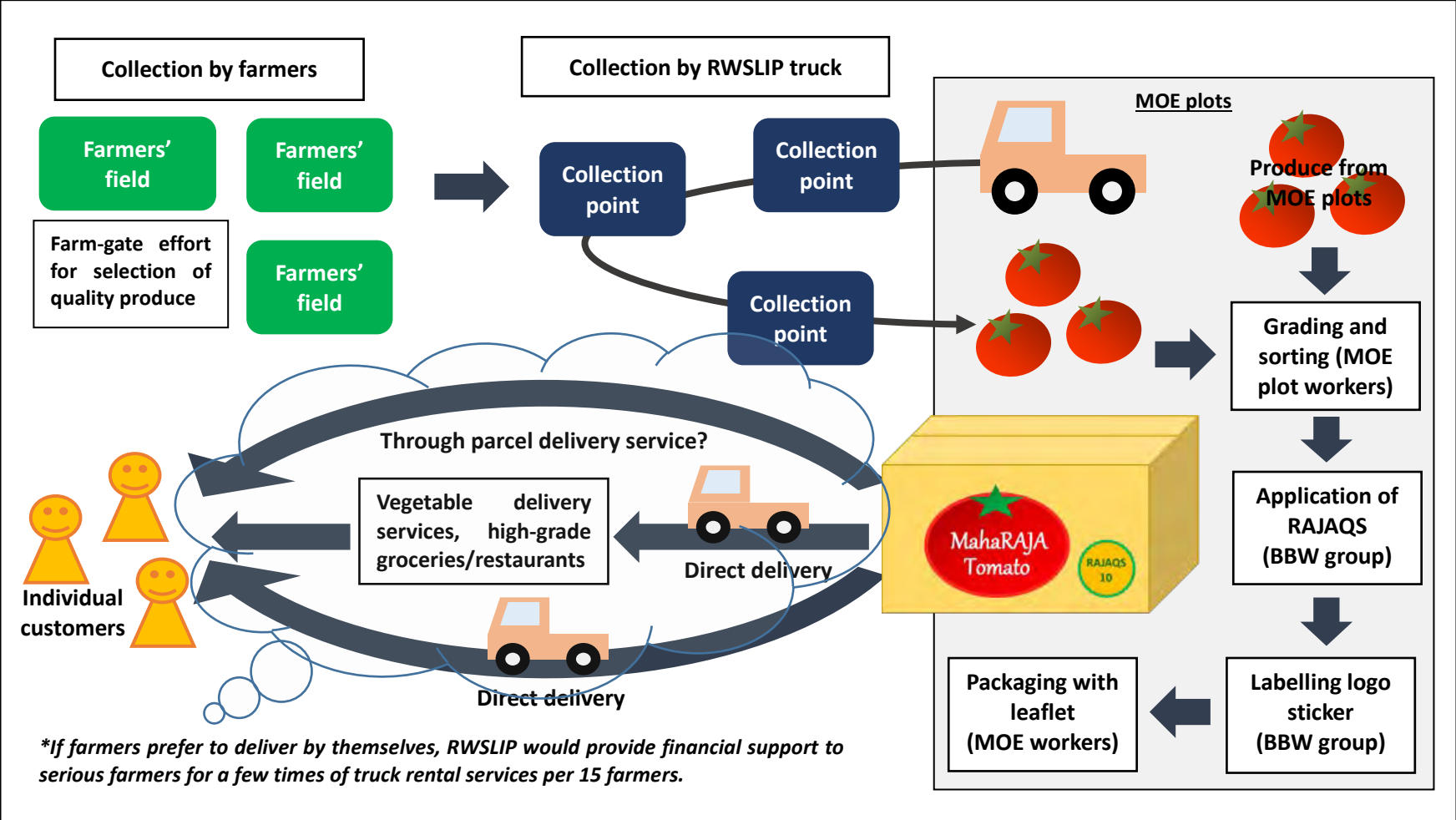
MOE plots	Vegetables	Kinnow	Santra Orange																																										
Target Site	- In and around MOE plots (Jaipur) - Other exotic vege sites	In and around MOE plots (Sri ganganagar, Hanumangarh)	In and around MOE plots (Jhalawar, Kota)																																										
Estimated 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, kinnow, 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="2">[Shaded]</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Stage 2</td> <td></td> <td colspan="3">[Shaded]</td> <td></td> </tr> <tr> <td>Stage 3</td> <td></td> <td></td> <td colspan="3">[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]
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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

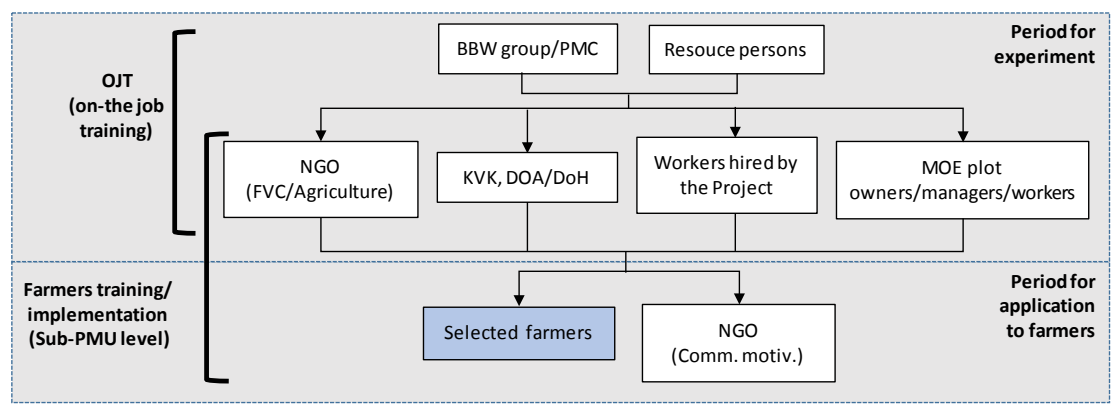
Table 5 summarizes contents of field training as well as implementation support for farmers

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

Prepared by JICA Survey Team

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

Prepared by JICA Survey Team

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/

Prepared by JICA Survey Team

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: ▪ 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: ▪ 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	-	-	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	-	-	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"> 1. Mentor (NGO) 2. Advance fee for high-TSS produces 3. Transportation (car rental) 4. Salary for Market development staff 	<ol style="list-style-type: none"> 1. NGO 2-4. 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"> 1. Mentor (NGO) 2. Packaging materials 3. Truck rental to collect and transport vegetables 4. Salary for Market development staff 	<ol style="list-style-type: none"> 1. NGO 2-4. 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. Mentor (NGO)	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> <hr/> <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 reopr	<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 RWLIP <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	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. stationery	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	PMU			
				3. NGO Team leader 4. Community Motivator 5. allowance/transportation of NGO staff 6. 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	
2.2.3. 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		
2.4.2. Fund Management Training (auditing) at District 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, District-wise <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.

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	
<p>2.4.4. 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>	<p>1. WW members (3 person per WUA)</p>	<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>	<p>PMU</p>			
				<p>12. .consultants</p> <p>13. allowance/transportation of consultant</p>	<p>.consultant</p>			
				<p>14. NGO Team leader</p> <p>15. Community Motivator</p> <p>16. allowance/transportation of NGO staff</p>	<p>NGO</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	
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) allowance/transportation of TSG-SP, Sub-PMU	PMU			Technical criteria are provided by agriculture consultant
				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

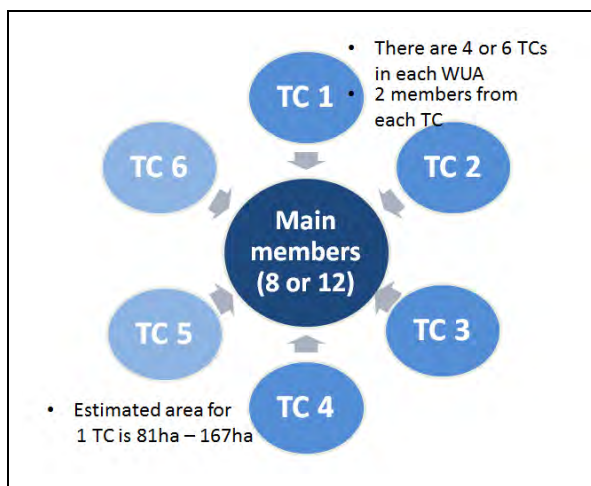
2. Formation of Women Wing

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.

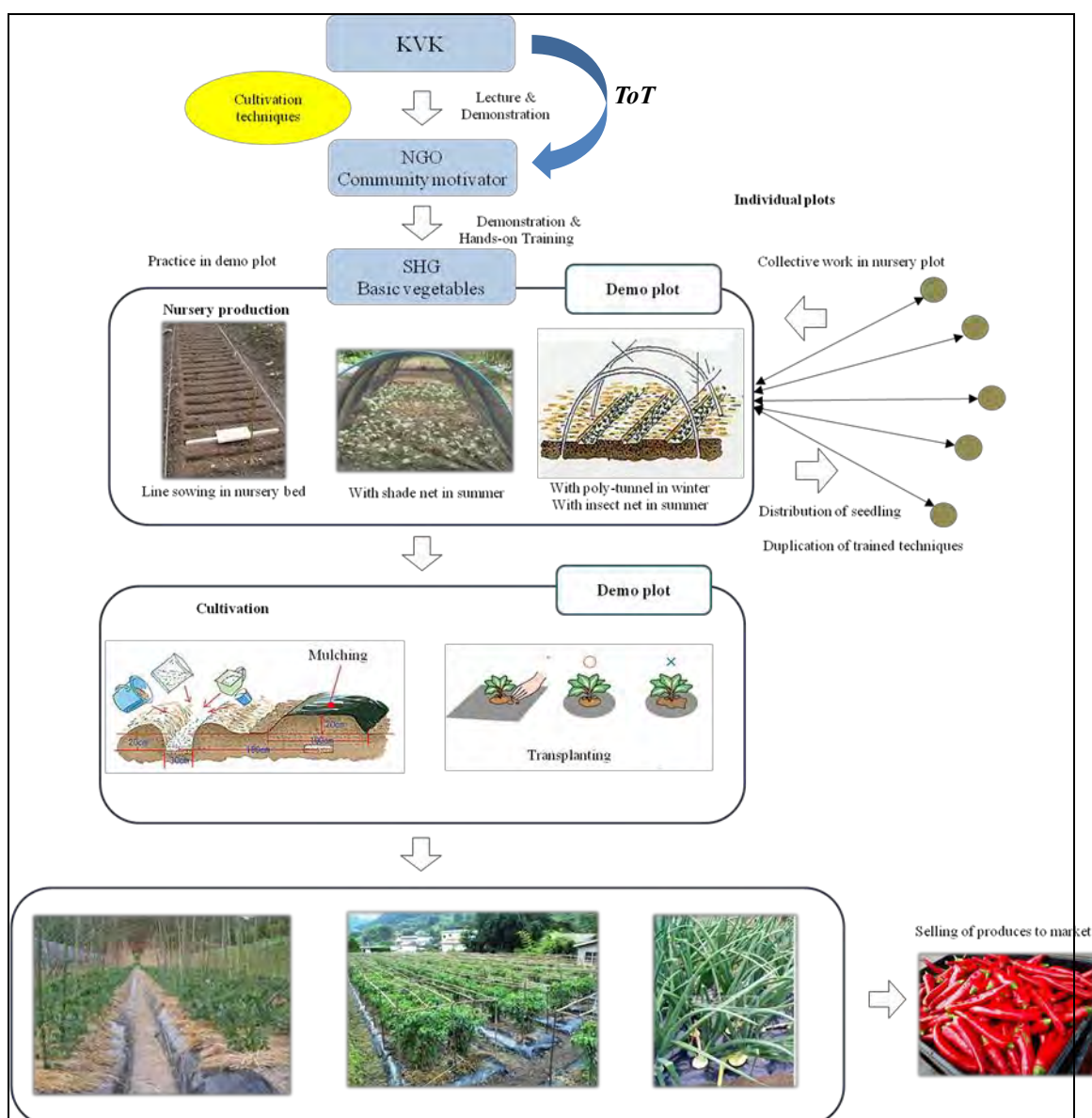
2-2 Support to Conduct Monthly Group Meeting

- 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

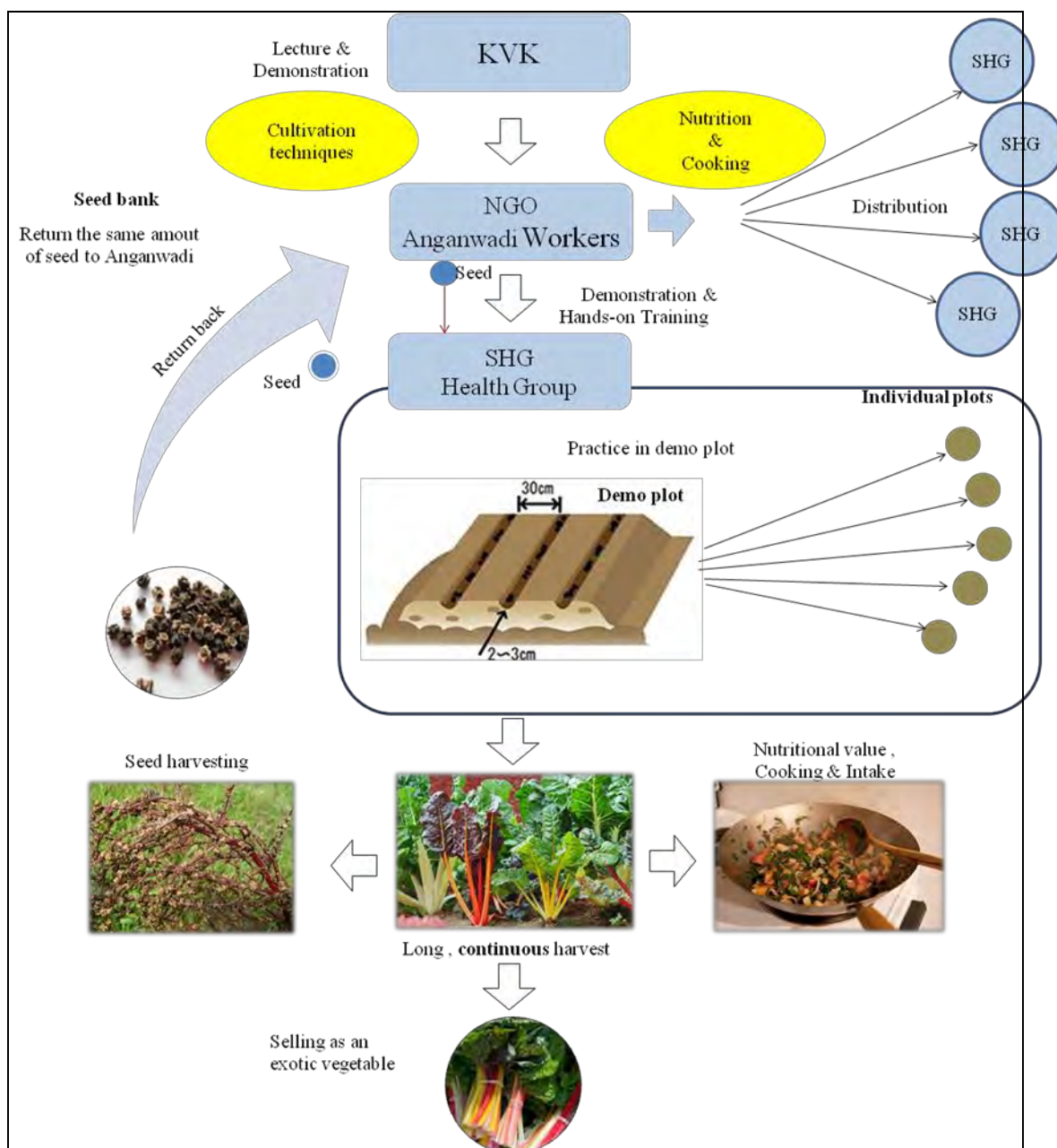
- When harvesting season comes, NGO Sector Expert and Community Motivator need to promote selling of produces. Bundling and packing techniques should be given.
- After selling, bookkeeping should be done by each member with Community Motivator's help.

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 6.2.2
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)

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)

Attachment 6.2.5
Draft Terms of Reference for Project
Monitoring and Evaluation Expert

Attachment 6.2.6
Gender Action Plan (GAP)

Attachment 6.3.1
Overall Project Management Activities on
RWSLIP

Attachment 6.6.1
CAMP Manual and Sample

Chapter 7
Attachment

Attachment 7.2.1
Total Project Cost

Attachment 7.2.2
Cost Estimate for Component 1:
Participatory Irrigation Rehabilitation
Works

Attachment 7.2.3
Cost Estimate for Component 2:
Fostering and Capacity Enhancement of
Water Users Organization

Attachment 7.2.4
Cost Estimate for Component 3:
Irrigated Agriculture Intensification and
Diversification

Attachment 7.2.5
Cost Estimate 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
Agriculture Produces

Attachment 7.2.7
Cost Estimate for Component 5:
Gender Mainstreaming in Agriculture and
Water Sector

Attachment 7.2.8
Cost Estimate for Component 6:
Project Management and Monitoring

Attachment 7.2.9
Cost Breakdown for the
Consulting Services

Chapter 8
Attachment

Attachment 8.11.1
Program and Material of
Japanese Technology Seminar

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.

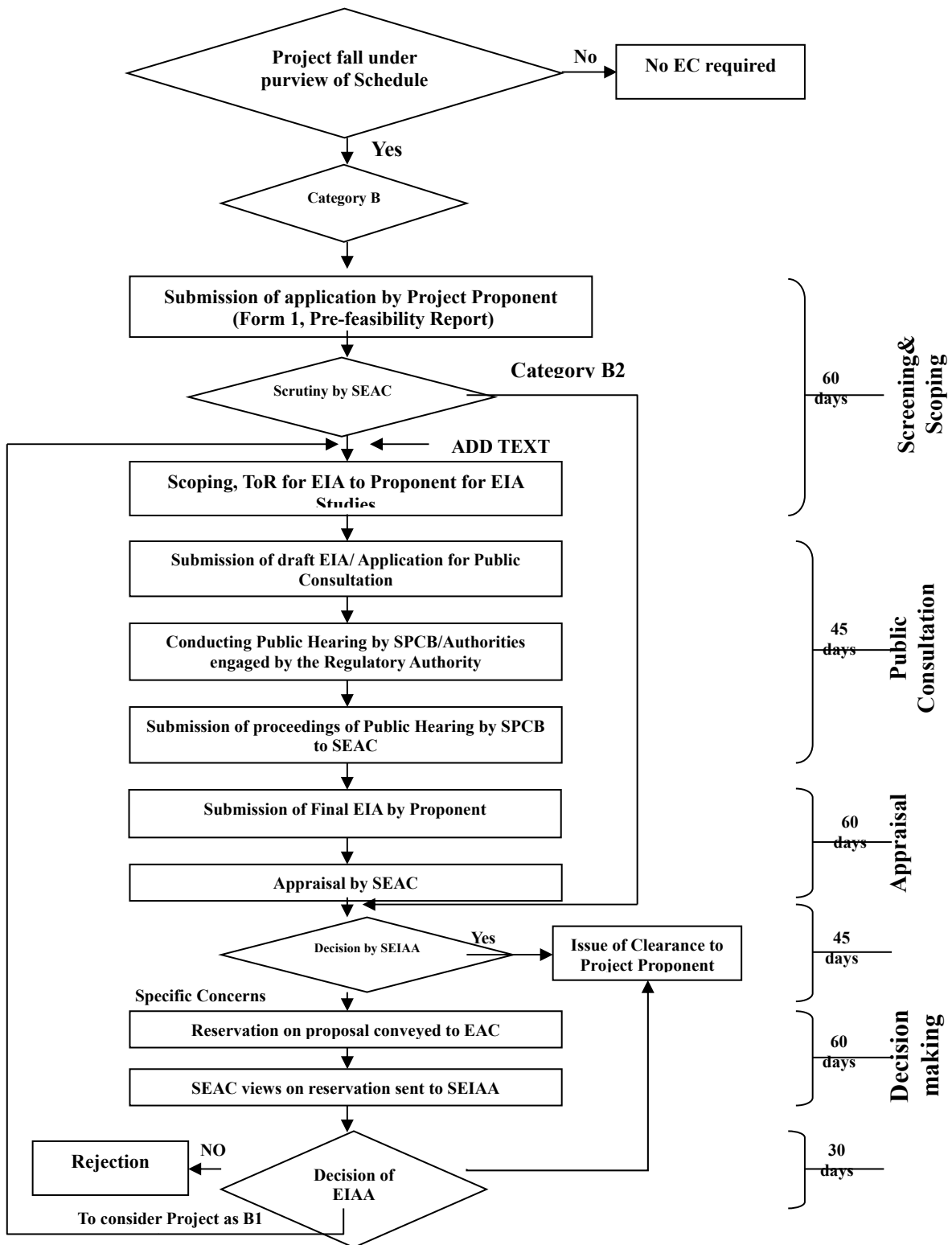


Fig. 9.2 Environment Clearance Process for Category B Projects

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 Sirohi 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					
SO2	µg/m ³					
NO2	µg/m ³					
NH3	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