17.3.3 Periyakulama Medium Scheme

(1) General

Periyakulama medium scheme is located in the midpoint of Anuradhapura and Dambulla. Total number of farm households is 210 and the irrigated paddy area is 91 ha. There is one Farmers' Organisation organised in the scheme and the present situation is shown in Table 15.1.1.

The PDM of Periyakulama scheme is shown on page 17-35. The development plan is formulated as "Economical status of the rural community is improved" for the Project purpose and the target group is farmer/community. The detail contents are given in the table of the Plan of Operation of page 17-36 and the Project layout map on page 17-38.

(2) Strengthening Farmers' Organisation

The concrete plans for the strengthening FO programmes are as follows.

1) Awareness Programme and Educational/Training Programmes

Awareness programme

Awareness programme is applied for the both "Farmers" and "Official institutions" as mentioned before. Its contents and implementation procedure are as detailed in Section 9.2. The multifunctional FO is to be established through this programme with the self-motivation of the entire community.

Education/ training programme

Following education and training programmes for fostering leaders of the multifunctional FO are to be conducted.

Education/Training Programmes for FO Leader - Periyakulama Medium Scheme

| Training Subject | Contents | Training Method |
|-----------------------|---------------------------------------|------------------------------|
| 1) Draft preparation | Draft preparation of the Articles of | Lecture in Tirappane |
| of the Articles of | Organisation and knowledge of the | Agrarian Service Centre |
| Organisation | systems and the procedures required | (ASC/DAS) and practical |
| amendment | on the process. | training by Farmer Anima- |
| 2) Practical training | Planning, participatory management, | tor. |
| the basic operation | practical operation & management of | |
| and management | FO, practical financial management, | |
| of the organisation | financial resource management, role | |
| | & systems of Official concerned, etc. | |
| 3) Training on the | Practical; training of the opera- | Lecture by ASC/DAS,IMD、 |
| income generation | tion/management of Rural Credit | private bank (PMU arranges |
| activity | (Group-loan, Revolving-loan) and | with banks) & practical |
| | co-operative purchasing/selling. | training by Farmer Animator. |
| 4) Information | Establishing information networks | Holding workshops by |
| network forma- | with external organisations for col- | External organisations |
| tion/Awareness | lecting and sharing information in | and14 FOs for sharing |
| training | and around the community. | information. |

These programmes are to be conducted separately from the Awareness programme within the regular works of Tirappane ASC. Education and train-

ing facilities of Tirappane ASC are to be improved and strengthened (refer Chapter 17.4).

2) Establishment of Multifunctional Farmers' Organisation

The present FOs are to be reorganised to be multifunctional. The reorganisation is determined in the general meeting of the entire community, which conducted the awareness programme mentioned previously. The organisation is to provide various services to farmer/community and to be fostered as an autonomous organ representing the community. Major change on the reorganisation is to set subcommittee under the executive committee and to act on irrigation, agriculture, business of FO, and income generation/social services.

Setting up Farmers' Subcommittee - Periyakulama Medium Scheme

| Subcommittees | Purposes and Activities |
|--|---|
| 1) Irrigation | i) Water management, ii) O&M of facilities, iii) Safety operation of irrigation facility, iv) Estimation & collection of Irrigation Service Fee (ISF), |
| | and v) Survey on lease/tenant of farmland |
| 2) Agriculture | i) Collaboration with official extension works, ii) Holding technical extension seminar, iii) income generation activity (Home garden and livestock development), iv) Operation of group works as pest control, v) Reforestation in the catchment area (Fruits trees), and vi) Control elephant damage (strengthening control by FO) |
| 3) Businesses of FO | i) Establishment and operation of co-operation purchasing/selling, Pola/collection point, ii) Operation and management of the rural credit service (group loan, revolving loan), iii) Business of FO as farm machin- ery rental service, inland fishery, agro-processing, etc. |
| 4) Income generation/ Social Serv- ices | i) Income generation activities such as vocational training, small-scale enterprise/business, self-employment, ornamental fish culture and collection of employment information, ii) Promotion of mutual aid credit system, iii) Financial support for income generation, and iv) Promotion of anti alcohol addict campaign, social welfare, health & sanitary improvement. |

An audit section is proposed to be set in order to maintain transparency of FO activity and employing volunteer for close communication with FO members. The audit section is to check periodically and report to the general meeting. The volunteers are to work on communication among the executive committee, the subcommittee and the members.

Problem on the possession of irrigation water by the old paddy owners is existing in Periyakulama scheme. For the solution to this, improvement of FO's status in the community and appropriate management of the irrigation water by FO are needed.

3) Income Generation/Social Services through Farmers' Organisations

The subcommittees of "Agriculture" and "Income Generation/Social Services are carried out income generation activities for farmers and community. The contents of activity are as mentioned in the previous section 2).

The income generation/Social services are carried out by the self-motivation of FOs and are targeting poverty groups of the community. Necessary

information is to be provided through Tirappane ASC and Farmer Animators. The training facilities of NYSC are to be utilised for vocational training, so that no extra facility is constructed by the Project.

4) Construction of Farmer Centre

There is a farmer centre of FO constructed by DOA in Periyakulama scheme. Therefore, a new farmer centre is not to be constructed.

(3) Distribution of Proper Irrigation Water

1) Rehabilitation and Improvement Plan of Irrigation Facilities

The rehabilitation and improvement works in Periyakulama medium scheme are as follows:

Rehabilitation and Improvement Plan - Periyakulama Medium Scheme

| Category | Item | Quantity | Description of works |
|----------------|------------|----------|--------------------------------------|
| | Bund | L.S. | Slope protection, Gravelling |
| Tank | Sluice | 3 Nos. | Replacement of sluices |
| Tank | Spillway | L.S. | Rehabilitation of downstream channel |
| | Others | L.S. | |
| | Earthworks | 900 m | Earth filling |
| Main canal | Lining | 330 m | Masonry lining |
| Ivialii Callai | Structures | 24 Nos. | Turnout, Regulator, Culvert |
| | O&M Road | 330 m | Earth filling, Gravelling |
| D-canals | Earthworks | 3,500 m | Earth filling |
| D-canais | Structures | 47 Nos. | Turnout, Culvert |
| F-canals | Earthworks | 2,500 m | Earth filling |
| | Structures | 22 Nos. | Turnout, Regulator, Culvert |
| Other | Drain | 600 m | Excavation |

The deteriorated three sluice structures in the tank are replaced. Off-takes with gate are provided for proper water distribution on the main canal. Other works include masonry lining in the canal and O&M road along the main canal.

The works for tanks and main canals are to be carried out by constructors and the works for D-canals and F-canals are to be conducted by contractors or farmers. The training courses for rehabilitation and improvement works are programmed in order to reflect farmers' intention to the works properly and to smoothly carry out the works by the farmers. The following training course for the government staff and the farmers is to be conducted.

Training Programme for Rehabilitation and Improvement Works
- Periyakulama Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|------------|---------|--------------|----------|---|
| Training | First | 1day, pre- | RATPA | Participatory planning |
| for the | | construction | | Communication with farmers |
| govern- | Second | 1day, in the | ID | Skill of technology transfer to farmers |
| ment | | construction | | |
| staff | Third | 1day, post- | ID | Hand-over of O&M responsibility to |
| | | construction | | farmers, follow-up programme |

(continued)

| Training | First | 2 days, pre- | RATPA | Participatory planning |
|----------|--------|--------------|-------|--|
| for | | construction | | Field investigation, design and cost |
| farmers | | | | estimate |
| | Second | 2 days, pre- | ID | Contract for rehabilitation works, farm- |
| | | construction | | ers' contribution |
| | Third | 1day, in the | ID | Quality control for earthworks and con- |
| | | construction | | crete, preparation of document for reha- |
| | | | | bilitation, field inspection |
| | Fourth | 1day, post- | ID | Follow-up programme |
| | | construction | | |

RATPA: Research and Advisory Team for Participatory Approach

Education/training for officers is one course for TA and WS of Anuradhapura ID. One course is conducted for farmers, the office bearers of FOs and the subcommittee members.

2) Training for Water Management

The water management training for the government staff and farmers are proposed as follows:

Training Programme for Water Management - Periyakulama Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|-----------------------|---------|--------------------------------|----------|---|
| Training for the | First | 1day, pre- construction | RATPA | Awareness programme Communication with farmers |
| govern- ment staff | Second | 1.5days, post- construction | ID | Estimation of water requirement, preparation of water distribution programme, skill for gate operation of tank and off-takes, flow measurement and flow monitoring, skill of technology transfer to farmers |
| | Third | 1day | ID | Follow-up programme |
| Training for farmers | First | 1day, pre- construction | RATPA | Awareness programme, communication with government staff, communication among farmers, communication with other FOs |
| | Second | 1.5days, post- construction | ID | Preparation of water distribution programme, skill for gate operation of tank and off-takes |
| | Third | 1day | ID | Follow-up programme |

RATA: Research and Advisory Team for Participatory Approach

Education/training for officers is one course for TA and WS of Anuradhapura ID. One course is to be conducted and farmers, the office bearers of FOs and the subcommittee members are to be participants. The gate operation method for newly constructed canal structures is required to train enough. After completion of the rehabilitation works, all facility management is to be transferred to FO. The major objectives of training for officers are for improving capability of technical guidance to farmers.

3) Training for O&M of Irrigation Facilities

The training for O&M of irrigation facilities for the government staff and farmers are proposed as follows:

Training Programme for O&M – Periyakulama Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|------------|---------|----------------|----------|---|
| Training | First | 1day, pre- | RATPA | Awareness programme |
| for the | | construction | | |
| government | Second | 1.5days, post- | ID | Preparation of O&M plan, patrol manual, |
| staff | | construction | | Sramadana practice manual, O&M fee |
| | | | | collection method, skill of technology |
| | | | | transfer to farmers |
| | Third | 1day | ID | Follow-up programme |
| Training | First | 1day, pre- | RATPA | Awareness programme |
| for | | construction | | |
| farmers | Second | 1.5days, post- | ID | Preparation of O&M plan, patrol manual, |
| | | construction | | Sramadana practice manual, O&M fee |
| | | | | collection method |
| | Third | 1 day | ID | Follow-up programme |

Education/training for officers is one course for TA and WS of Anurad-hapura ID. One course is to be conducted and farmers, the office bearers of Fos, and the subcommittee members are to be participants.

(4) Improvement of Agriculture Activities

1) Promotion of OFC Cultivation

Water resource potential of Periyakulama scheme is not high and its potential for increasing cultivation area after the project implementation is also low (refer Section 9.4.3), therefore OFC promotion cropping pattern is proposed. The proposed cultivation area and production of respective crop are as follows, and Figure 15.3.1 shows the proposed cropping.

Cropping Area and Production With & Without Project - Periyakulama Scheme

| | , | Without Pro | oject | | With Pro | ject | Imaraaga |
|---------------|---------|-------------|------------|------|----------|------------|----------|
| | Area | Yield | Produc- | Area | Yield | Produc- | Increase |
| | (ha) | (ton/ha) | tion (ton) | (ha) | (ton/ha) | tion (ton) | (ton) |
| Paddy - Maha | ı 91 | 4.15 | 378 | 80 | 5.0 | 400 | 22 |
| - Yala | 19 | 3.56 | 66 | 40 | 5.0 | 200 | 134 |
| OFC | | | | | | | |
| Maha - Pulses | - | - | - | 3 | 1.5 | 5 | 5 |
| - Chili | - | - | - | 3 | 1.5 | 5 | 5 |
| - Red o | nion - | - | - | 2 | 15.0 | 30 | 30 |
| - Veget | ables - | - | - | 1 | 10.0 | 10 | 10 |
| Yala - Sesam | ne 1 | 0.37 | * | 2 | 0.9 | 2 | 2 |
| - Pulses | - | - | - | 3 | 1.5 | 5 | 5 |
| - Chili | 1 | 0.39 | * | 3 | 1.5 | 5 | 5 |
| - B'oni | on - | - | - | 2 | 10.0 | 20 | 20 |
| - Vegeta | ables 2 | 2.68 | 5 | 1 | 10.0 | 10 | 5 |

^{*:} Negligible amount

2) Strengthening Agricultural Extension Services

The proposed technical improvement required for promoting OFC cultivation in Periyakulama is as follows.

| a) Group cultivation of OFC. | d) Improvement of cultivation technique. |
|--|--|
| b) Introduction of appropriate cultivation | e) Procurement of OFC seeds. |
| technique. | f) Improvement of OFC marketing. |
| c) Selection of suitable crops | |

PDOA of the North Central Province is to conduct the following extension

activities in order to achieve promotion of OFC cultivation. The group cultivation in OFC is to be educated through FOs and the improvement of OFC marketing system is to be described in Section 3).

Agriculture Extension Activity - Periyakulama Medium Scheme

| Programme | Objectives | Method & Required Materials |
|--|--|--|
| Field Trial / Demonstration Programme Adaptive trials Small-scale demonstration Cropping pattern demonstration Large-scale demonstration Productivity increase programme IPM programme | To develop technology for improve productivity To demonstrate recommended practices of paddy and OFC for crop diversification and increase productivity. | Conducted by the extension staff of PDOA of the NC province. FOs take close contact with PDOA. Use farmers' field for demonstration Farmer training programme including quality seed campaign, field tour Seed production programme |
| 2) Farmer Training Programme - Induction farmer training - Induction farmer guidance - Farmer training - Workshop, quality seed campaign, study tour DOA is carrying on seed produc scheme, therefore the Project is in | - To disseminate crop diversification and cultivation technique directly to farmers. | include provision of register seed and technical guidance. Production expense is born by farmers. • Required material cost for extension activities are born by the Project. Details are shown in 1/12 to 7/12 of Table R.3.2 of Appendix-R. |

3) Improvement of Marketing of Agricultural Outputs and Inputs Materials Improvement of inputs materials

Co-operative purchasing of input materials is proposed by FOs. This system is to carry out by linking to a group loan mentioned in the improvement of rural credit of the item 4). Awareness and education to Tirappane ASC is to attempt for introducing the system.

Improvement of outputs

Following improvement of marketing programme is proposed. These activities are to be carried out by FOs (FO business subcommittee).

Improvement Programme of Marketing Agricultural Products
- Periyakulama Medium Scheme

| Programme | Objectives | Method & Required Materials |
|---|--|---|
| 1) Setting Pola | To activate marketing of farm products by open Polas. To sell small quantity products from home gardens. | Polas are managed by FOs. Proposed that Pola is to set without any construction and no fee for Pola is to be charged. Guidance for setting Pola is to be carried out to FOs by Tirappane ASC/DAS and suitable location and day are to be decided by contact with merchants. Proposed location of Polas are shown in the Project layout map based on the discussion with FO leaders. |
| 2) Setting Collecting Point of Farm Products | - To set contact points of producers with merchants on outputs marketing. | No materials are required for setting the system. Selections of merchants and locations are determined by farmers and Proceeded by FOs. |
| 3) Establishing Co- operative Shipping System | - To sell products regularly and de- velop new markets. | ASC/DAS is provide guidance to both merchants and FOs on collecting points and co-operative selling. |

(continued)

| 4) Establishing of | - To collect informa- | Regular purchasing of KARTI publication. |
|--------------------|-----------------------|--|
| Market Informa- | tion on market | PMU will provide information on purchas- |
| tion Collection | prices. | ing. |
| 5) Improving | - To improve quality | No materials are required. |
| Quality | of products. | Quality standard of products is not estab- |
| | | lished and it is judged by merchants. |
| | | FOs have to collect information of quality |
| | | and disseminate to farmers. |
| | | ■ Tirappane ASC/DAS is to provide guid- |
| | | ance on information collection. |

4) Improvement of Rural Credit

For the improvement of rural credits, introduction of the following loans is proposed.

Improvement of Rural Credit - Periyakulama Medium Scheme

| Programme | Objectives | Method & Required Materials |
|--|---|--|
| 1) Introduction of Group Loan (culti- vation loan) | - For purchasing inputs materials Linkage with co-operative purchasing system. | No required materials. Mainly loan by private banks. It is considered to be possible to introduce for group loan by private banks, because this loan is practised at present. PMU is to request to banks on introduction. The system management/operation of farmer sides is carried out by FOs(subcommittee) Tirappane ASC/DAS is to educate FOs on the introduction and training FO leaders on the operation works. |
| 2) Introduction of Revolving Loan (medium term loan) | For purchasing farm machinery and financing small-scale enterprise. | No required materials. Periyakulama FO is operating at present. The Project is to strengthen the existing system. Principally the fund is to be prepared by FOs. If its capital is not enough, FOs obtain a loan from bank, and PMU supports FOs. Tirappane ASC/DAS is to provide training for lending works. |
| 3) Introduction of Mutual Aid Credit system | For emergency need on living as sickness, accident or financing of self-employment. | No required materials. Loan from the Women's Bank. Mainly operating for women groups. FOs (Income Generation/ Social Services Subcommittee) is deal with education but not on operation. Tirappane ASC/DAS's education to FOs. |

5) Promotion of reforestation in the catchment area

Planting of fruit trees such as mango and jackfruit is to be promoted for the environment conservation in the upper part of tank of the catchment area. The agriculture subcommittee of the FO is to carry out these fruits cultivation and PDOA is to provide technical guidance and seedlings.

6) Establishment of watch and protection system of wild elephant

It is proposed to set several observation points in the elephant infested area and to organise a watching and protecting system among the community members. The agriculture subcommittee of the FO is to operate and manage the system and the FO is to be equipped with thunder-flashes and crackers.

Project Design Matrix - Periyakulama Medium Irrigation Scheme

Name of Project
Project Area
Pr

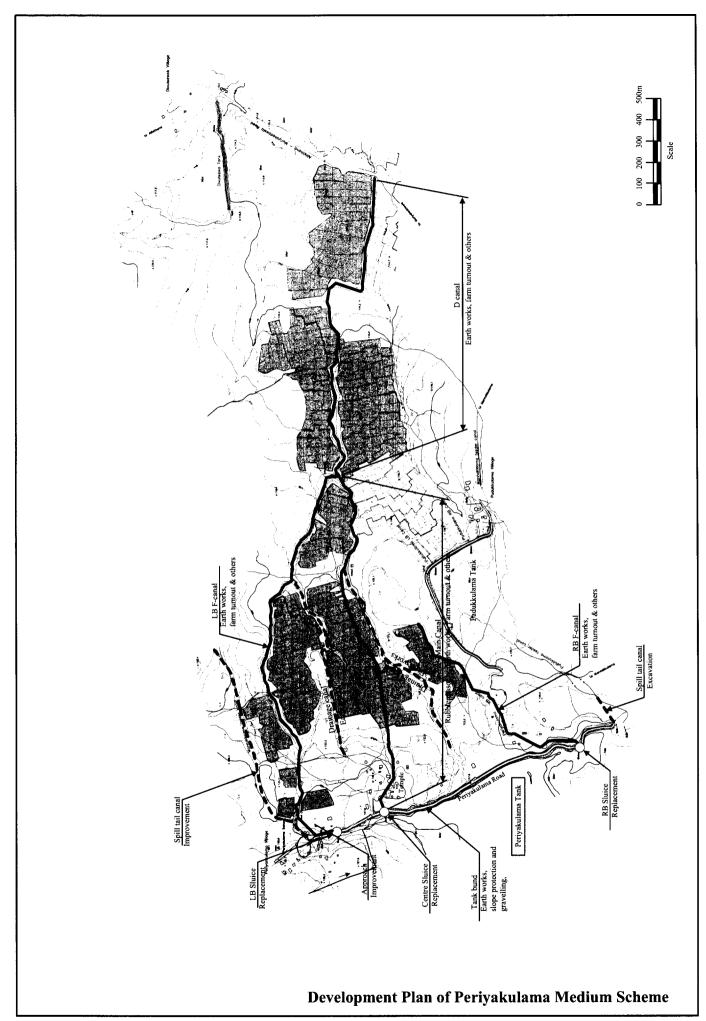
| Executing Agency : Ministry of Irrigation and Power (MIP) | Target Group : Farmers / all villagers in the Periyakulama Scheme | | | |
|---|---|---|---|--|
| Narrative Summary | Objectively Verifiable Indicate | ors Means of Verification | Important Assumptions | |
| Overall Goal | | | | |
| 1.1 Achieving sustainable development of regional agriculture | 1.1 Development activities are planned and implemen | 9 | Agricultural policy of the Government | |
| 1.2 Improving agricultural productivity of the rural | independently by FO and farmers themselves. | office (PMU) | not hinder implementation of the | |
| community | 1.2 Agriculture is economically feasible. | 1.2 Monitoring reports of PMU | project. | |
| Project Purpose | | | Agricultural products do not have to | |
| 2.1 Economic status of farmer community is brought up. | 2.1 Total gross income of farmers increase progressive | ely by the 2.1 Monitoring reports of PMU | face unreasonable competition from | |
| | end of the project. | | imported products. | |
| Outputs | 3.1.1 FO provides various services including income g | | There is no extreme natural disaster | |
| 3.1 FO having multi functions relating to irrigation, | etc. from the 3rd year after commencement of the pr | ū . | (drought, heavy rain, etc.). | |
| agriculture, small enterprises, income generations, social | 3.1.2 Committee and sub-committee meetings are held n | * * | Government enforces existing rules | |
| services is established and activated. | the 3rd year after commencement of the project. | sub-committee meetings | and regulations to protect environment. | |
| 3.2 Irrigation water is properly supplied in accordance with | 3.2 Farmers are able to receive water in accordance wi | ith a schedule 3.2 Monitoring reports of PMU | Other sectors have no drastic and | |
| a schedule. | by the end of the project. | | sudden change in the economic | |
| 3.2.1 Irrigation facilities are rehabilitated and improved. | 3.2.1 Facilities necessary for proper water supply are re | = = = | activities. | |
| | improved by the 3rd year after the commencement | | Social conditions in the community | |
| 3.2.2 Proper water management is done by FO. | 3.2.2 Discharge is observed by FO after completion of o | | have no drastic change. | |
| 3.2.3 Irrigation facilities are maintained. | 3.2.3 All facilities are maintained by FO after completion | ÿ . | The project has no adverse effect from | |
| | construction works. | minutes of FO's general meeting | the other development projects, even if | |
| 3.3 Agricultural activities are improved. | 3.3 Agricultural productivity of farmers is improved fr | | they overlapped. | |
| | year after completion of the construction works. | and records of ASC (AI) | | |
| 3.3.1 OFC cultivation is expanded. | 3.3.1 Extent of OFC occupies about 20% of paddy area | in Yala by 3.3.1 Animator's field survey reports | | |
| | the end of the project. | | | |
| 3.3.2 Agricultural extension services are strengthened. | 3.3.2 Yields of crops reach the level of "projected yields | s" by the 3.3.2 Animator's field survey reports | | |
| | 3rd year after completion of construction works. | | | |
| 3.3.3 Marketing of farm inputs and outputs is | 3.3.3 (1) Group purchasing of farm inputs is implemented | | | |
| improved. | by the 3rd year after commencement of the proje | • | | |
| | 3.3.3 (2) Products are sold directly by farmers to market | ŭ ŭ | | |
| | the 3rd year after commencement of the project. | 3.3.3 (2) Monitoring reports of PMU | | |
| 3.3.4 Access to credit services is improved. | 3.3.4 Group loan, revolving loan and multi-aid credit sy | ystems are 3.3.4 Reports of Banks, monitoring | | |
| | established by the 3rd year after commencement of | f the project. reports of PMU | | |
| 3.3.5 Deforestation in the catchment area is reduced. | 3.3.5 FO/farmers start planting of tree crops in the catch | ment area 3.3.5 Animator's field survey reports | | |
| | from the 3rd year after commencement of the project | ct. | | |
| 3.3.6 Damage by elephant is decreased. | 3.3.6 Surveillance system of wild elephant is established | ed in FO by 3.3.6 Animators' field survey reports | | |
| | 2nd year after commencement of the project. | | | |
| <u>Activities</u> | <u>Inputs</u> | | Trained Officers stay with the project. | |
| 4.1 Strengthening FO. | Foreign Donor | Sri Lankan Side | Local government and front line officers | |
| 4.1.1 Implement awareness and training programmes. | Mobilization | (1) Sri Lankan Government | positively support the project. | |
| 4.1.2 Reorganize FOs to have multi function. | Awareness and training costs | Manpower | No action will be taken by government | |
| 4.1.3 Implement income generation and social | Rehabilitation and improvement cost | - Local engineers/experts | to destabilize local market. | |
| services through FOs. | Equipment - Vehicles | - Administrative officers | <u>Pre-conditions</u> | |
| 4.1.4 Construct Farmer Centre. | - O&M equipment | - Supporting staff | The Sri Lankan Government raises all | |
| 4.2 Supplying irrigation water in accordance with schedule. | Facilities - Agri. extension | Facilities of PMU | project funds including foreign cur- | |
| 4.2.1 Rehabilitate and improve irrigation facilities. | - Facilities for | Recurrent cost for project | rency portion, local currency portion | |
| 4.2.2 Improve water management. | agri. extension | implementation | and recurrent cost of PMU. | |
| 4.2.3 Strengthen O&M of irrigation facilities. | - Farmer centers | (2) Farmers | MIP and agencies concerned establishes | |
| 4.3 Improving agricultural activities. | Monitoring cost | 10% of rehabilitation and improve- | organization to implement project. | |
| 4.3.1 Promote OFC cultivation. | Cost for engineering services | ment cost of all irrigation facilities | To operate the project, necessary offi- | |
| 4.3.2 Strengthen agricultural extension services. | Physical contingency | (3) NGO for implementing awareness and | cers and physical facilities are provided | |
| 4.3.3 Improve marketing of farm inputs and outputs. | Price contingency | training programmes | by MIP and agencies concerned. | |
| 4.3.4 Improve access to credit services. | | | | |
| 4.3.5 Promote reforestation in the catchment area. | | Total Project Cost | | |
| 4.3.6 Establish surveillance system of wild elephant in FO. | | | | |

Plan of Operation - Periyakulama Medium Irrigation Scheme (1/2)

| A 20 40 | E (ID) | Schedule (Y | ear) | Agencies | T | D 1 |
|---|--|-------------------------------------|-------------|---|--|--|
| Activities | Expected Results | 1st2nd3rd4th5th6 | 5th 7th 8th | in Charge | Inputs | Remarks |
| 1. Mobilization of PMU | | 5 | | | | |
| 2. Awareness programme: Officers of agencies of | concerned | <u> </u> | | | | |
| 4.1 Strengthening farmers' organisation. 4.1.1 Implement awareness and training programme | - Level-up farmers' and community | | | | | - Providing training programme for |
| 1) Awareness programme | people's knowledge for FO. | \perp \mid \mid \mid \mid | | - PMU (KARTI) | - Trainers, moderators | participatory planning |
| 2) Training to FO's leaders for | - Development component is imple- | ▜▃▎▎▎▏ | | - ASC/DAS, IMD | - DO/ASC, Farmer Animator | - A Community Coordinating Committee |
| operation and management of FO | mented independently by FO/farmers | . 🕇 | | | - Organizational expert (IML | (CCC) is established in each community. |
| 4.1.2 Reorganize FO to have multi function. | - FO is strengthened by rising in | | | | | - Re-organization is decided by the |
| 1) Establishing organization of multi-functio | | ■ | | · | DO/ASC, Farmer Animator | community's general meeting. |
| 2) Guidance for preparing articles & by-laws | various services to the community. | ■ | | - ASC/DAS, IMD | ∫ Organizational expert (IMD) | Providing necessary guidance and |
| for organization of multi-function 4.1.3 Implement income generation and social | - Increasing farmers' income | | | | | information for re-organization |
| services through FO. | - mereasing farmers meome | | | | | |
| Home garden development | | | | - PDOA (NCP) | - Extension officers | - Income generating activities are implement |
| 2) Livestock development | | | | - PDAPH | - Extension officers | independently by FO. |
| 3) Inland fisheries development | | | | - NAQDA | - Extension officers | - FO establishes a "Sub-committee for Incom |
| 4) Vocational training | | | | - NAITA, NYSC | - Instructor | Generation and Social Services" for dealing |
| 5) Employment information services | | | | - NYSC | - Instructor | income generating activities. |
| 6) Small enterprises and business7) Providing social services | | | | SEDD/MYASRIASC/DAS | InstructorDO/ASC, Farmer Animator | |
| 8) Credit services for income generation | | | | - ASC/DAS - ASC/DAS | - DO/ASC, Farmer Animator | |
| 4.1.4 Construct Farmer Centres. | - Keep efficient management of FO ar | d 🔚 | | - ASC/DAS, IMD | - Farmer centre x 1no. | - Multi-purpose center with office room for |
| | close communication between FO ar | d 🗍 | | | | FO & Animator, meeting places and |
| | agencies concerned or within commu | nities. | | | | temporary store space of farm inputs for |
| 4.2 Supplying irrigation water in accordance 4.2.1 Rehabilite and improve irrigation facilities. | e with schedule. | | | | | cooperative purchasing |
| 1) Investigation, detailed design & tendering | - Farmers participation to formulate | + | | - ID, IMD | - Staff in ID & IMD, farmers | - Canal structures to be rehabilitated |
| (including training for farmers and staff) | the plan can be promoted. | , | | ID | State: ID (Cantana) | (regulators, turnouts, measuring devices, etc |
| Implementation of rehabilitation / improvement | Proper water management and O&N can be achieved. | | | - ID | - Staff in ID (Contractors), farmers | Rehabilitation of F-canals are carried out by farmers. |
| 3) Turnover process of facilities | - Irrigation facilities can be handed ov | er 📥 | | - ID, IMD | - Staff in ID & IMD, | |
| (including training for farmers and staff) 4.2.2 Improve water management. | in proper condition. | | | | contractors and farmers | |
| 1) Training for the government staff | - Capacity of the staff for water | | | - ID, IMD | \ ID and external staff | - ID is responsible for water management of |
| - Awareness for water management | management is improved. | _ | | , | Vehicles and equipment | main irrigation facilities. |
| - Irrigation planning and scheduling | | 7 🚣 | | | Training facilities | , and the second |
| - Water distribution and monitoring | | ▎▎▔▄▎ | | | Training equipment | |
| 2) Training for farmers | - Proper water management is done by | | | - ID, IMD | IMD, ID and external staff | - Farmers are responsible for water |
| - Awareness for water management | the farmers (FO). | 🗯 | | | Vehicles and equipment | management below D-canals. |
| Irrigation planning and scheduling Water distribution and monitoring | | 梓 | | | Training facilities Training equipment | |
| 4.2.3 Strengthen O&M of irrigation facilities. | | 🔫 | | |) Training equipment | |
| 1) Training for the government staff | - Capacity of the staff for O&M is | | | - ID, IMD | ID and external staff | - ID is responsible for O&M of main |
| - Awareness programme for O&M | improved. | | | | Vehicles and equipment | irrigation facilities. |
| - Irrigation planning and scheduling | | 📥 | | | Training facilities | |
| - Water distribution and monitoring | | | | | Training equipment | |

Plan of Operation - Periyakulama Medium Irrigation Scheme (2/2)

| | | Schedule (Year) | A gag si s s | | 1 | |
|---|---|--------------------------|---|---|---|--|
| Activities | Activities Expected Results | | Agencies | Inputs | Remarks | |
| | - | 1st2nd3rd4th5th6th7th8th | in Charge | - | | |
| 2) Training for farmers - Awareness programme for O&M - Irrigation planning and scheduling - Water distribution and monitoring 4.3 Improving agricultural activities. | - Farmers can manage the irrigation facilities by themselves. | | - ID, IMD | IMD, ID and external staff Vehicles and equipment Training facilities Training equipment | - Farmers are responsible for O&M of facilities below D-canals. | |
| 4.3.1 Promote OFC cultivation. | - Extent OFC occupies about 20% of paddy area in Yala. | | - PDOA (NCP) | PDOA (NCP), Farmer Animator, etc. | Promoting activities are done independently by FO, and PDOA (NCP) provide information and guidance to them. | |
| 4.3.2 Strengthen agricultural extension services. 1) Field programs Adaptive trials Small-scale demonstration Cropping pattern demonstration Large-scale demonstration Productivity increase programme IPM | - Level-up farmers' knowledge for crop diversification and proper farming practices of crop | | PDOA (NCP) | PDOA (NCP), DOA, Farmer Animator, etc. | Demonstration, trial, IPM etc. Necessary cost is funded by the Project. | |
| 2) Farmer training programmes - Induction farmer training - Induction farmer guidance - Field day - Workshop/mass guidance - Seed campaign - Study tour | - Improve farmers' technique for crop cultivation | | PDOA (NCP) | DOA, DOI, PDOA (NCP), external staff etc. | Training, study tour etc. Necessary cost is funded by the Project. | |
| 4.3.3 Improve marketing of farm inputs and output 1) Improve marketing of farm inputs Establishing group purchasing system of farm inputs 2) Improve marketing of farm outputs | - The farmers can purchase adequate quantity of farm inputs before the season Improve access to market for selling | | - IMD, ASC | - DO/ASC, PDOA (NCP), Instituional Officer/IMD, Animator | - Group purchasing system is linked with agricultural extension and group loan. | |
| Establishing pola Establishing collecting point of farm products Establishing cooperative shipping Establishing marketing information ser Improving quality of products | | | - ASC/DAS - ASC/DAS - ASC/DAS - PMU - ASC/DAS | No facilitiesNo facilitiesNo facilitiesBulletin of KARTINo facilities | Improving activities are done independently by FO, and ASC/DAS provide information and guidance to them. | |
| 4.3.4 Improve access to credit services. Introducing group loan system (cultivation loan) Introducing revolving loan system (medium term credit) Promoting multi aid credit | Improve access to credits for purchasing farm inputs, agri. equipment and capital of income generating activities. | | - PMU, banks & DAS - PMU, DAS - ASC/DAS | Loaned by private banks FO's owned capital or arragened by PMU. | Group loan is provided through FO, and invested to purchase farm inputs. Loan for procurement of machinery & farn facility, and for capital of small enterprises Loans for living and income generation and managed by women's group. | |
| 4.3.5 Promote reforestation in the catchment area4.3.6 Establish surveillance system of wild elephant | reduced. | is | - PDOA (NCP), ASC/DAS - ASC/DAS | - Seedlings | FO promotes planting of tree crops in catchment area. | |
| in FOs. | | | | | | |
| (Follow-up programme) | | | - IMD, DAS | | | |



17.3.4 Mahananneriya Medium Scheme

(1) General

Mahananneriya medium scheme is located in the midpoint of Anuradhapura and Kurunegala. Palukadawela major scheme is located in the upper stream. The total number of farm households of Mahananneriya scheme is 510 and the irrigated paddy area is 158 ha. There is one Farmers' organisation organised in the scheme and it is presented in Table 15.1.1.

The PDM of Mahananneriya scheme is shown on page 17-47. The development plan is formulated as "Economical status of the rural community is improved" for the Project purpose and the target group is farmer/community. The details are given in the table on the Plan of Operation of page 17-48 and the Project layout map on page 17-50. The summary of the plan of the scheme is as follows.

(2) Strengthening Farmers' Organisation

The concrete plans for the strengthening FO programmes are as follows.

1) Awareness Programme and Educational/Training Programmes

Awareness programme

Awareness programme is applied for the both "Farmers" and "Official Institutions" as mentioned before. Its contents and implementation procedure are as detailed in Section 9.2. The multifunctional FO is to be established through this programme with the self-motivation of the entire community.

The leader of Mahananneriya scheme was the former Vel Vidana (irrigation headman). The FO of the scheme is organised by the aged people, generally conservative toward the FO's activities and also women do not actively participate. Therefore, the guidance, such as such women to be assigned as leaders is needed during the awareness programme.

Education/ training programme

Following education and training programmes for fostering leaders of the multifunctional FO are to be conducted.

Education/Training Programmes for FO Leader
- Mahananneriya Medium Scheme

| Training Subject | Contents | Training Method |
|-------------------------|--------------------------------------|--------------------------|
| 1) Draft preparation of | Draft preparation of the Articles of | Lecture in Mahananneriya |
| the Articles of | Organisation and knowledge of the | Agrarian Service Centre |
| Organisation | systems and the procedures required | (ASC/DAS) and practical |
| amendment | on the process. | training by Farmer |
| 2) Practical training | Planning, participatory manage- | Animator. |
| the basic operation | ment, practical operation & man- | |
| and management of | agement of FO, practical financial | |
| the organisation | management, financial resource | |
| | management, role & systems of | |
| | Official concerned, etc. | |

(continued)

| 3) Training on the income generation activity | Practical; training of the operation/management of Rural Credit (Group-loan, Revolving-loan) and co-operative purchasing/selling. | Lecture by ASC/DA, IMD, private bank (PMU arranges with banks) & practical training by Farmer Animator. |
|--|---|---|
| 4) Information net- work forma- tion/Awareness | Establishing information networks with external organisations for collecting and sharing information in | Holding joint workshops with external organisa- tions and the FO for |
| training | and around the community. | sharing information. |

These programmes are to be conducted separately from the Awareness programme within the regular works of Mahananneriya ASC. Education and training facilities of Mahananneriya ASC are to be improved and strengthened (refer to Chapter 17.4).

2) Establishment of Multifunctional Farmers' Organisation

The present FOs is to be reorganised to be multifunctional. The reorganisation is determined in the general meeting of the entire community, which conducted the awareness programme mentioned previously. The organisation is to provide various services to farmer/community and to be fostered as an autonomous organ representing the community. Major change in the reorganisation is to set subcommittees under the executive committee and to act on irrigation, agriculture, business of FO, and income generation/social services.

Setting up the Subcommittee - Mahananneriya Medium Scheme

| Subcommittees | Purposes and Activities |
|--------------------------------------|---|
| 1)Irrigation | i) Water management, ii) O&M of facilities, iii) Safety operation of irrigation facility, iv) Estimation & collection of Irrigation Service Fee (ISF), and v) Survey on lease/tenant of farmland |
| 2)Agriculture | i) Collaboration with official extension works, ii) Holding technical extension seminar, iii) income generation activity (Home garden and livestock development), iv) Operation of group works as pest control, v) Reforestation in the catchment area (planting of fruit trees), and vi) Control elephant damage (strengthening control by FO). |
| 3)Businesses of FO | i) Establishment and operation of co-operation purchasing/selling, Pola/collection point, ii) Operation and management of the rural credit service (group loan, revolving loan), iii) Business of FO as farm machinery rental service, inland fishery, agro-processing, etc. |
| 4)Income generation/ Social Services | i) Income generation activities such as vocational training, small-scale enterprise/business, self-employment, ornamental fish culture and collection of employment information, ii) Promotion of mutual aid credit system, iii) Financial support for income generation, and iv) Promotion of anti alcohol addict campaign, social welfare, health & sanitary improvement. |

An audit section is proposed to be set for maintaining transparency of FO activities and to employ volunteers for close communication with FO members. The audit section is to check periodically and report to the general meeting. The volunteers are to work on communication among the executive committee, the subcommittee, and the members.

3) Income Generation/Social Services through Farmers' Organisations

The subcommittees of "Agriculture" and "Income Generation/Social Services are to carrying out income generation activities for farmers and community. The income generation/social services are to be carried out by the self-motivation of FOs and are targeting poverty groups in the community. Necessary information is to be provided through Mahananneriya ASC and Farmer Animators. The training facilities of NYSC are to be utilised for vocational training, so that no extra facility is constructed by the Project.

4) Construction of Farmer Centre

There is no facility for FO in Mahananneriya scheme. Farmer centre is to be constructed for offices of FO and Farmer Animator. The operation and management is to be carried out by the FO and the details are described in Section 17.4.2.

(3) Distribution of Proper Irrigation Water

Anicuts

7 Nos

Others

1) Rehabilitation and Improvement Plan of Irrigation Facilities

The rehabilitation and improvement works in Mahananneriya medium scheme are as follows:

Category Item Quantity Description of works Bund L.S. Earth filling, Gravelling, Rip-rap, Filter, Minor repair, Downstream protection, Meas-**Tanks** L.S. Sluice uring device L.S. Spillway Concrete repair works Earthworks 3,500 m Earth filling, De-silting Main Lining 90 m Masonry Lining Turnout, Regulator, Drop, Culvert etc. canal Structures 60 Nos. O&M Road 2,300 m Earth filling, Gravelling, Culvert

Rehabilitation and Improvement Plan for Mahananneriya Medium Scheme

Major rehabilitation works of Mahananneriya medium scheme are tank, main canal and O&M of road; however, the rehabilitation of F-canals is not included.

Improvement of Anicuts

The works for tank are to be carried out by constructors and the works for main canal is to be carried out by either contractors or farmers. The training courses for rehabilitation and improvement works are programmed in order to reflect farmers' intention to the works properly and to smoothly carry out the works by themselves. The table below shows the training course for the government staff and the farmers.

Training Programme for Rehabilitation and Improvement Works
- Mahananneriya Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|------------|---------|--------------------|----------|--------------------------------------|
| Training | First | 1 day, pre- | RATPA | Participatory planning, commu- |
| for the | | construction | | nication with farmers |
| govern- | Second | 1 day, in the con- | ID | Skill of technology transfer to |
| ment staff | | struction | | farmers |
| | Third | 1 day, post- | ID | Hand-over of O&M responsibility |
| | | construction | | to farmers, follow-up programme |
| Training | First | 2 days, pre- | RATPA | Participatory planning |
| for farm- | | construction | | Field investigation, design and cost |
| ers | | | | estimate |
| | Second | 1 day, pre- | ID | Contract for rehabilitation works, |
| | | construction | | farmers' contribution |
| | Third | 2days, in the con- | ID | Quality control for earthworks and |
| | | struction | | concrete, preparation of document |
| | | | | for rehabilitation, field inspection |
| | Fourth | 1 day, post- | ID | Follow-up programme |
| | | construction | | |

RATPA: Research and Advisory Team for Participatory Approach

Education/training for officers is one course for TA and WS of Galgamuwa ID. One course is to be conducted for farmers, the office bearers of FOs and the subcommittee members.

2) Training for Water Management

The training on water management for the government staff and farmers is proposed as follows:

Training Programme for Water Management – Mahananneriya Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|------------|---------|----------------|----------|--|
| Training | First | 1 day, pre- | RATPA | Awareness programme, communica- |
| for the | | construction | | tion with farmers |
| govern- | Second | 1.5days, post- | ID | Estimation of water requirement, |
| ment staff | | construction | | preparation of water distribution pro- |
| | | | | gramme, skill for gate operation of |
| | | | | tank and off-takes, flow measurement |
| | | | | and flow monitoring, skill of technol- |
| | | | | ogy transfer to farmers |
| | Third | 1 day | ID | Follow-up programme |
| Training | First | 1 day, pre- | RATPA | Awareness programme, communica- |
| for | | construction | | tion with government staff, commu- |
| farmers | | | | nication among farmers, communica- |
| | | | | tion with other FOs |
| | Second | 1.5days, post- | ID | Preparation of water distribution pro- |
| | | construction | | gramme, skill for gate operation of |
| | | | | tank and off-takes |
| | Third | 1 day | ID | Follow-up programme |

RATPA: Research and Advisory Team for Participatory Approach

Education/training for officers is one course for TA and WS of Galgamuwa ID. One course is to be conducted for farmers, the office bearers of FOs

and the subcommittee members. The gate operation method for newly constructed canal structures is required to train them well. After completion of the rehabilitation works, the management of all facilities is to be transferred to the FOs. The major objective of the training for officers is to improve capability to provide technical guidance to farmers.

3) Training for O&M of Irrigation Facilities

The training on O&M of irrigation facilities for the government staff and farmers is proposed as follows:

Training Programme for O&M- Mahananneriya Medium Scheme

| Activities | Session | Period | Lecturer | Subject of training |
|--------------|---------|------------------|----------|---------------------------------------|
| Training | First | 1 day, pre- | RATPA | Awareness programme, commu- |
| for the gov- | | construction | | nication with farmers |
| ernment | Second | 1.5days during | ID | Preparation of maintenance pro- |
| staff | | the construction | | gramme, monitoring of mainte- |
| | | | | nance activities, skill of technology |
| | | | | transfer to farmers |
| | Third | 1 day | ID | Follow-up programme |
| Training | First | 1 day, pre- | RATPA | Awareness programme |
| for | | construction | | |
| farmers | Second | 1.5days during | ID | Preparation of maintenance pro- |
| | | the construction | | gramme, organising a patrol, |
| | | | | organising a Sramadana, collection |
| | | | | of O&M charge |
| | Third | 1 day | ID | Follow-up programme |

RATA: Research and Advisory Team for Participatory Approach

Education/training for officers is one course for TA and WS of Galgamuwa ID. One course is to be conducted for farmers, the office bearers of FOs and the subcommittee members. Training on the method of technology transfer of O&M to farmers is to be conducted for officers.

(4) Improvement of Agriculture Activities

1) Promotion of OFC Cultivation

The results of PCM workshop show the increase paddy productivity as well as the promotion of OFC cultivation. However, water resource potential of Mahananneriya scheme and its potential for increasing cultivation area after the project implementation is high (refer Section 9.4.3). Traditionally farmer practises paddy cultivation when water is available in the field. Therefore Paddy strengthening cropping pattern is proposed and also the increase of OFC cultivation in Yala. The proposed cultivation area and production of respective crop are as follows, and the proposed cropping system is presented in Figure 15.3.1

Cropping Area and Production With & Without Project - Mahananneriya Medium Scheme

| | W | ithout Pro | oject | | With Pro | ject | Increase |
|---------------|------|------------|------------|------|----------|------------|----------|
| | Area | Yield | Produc- | Area | Yield | Produc- | (ton) |
| | (ha) | (ton/ha) | tion (ton) | (ha) | (ton/ha) | tion (ton) | |
| Paddy - Maha | 158 | 2.71 | 428 | 158 | 5.0 | 790 | 362 |
| - Yala | - | - | - | 140 | 5.0 | 700 | 700 |
| OFC | | | | | | | |
| Yala - Sesame | - | - | - | 3 | 0.9 | 3 | 3 |
| - Pulses | 1 | 0.49 | * | 4 | 1.5 | 6 | 6 |
| - Chili | 2 | 1.71 | 3 | 4 | 1.5 | 6 | 3 |
| - B'onion | - | - | - | 3 | 10.0 | 30 | 30 |
| - Vegetables | - | - | - | 2 | 10.0 | 20 | 20 |

2) Strengthening Agricultural Extension Services

Major technical improvement required for promoting OFC cultivation and increasing paddy productivity in Mahananneriya scheme are as follows.

| OFC Promotion | Increase Paddy Productivity |
|---|---|
| - Introduction of group cultivation of OFC. | - Introduction of appropriate cultivation |
| - Introduction of appropriate cultivation | technique. |
| technique. | - Dissemination of quality seed. |
| - Collection of market information. | - Dissemination of appropriate seed rate & |
| - Improvement of cultivation technique. | plant density. |
| - Preparation of OFC seed. | - Straight fertiliser & organic material use. |
| - Improvement of rural credit. | - Practice of IPM. |
| - Improvement of OFC marketing system. | - Effective labour use. |

Provincial Department of Agriculture (PDOA) of North-western province is to conduct the following extension activities. Agriculture subcommittee of the FO is to carry out education activity for group cultivation. Improvement of marketing inputs materials and the rural credit are mentioned in Sections 3) and 4).

Agriculture Extension Activity - Mahananneriya Medium Scheme

| Programme | Objectives | Method & Required Materials |
|---|--|--|
| Field Trial / Demonstration Programme Adaptive trials Small-scale demonstration Cropping pattern demonstration Large-scale demonstration Productivity increase programme IPM programme | - To develop technology for improving productivity - To demonstrate recommended practices & irrigation technique on OFC promotion & paddy productivity increase Appropriate chemical application | Conducted by PDOA of North western province. FOs closely contact with PDOA Use farmers' field for demonstration Farmer training programme including quality seed cam- paign, and field tour Seed production programme includes provision of regis- |
| 2) Farmer Training Programme - Induction farmer training - Induction farmer guidance - Farmer training - Workshop - Quality seed campaign - Study tour 3) Seed Production Programme - Paddy seed production - OFC seed production | - To disseminate cultivation technique directly to farmers. - To foster seed production farmers. | ter seed and technical guidance. Production expense is born by farmers. Required material cost for extension activities are born by the Project. Details are shown in Tables R 3.2-1/12 to 7/12 of Appendix-R. |

3) Improvement of Marketing of Agricultural Outputs and Inputs Materials Improvement of inputs materials

Co-operative purchasing of input materials by FOs is proposed. This system is to carry out by linking to the group loan mentioned in the improvement of rural credit of item 4). Awareness and education to Mahananneriya ASC is to attempt for introducing the system.

Improvement of outputs

Following marketing improvement programme is proposed. These activities are to be carried out by FOs (business subcommittee).

Improvement Programme of Marketing Agricultural Products
- Mahananneriya Medium Scheme

| Programme | Objectives | Method & Required Materials |
|--|---|--|
| 1) Setting Pola | To activate marketing of farm products by open Polas. To sell small quantity products from home gardens. | Polas are managed by FOs Proposed that Pola is to set without any construction for reducing maintenance cost and no Pola fee is to charge. Guidance for setting Pola is to be carried out to FOs by Mahananneriya ASC/DAS and suitable location and day are to be decided by contact with merchants. |
| | | Proposed location of Polas are shown in the Project layout map based on the discussion with FO leaders. |
| 2) Setting Collecting Point of Farm Products | To set contact points of producers with merchants on outputs marketing. | No required materials for setting the system. Selections of merchants and locations are determined by farmers and Proceeded by FOs |
| 3) Establishing Co- operative Ship- ping System | To sell products regularly and develop new markets. | ASC/DAS is to provide guidance to both merchants and FOs on collecting points and co-operative selling. |
| 4) Establishing of Market Informa- tion Collection | To collect information on market prices. | Regular purchasing of KARTI publication. PMU will provide information on purchasing. |
| 5) Improving Quality | To improve quality of products. | No required materials. Quality standard of products is not established and it is judged by merchants. FOs have to collect information on quality and disseminate to farmers. ASC/DAS is to provide guidance on information collection. |

4) Improvement of Rural Credit

For the improvement of rural credit, introduction of the following loans is proposed to the Mahananneriya Medium Scheme.

Improvement of Rural Credit - Mahananneriya Medium Scheme

| Programme | Objectives | Method & Required Materials |
|-----------------|--------------------|---|
| 1) Introduction | For purchasing | No required materials. |
| of Group | inputs materials. | Mainly loan by private banks. It is considered to |
| Loan | | be possible to introduce for group loan by private |
| (cultivation | Linkage with co- | banks, because this loan is practised at present. |
| loan) | operative pur- | PMU is to request to banks on introduction. |
| | chasing system. | The system management/operation of farmer sides |
| | | is carried out by FOs (subcommittee) |
| | | Mahananneriya ASC/DAS is to educate FOs on the |
| | | introduction and training FO leaders on the opera- |
| | | tion works. |
| 2) Introduction | For purchasing | No required materials. |
| of Revolving | farm machinery | • Operation & management by FOs (subcommittees). |
| Loan (me- | and financing | Principally the fund is to be prepared by FOs. If |
| dium term | small-scale enter- | its capital is insufficient, FOs obtain a loan from |
| loan) | prise. | bank, and PMU provides support services to FOs. |
| | | • Galgamuwa ASC/DAS is to provide training for |
| | | lending works. |
| 3) Introduction | For emergency | No required materials. |
| of Mutual | need on living as | Loan from the Women's Bank. |
| Aid Credit | sickness, accident | • Mainly operating for women groups. FOs (In- |
| system | or financing of | come generation/ Social Services Subcommittee) is |
| | self-employment. | deal with education but not on operation. |
| | | ASC/DAS's education to FOs. |

5) Promotion of Reforestation in the Catchment Area

Planting of fruit trees such as mango and jackfruit is to be promoted for the environment conservation in the upper part of tank of the catchment area. The agriculture subcommittee of FO is to carry out these fruit cultivation and PDOA is to provide technical guidance and seedlings.

6) Establishment of Watch and Protection System of Wild Elephant

It is proposed to set several observation points in the elephant infested area and to organise the watching and protecting system among the community members. The agriculture subcommittee of FO is to operate and manage the system and the FO is to be equipped with thunder-flashes and crackers.

Project Design Matrix - Mahananneriya Medium Irrigation Scheme

 Name of Project
 : Mahananeriya Medium Scheme Development Project for Irrigated Agriculture and the Community

 Project Area
 : Mahananeriya Medium Irrigation Scheme
 Duration

 Executing Agency
 : Ministry of Irrigation and Power (MIP)
 Target Group

 : Farmers / all villagers in the Mahananneriya Scheme

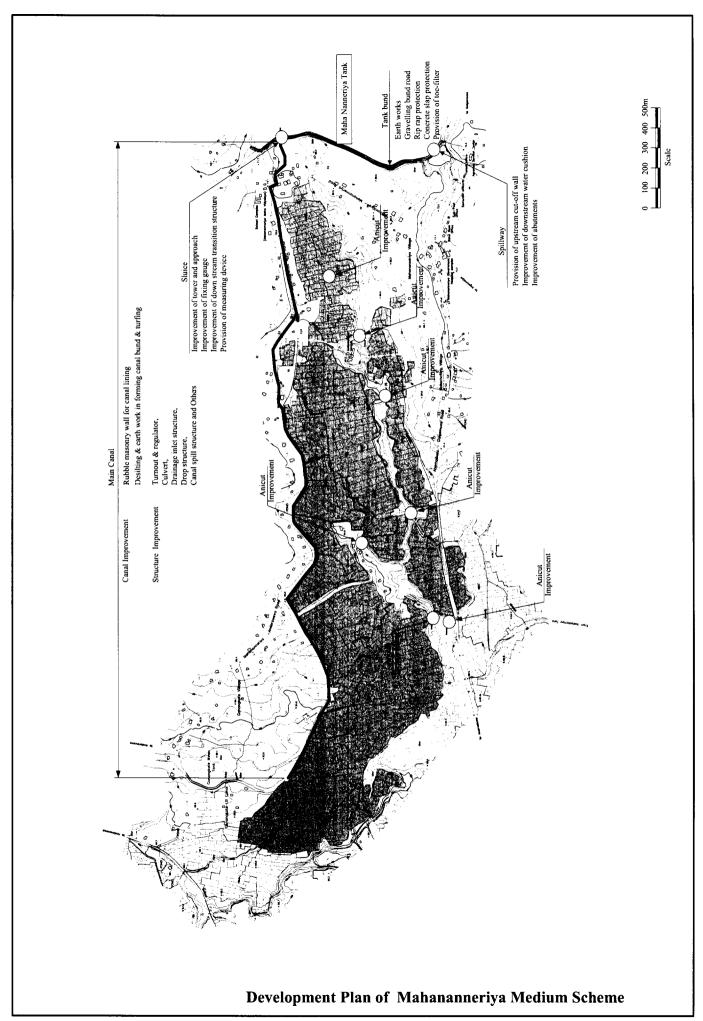
| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions (外部条件) |
|---|---|---|---|
| Overall Goal | | | |
| 1.1 Achieving sustainable development of regional agriculture | 1.1 Development activities are planned and implemented | 1.1 Monitoring reports of the project | Agricultural policy of the Government |
| 1.2 Improving agricultural productivity of the rural | independently by FO and farmers themselves. | office (PMU) | not hinder implementation of the |
| community | 1.2 Agriculture is economically feasible. | 1.2 Monitoring reports of PMU | project. |
| roject Purpose | | | Agricultural products do not have to |
| 2.1 Socio-economic status is improved. | 2.1 Total gross income of farmers increase progressively b | by the 2.1 Monitoring reports of PMU | face unreasonable competition from |
| | end of the project. | | imported products. |
| <u>itputs</u> | 3.1.1 FO provides various services including income gener | | There is no extreme natural disaster |
| 3.1 FO having multi functions relating to irrigation, | from the 3rd year after commencement of the project. | and monitoring reports of PMU | (drought, heavy rain, etc.). |
| agriculture, small enterprises, income generations, social | 3.1.2 Committee and sub-committee meetings are held mont | * * | Government enforces existing rules |
| services is established and activated. | the 3rd year after the commencement. | sub-committee meetings | and regulations to protect environment. |
| 3.2 Irrigation water is properly supplied in accordance with | 3.2 Farmers are able to receive water in accordance with a | schedule 3.2 Monitoring reports of PMU | Other sectors have no drastic and |
| a schedule. | by the end of the project. | | sudden change in the economic |
| 3.2.1 Irrigation facilities are rehabilitated and improved. | 3.2.1 Facilities necessary for proper water supply are repair | | activities. |
| | improved by the 3rd year after commencement of the pr | | Social conditions in the community |
| 3.2.2 Proper water management is done by FO. | 3.2.2 Discharge is observed by FO after completion of | 3.2.2 Records of FO | have no drastic change. |
| | construction works. | | The project has no adverse effect from |
| 3.2.3 Irrigation facilities are maintained. | 3.2.3 All facilities are maintained by FO after completion of | | the other development projects, even if |
| | construction works. | minutes of FO's general meeting | they overlapped. |
| 3.3 Agricultural activities are improved. | 3.3 Agricultural productivity of farmers is improved from | | |
| | year after completion of construction works. | and records of ASC (AI) | |
| 3.3.1 OFC cultivation is expanded. | 3.3.1 Extent of OFC occupies about 10% of paddy area in Y the end of the project. | ala by 3.3.1 Animator's field survey reports | |
| 3.3.2 Productivity of paddy is improved. | 3.3.2 Yield of paddy reaches the level of "projected yields" | by the 3.3.2 Animator's field survey reports | |
| | 3rd year after completion of construction works. | | |
| 3.3.3 Marketing of farm inputs and outputs is | 3.3.3 (1) Group purchasing of farm inputs is implemented as | | |
| improved. | by the 3rd year after commencement of the project. | financial reports in FO's | |
| | 3.3.3 (2) Quality control of OFC products are introduced by | · · · | |
| | from 3rd year after commencement of the project. | 3.3.3 (2) Monitoring reports of PMU | |
| 3.3.4 Access to credit services is improved. | 3.3.4 Group loan, revolving loan and multi-aid credit system | | |
| | established by the 3rd year after commencement of the | | |
| 3.3.5 Deforestation in the catchment area is reduced. | 3.3.5 FO/farmers start planting of tree crops in the catchmen | t area 3.3.5 Animator's field survey reports | |
| | from the 3rd year after commencement of the project. | | |
| 3.3.6 Damage by elephant is decreased. | 3.3.6 Surveillance system of wild elephant is established in | a FO by 3.3.6 Animators' field survey reports | |
| | 2nd year after commencement of the project. | | |
| <u>ivities</u> | <u>Inputs</u> | | Trained Officers stay with the project. |
| .1 Strengthening FO. | Foreign Donor | Sri Lankan Side | Local government and front line officers |
| 4.1.1 Implement awareness and training programmes. | Mobilization | (1) Sri Lankan Government | positively support the project. |
| 4.1.2 Reorganize FOs to have multi function. | Awareness and training costs | Manpower - Local engineers/experts | No action will be taken by government |
| 4.1.3 Implement income generation and social | Rehabilitation & improvement cost | - Administrative officers | to destabilize local market. |
| services through FO. | Equipment - Vehicles | - Supporting staff | Pre-conditions |
| 4.1.4 Construct Farmer Centre. | - O&M equipment | Facilities of PMU | The Sri Lankan Government raises all |
| 2 Supplying irrigation water in accordance with schedule. | - Agri. extension | Recurrent cost for project | project funds including foreign cur- |
| 4.2.1 Rehabilitate and improve irrigation facilities. | Facilities | implementation | rency portion, local currency portion |
| 4.2.2 Improve water management. | - Facilities for agri. extension | (2) Farmers | and recurrent cost of PMU. |
| 4.2.3 Strengthen O&M of irrigation facilities. | (including provincial seed farm of Galugamwa) | 10% of rehabilitation and improve- | MIP and agencies concerned establishes |
| 3.3 Improving agricultural activities. | - Farmer centers | ment cost of all irrigation facilities | organization to implement project. |
| 4.3.1 Promote OFC cultivation. | Monitoring cost | (3) NGO for implementing awareness and | To operate the project, necessary offi- |
| 4.3.2 Strengthen agricultural extension services. | Cost for engineering services | training programmes | cers and physical facilities are provided |
| 4.3.3 Improve marketing of farm inputs and outputs. | Physical contingency | | by MIP and agencies concerned. |
| 4.3.4 Improve access to credit services. | Price contingency | m . 15 | |
| 4.3.5 Promote reforestation in the catchment area. | | Total Project Cost | |
| 4.3.6 Establish surveillance system of wild elephant in FO. | | | |

Plan of Operation - Mahananneriya Medium Irrigation Scheme (1/2)

| 1. Mobilization of PMU 2. Awareness programme. 3. Providing regarding programmes. 4. It color for secretary supports the community operation of multi-fraction of periodic and management of FO of have multi-fraction of periodic and management and social services framework or generation and multi-fraction of periodic and social services framework or generation and social services f | Activities | Expected Results | Schedule (Year) | Agencies | Inputs | Remarks |
|--|--|--|--|----------------|-------------------------------|---|
| 2. Avaries programme. Offices of agendes concerned 4.1. Implement awareness and training programmes. 1.1. Implement awareness and training programmes. 2. Training to PO's leaders for operation and management of PO 4.1. Recognize PO to have multi-function 2. Outdoors for programfunction of multi-function 3. Disabilishing organization of multi-function 4.1. Implement income generation and social services through providing various services to the community. 4.1. Implement income generation and social services through providing various services to the community. 4.1. Implement income generation and social services income 2. Livesopher information or miles recognized in the providing providing various services to the community. 4.1. Implement income generation and social services income 3. Vesquired in triving. 5. The propose information or evices. 6. Small enterprises and business 7. Providing retinating programme for participation of expert (IMD) 6. Small enterprises and business 8. Could services for the communities. 4.2. Supplying irrigation water in accordance with schedule. 4.3. Republication of counties and provides rigation facilities. 1. Investigation, detailed design & tendering (including training for famours) 4.2. Including irrigation water in accordance with schedule. 4.3. Republication and provide rigation facilities. 1. Investigation, detailed design & tendering generation of richaelitation of the plan can be promoted. 2. Trigation facilities. 3. Investigation, detailed design & tendering generation of the control of the plan can be promoted. 4.2. Redublishing irrigation facilities. 4.3. Providing retaining of minimum. 5. Providing retaining programmes for Particle and College to Post Co | | Expected Results | 1st2nd3rd4th5th6th7th8th | in Charge | Inputs | Remarks |
| 4.1. Implement awareness and training programme. 2. Training prof to lawer until function. 3. Disabilishing organization of multi-function. 4. Supplying information and management of Disabilishing organization of multi-function. 4. Supplying information are supplying the supplying information and social services through Fro. 3. Disabilishing organization of multi-function. 4. Supplying information are supplying the supplying information and social services for congenization of multi-function. 4. Vocational training and scheduling. 5. Employment information reviews. 6. Small enterprises and business. 7. Providing recisary guidance and information reviews. 8. Crobit services for income generation and Social Services' for dealing information and social services. 8. Crobit services for income generation and Social Services' for dealing information reviews. 8. Crobit services for income generation and Social Services' for dealing information reviews. 9. Free physical services. | | | 百 | | | |
| 1.1.1 Implement awareness programmes. 2. Training to FO's feders for operation and imageneous of PO 4.1.2 Recognize PO to have management of PO 4.1.3 Implement income generation of multi-function 2. Guidance for pregaring articles & by-laws for organization of multi-function 3. Hand influence development 3. Hand interest evelopment 3. Hand interest evelopment 3. Hand interest evelopment 3. Hand interest evelopment 4.1.4 Construct Farmer Centre. 4.1.5 Examination from the interest of the communities. 5. Proving interest of the communities. 6. Structure from the first of the power of the plan can be promoted. 7. Structure process of facilities. 6. The province of the proposed. 7. Training for firmers 8. Credit services for income generation 4.1.4 Construct Farmer Centre. 8. Credit services for income generation and secial standing devices are for the plan can be promoted. 9. Training in firmers 1. Investigation, detailed design & tendenting (including running for farmers and suff) 2. Inspection in a development (including running for farmers and suff) 8. Turnover process of facilities. 1. Investigation of realistics of the permitted of the plan can be promoted. 9. Turnover process of facilities. 1. Investigation planning and scheduling 9. Ware distribution and management of FO and close communities of the plan can be promoted. 9. Turnover process of facilities. 1. Training for farmers 1. Training for the government staff 1. Capacity of the suff for water management is should not be the plan can be promoted. 1. Training for the government staff 1. Capacity of the suff for water management is accordance with schedule. 1. Training for the government staff 1. Structure process of facilities. 1. Training to farmers 2. Training for farmers 3. Hand for the government and General structures and General staff volices and equipment training for the government staff 2. Training for the government staff 3. Turnover process of facilities. 3. Turnover process of facilities. 4. Turnigation planning and scheduling 4. Turnigation | Awareness programme: Officers of agencies concerned | | | | | |
| D. Avarresses programme 2. Training to PO's ledders for operation and management of PO 4.12. Recognization of multi-function 3. Goldance for preparing articles & Py-lawse of the community. 4. Supplying trigotion water in accordance with schadule. 4. Consumer former Center. 5. Supplying irrigation water in accordance with schadule. 4. Supplying irrigation facilities. 5. In Training for formers and staff) 6. Supplying irrigation water in accordance with schadule. 4. Supplying irrigation facilities. 6. In part of the powerment staff 6. Supplying irrigation facilities. 7. In accordance with schadule. 4. Supplying irrigation facilities. 8. In Training for formers and staff) 4. Supplying irrigation facilities. 9. In Training for formers and supply supp | 4.1 Strengthening farmers' organisation. | | | | | |
| 2. Training or FO's leaders for operation and management of FO operation and management of FO production and management of FO and close community. 1. In Justice Production and management of FO production and management of FO and close community. 2. Training for famous and management of FO production for famous for famous for management and ORM in proportion and management of FO management and or famous for management and famous for famous for management and famous for management and famous for famous for famous for management and famous for famou | 4.1.1 Implement awareness and training programmes. | - Level-up farmers' and community | | | | - Providing training programme for |
| operation and management of PO 1.12. Recognization of molifications 2. Guidance for preparing artifaction of multi-function 3. Guidance for preparing artifacts & by-laws for organization of multi-function 4.1.5 Implement intenume generation and social searching through providing various services to the community. 6. For international standing through providing various services to make the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international standing through providing various services to the community. 6. For international capter (1MD) 6. For international standing through providing various services to the community. 6. For international capter (1MD) 6. For international standing through providing various services to the community. 6. For international capter (1MD) 6. For inte | Awareness programme | people's knowledge for FO. | | - PMU (KARTI) | - Trainers, moderators | participatory planning |
| 4.1.2 Reoganization of multi-function 4.1.3 Implement income generation and social services from the community. 4.1.3 Implement income generation and social services from the community. 4.1.3 Implement income generation and social services from the community. 4.1.3 Implement income generation and social services from the community. 4.1.4 Construct Farmer Centre. 4.1.5 Employment information services 5. Employment information services 6. Small enterprises and sushings. 7. Providing social standards development 4.1.4 Construct Farmer Centre. 4. Seep efficient management of PO and agencies concerned or within communities. 4. Supplying irrigation water in accordance with schedule. 4. Supplying irrigation facilities. 1. Invariagion planning and scheduling raining for farmers and staff) 4. Ascordance in the condition of the communities of farmers and staff) 4. Ascordance in the condition of the communities of the staff for O&M is improvement in the farmers and staff) 4. Ascordance in the condition of the condition | Training to FO's leaders for | - Development component is imple- | | - ASC/DAS, IMD | - DO/ASC, Farmer Animator | - A Community Coordinating Committee |
| 1) Establishing organization of multi-function 2) Guidance for perparing articles & by-laws for organization of multi-function 4.13 Implement income generation and social 5. Livestock development 3) Island fisheries development 3) Island fisheries development 4) Vecational training 5) Enaployment information services 6) Small enterprises and business 7) Providing social services 8) Conduct services from tome generation 4.1.1 Construct Furner Centre. 4.2.2 Reprove the runner generation for individual continuous providing accompany to providing accompany underso are designed information for re-organization information for re-organization 4.2.3 Repulsion information services 6) Small enterprises and business 7) Providing social services 8) Conduct services for income generation 4.1.1 Construct Furner Centre. 4.2 Supplying irrigation water in accordance with schedula. 4.2.1 Relabilities and imprive irrigation facilities. 1) Investigation, detailed design & lendering (including training for furners and staff) 2) Implementation of health-indiation / improvement 3) Turnove process of facilities (including training for furners and staff) 4.2.2 Improve the management of Found information for water management is fining cylingment 4.2.3 Improve the management and CRM can be achieved. 1) Training for the government staff 2) Training for furners 3) Turnove process of facilities and monitoring 2) Training for furners 4.2.3 Improve the management and for water management is for water management to the farmer (TO). 4.2.3 Improve the management staff 3) Turnove process of facilities and monitoring the province and staff or water management is fo | operation and management of FO | mented independently by FO/farmers. | | | - Organizational expert (IMD) | (CCC) is established in each community. |
| 2. Guidance for preparing articles & by-laws for organization of multi-function 4.1.3 Implement income generation and social services through PO. 1. Home guidend everlopment 2. Livestock development 3. Internation of inferies development 4. Vocational training 5. Emplyment information services 6. Small enterprises and business 7. Providing social services 8. Credit services for income generation 4.1.4 Construct Farmer Centre. 4. Supplying irriguilum water in accordance with schedule. 4. Literature of the programment and of information for re-organization of multi-purpose center with office room for PO & Almantor, meeting places and agencies concerned or within communities. 4. Supplying irriguilum water in accordance with schedule. 4. Rehabilitation / improvement 3. Turnover process of facilities (including training for famers and staff) 4. Providing accessary guidance and information for re-organization of line preparation of line preparation of line preparation information for line preparation information of line preparation of line prepara | 4.1.2 Reorganize FO to have multi function. | - FO is strengthened by rising in | | | | - Re-organization is decided by the |
| 4.13. Implementation of multi-function 4.10. Implementation and social services through PO. 1) Home garden development 3) Inland fisheries development 4) Vectorial training 5) Employment information services 6) Small enterprises and business 7) Providing social services 8) Chell services for income generation 4.1.4 Construct Farmer Centre. 6 Social enterprises and business 7) Providing social services 8) Chell services for income generation 4.1.4 Construct Farmer Centre. 6 See efficient management of FO and agencies concerned or within communities. 6 Lestension officers 7) Providing social services 8) Chell services for income generation 6 Single enterprises and business 7) Providing social services 8) Chell services for income generation 6 Listuation 6 Listuation 7) Providing social services 8) Chell services for income generation 6 Listuation 7) Providing social services 9) Chell services for income generation 6 Listuation 7) Providing social services 1) Investigation, detailed design & cendering (including training for farmers and stuff) 9) Chell services for income generation of FO & Alimator, meeting places and temporary stors space of farm inputs for cooperative purchasing 7) Languagement and O&M can be achieved. 1) Investigation, detailed design & cendering (including training for farmers and stuff) 1) Training for the government stuff 1) Languagement and Scheduling 2) Languagement and Scheduling 3) Turnover process of racilities 1) Training for furners 1) Training for furners 2) Languagement and scheduling 4.2.3 Strengthen O&M of ringition facilities. 1) Training for furners 2) Languagement and monitoring 2) Training for furners 3) Languagement and monitoring 4.2.3 Strengthen O&M of ringition facilities. 1) Training for furners 4.2.4 Strengthen O&M of ringition facilities. 1) Training for furners 4.2.5 Strengthen O&M of ringition facilities. 1) Training for furners 4.2.6 Strengthen O&M of ringition facilities. 1) Training for furners 4.3 Diameter of the potential staff (Policy of the staff for O&M is | Establishing organization of multi-function | social standing through providing | | - ASC/DAS, IMD | DO/ASC, Farmer Animator | community's general meeting. |
| 4.13 Implementation described and social services through FO. 1) Home garden development 2) Livestock development 3) Inland fisheries development 4) Vocational training 5) Employment information services 6) Small enterprises and business 7) Providing social services 8) Cedit services for income generation 4.14 Construct Farmer Centre. 4.23 Supplying trigation water in accordance with schedule. 4.24.1 Rehabilities and improve irrigation facilities. 1) Investigation, detailed design & tendering farmers and staff (a behavior, tender the plan can be promoted. 1) Improvement 3) Turnover process of facilities (including training for farmers and staff) 4.22 Improve water management 4.23 Improve water management 4.24 Naveness for water management 4.25 Improve water management 4.26 Infraring for the government staff Awareness for water management 4.27 Infraring for the government staff Awareness for water management 4.28 Irrigation facilities. 1) Training for the government staff Awareness for water management 4.29 Improve water management 4.20 Improve water management 4.21 Infraring for the government staff Awareness for water management 4.23 Improve mater management 4.24 Infraring for the government staff Awareness for water management 4.25 Infraring for the government staff Awareness for water management 4.26 Infraring for the government staff Awareness for water management Awareness | Guidance for preparing articles & by-laws | various services to the community. | | - ASC/DAS, IMD | Organizational expert (IMD) | Providing necessary guidance and |
| services through FO. 1) Hone garden development 2) Livestock development 3) Inland fisheries development 4) Vocational training 5) Employment information services 6) Small enterprises and business 7) Providing social services 8) Credit services for immore generation 4.1.4 Construct Farmer Centre. 4.2 Supplying irrigation water in accordance with schedule. 4.2.1 Rehabilitie and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 2. Implementation of rehabilitation / improvement 3) Tarnover process of facilities 4.2.2 Improve water management - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is 1) Training for the government staff - Capacity of the staff for O&M is 1) Training for the government staff - Capacity of the staff for O&M is 1) Training for the government staff - Din MD - Staff in D & IND, Dan desternal staff Vehicles and equipment Training facilities Training equipment Training equipment Traini | for organization of multi-function | | | | | information for re-organization |
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| 4.1 Construct Farmer Centre. - Keep efficient management of FO and close communication between FO and agencies concerned or within communities. - Supplying irrigation water in accordance with schedule. - La.1 Rehabilite and improve irrigation facilities. - Instructor - Instructor - Instructor - Instructor - DO/ASC, Farmer Animator - Multi-purpose center with office room for - FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Staff in ID & IMD, farmers - Ascropas - ID, IMD - Staff in ID & IMD, farmers - Ast fin ID & IMD, farmers - Staff in ID & IMD, contractors), farmers - Staff in ID & IMD, contractors), farmers - Staff in ID & IMD, contractors), farmers - Ast fin ID & IMD, contractors), farmers - Ast fin ID & IMD, contractors), farmers - Instructor - Instructor - Instructor - Instructor - Instructor - Instructor - DO/ASC, Farmer Animator - ASC/DAS, IMD - Farmer centre x Ino For A Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Water distribution of rehabilitation / improve process of facilities - Proper water management and O&M can be achieved Proper water management in O&M can be achieved Instructor - Instructo | Livestock development | | | - PDAPH | - Extension officers | independently by FO. |
| 5) Employment information services 6) Small enterprises and business 7) Providing social services 8) Credit services for income generation 4.1.4 Construct Farmer Centre. - Keep efficient management of FO and close communication between FO and agencies concerned or within communities. - ASC (DAS) - ASC (| Inland fisheries development | | | - NAQDA | - Extension officers | - FO establishes a "Sub-committee for Income |
| 6) Small enterprises and business 7) Providing social services of social services of including training for farmers and staff) 4.14 Construct Farmer Centre. - Keep efficient management of PO and close communication between FO and agencies concerned or within communities. 4.2 Supplying irrigation water in accordance with schedule. 4.2.1 Rehabilities and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Capacity of the staff for O&M is - Capacity of the staff for O&M is - Staff in ID & IMD, ID and external staff - ID, IMD - ID and external staff - Vehicles and equipment - Training facilities - Training equipment - Training fa | 4) Vocational training | | | - NAITA, NYSC | - Instructor | Generation and Social Services" for dealing |
| 7) Providing social services 8) Credit services for income generation 4.1.4 Construct Farmer Centre. 4.2 Supplying irrigation water in accordance with schedule. 4.2.1 Rehabilite and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 4.2 Supplying irrigation water in accordance with schedule. 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is | Employment information services | | | - NYSC | - Instructor | income generating activities. |
| 8) Credit services for income generation 4.1.4 Construct Farmer Centre. - Keep efficient management of FO and close communication between FO and agencies concerned or within communities. - ASC/DAS, IMD - Farmer centre x Ino. - ASC/DAS, IMD - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - ASC/DAS, IMD - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - ASC/DAS, IMD - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Farmer centre x Ino. - ID, IMD - Staff in ID & IMD, farmers - ID, IMD - Staff in ID & IMD, farmers - ID, IMD | Small enterprises and business | | | - SEDD/MYASRD | - Instructor | |
| 4.1.4 Construct Farmer Centre. 4.1.5 Construct Farmer Centre. 4.1.6 Construct Farmer Centre. 4.2 Supplying irrigation water in accordance with schedule. 4.2.1 Rehabilite and improve irrigation facilities. 1 Investigation, detailed design & tendering (including training for farmers and staff) 2 Implementation of rehabilitation / improvement 3 Turmover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1 Training for farmers and staff) - Awareness for water management. 1 Training for farmers - Awareness for water management. - Irrigation planning and scheduling. - Water distribution and monitoring. 4.2.3 Strengthen O&M of irrigation facilities. 1 Training for the government staff - Awareness for water management. - Irrigation planning and scheduling. - Water distribution and monitoring. 4.2.3 Strengthen O&M of irrigation facilities. 1 Training for the government staff - Awareness for water management. - Irrigation planning and scheduling. - Water distribution and monitoring. 4.2.3 Strengthen O&M of irrigation facilities. 1 Training for the government staff - Awareness for water management. - Irrigation planning and scheduling. - Water distribution and monitoring. 4.2.3 Strengthen O&M of irrigation facilities. 1 Training for the government staff - Proper water management is done by the farmers (FO). - To, IMD - D, IMD - Farmer centre x Ino. - Multi-purpose center with office room for FO & Animator, meeting places and temporary store space of farm inputs for cooperative purchasing - Canal structures to be rehabilitated (regulators, turnouts, measuring devices, etc.) - Rehabilitated (regulators, turnouts, measuring for offerences and staff) - ID, IMD - ID, IMD - ID and extern | 7) Providing social services | | | - ASC/DAS | - DO/ASC, Farmer Animator | |
| close communication between FO and agencies concerned or within communities. 4.2 Supplying irrigation water in accordance with schedule. 4.2.1 Rehabilite and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management 1) In Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) I Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) I Training for the government staff - Capacity of the staff for O&M is - Capacity of the staff or O&M is - Capacity of the staff or O&M is - Capacity of the | 8) Credit services for income generation | | | - ASC/DAS | - DO/ASC, Farmer Animator | |
| agencies concerned or within communities. 4.2.1 Rehabilite and improve irrigation facilities. 1 Investigation, detailed design & tendering (including training for farmers and staff) 2.1 Implementation of rehabilitation / improvement 3.1 Turnover process of facilities 4.2.2 Improve water management 4.2.2 Improve water management 4.2.3 Improve water management 1 Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2.2 Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring - Water distribution and mo | 4.1.4 Construct Farmer Centre. | - Keep efficient management of FO and | | - ASC/DAS, IMD | - Farmer centre x 1no. | - Multi-purpose center with office room for |
| 4.2.1 Rehabilite and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Capacity of the staff for O&M is - Capacity of the staff for O&M of main | | close communication between FO and | | | | FO & Animator, meeting places and |
| 4.2.1 Rehabilite and improve irrigation facilities. 1) Investigation, detailed design & tendering (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Farmers participation to formulate the plan can be promoted. - Proper water management and O&M can be achieved. - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Farmers participation to formulate the plan can be promoted. - Proper water management and O&M can be achieved. - Irrigation facilities - Training for InD & IMD - ID, IMD - Staff in ID & IMD, farmers - ID, IMD - I | | agencies concerned or within communities. | ` | | | temporary store space of farm inputs for |
| 1) Investigation, detailed design & tendering (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Farmers participation to formulate the plan can be promoted Proper water management and O&M can be achieved Irrigation facilities can be handed over in proper condition. - Capacity of the staff for water management is improved. - Training for the government staff - Awareness for water management - Training acilities - Farmers are responsible for water management below D-canals. - Farmers are responsible for owarer management below D-canals. - ID, IMD - ID, IMD - ID, IMD - ID, IMD - ID and external staff - ID is responsible for O&M of main | 4.2 Supplying irrigation water in accordance with schedule. | | | | | cooperative purchasing |
| (including training for farmers and staff) 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management 2) Training for farmers - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Awareness for water management - Awareness for water management - Trigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Proper water management is done by the farmers (FO). - Tingation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Proper water management is done by the farmers (FO). - Tingation planning and scheduling - Water distribution and monitoring - Training acquipment - Training acquipment - Training acquipment - Training facilities - Training acquipment - Training acquipment | 4.2.1 Rehabilite and improve irrigation facilities. | | | | | |
| 2) Implementation of rehabilitation / improvement 3) Turnover process of facilities (an be achieved. 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring - Awareness for water management - Irrigation planning and scheduling - Water distribution planning and scheduling - Water distribution and monitoring - Training facilities - Training faci | Investigation, detailed design & tendering | - Farmers participation to formulate | | - ID, IMD | - Staff in ID & IMD, farmers | - Canal structures to be rehabilitated |
| improvement 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring - Proper water management is done by the farmers (PO) Proper water management is done by the farmers (PO) ID, IMD - ID, | (including training for farmers and staff) | the plan can be promoted. | \Box | | | (regulators, turnouts, measuring devices, etc.) |
| 3) Turnover process of facilities (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - ID, IMD - I | 2) Implementation of rehabilitation / | - Proper water management and O&M | | - ID | - Staff in ID (Contractors), | - Rehabilitation of F-canals are carried out by |
| (including training for farmers and staff) 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring - Water distribution and monitoring - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - ID, IMD - ID and external staff - ID is responsible for O&M of main | improvement | can be achieved. | | | farmers | farmers. |
| 4.2.2 Improve water management. 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for the government staff - Awareness for water management - Proper water management is done by the farmers (FO). - Irrigation planning and scheduling - Water distribution and monitoring - Proper water management is done by the farmers (FO). - Irrigation planning and scheduling - Water distribution and monitoring - Proper water management is done by the farmers (FO). - ID, IMD - ID, IMD - ID, IMD - ID, IMD - ID is responsible for water management of main irrigation facilities. - Farmers are responsible for water management below D-canals. - Training facilities - Farmers are responsible for water management below D-canals. - ID, IMD - ID, IMD - ID and external staff - ID is responsible for O&M of main | Turnover process of facilities | - Irrigation facilities can be handed over | | - ID, IMD | - Staff in ID & IMD, | |
| 1) Training for the government staff - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Awareness for water management is improved. - Proper water management is done by the farmers (FO). - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - ID, IMD - ID and external staff - ID is responsible for water management of main irrigation facilities. - Farmers are responsible for water management below D-canals. - Farmers are responsible for water management below D-canals. - ID, IMD - ID, IMD - ID, IMD - ID, IMD - ID and external staff - ID is responsible for water management of main irrigation facilities. - Farmers are responsible for water management below D-canals. | (including training for farmers and staff) | in proper condition. | $ \cdot \cdot \top \cdot \cdot $ | | contractors and farmers | |
| - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Awareness for water management - Proper water management is done by the farmers (FO). - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Irrigation planning and scheduling - Proper water management is improved. - ID, IMD - ID and external staff - ID is responsible for O&M of main | 4.2.2 Improve water management. | | | | | |
| - Irrigation planning and scheduling - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Irrigation planning facilities - Training equipment - ID, IMD - ID, IMD - ID, IMD - ID, IMD - ID and external staff - ID is responsible for O&M of main | Training for the government staff | - Capacity of the staff for water | | - ID, IMD |) ID and external staff | - ID is responsible for water management of |
| - Water distribution and monitoring 2) Training for farmers - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Proper water management is done by the farmers (FO). Training equipment - ID, IMD - Farmers are responsible for water management below D-canals. - Farmers are responsible for water management below D-canals. - Farmers are responsible for water management below D-canals. - Farmers are responsible for Water management below D-canals. - ID, IMD - ID, IMD - ID, IMD - ID, IMD - ID and external staff - ID is responsible for O&M of main | Awareness for water management | management is improved. | | | Vehicles and equipment | main irrigation facilities. |
| 2) Training for farmers - Proper water management is done by the farmers (FO). - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Proper water management is done by the farmers (FO). - ID, IMD IMD, ID and external staff Vehicles and equipment Training facilities Training equipment - ID, IMD IMD, ID and external staff - Farmers are responsible for water management below D-canals. | Irrigation planning and scheduling | | | | Training facilities | |
| - Awareness for water management - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is the farmers (FO). Training facilities Training equipment Training equipment Training equipment Training equipment Training equipment To judy of the staff for O&M of main | Water distribution and monitoring | | │ │ │ │ | | Training equipment | |
| - Irrigation planning and scheduling - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - Capacity of the staff for O&M is - ID, IMD ID and external staff - ID is responsible for O&M of main | 2) Training for farmers | - Proper water management is done by | | - ID, IMD | IMD, ID and external staff | - Farmers are responsible for water |
| - Water distribution and monitoring 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is - ID is responsible for O&M of main | - Awareness for water management | the farmers (FO). | | | Vehicles and equipment | management below D-canals. |
| 4.2.3 Strengthen O&M of irrigation facilities. 1) Training for the government staff - Capacity of the staff for O&M is 1 ID and external staff - ID is responsible for O&M of main | Irrigation planning and scheduling | | | | Training facilities | |
| 1) Training for the government staff - Capacity of the staff for O&M is - ID, IMD ID and external staff - ID is responsible for O&M of main | Water distribution and monitoring | | ▎▎▎▔▅▋▎▎▎ | | Training equipment | |
| | 4.2.3 Strengthen O&M of irrigation facilities. | | $ \cdot \cdot \top \cdot $ | | | |
| Avarances programme for ORM improved | 1) Training for the government staff | - Capacity of the staff for O&M is | | - ID, IMD | ID and external staff | - ID is responsible for O&M of main |
| - Awareness programme for Occar improved. | Awareness programme for O&M | improved. | | | Vehicles and equipment | irrigation facilities. |
| - Irrigation planning and scheduling | Irrigation planning and scheduling | | | | Training facilities | |
| - Water distribution and monitoring | - Water distribution and monitoring | | ▎▎▎▔▄▋▍▎▐ | | Training equipment | |

Plan of Operation - Mahananneriya Medium Irrigation Scheme (2/2)

| Activities | Expected Results | Schedule (Year) | Agencies | Inputs | Remarks |
|---|---|--------------------------|-------------------------------------|--|---|
| O) T | • | 1st2nd3rd4th5th6th7th8th | in Charge | • | 71.6.0016.0 |
| Training for farmers Awareness programme for O&M Irrigation planning and scheduling Water distribution and monitoring | - Farmers can manage the irrigation facilities by themselves. | | - ID, IMD | IMD, ID and external staff Vehicles and equipment Training facilities Training equipment | - Farmers are responsible for O&M of facilities below D-canals. |
| 4.3 Improving agricultural activities. 4.3.1 Promote OFC cultivation. | - Extent OFC occupies about 10% of paddy area in Yala. | | - PDOA (NWP) | PDOA (NWP), Farmer Animator, etc. | - Promoting activities are done independently by FO, and PDOA (NWP) provide necessary information and guidance to them. |
| 4.3.2 Strengthen agricultural extension services.1) Field programs | - Level-up farmers' knowledge for | | | | |
| Adaptive trials Small-scale demonstration Cropping pattern demonstration | crop diversification and proper farming practices of crop | | PDOA (NWP) | PDOA (NWP), DOA, Farmer | Demonstration, trial, IPM etc. |
| - Large-scale demonstration - Productivity increase programme - IPM 2) Farmer training programmes | - Improve farmers' technique for crop | | | Animator, etc. | Necessary cost is funded by the Project. |
| Induction farmer training Induction farmer guidance Field day Workshop/mass guidance Seed campaign Study tour | cultivation | | PDOA (NWP) | DOA, DOI, PDOA (NWP), external staff etc. | Training, study tour etc. Necessary cost is funded by the Project. |
| Seed production programme | - Bringing-up of seed growers | | / - PDOA (NWP) | Provision of registered seeds, technical guidance of AI | , |
| 4.3.3 Improve marketing of farm inputs and outputs. 1) Improve marketing of farm inputs - Establishing group purchasing system of farm inputs 2) Improve marketing of farm outputs | The farmers can purchase adequate quantity of farm inputs before the season. Improve access to market for selling | - | - IMD, ASC | - DO/ASC, PDOA (NWP), Instituional Officer/IMD, Animator | - Group purchasing system is linked with agricultural extension and group loan. |
| Establishing pola Establishing collecting point of farm | products. | | - ASC/DAS - ASC/DAS | - No facilities - No facilities | |
| products - Establishing cooperative shipping - Establishing marketing information service - Improving quality of products | | | - ASC/DAS - PMU - ASC/DAS | - No facilities - Bulletin of KARTI - No facilities | Improving activities are done independently by FO, and ASC/DAS provide necessary information and guidance to them. |
| 4.3.4 Improve access to credit services. - Introducing group loan system (cultivation loan) - Introducing revolving loan system | Improve access to credits for purchasing farm inputs, agri. equipment and capital of income generating activities. | | - PMU, banks & DAS - PMU, DAS | - Loaned by private banks - FO's owned capital or | - Group loan is provided through FO, and invested to purchase farm inputs Loan for procurement of machinery & farm |
| (medium term credit) - Promoting multi aid credit | g | | - ASC/DAS | arragened by PMU. | facility, and for capital of small enterprises - Loans for living and income generation and managed by women's group. |
| 4.3.5 Promote reforestation in the catchment area. | - Deforestation in the catchment area is reduced. | | - PDOA (NWP), ASC/DAS | - Seedlings | FO promotes planting of tree crops in the catchment area. Provincial seed farm (Galugamwa) is |
| 4.3.6 Establish surveillance system of wild elephant | - Damage by elephant is decreased. | | - ASC/DAS | | improved by the Project. |
| in FOs. (Follow-up programme) | | | - IMD, DAS | | |



17.3.5 Mahananneriya Minor Scheme Group (Cascade)

(1) General

Mahananneriya minor scheme group (Cascade) consists of six minor schemes of Kallanchiya, Arthikulama, Ihalagama, Palumailawa, Tambare, and Iharananneriya. These groups of minor schemes are located in the midpoint of Anuradhapura and Kurunegala and Mahananneriya medium scheme is located in the downstream of the cascade. Total number of farm households of the minor schemes is 450 and the irrigated paddy area is 117 ha. The farmers' organisation is organised into five in the scheme that Palumailawa and Iharagama are in one FO. The present situation is described in Table 15.1.1.

The PDM of Mahananneriya minor schemes is shown on page 17-58. The development plan is formulated as "economical status of the rural community is improved" for the Project purpose and the target group is farmer/community. The detail contents are given in the table of the Plan of Operation on page 17-59 and the Project layout map is shown on page 17-61. The summary of the plan of the scheme is as follows.

(2) Strengthening Farmers' Organisation

The concrete plans for the strengthening programmes of FO are as follows.

1) Awareness Programme and Educational/Training Programmes

Awareness programme

Awareness programme is applied for the both "Farmers" and "Official institutions" as mentioned before. Its contents and implementation procedure are as detailed in Section 9.2. The multifunctional FO is to be established through this programme with self-motivation of the entire community.

Education/ training programme

Following education/training programmes for fostering leaders of the multipurpose FO are to be conducted.

Education/Training Programmes for FO Leader
– Mahananneriya Minor Scheme Group

| Training Subject | Contents | Training Method |
|---------------------------|--------------------------------------|---------------------------|
| 1) Draft preparation of | Draft preparation of the Articles of | Lecture in Mahananneriya |
| the Articles of | Organisation and knowledge of the | Agrarian Service Centre |
| Organisation amend- | systems and the procedures re- | (ASC/DAS) and practical |
| ment | quired on the process. | training by Farmer Anima- |
| 2) Practical training the | Planning, participatory manage- | tor. |
| basic operation and | ment, practical operation & man- | |
| management of the | agement of FO, practical financial | |
| organisation | management, financial resource | |
| | management, role & systems of | |
| | Official concerned, etc. | |

(continued)

| 3) Training on the | Practical; training of the opera- | Lecture by ASC/DAS, |
|------------------------|------------------------------------|------------------------------|
| income generation | tion/management of Rural Credit | IMD, private bank (PMU |
| activity | (Group-loan, Revolving-loan) and | arranges with banks) & |
| | co-operative purchasing/selling. | practical training by Farmer |
| | | Animator. |
| 4) Information network | Establishing information networks | Holding joint workshops |
| formation/Aware- | with external organisations for | with external organisations |
| ness training | collecting and sharing information | and the 5 FOs for sharing |
| | in and around the community. | information. |

These programmes are conducted separately from the Awareness programme within the regular works of Mahananneriya ASC. Education and training facilities of Mahananneriya ASC are to be improved and strengthened (refer Chapter 17.4). The upper two schemes of the Mahananneriya minor schemes are supported by Galgamuwa ASC, and the lower four schemes are by Mahananneriya ASC at present. In order to develop uniformity of the cascade, the support to the entire six schemes by Mahananneriya ASC is proposed.

2) Establishment of Multifunctional Farmers' Organisation

The present FOs are to be reorganised to be multifunctional. Major change in the reorganisation is to set subcommittees under the executive committee and acting on irrigation, agriculture, business of FO, and income generation/social services.

Setting up the Subcommittee - Mahananneriya Minor Scheme Group

| Subcommittees | Purposes and Activities |
|--|--|
| 1) Irrigation | i) Water management, ii) O&M of facilities, iii) Safety operation of irrigation facility, iv) Estimation & collection of Irrigation Service Fee (ISF), and v) Survey on lease/tenant of farmland |
| 2) Agriculture | i) Collaboration with official extension works, ii) Holding technical extension seminar, iii) income generation activity (Home garden and livestock development), iv) Operation of group works as pest control, v) Reforestation in the catchment area (Fruits trees), and vi) Control elephant damage (strengthening control by FO) |
| 3) Businesses of FO | i) Establishment and operation of co-operation purchasing/selling, Pola/collection point, ii) Operation and management of the rural credit service (group loan, revolving loan), iii) Business of FO as farm machin- ery rental service, inland fishery, agro-processing, etc. |
| 4) Income generation/ Social Ser- vices | i) Income generation activities as Vocational training, small-scale enter- prise/business, self-employment, ornamental fish culture and collection of employment information, ii) Promotion of mutual aid credit system, iii) Financial support for income generation, and iv) Promotion of anti alco- hol addict campaign, social welfare, health & sanitary improvement. |

An audit section is proposed to be set for maintaining transparency of FO activities and employing volunteers for close communication with FO members.

3) Income Generation/Social Services through Farmers' Organisations

The subcommittees of "Agriculture" and "Income Generation/Social Services" are carried out income generation activities for farmers and community. The income generation/social services are to be carried out by the self-

motivation of FOs and are targeting poverty groups in the community. Necessary information is to be provided through Mahananneriya ASC and Farmer Animators. The training facilities of NYSC are to be utilised for vocational training, so no extra facility is constructed by the Project.

4) Construction of Farmer Centre

There is no office facility for FO in Mahananneriya minor schemes. Farmer centres are to be constructed for maintaining smooth FO activities and the communication with official institutions concerned. Five centres are to be constructed in the schemes. The operation and management are to be carried out by the FO and the detail is described in Section 17.4.2.

(3) Distribution of Proper Irrigation Water

1) Rehabilitation and Improvement Plan of Irrigation Facilities

The rehabilitation and improvement works in Mahananneriya minor schemes are as follows: (Iharagama scheme is excluded due to the rehabilitation plan is not available)

Rehabilitation and Improvement Plan for Mahananneriya Minor Scheme Group

| Category | Item | Quantity | Description of works |
|------------|------------|----------|--|
| Tanks | Bund | L.S. | Bund widening, Slope protection, Earth filling |
| | Sluice | L.S. | Repair and replacement of sluices |
| | Spillway | L.S. | Minor repair, Downstream protection |
| | Others | L.S. | De-silting, Bathing step |
| Main canal | Earthworks | 3,300 m | Embankment |
| | Structures | 52 Nos. | Turnout |
| | O&M Road | 2,000 m | Earth filling, Gravelling |

Most of the rehabilitation and improvement works in the minor irrigation schemes are carried out for tank. In Ihalananneriya scheme, de-silting of the tank reservoir area is to be conducted.

The works for tank is to be carried out by constructors and the works for main canal is to be conducted by either contractors or farmers. The training courses for rehabilitation and improvement works are programmed in order to reflect farmers' proper intention toward the works and to smoothly carry out the works by the farmers themselves. The following training course for the government staff and the farmers are to be applied.

Training Programme for Rehabilitation and Improvement Works
- Mahananneriya Minor Scheme Group

| A | G . | D : 1 | T . | 0.1: |
|--------------|---------|-------------------|----------|---------------------------------------|
| Activities | Session | Period | Lecturer | Subject of training |
| Training for | First | 1day, pre- | RATPA | Participatory planning, communica- |
| the govern- | | construction | | tion with farmers |
| ment staff | Second | 1day, in the con- | PED | Skill of technology transfer to farm- |
| | | struction | | ers |
| | Third | 1day, post- | PED | Hand-over of O&M responsibility to |
| | | construction | | farmers, follow-up programme |

(to be continued)

| Training for | First | 2 days, pre- | RATPA | Participatory planning, field investi- |
|--------------|--------|-----------------------------|-------|---|
| farmers | | construction | | gation, design and cost estimate |
| | Second | 1 day, pre- | PED | Contract for rehabilitation works, |
| | | construction | | farmers' contribution |
| | Third | 2days, in the construction | PED | Quality control for earthworks and concrete, preparation of document for rehabilitation, field inspection |
| | Fourth | 1day, post- construction | PED | Follow-up programme |

RATPA: Research and Advisory Team for Participatory Approach

Education/training for officers is applied one course for the Provincial technical staff. One course is to be conducted for farmers, the office bearers of FOs and the member of the irrigation subcommittee.

2) Training for Water Management

The training programme on water management for farmers is proposed as follows:

Training Programme for Water Management - Mahananneriya Minor Scheme Group

| Activities | Session | Period | Lecturer | Subject of training |
|----------------------|---------|--------------------------------|----------|---|
| Training for farmers | First | 1day, pre- construction | RATPA | Awareness programme, communication with government staff, communication among farmers, communication with other FOs |
| | Second | 1.5days, post- construction | ID, PED | Preparation of water distribution programme, skill for gate operation of tank and off-takes |
| | Third | 1 day | ID, PED | Follow-up programme |

RATPA: Research and Advisory Team for Participatory Approach

Education/training is to be conducted one course at three locations for two schemes each and the office bearers of FOs and the subcommittee members are to be participants.

3) Training for O&M of Irrigation Facilities

The training on O&M of irrigation facilities for farmers is proposed as follows:

Training Programme for O&M- Mahananneriya Minor Scheme Group

| Activities | Session | Period | Lecturer | Subject of training |
|------------|---------|-----------------|----------|---------------------------------------|
| Training | First | 1day, pre- | RATPA | Awareness programme |
| for | | construction | | |
| farmers | Second | 1.5days, in the | ID, PED | Preparation of maintenance pro- |
| | | construction | | gramme, organising a patrol, organis- |
| | | | | ing a Sramadana, collection of O&M |
| | | | | charge |
| | Third | 1day | ID, PED | Follow-up programme |

RATA: Research and Advisory Team for Participatory Approach

Education/training is to be conducted one course at three locations for two schemes each and the office bearers of FOs and the subcommittee members are to be participants.

(4) Improvement of Agriculture Activities

1) Promotion of OFC Cultivation

The results of PCM workshop have raised the paddy productivity as well as promotion of OFC cultivation. However, water resources potentials of Mahananneriya minor schemes and its potential for increasing cultivation area after the project implementation are high (refer Section 9.4.3). Traditionally farmer practices paddy cultivation when water is available in the field. Therefore, Paddy strengthening cropping pattern is proposed and also an increase of OFC cultivation in Yala. The proposed cultivation area and production of respective crop are as follows, and the proposed cropping system is shown in Figure 15.3.1.

Cropping Area and Production With & Without Project
- Mahananneriya Minor Scheme Group

| | | Without Project | | | With Project | | | Imaraga |
|-------|--------------|-----------------|----------|------------|--------------|----------|------------|----------------|
| | | Area | Yield | Produc- | Area | Yield | Produc- | Increase (ton) |
| | | (ha) | (ton/ha) | tion (ton) | (ha) | (ton/ha) | tion (ton) | (ton) |
| Paddy | - Maha | 68 | 3.16 | 215 | 97 | 5.0 | 485 | 270 |
| | - Yala | 5 | 4.40 | 22 | 42 | 5.0 | 210 | 188 |
| OFC | | | | | | | | |
| | - Maize | 9 | 2.20 | 20 | - | - | - | -20 |
| | - Sesame | 2 | 1.09 | 2 | 1 | 0.9 | 1 | -1 |
| | - Pulses | 3 | 0.22 | 1 | 1 | 1.5 | 1.5 | 0.5 |
| | - Chili | 5 | 0.56 | 3 | 1 | 1.5 | 1.5 | -1.5 |
| | - B'onion | - | - | - | 1 | 10.0 | 10 | 10 |
| | - Red onion | - | - | - | - | - | - | - |
| | - Vegetables | 2 | 1.48 | 3 | 1 | 10.0 | 10 | 7 |

2) Strengthening Agricultural Extension Services

Major technical improvements required for promoting OFC cultivation and increasing paddy productivity in Mahananneriya minor schemes are as follows.

| OFC Promotion | Increase Paddy Productivity |
|---|---|
| - Introduction of group cultivation of OFC. | - Introduction of appropriate cultivation |
| - Introduction of appropriate cultivation | technique. |
| technique. | - Dissemination of quality seed. |
| - Collection of market information. | - Dissemination of appropriate seed rate & |
| - Improvement of cultivation technique. | plant density. |
| - Preparation of OFC seed. | - Straight fertiliser & organic material use. |
| - Improvement of rural credit. | - Practice of IPM. |
| - Improvement of OFC marketing system. | - Effective labour use. |

PDOA of North-western province is to conduct following extension activities for promoting OFC cultivation and increasing paddy productivity. Agriculture subcommittee of the FO is to carry out education activity for group cultivation. Improvement of marketing inputs materials and the rural credit are mentioned in Sections 3) and 4).

Agriculture Extension Activity - Mahananneriya Minor Scheme Group

| Programme | Objectives | Method & Required Materials |
|--|--|---|
| Pried Trial / Demonstration Programme Adaptive trials Small-scale demonstration Cropping pattern demonstration Large-scale demonstration Productivity increase programme IPM programme | - To develop technology for improving productivity - To demonstrate recommended practices & irrigation technique on crop diversification & crop productivity increase. | Conducted by PDOA of North western province. Use farmers' field for demonstration Farmer training programme including quality seed campaign, field tour Seed production programme include provision of register seed and techni- |
| 2) Farmer Training Programme - Induction farmer training - Induction farmer guidance - Farmer training - Workshop - Quality seed campaign - Study tour 3) Seed Production Programme - Paddy seed production - OFC seed production | - To disseminate cultivation technique directly to farmers. - To foster seed production farmers. | cal guidance. Production expense is born by farmers. Required material cost for extension activities are born by the Project. Details are shown in Tables R 3.2-1/12 to 7/12 of Appendix-R. |

3) Improvement of Marketing of Agricultural Outputs and Inputs Materials Improvement of inputs materials

Co-operative purchasing of input materials is proposed by FOs. This system is to carry out by linking to a group loan to be mentioned in the improvement of rural credit of the item 4). Awareness and education to Mahananneriya ASC is to be attempted for introducing the system.

Improvement of outputs

Following marketing improvement programme is proposed. These activities are to be carried out by FOs (FO business subcommittee).

Improvement Programme of Marketing Agricultural Products
- Mahananneriya Minor Scheme Group

| Programme | Objectives | Method & Required Materials |
|---|--|--|
| 1) Setting Pola | To activate marketing of farm products by open Polas. To sell small quantity products from home gardens. | Polas are managed by FOs Proposed that Pola is to set without any construction and no Pola fee is to charge. Guidance for setting Pola is to be carried out to FOs by Mahananneriya ASC/DAS and suitable location and day are to be decided by contact with merchants. |
| 2) Setting Collecting Point of Farm Products | To set contact points of produc- ers with mer- chants on outputs marketing. | No required materials for setting the system. Selections of merchants and locations are determined by farmers and Proceeded by FOs. Mahananneriya ASC/DAS is provide guid- |
| 3) Establishing Co-operative Shipping Sys- tem | To sell products regularly and develop new mar- kets. | ance to both merchants and FOs on collecting points and co-operative selling. |

(continued)

| 4) Establishing of Market Infor- mation Collec- tion | To collect information of market prices. | Regular purchasing of KARTI publication. PMU will provide information on purchasing. |
|---|--|--|
| 5) Improving Quality | To improve quality of products. | No required materials. Mainly operating for women groups. Quality standard of products is not established and it is judged by merchants. FOs have to collect information of quality and disseminate to farmers. Mahananneriya ASC/DAS is to provide guidance on information collection. |

4) Improvement of Rural Credit

In order to improve rural credit, introduction of the following three loans is proposed.

Improvement of Rural Credit - Mahananneriya Medium Scheme

| Programme | Objectives | Method & Required Materials |
|--|---|--|
| 1) Introduction of Group Loan (cultivation loan) | For purchasing inputs materials. Linkage with cooperative purchasing system. | Mainly loan by private banks. It is considered to be possible to introduce for group loan by private banks, because this loan is practised at present. PMU is to request to banks on introduction. The system management/operation of farmer sides is carried out by FOs (subcommittee) |
| | <u> </u> | Mahananneriya ASC/DAS is to educate FOs on the introduction and training FO leaders on the opera- tion works. |
| 2) Introduction of Revolving Loan (me- dium term loan) | For purchasing farm machinery and financing small-scale enterprise. | Operation & management by FOs (subcommittees). Principally the fund is to be prepared by FOs. If its capital is insufficient, FOs obtain a loan from bank, and PMU provides support services to FOs. Galgamuwa ASC/DAS is to provide training for lending works. |
| 3) Introduction of Mutual Aid Credit system | For emergency need on living or financing of self- employment. | Loan from the Women's Bank. Mainly operating for women groups. Income Generation/ Social Services Subcommittee is deal with education but not on operation. |

5) Promotion of Reforestation in the Catchment Area

Planting of fruit trees such as mango and jackfruit is to be promoted for the environment conservation in the upper part of tank of the catchment area. The agriculture subcommittee of the FO is to carry out this fruits cultivation and PDOA is to provide technical guidance and seedlings.

6) Establishment of Watch and Protection System for Wild Elephant

It is proposed to set several observation points in the elephant infested area and organise the watching and protecting system among the community members. The agriculture subcommittee of the FO is to operate and manage the system and the FO is to be equipped with thunder-flashes and crackers.

Project Design Matrix - Mahananneriya Minor Irrigation Schemes (Cascade)

| Name of Project | : Mahananneriya Minor Schemes Development Project for Irrigated Agriculture and the Community | | | |
|-----------------|---|----------|-----------|-------------------|
| Project Area | : Mahananneriya Minor Irrigation Schemes (Cascade) | Duration | : 5 years | Date: 31 May 2000 |
| | (Kallanchiya, Arthikulama, Mailewa, Ihalagama, Thambare, and Ihala Nanneriya) | | | |

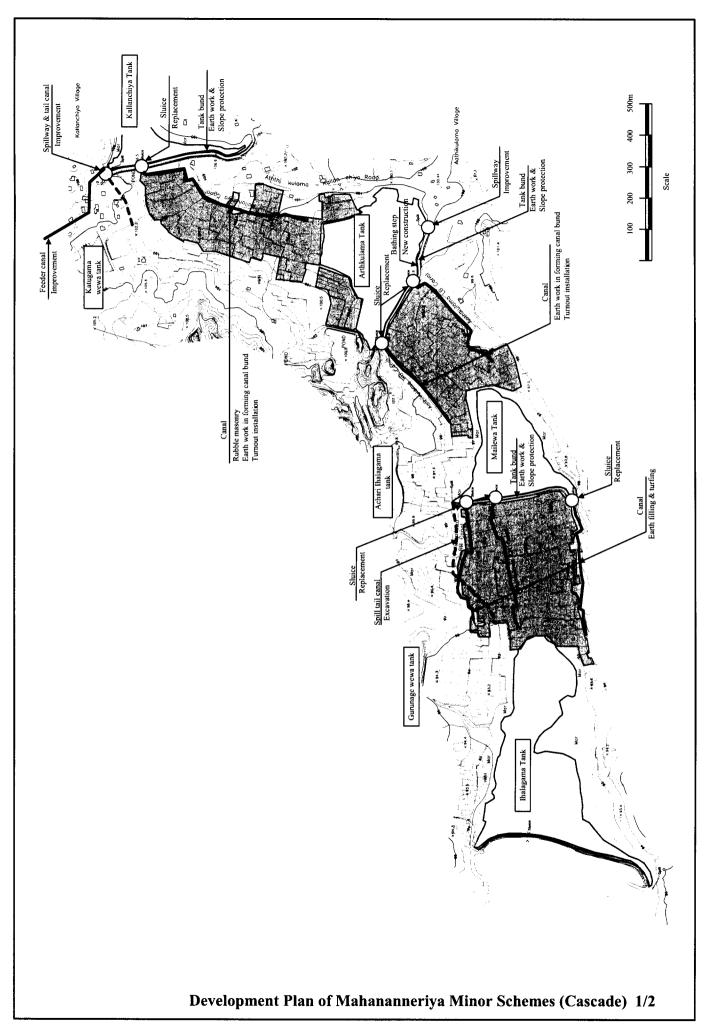
| Executing Agency : Ministry of Irrigation and Power (MIP) / Prov | incial Engineering Department Target Gr | oup : Farmers / all villagers in the Mahananneriya Minor Schem | es (Cascade) |
|--|--|--|---|
| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
| Overall Goal | 1.1 Development activities are planned and implemented | 1.1 Monitoring reports of the project | Agricultural policy of the Government |
| 1.1 Achieving sustainable development of regional agriculture | independently by FOs and farmers themselves. | office (PMU) | not hinder implementation of the |
| 1.2 Improving agricultural productivity of the rural community | 1.2 Agriculture is economically feasible. | 1.2 Monitoring reports of PMU | project. |
| Project Purpose | | | Agricultural products do not have to |
| 2.1 Socio-economic status is improved. | 2.1 Total gross income of farmers increase progressively by th | e 2.1 Monitoring reports of PMU | face unreasonable competition from |
| | end of the project. | | imported products. |
| <u>Outputs</u> | 3.1.1 FOs provide various services including income generation | | There is no extreme natural disaster |
| 3.1 FOs having multi functions relating to irrigation, | from the 3rd year after commencement of the project. | and monitoring reports of PMU | (drought, heavy rain, etc.). |
| agriculture, small enterprises, income generations, social | 3.1.2 Committee and sub-committee meetings are held monthly | · · | Government enforces existing rules |
| services are established and activated. | the 3rd year after commencement of the project. | sub-committee meetings | and regulations to protect environment. |
| 3.2 Irrigation water is properly supplied in accordance with | 3.2 Farmers are able to receive water in accordance with a scho | and a second of PMU 3.2 Monitoring reports of PMU | Other sectors have no drastic and |
| a schedule. | by the end of the project. | | sudden change in the economic |
| 3.2.1 Irrigation facilities are rehabilitated and improved. | 3.2.1 Facilities necessary for proper water supply are repaired a | <u> </u> | activities. |
| | improved by the 3rd year after commencement of the project | | Social conditions in the community |
| 3.2.2 Proper water management is done by FOs. | 3.2.2 Over 80% of farmers attend Kanna meeting from 4th year | 3.2.2 Minutes of Kanna meeting | have no drastic change. |
| | after commencement of the project. | 222 P 1 272 | The project has no adverse effect from |
| 3.2.3 Irrigation facilities are maintained. | 3.2.3 Over 80% of farmers participate "Shramadana" from 4th yea | r 3.2.3 Records of FOs. | the other development projects, even if |
| | after commencement of the project. | | they overlapped. |
| 3.3 Agricultural activities are improved. | 3.3 Agricultural productivity of farmers is improved from the | | |
| 221 000 10 0 | year after completion of construction works. | and records of ASC (AI) | |
| 3.3.1 OFC cultivation is expanded. | 3.3.1 Extent of OFC occupies about 10% of paddy area in Yala l | by 3.3.1 Animators' field survey reports | |
| 2.2.2. W. 11 . f = 11 1 OFC | the end of the project. | 2.2.2 A minute and Guld assessment | |
| 3.3.2 Yield of paddy and OFC are increased. | 3.3.2 Yields of crops reach the level of "projected yields" by the 3rd year after completion of construction works. | 3.3.2 Animators' field survey reports 3.3.3 (1) FOs' account books and | |
| 3.3.3 Marketing of farm inputs and outputs is | | * * | |
| | 3.3.3 (1) Group purchasing of farm inputs is implemented active | general meeting | |
| improved. | by the 3rd year after commencement of the project. 3.3.3 (2) Collecting point for OFC is established in the area by | ū ū | |
| | 3rd year after commencement of the project. | reports | |
| 3.3.4 Access to credit services is improved. | 3.3.4 Group loan, revolving loan and multi-aid credit systems a | 1 | |
| 5.5.4 Access to credit services is improved. | established by the 3rd year after commencement of the proj | | |
| 3.3.5 Deforestation in the catchment area is reduced. | 3.3.5 FOs/farmers start planting of tree crops in the catchment ar | • | |
| Sister Bergressarion in the eaconneit area is reduced. | from the 3rd year after commencement of the project. | ou sisso riminator s riela survey reports | |
| 3.3.6 Damage by elephant is decreased. | 3.3.6 Surveillance system of wild elephant is established in FO | s by 3.3.6 Animators' field survey reports | |
| | 3rd year after commencement of the project. | | |
| Activities | Inputs | L . | Trained Officers stay with the project. |
| 4.1 Strengthening FOs. | Foreign Donor | Sri Lankan Side | Local government and front line officers |
| 4.1.1 Implement awareness and training programmes. | Mobilization | (1) Sri Lankan Government | positively support the project. |
| 4.1.2 Reorganize FOs to have multi function. | Awareness and training costs | Manpower - Local engineers/experts | No action will be taken by government |
| 4.1.3 Implement income generation and social | Rehabilitation & improvement cost | Administrative officers | to destabilize local market. |
| services through FOs. | Equipment - Vehicles | - Supporting staff | Pre-conditions |
| 4.1.4 Construct Farmer Centres | - O&M equipment | Facilities of PMU | The Sri Lankan Government raises all |
| 4.2 Supplying irrigation water in accordance with schedule. | - Agri. extension | Recurrent cost for project | project funds including foreign cur- |
| 4.2.1 Rehabilitate and improve irrigation facilities. | Facilities | implementation | rency portion, local currency portion |
| 4.2.2 Improve water management. | - Facilities for agri. extension | (2) Farmers | and recurrent cost of PMU. |
| 4.2.3 Strengthen O&M of irrigation facilities. | (including provincial seed farm of Galugamwa) | 10% of rehabilitation and improve- | MIP and agencies concerned establishes |
| 4.3 Improving agricultural activities. | - Farmer centers | ment cost of all irrigation facilities | organization to implement project. |
| 4.3.1 Promote OFC cultivation. | Monitoring cost | (3) NGO for implementing awareness and | To operate the project, necessary offi- |
| 4.3.2 Strengthen agricultural extension services. | Cost for engineering services | training programmes | cers and physical facilities are provided |
| 4.3.3 Improve marketing of farm inputs and outputs. | Physical contingency | | by MIP and agencies concerned. |
| 4.3.4 Improve access to credit services. | Price contingency | | |
| 4.3.5 Promote reforestation in the catchment area. | | Total Project Cost | |
| 4.3.6 Establish surveillance system of wild elephant in FOs. | | | |

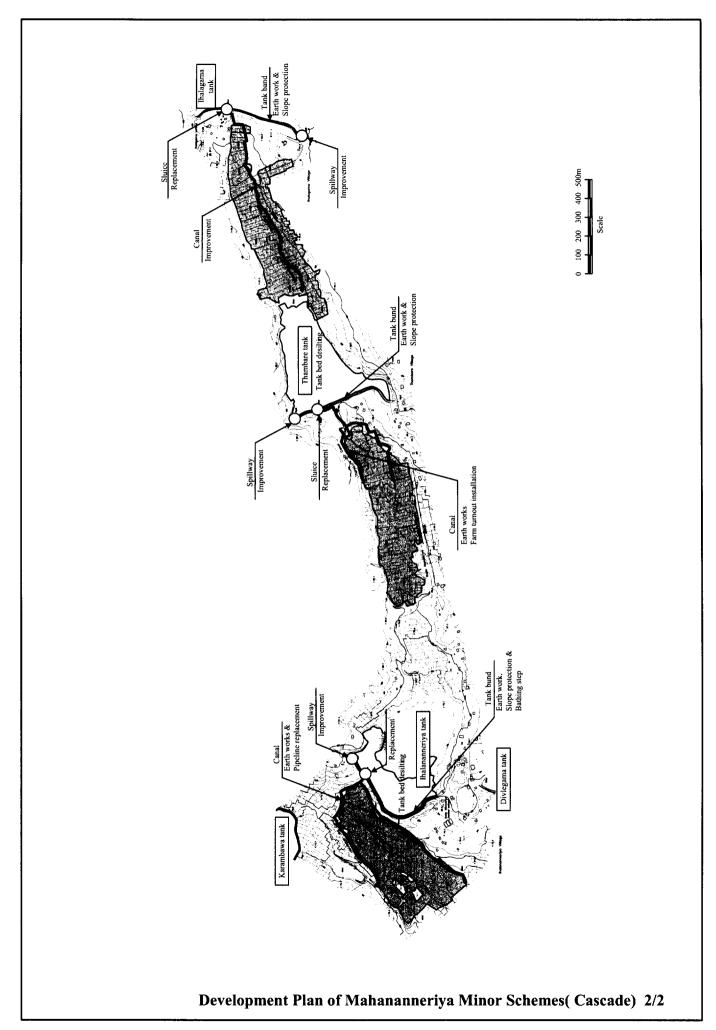
Plan of Operation - Mahananneriya Minor Schemes (Cascade) (1/2)

| Schedule (Year) Agencies | | | | | |
|--|--|--|----------------------------|--|---|
| Activities | Expected Results | 1st2nd3rd4th5th6th7th8th | in Charge | Inputs | Remarks |
| 1. Mobilization of PMU | | - Istendord+thoth/thoth | | | |
| Awareness programme: Officers of agencies concerned | 1 | ҴӀӀӀӀӀ | | | |
| 1 5 | | 19 | | | |
| 4.1 Strengthening farmers' organisation. 4.1.1 Implement awareness and training programmes. | - Level-up farmers' and community | | | | - Providing training programme for |
| Awareness programme | people's knowledge for FOs. | $1 \perp 1 \mid 1 \mid 1 \mid 1 \mid 1 \mid 1$ | - PMU (KARTI) | - Trainers, moderators | participatory planning |
| 2) Training to FOs' leaders for | - Development component is imple- | | - ASC/DAS, IMD | - DO/ASC, Farmer Animator | - A Community Coordinating Committee |
| operation and management of FOs | mented independently by FOs/farmers. | | | - Organizational expert (IMD) | (CCC) is established in each community. |
| 4.1.2 Reorganize FOs to have multi function. | - FOs are strengthened by rising in | | | | - Re-organization is decided by the |
| 1) Establishing organization of multi-function | social standing through providing | | - ASC/DAS, IMD | DO/ASC, Farmer Animator | community's general meeting. |
| 2) Guidance for preparing articles & by-laws | various services to the community. | | - ASC/DAS, IMD | Organizational expert (IMD) | Providing necessary guidance and |
| for organization of multi-function | | - | | | information for re-organization |
| 4.1.3 Implement income generation and social | - Increasing farmers' income | | | | |
| services through FOs. | | | | | |
| 1) Home garden development | | | - PDOA (NWP) | - Extension officers | - Income generating activities are |
| 2) Livestock development | | | - PDAPH | - Extension officers | implemented independently by FO. |
| 3) Inland fisheries development | | | - NAQDA | - Extension officers | - FOs establish a "Sub-committee for Income |
| 4) Vocational training | | | - NAITA, NYSC | - Instructor | Generation and Social Services" for dealing |
| 5) Employment information services | | | - NYSC - SEDD/MYASRD | - Instructor - Instructor | income generating activities. |
| 6) Small enterprises and business7) Providing social services | | | - SEDD/MTASKD - ASC/DAS | - Instructor - DO/ASC, Farmer Animator | |
| 8) Credit services for income generation | | | - ASC/DAS - ASC/DAS | - DO/ASC, Farmer Animator | |
| 4.1.4 Construct Farmer Centres. | - Keep efficient management of FOs and | | - ASC/DAS, IMD | - Farmer centre x 5nos. | - Multi-purpose center with office room for |
| 1111 Constact Lames Control. | close communication between FOs and | | ABC/B/B, IMB | Turner centre x 5nos. | FO & Animator, meeting places and |
| | agencies concerned or within communitie | I | | | temporary store space of farm inputs for |
| 4.2 Supplying irrigation water in accordance with | schedule. | Î | | | cooperative purchasing |
| 4.2.1 Rehabilite and improve irrigation facilities. | | | | | |
| Investigation, detailed design & tendering | - Farmers participation to formulate | | - ID, IMD | - Staff in ID & IMD, farmers | - Canal structures to be rehabilitated |
| (including training for farmers and staff) | the plan can be promoted. | | | | (regulators, turnouts, measuring devices, etc.) |
| 2) Implementation of rehabilitation / | - Proper water management and O&M | 🗯 | - ID | - Staff in ID (Contractors), | - Rehabilitation of F-canals are carried out by |
| improvement | can be achieved. | | m n.m | farmers | farmers. |
| 3) Turnover process of facilities | - Irrigation facilities can be handed over | 🗭 | - ID, IMD | Staff in ID & IMD, contractors and farmers | |
| (including training for farmers and staff) 4.2.2 Improve water management. | in proper condition. | | | contractors and farmers | |
| Training for the government staff | - Capacity of the staff for water | | - ID. IMD | , ID and external staff | - ID is responsible for water management of |
| - Awareness for water management | management is improved. | I_ | , | Vehicles and equipment | main irrigation facilities. |
| - Irrigation planning and scheduling | ' | ¬ _ | | Training facilities | |
| - Water distribution and monitoring | | ▎▕▝▀▃▎▎▏ | | Training equipment | |
| 2) Training for farmers | - Proper water management is done by | 💳 | - ID, IMD | IMD, ID and external staff | - Farmers are responsible for water |
| - Awareness for water management | the farmers (FOs). | | | Vehicles and equipment | management below D-canals. |
| - Irrigation planning and scheduling | | ▎┌│┷┤╎╎┆ | | Training facilities | |
| - Water distribution and monitoring | | ▎▕▕▔▄▋▏▎▕ | | Training equipment | |
| 4.2.3 Strengthen O&M of irrigation facilities. | | | | | |
| 1) Training for the government staff | - Capacity of the staff for O&M is | | - ID, IMD | ID and external staff | - ID is responsible for O&M of main |
| - Awareness programme for O&M | improved. | [= | | Vehicles and equipment | irrigation facilities. |
| - Irrigation planning and scheduling | | 📥 | | Training facilities | |
| - Water distribution and monitoring | | | | Training equipment | |

Plan of Operation - Mahananneriya Minor Schemes (Cascade) (2/2)

| A set Miss | E a colo I Para Ila | Schedule (Year) | Agencies | Y | P |
|---|--|-------------------------------------|--|--|---|
| Activities | Expected Results | 1st2nd3rd4th5th6th7th8th | in Charge | Inputs | Remarks |
| 2) Training for farmers - Awareness programme for O&M - Irrigation planning and scheduling - Water distribution and monitoring 4.3 Improving agricultural activities. | - Farmers can manage the irrigation facilities by themselves. | | - ID, IMD | IMD, ID and external staff Vehicles and equipment Training facilities Training equipment | - Farmers are responsible for O&M of facilities below D-canals. |
| 4.3.1 Promote OFC cultivation. | - Extent OFC occupies about 10% of paddy area in Yala. | | - PDOA (NWP) | PDOA (NWP), Farmer Animator, etc. | - Promoting activities are done independently by FOs, and PDOA (NWP) provide information and guidance to them. |
| 4.3.2 Strengthen agricultural extension services. 1) Field programs Adaptive trials Small-scale demonstration Large-scale demonstration Productivity increase programme IPM | Level-up farmers' knowledge for crop diversification and proper farming practices of crop | | PDOA (NWP) | PDOA (NWP), DOA, Farmer Animator, etc. | Demonstration, trial, IPM etc. Necessary cost is funded by the Project. |
| 2) Farmer training programmes - Induction farmer training - Induction farmer guidance - Field day - Workshop/mass guidance - Seed campaign - Study tour 3) Seed production programme | Improve farmers' technique for crop cultivation Bringing-up of seed growers | | PDOA (NWP) | DOA, DOI, PDOA (NWP), external staff etc. - Provision of registered seeds, | Training, study tour etc. Necessary cost is funded by the Project. |
| 4.3.3 Improve marketing of farm inputs and outputs. | - Bringing-up or seed growers | $ \cdot \cdot \cdot \cdot $ | - IDOA (IVWI) | technical guidance of AI | |
| Improve marketing of farm inputs Establishing group purchasing system of farm inputs Improve marketing of farm outputs | The farmers can purchase adequate quantity of farm inputs before the season. Improve access to market for selling | | - IMD, ASC | - DO/ASC, PDOA (NWP), Instituional Officer/IMD, Animator | - Group purchasing system is linked with agricultural extension and group loan. |
| Establishing pola Establishing collecting point of farm | products. | | - ASC/DAS - ASC/DAS | No facilitiesNo facilities | |
| - Establishing conecting point of farm products - Establishing cooperative shipping - Establishing marketing information service - Improving quality of products 4.3.4 Improve access to credit services. | - Improve access to credits for | | - ASC/DAS - ASC/DAS - PMU - ASC/DAS | - No facilities - No facilities - Bulletin of KARTI - No facilities | Improving activities are done independently by FOs, and ASC/DAS provide necessary information and guidance to them. |
| Introducing group loan system (cultivation loan) Introducing revolving loan system (medium term credit) | purchasing farm inputs, agri. equipment and capital of income generating activities. | | - PMU, banks & DAS - PMU, DAS | - Loaned by private banks - FOs' owned capital or arragened by PMU. | Group loans are provided through FOs, and invested to purchase farm inputs. Loan for procurement of machinery & farm facility, and for capital of small enterprises Loans for living and income generation and |
| - Promoting multi aid credit 4.3.5 Promote reforestation in the catchment area. | | | - ASC/DAS - PDOA (NWP), ASC/DAS | - Seedlings | Loans for irving and income generation and managed by women's group. FO promotes planting of tree crops in the catchment area. Provincial seed farm (Galugamwa) is improved by the Project. |
| 4.3.6 Establish surveillance system of wild elephant in FOs. | _ Damage by elephant is decreased. | | - ASC/DAS | | |
| (Follow-up programme) | | | - IMD, DAS | | |





17.4 Proposed Plans for Strengthening of Agricultural Support Institutions

The strengthening plan of agricultural support institutions consists of "strengthening of agricultural extension services" and "support programmes for strengthening of agricultural support institutions." The former includes field programmes such as adaptive trials and demonstration farms and farmers training programmes, and the latter is rehabilitation and improvement of agricultural extension facilities of the agencies concerned and levelling-up of staff capability. The former strengthening of agricultural extension services is explained in the each scheme in Section 7.3. In this section, the latter, the support programmes for strengthening of agricultural support institutions are described.

17.4.1 Proposed Areas to be Addressed and Support

The constraints or weakness in the agricultural support institutions identified in the present Study and the proposed agricultural development and income generation plans of the Project dictate that the areas to be addressed for the strengthening of agricultural support institutions for agricultural development should include: i) agricultural support facilities, ii) logistic support and staff training, iii) farmers/FOs support institutions and facilities, and iv) management system and institutional set-up for the agricultural support services. The same for the agricultural sector income generation plans include: i) upgrading of the provincial seed farm in Galugamuwa to expand its capacity to produce quality fruit planting materials, ii)

upgrading of the IFTC, Nikawerativa of PDAPH, NWP and the logistic support strengthening of the project related PDAPHs, and iii) establishment of the Aquaculture Extension Centre (AEC), Anuradhapura of the NAQDA. The support programmes are summarised in the right table.

Support Programmes for Strengthening of Agricultural Support Institutions

| Support Programmes | Institutions |
|--|--------------|
| Institutional Strengthening Programme | |
| 1) Logistic support strengthening | IPEU, |
| 2) Staff training programme | PDOAs |
| 3) Institutional strengthening | (NCP & NWP) |
| 4) Upgrading ISTI, M. Illuppallama | |
| Strengthening of Farmers/FOs Support | |
| Institutions & Facilities | DAS, |
| 1) Establishment of "Farmer Centre" | Kurunegala & |
| 2) AS Centre strengthening programme | Anuradhapura |
| 3) Institutional strengthening programme | |
| Support Programmes for Income Generation | |
| 1) Upgrading of Provincial Seed Farm, | PDOA, NWP |
| Galugamuwa | |
| 2) Upgrading of IFTC, Nikaweratiya | PDAPHs, NWP |
| 3) Establishment of AEC, Anuradhapura | NAQDA |

17.4.2 Support Programmes

The support programmes for the strengthening of the agricultural support institutions have been formulated as follows, taking into account the income generation plans, irrigation works, crop sub-sector agricultural support programmes and other implementation schedules of the Project.

Institutional Strengthening Programmes

| Support Programmes | Objectives | Implementation Method and Required Inputs |
|--|--|---|
| Logistic sup- port strength- ening | Strengthening of logistic support of PDOA & IPEU for the implementation & monitoring of support pro- grams | Programme Components: Provision of motor cycles / computer set for IPEU, PDOA/NCP and PDOA/NWP Executing/Monitoring Agency: PDOAs of NCP & NWP, IPEU |
| 2) Staff training pro- Induction Staff Training - Refresher/ In-service Training | To provide guidance on the | Target Groups: AI, DO (staff of PDOA, PDAPH, NAQDA) Participants: 25 staff/course Duration & Training Method: 3 days (24 hours) in class & fields/course Total courses: 11 Executing/Monitoring Agencies: PDOA, IPEU/DOA, PDAPH, DAS, PMU |
| 3) Institutional strengthening | - Strengthening of guid- ance/supervision/coordi- nation, and research- extension-farmer linkage | Programme components: Strengthening linkage of Farmer, Extension and Research Executing agency: IPEU/DOA, PDOA/NCP, PDOA/NWP |
| 4) Upgrading Inservice Training Institute (ISTI), Maha Illuppallama | Strengthening of training activities on crop subsector in the Project area | Programme components: video camera x 1, video deck x 2, TV x 1, OHP & screen x 2, printing machine x 1, copy machine x 1, bus (60 seats)x 1 Executing agency: ISTI, PDOA of NCP O&M agency: ISTI, PDOA of NCP |

Strengthening of Farmers/FOs Support Institutions & Facilities

| Strengthening of Farmers/FOS Support institutions & Facilities | | | |
|--|---|--|--|
| Support Programmes | Objectives | Implementation Method and Required Inputs | |
| 1) Establishment of "Farmer Centre" | Establishment of facilities for effective activities of FOs and keeping close communication between agencies concerned and FOs or within community. | Programme Components: construction of farmer centre for each GN area or FO Specification of one farmer centre Floor space: 140 m² Layout: meeting hall x 1, office for FO & animator x 3 Facilities: desk, chair, cabinet, telephone & solar battery Total number of centres: 27 (Periyakurama use the existing centre.) Executing agency: DAS(A'pura & K'gala) Operation and maintenance: FO | |
| 2) Agrarian Service Centre (ASC) strengthening programme | Strengthening of logistic support of the project related ASC to enhance support services in the Project areas | ◆ Programme Components: Motor cycles - Nachchaduwa ASC x 1, Galugamuwa ASCx 1, Mahananneriya ASCx 1 Renovation of building & training equipment - Nachchaduwa ASCx 1, Tirappane ASCx 1, Galugamuwa ASCx 1, Mahananneriya ASCx 1 Executing Agency: PMU O&M: DAS, A'pura & K'gala | |
| - Provision of Vehicle/DAS | support of DAS for sup- port programmes imple- mentation & monitoring | Programme Components: provision of vehicle, Anuradhapura x 1, Kurunegala x 1 Executing Agency: DAS, A'pura & K'gala Operation and maintenance: DAS, A'pura & K'gala | |
| - Staff Training Programme | the Project & supporting services under the Project - To provide periodical pre-seasonal training on FO support & monitoring | Target Groups: (DO/DAS) \ DAS district staff (Kurunegala, Anuradhapura) Participants: 25 staff/course Duration & Training Method: 3 days (24 hours) in class & fields/course, total courses: 11 Executing/Monitoring Agencies: DAS | |
| - FO Leader Training | To provide guidance on the Project & supporting services under the Project To provide basic techni- cal & methodological guidance on extension | Target Groups: Farmer Animators (ADPAs) Participants: 25 staff/course Participants: 25 staff/course Duration & Training Method: 3 days (24 hours) in class & fields/course, total courses: 11 Executing/Monitoring Agencies: DAS | |

Support Programmes for Income Generation

| Support Programmes | Objectives | Implementation Method and Required Inputs |
|--|--|---|
| 1) Upgrading of Provincial Seed Farm, Galugamuwa | Strengthening production of fruit planting materials at the Seed Farm & pro- viding training for private nurseries | Programme Components: shade house for propagation (200 m²) x 2, office quarter (100 m²) x 1, shade house for seedlings (400 m²) x 2, storage tank x 1, pumping station x 1, irrigation system x 1, office facilities & training equipment x 1, vehicle (4 t truck) x 1 Executing Agencies: PDOA, NWP Operation and maintenance: PDOA, NWP |
| 2) Upgrading of IFTC, Nikaw- eratiya | Strengthening & expanding of training activities on livestock husbandry in the Project area | Programme Components: Training building(120 m²) x 1, dormitory to accommodate 30 trainees (5 rooms x 40 m²/room) x 1, manager quarter (100 m²) x 1, dairy shed (20 cows) x 1, mini-size dairy laboratory x 1, micro-bus (30 seats) x 1 Executing Agency: PDAPH, NWP Operation and maintenance: PDAPH, NWP |
| 3) Strengthening of Aqua- cultural Ex- tension Centre (AEC), Anuradhapura | Establishment of aqua- cultural extension/support facilities for development of inland fisheries | Programme Components: extension centre building (200 m²) x 1, training equipment x 1, facilities of extension centre x 1, office facilities x 1, motor cycles x 2 Executing Agency: NAQDA Operation and maintenance: NAQDA |

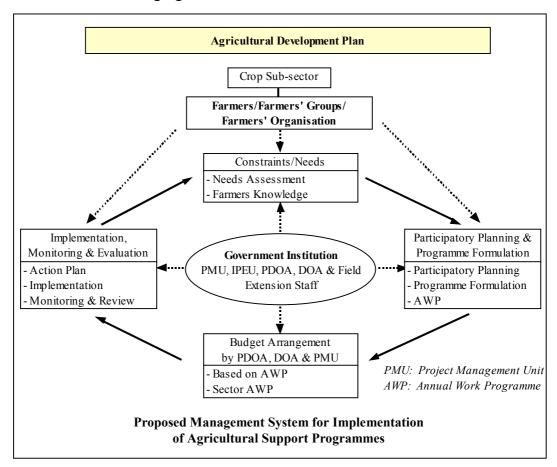
17.4.3 Proposed Management System and Institutional Set-up

- (1) Concept for Establishment of Management System and Institutional Set-up
 The concepts for the establishment of the management system and the institutional
 set-up for the planning, implementation and monitoring & evaluation of the agricultural support programmes under the Project are:
 - a) Management of the planning and implementation of the agricultural support programmes is to be performed under the rolling plan concept, in which the Annual Work Programme (AWP), annual implementation schedule and annual cost schedule, of the individual project scheme is to be reviewed and updated annually on the basis of the lesson learnt from the implementation of the programs in a preceding year and the participatory approach for their planning,
 - b) Strengthening of agriculture extension services in the crop sub-sector is to be aimed at within the present policy and institutional framework and through the strengthening of co-operation and collaboration between the IPEU/PDOAs and the DAS,
 - Enhancement of farmers contribution in extension as well as institutionalisation of their participation in extension activities from the planning stage,
 - d) Strengthening of research-extension-farmer linkage is to be sought within the programme implementation, and
 - e) Management of support programmes of sub-sectors other than the crop sub-sector should be executed under the present system and under the

supervision of the project management body as the programmes in such areas are limited in scale.

(2) Proposal on Management System for Support Programme

On the basis of the said concepts, the management system for the implementation of agricultural support programmes under the Project is proposed as shown in Figures 17.4.1 and 9.9.2. The proposed management system consists of four basic actions of: i) identification of constraints and needs, ii) participatory planning and programme formulation (review and updating of AWP), iii) budget arrangement, and iv) programme implementation and monitoring & evaluation as shown in the following figure.



The extension system and research-extension-farmers linkage in the crop subsector similar to the currently established system should be established as shown in Figure 9.9.4 under the Project. The basic extension approaches involved in the system are: i) approach through farmer groups or FOs and ii) participatory approach in planning process; to be top-down as well as bottom-up and reciprocal. In the aspect of the research-extension-farmers linkage, the aim under the Project is the activation of the system and the strengthening of the linkage through the allocation of necessary fund and through the research related programme implementation.