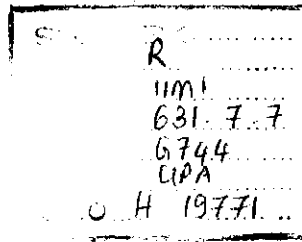


IRMU Research Paper



Monitoring Farmers' Involvement in Rehabilitation: Phase I

*The Case of Five Irrigation Schemes
under the National Irrigation Rehabilitation Project*

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Abbreviations

AGM	- Annual General Meeting
AI	- Agricultural Instructor
ARTI	- Agrarian Research and Training Institute
ASA	- Agrarian Services Act
ASC	- Agrarian Services Centre
CECU	- Central Engineering and Construction Unit
CIE	- Chief Irrigation Engineer
CM	- Committee Meeting
CO	- Cultivation Officer
CPC	- Central Provincial Council
DAS	- Department of Agrarian Services
DC	- Distributary Channel
DCAS	- Deputy Commissioner of Agrarian Services
DDI	- Deputy Director, Irrigation
DO	- Divisional Officer
DS	- Divisional Secretariat
FC	- Field Channel
FCG	- Field Channel Group
FO	- Farmer Organization
FR	- Farmer Representative
FTO	- Farm Turnout
GM	- General Meeting
GN	- Grama Niladhari (Village-level government administrative officer)
GWRE	- Gampola Wela Raja Ela
ID	- Irrigation Department
IDO	- Institutional Development Officer
IE	- Irrigation Engineer
IO	- Institutional Organizer
ISMP	- Irrigation System Management Project
KMW	- Kobeigane Maha Wewa
KVS	- Krushi Viyapthi Sevaka (Agricultural Extension Worker)
LB	- Left Bank
MC	- Main Canal
MI	- Maha-Iluppallama
MP	- Member of Parliament
MT	- Metric Ton
NA	- Nawa Amuna
NIRP	- National Irrigation Rehabilitation Project
O&M	- Operation and Maintenance
PC	- Project Committee
PCM	- Project Committee Meeting
PM	- Project Manager
RB	- Right Bank

RPRDC	- Rice Processing Research and Development Centre
RRA	- Rapid Rural Appraisal
RST	- Regional Support Team
SLITI	- Sri Lanka Irrigation Training Institute
TA	- Technical Assistant
UBE	- Udugoda Bandara Ela
UK	- Uda Kotuwa
UME	- Udawela Maha Ela
UWP	- Uda Wal Pola
VV	- Vel Vidane (Irrigation Headman)
WA	- Wilgoda Amuna
WS	- Work Supervisor
WW	- Wennoruwa Wewa

Executive Summary

FARMER PARTICIPATION IS an essential part of the National Irrigation Rehabilitation Project (NIRP). The Irrigation Research Management Unit, with assistance from the International Irrigation Management Institute, has been asked to undertake a study aimed at monitoring and evaluating farmer participation in NIRP rehabilitation. This report is a product of Phase 1 of the study. For this phase, Rapid Rural Appraisal was used to assess farmer participation in three medium and two minor schemes.

FARMER ORGANIZATIONS IN THE SCHEMES

Generally, the initiation of FOs was not a difficult task because of help from enthusiastic farmer leaders, IOs and other officers, although several problems were reported by the IOs. To convince farmers of the importance of the FOs, the IOs and officers used rehabilitation as the main motivation for the farmers to form FOs. The efforts of the IOs and other officers, together with training for farmers, have created an adequate awareness of the rehabilitation project and FOs among most of the farmers.

Most of the FOs in the sample schemes are weak and continue to need direct assistance from the IOs and agencies. In most cases, farmers showed a keen interest in the FOs when rehabilitation was first mentioned. However, the interest waned over time in all of the systems. Reported reasons for declining interest include:

- * Lack of perceived benefits from FOs
- * Shortcomings of the agencies
- * Disputes among farmers
- * Part-time farmers and seasonal tenants
- * Political interventions
- * Weak leadership
- * Absence of an IO
- * Not honoring rehabilitation requests of farmers
- * Losses from construction contracts

Rehabilitation is the main reason for farmers' interest in the FOs. Additional benefits are needed. Handling of finances has also been identified as a major problem for FOs.

FARMER PARTICIPATION IN PLANNING AND DESIGN

In all of the sample schemes, there has been farmer participation in walk-through surveys and in meetings with ID officers for planning purposes. More effort at getting farmer input during the planning stage would help. Major concerns in the sample schemes included:

- * In all of the sample schemes farmers wanted to spend funds on major items that were vetoed by officers for reasons of NIRP rules and/or funds limitations.
- * At meetings, there are difficulties in communication between ID officers and farmers because of the different conventions used.
- * Rehabilitation planning did not include attention to operations after rehabilitation.

FARMER CONTRIBUTION OF 10 PERCENT OF THE COST

Farmers in all five schemes profess their willingness to contribute to the rehabilitation work and their actions have supported their words. There remain difficulties, including difficulty in completing earthworks, and confusion of the 10 percent contribution with contract work. The implementing agencies do not know what to do if farmers neglect their 10 percent commitment while some FOs have difficulties in dealing with defaulters.

CONSTRUCTION CONTRACTING BY FARMER ORGANIZATIONS

Construction contracting is problematic. In the two sample schemes where FOs had undertaken contracts, most FOs lost money and had complaints. One FO in a minor scheme refused to accept contracts. The FOs have managed to maintain the quality of the work. Farmers report two major problems with the contracts:

- * Lack of capital to begin contracts and their preference to get cash to give them flexibility in management
- * Unreasonably low rates for work because of inflation

Subcontracting has been used by many FOs in other rehabilitation projects to avoid the problem of lack of capital. Under NIRP, the ID has disallowed subcontracting to avoid abuses.

CONSTRUCTION SUPERVISION BY FARMER ORGANIZATIONS AND FARMERS

In all three schemes where construction had commenced, farmers took construction supervision very seriously at the beginning. However, interest waned considerably because of lack of response by the agencies to reports of problems. Neither the FOs nor the agencies have clear procedures for handling construction supervision by farmers.

ACHIEVEMENT OF THE GOALS OF FARMER PARTICIPATION IN REHABILITATION

The evidence indicates that farmer participation is helping to make the rehabilitation more cost-effective and more appropriate to farmers' needs. However, there are serious deficiencies in

the preparation of FOs for takeover of O&M responsibilities and the general weakness of the FOs does not bode well for the future O&M of the systems.

EMERGING ISSUES

The following are the key issues that should be addressed:

1. Work with FOs has focused solely on rehabilitation; strong attention to O&M needs to be given by IOs and officers. Also, additional benefits from FOs need to be identified for the farmers.
2. Agency support for FOs can be improved: (a) IOs need better transportation; (b) the time and responsibility pressures on ID Project Managers should be investigated; (c) FOs should be given more assistance with financial records; and (d) the agencies should set up a system to monitor and report on the progress of the FOs.
3. Indirect agency support for FOs can be improved: (a) processes for repayment of loans through the FOs need to be improved; and (b) the ID, the DAS, the Provincial Council agencies, and others should search for ways to channel their support through the FOs.
4. The models used for creating FOs should be reviewed: (a) in minor schemes, conflicts between existing irrigation management organizations and FOs created to satisfy NIRP requirements should be avoided; and (b) the INMAS (Integrated Management of Major Irrigation Settlement Schemes) model used by the ID in medium schemes is not appropriate for many schemes; alternative models need to be explored and evaluated.
5. Farmer participation in planning and design under NIRP can be improved: (a) agencies should respond more positively to farmers' ideas about the improvements to their systems; this may require revising NIRP rules and regulations; (b) the planning process should incorporate operations planning; and (c) ways to get around difficulties in communication between farmers and officers should be explored.
6. To reduce problems in getting the farmers' 10 percent contribution the following can be considered: (a) providing assistance to FOs in controlling defaulters; and (b) defining the agencies' response to failure to provide the 10 percent contribution.
7. To get improvements in the effectiveness of construction contracting, the following can be considered: (a) a cash mobilization advance of 20 percent of the contract should be offered to the FOs in lieu of materials; (b) subcontracting to individuals could be allowed if the work is subcontracted to members of the FO and the decision to subcontract is consciously taken by the FO as a whole; and (c) the rates provided in the contracts offered to the FOs should be reviewed at frequent intervals.
8. The effectiveness of construction supervision by FOs can be greatly improved if: (a) the implementing agencies adopt explicit procedures for responding to reports of problems from the FOs; and (b) clear procedures are taught to the FOs.

Introduction

THE NATIONAL IRRIGATION REHABILITATION PROJECT

THE OBJECTIVES OF the National Irrigation Rehabilitation Project (NIRP) are to stabilize and increase agricultural production, and raise income and standards of living of farmers, through rehabilitation and improved operation and maintenance (O&M) of selected irrigation schemes. The NIRP aims to rehabilitate 1,000 minor and 60 major/medium irrigation schemes by 1998. In every case, the rehabilitated schemes are to be turned over to farmers for O&M following rehabilitation. The subsidiary objectives are: (a) upgrading the skills of farmers and staff of the implementing agencies, and (b) creating viable farmer organizations (FOs) to manage the rehabilitated schemes (Staff Appraisal Report, World Bank, 1991). NIRP is being undertaken by the Irrigation Department (ID) with assistance from the Provincial Councils, the Department of Agrarian Services (DAS) and other agencies.

NIRP requires that the implementing agencies organize farmers in the selected schemes, then come to an agreement with the FOs about what work will be done, before the physical works begin. There are two reasons:

- * By utilizing the farmers' knowledge and experience in planning, design, and implementation of the rehabilitation, better quality and more cost-effective rehabilitation will result.
- * Farmer involvement in rehabilitation will help to prepare the FOs for the subsequent takeover of O&M of the rehabilitated scheme by strengthening the FOs and by creating an interest in and a "sense of ownership" of the system among the farmers.

Farmer participation is thus an essential part of the NIRP.

MONITORING AND EVALUATION OF FARMER PARTICIPATION IN NIRP

The Irrigation Research Management Unit (IRMU), with assistance from the International Irrigation Management Institute (IIMI), has undertaken the study aimed at monitoring and evaluating farmer participation in NIRP rehabilitation. The overall goal of the study is to review NIRP practices with respect to the development of sustainable FO and suggest suitable alternative options wherever applicable.

Therefore, the objectives of this study are:

1. To evaluate the strength and preparedness of the farmer organizations.
2. To assess farmer involvement in rehabilitation planning and implementation.
3. To evaluate the contributions of farmer participation in rehabilitation in preparing the FOs for taking over O&M responsibilities after rehabilitation with regard to (a) organizational management abilities, (b) technical knowledge concerning O&M, and (c) financial standing and management abilities.
4. To determine the constraints to effective farmer participation in rehabilitation in the sample schemes.

The study is being carried out in two phases. Phase 1 consists of a preliminary assessment of 5 irrigation schemes in various stages of rehabilitation under NIRP. These include 2 minor and 3 medium schemes. This report is a product of Phase 1 of this study.

Phase 2 will survey more in detail a larger number of schemes being rehabilitated by NIRP in order to test the generalizability of the tentative conclusions reached in Phase 1 and to find a cost-effective way to monitor farmer participation in the future.

For Phase 1 of the study, Rapid Rural Appraisal was used to monitor and assess the farmer participation in rehabilitation. The basic components of farmer participation in rehabilitation under NIRP were defined in a field preparation workshop held before the data collection. In the same workshop, a field guide was developed that included the questions to be answered for each component, sources of the data to answer the questions and sources of the data to check the answers.

COMPONENTS OF FARMER PARTICIPATION IN REHABILITATION

There are five components to farmer participation in NIRP rehabilitation to be evaluated:

- * Formation and preparation of FOs
- * Farmer participation in planning and design
- * Farmer contribution of 10 percent of the resources needed for the rehabilitation
- * Construction contracting by farmer organizations
- * Construction supervision by FOs or farmers.

The latter four are directly related to rehabilitation. However, the formation of strong, viable FOs to represent the farmers in these and other activities is a prerequisite to effective participation in rehabilitation. Therefore, formation and preparation of FOs must also be evaluated.

Each of these five components is discussed separately in the following sections.

THE SAMPLE SCHEMES

Three medium irrigation schemes and two minor schemes being rehabilitated by NIRP were selected for the study. Some basic information on the five selected schemes is given in Table 1 and brief descriptions on the schemes are presented below.

Table 1. Basic information on the sample schemes.

Scheme	Command (ha)	No. of farmers	No. of FOs	Area per FO (ha)	Year rehabilitation started	Year rehabilitation finished
WW	188	425	4	47	1992	1994
GWRE	180	588	9	20	1992	1994
UBE	122	500	12	10	1994	1995
KMW	33	150	1	33	1992	1993
UME	24	100	1	24	1994	1994

Notes: WW = Wennoruwa Wewa
 GWRE = Gampola Wela Raja Ela
 UBE = Udugoda Bandara Ela
 KMW = Kobeigane Maha Wewa
 UME = Uda Wela Maha Ela

The Wennoruwa Wewa Scheme

The Wennoruwa Wewa (WW) Scheme is a tank-based irrigation scheme located in the Kurunegala District. The total command area is 188 ha out of which 97 ha irrigated by the Right Bank canal and the balance 91 ha comes under the command of Left Bank canal. There are about 425 farmers in the scheme operating 480 parcels of land. The farmers include owner-operators, tenant cultivators, and absentee landlords who cultivate with hired labor. There are four FOs based on tracts, two under each main canal. The Project Management Committee is the apex level organization in which officeholders of FOs, and officers of the Departments of Irrigation, Agriculture and Agrarian Services sit. Rehabilitation of this tank commenced in mid 1992 and is expected to be completed in 1994.

The Gampola Wela Raja Ela Scheme

The Gampola Wela Raja Ela (GWRE) Scheme is located in the Kandy District. Water is derived from an anicut and irrigates a total command area of about 188 ha. The canal system is more than 16 km long. The command is cultivated by 588 farmers. There are 9 FOs and a Project Management Committee in the scheme. Rehabilitation started in mid 1992 and is almost completed.

The Udugoda Bandara Ela Scheme

The Udugoda Bandara Ela (UBE) Scheme is also located in the Kandy District. The scheme derives water from an anicut and has a command area of about 122 ha. This scheme has a

complex water receiving and distributing system. The headworks comprise a total of 8 diversion weirs including a main weir and two embankments impounding two reservoirs. The main canal passes through 5 km of steep terrain before entering the main command area. There are 500 farmer families in the scheme grouped into 12 FOs. A Project Management Committee exists at the scheme level. Rehabilitation work will commence in 1994 and is expected to be completed by 1995.

The Kobeigane Maha Wewa Scheme

The Kobeigane Maha Wewa (KMW) Scheme is a minor tank scheme in the Kurunegala District. The command area is 33.2 ha. The delivery system includes a main canal, two branch canals and several field channels which distribute water to the field plots. The control and regulatory structures include two pickup anicuts and 26 regulators and farm turnouts. The number of farmers in the scheme is about 150. There is only one FO in the scheme. Rehabilitation of this tank scheme commenced in mid 1992 and 80 percent of the work has been completed.

The Uda Wela Maha Ela Scheme

The Uda Wela Maha Ela (UME) Scheme is a minor scheme located in the Kandy District. Water is derived from an anicut and irrigates a command of 23.6 ha. The length of the canal system is over 2.4 km. About 100 farmers are cultivating under the scheme at present. The FO was established in 1992 but only became active after the appointment of an Institutional Organizer from the DAS. Rehabilitation work is to be commenced and completed within 1994.

Farmer Organizations in the Schemes

NIRP IS PROVIDING Institutional Organizers (IOs) and training programs intended to create farmer organizations and to prepare the farmers for participation in rehabilitation and in O&M after the rehabilitation is completed. In addition, the Department of Agrarian Services is also creating and strengthening FOs in some schemes with the help of IOs and training programs. Organizational efforts, including the activities of IOs and training programs for farmers, and the current status of the FOs are discussed here.

ORGANIZATIONAL EFFORTS

Efforts to create and strengthen FOs have been made by both the DAS and the ID at different times and places. In several of the areas, the first FOs were created by DAS in 1990 based on Grama Niladhari (village-level government administrative officer) Divisions. Only one of the schemes (GWRE) had FOs before 1990. In some cases, the DAS used IOs for this purpose.

Once a medium system has been selected for NIRP, the ID generally has placed its own IOs there, often to revive FOs created by the DAS. These IOs are managed through the MANIS Program under which the Technical Assistant in charge of the scheme is named the Project Manager and made responsible for creating and supporting the FOs. The DAS, however, has continued to handle organizational activities at minor schemes even when taken up by NIRP.

The basis for definition of FOs varies. Each minor scheme has one FO to represent the whole command area. Each medium scheme has several FOs. These are based on some mix of topographical, hydrologic, and administrative units. Settlement tracts, valley bottom areas, villages, and *Grama Niladhari* Divisions are used. Unlike the major schemes, many medium and minor schemes do not have distributary and field channels which can be used as the basis for creating organizations. Thus Farmer Representatives (FRs) often represent different 'yayas' (tracts) instead of field channel groups.

In a medium scheme, there is a Project Management Committee, consisting of the representatives of each FO and officers from the relevant agencies, to take management decisions regarding the scheme. In addition, although Kobeigane Maha Wewa (KMW) is a minor scheme, it has three tract committees to represent different locations.

Generally, the initiation of FOs was not a difficult task because of help from enthusiastic farmer leaders, IOs and other officers. In Udugoda Bandara Ela (UBE) it has been difficult to organize farmers in one village at the very head end of the scheme because the farmers have no water problem in either season.

IOs in the minor schemes have been appointed by the DAS. Depending on the extent of the scheme these IOs have to look after more than one scheme. Each medium scheme in the sample has two IOs appointed by the ID. These include some experienced people from the Irrigation Systems Management Project. These IOs have had a great deal of training.

At the beginning, IOs had to convince farmers of the importance of the FOs. In the three medium schemes, FOs had been formed by the DAS but were inactive when the present IOs arrived. In the minor schemes, IOs had to begin from scratch. The basic technique used by the IOs from both agencies to convince farmers of the importance of the FOs was to focus on

rehabilitation; that is, getting the rehabilitation was used by the IOs and by the other agency people as the main motivation for the farmers to form FOs.

According to the IOs in the five sample schemes, the difficulties in organizing farmers include:

- * Convincing farmers of the benefits of being members of a FO.
- * Delays by the agencies and breaching of the confidence in the agencies by failure to live up to promises.
- * Traveling difficulties for IOs (and FRs); in the medium schemes farmers (and absentee owners) are scattered over a large area while for the minor schemes, each IO is responsible for more than one scheme.
- * Lack of interest by part-time farmers and short term tenants.
- * Caste divisions.
- * Economic and political disparities among the farmers.
- * The IOs' lack of knowledge of agriculture.

Training classes for farmers have been organized by both DAS and ID. For the most part, these have been specifically for FRs. Subjects covered include:

- * Crop diversification and how to make profits from agriculture
- * Water management
- * Construction: concrete mixtures, earthwork, construction, quality control, contracts and contracting procedures
- * Farmer organizations: objectives of FOs, farmer roles and responsibilities with regard to FOs, etc
- * Conducting organization meetings
- * Financial management: bookkeeping, use of checks, bank accounts

These, together with the efforts of IOs and other officers, seem to have created an adequate awareness of the rehabilitation project and FOs among most of the farmers.

Handling of finances has been identified as a major problem for FOs. Although training in financial management has been given to some FOs, additional assistance may be needed. Auditing of FO accounts would help. The ID thinks that assisting with audits is a responsibility of the DAS. According to DAS field officers, they had not been instructed to help with audits until September 1993, when ordered by the Commissioner of Agrarian Services to report on the progress of the FOs. In addition, the ID Project Manager at UBE wanted to require his signature on checks for the FOs to make bank withdrawals. Farmer leaders protested at this, saying it was not necessary as they had the authority under article 56A of the Agrarian Services Act.

PRESENT STATUS OF FARMER ORGANIZATIONS IN THE SAMPLE SCHEMES

Most of the FOs in the sample schemes are weak and continue to need direct assistance from the IOs and agencies. Two examples are:

- * At KMW there was a short period when there was no IO there. Within this period, there was a dispute among the FO office bearers causing the secretary to resign. Without the IO, they could not resolve the problem.
- * At Gampola Wela Raja Ela (GWRE), the usual practice is to summon FRs to the Project Management Committee meetings by sending letters via the IOs. Since the meeting schedule had been finalized at the beginning of the year and displayed at the unit office, the Project Manager decided to see whether the FRs would come if they did not send the letters. The turnout was very low and the FRs who came said that they wondered whether the meeting had been canceled since they did not receive letters.

In most cases, farmers showed a keen interest in the FOs when rehabilitation was first mentioned. However, the interest waned over time in all of the systems and progress in developing the FOs has slowed. Thus, despite the fact that all of the schemes have had at least 2 years of work with FOs, only one FO has been registered under article 56B of the Agrarian Services Act. All of the others have been registered under article 56A. One reported problem is the failure to keep good financial records and to report on financial matters to their membership.

The reasons for declining interest are various; some reported examples are:

- * Farmers' interest in FOs at UBE has declined due to the delay in commencing the rehabilitation work and modifications in the initial plans.
- * The FO at Udawela Maha Ela(UME) was weakened when DAS failed to provide agricultural inputs on credit as promised for reasons beyond control of the local DAS officers.
- * Some of the FOs at GWRE were disappointed because they lost money in construction contracts in part because of low rates and delay in payments by the ID.
- * One FO at GWRE has lost interest because of the strictness of the DAS in recovering payments for a 2-wheel tractor provided on credit, even though it was clear to the officers that the FO could not employ the tractor effectively because the cultivation was foregone to allow the rehabilitation and a trailer was not available for this tractor to be used for other purposes such as transport of goods.
- * In all five schemes, part-time farmers and short-term tenants show less interest in supporting FOs than do others; where these are a large group, the FOs are generally weak.

The only places where FOs seem to be working well are where there are enthusiastic leaders. However, in the long run, the FOs cannot depend upon the enthusiasm of a few individuals.

Table 2 summarizes the reasons for weak FOs reported in the sample schemes. The last two reasons shown in Table 2 are issues directly related to NIRP rehabilitation activities and are discussed in later sections in some detail. All of the others, however, are problems that have been faced by FOs in INMAS and other successful farmer organization programs. These problems can be solved by work by IOs and other officers with cooperation by the agencies.

The single biggest problem is that many of the farmers see little or no benefits from the FOs. Unless the farmers can perceive benefits from maintaining the FOs they are not likely to do so.

Table 2. Reasons for weak FOs.

Problem	Schemes
1. Lack of perceived benefits from FOs	UME, UBE, GWRE, WW, KMW
2. Shortcomings of the agencies	UME, UBE, GWRE, WW, KMW
3. Disputes among farmers	UME, UBE, GWRE, WW, KMW
4. Part-time farmers and seasonal tenants	UME, UBE, GWRE, WW, KMW
5. Political interventions	KMW, UME
6. Weak leadership	GWRE
7. Absence of an IO	KMW
8. Not honoring rehabilitation requests from farmers	WW, KMW, UBE, UME, GWRE
9. Losses from construction contracts	GWRE, WW

If the FOs serve as an effective channel for interacting with the government agencies, particularly, the Irrigation Department (ID), the Department of Agrarian Services (DAS) and the Department of Agriculture, it will be one of the prime motivations for farmers to sustain the FOs. The ability of the FOs to serve as channels for interaction depends greatly upon the willingness of the agencies to work with the FOs. In the sample systems, the agencies have chosen to channel only two types of interactions through the FOs:

- * Interactions with the ID and DAS with regard to rehabilitation are channelled through the FOs.
- * The DAS has tried to use the FOs to distribute inputs and 2-wheel tractors.

Rehabilitation is the main reason farmers have shown interest in the FOs. Once rehabilitation is finished, or even well underway, however, there is no longer much need to pay close attention to FO affairs. Rehabilitation is not a motivation for sustaining the FO.

Attempts to use FOs as channels for input supplies have not worked well in the sample schemes for a variety of reasons. In one case (GWRE), demands from DAS for repayment for a 2-wheel tractor appear to be a major cause for collapse of an FO.

The failure of agencies to keep promises to the FOs (UME, UBE), sometimes for reasons beyond the control of the local offices of the agencies, tends to weaken the motivation of farmers to support the FOs. Also, interagency coordination is weak Wennoruwa Wewa (WW) and tends to make the agencies less effective in responding to FO needs.

Farmer Participation in Planning and Design

SPECIFIC PROCEDURES HAVE been defined for NIRP to assure effective farmer participation in planning and design of the rehabilitation. Such participation is intended to ensure that farmers understand and consent to the works to be done and to their obligation to take over O&M following rehabilitation. The procedures include joint walk-through surveys, discussions between farmers and technical officers at meetings, and the signing of a formal written agreement between the FO and the government showing the farmers' willingness to undertake 10 percent contribution and to take over O&M following rehabilitation.

In all of the sample schemes, there has been farmer participation in walk-through surveys and in meetings with ID officers for planning purposes. This is a big advance over earlier rehabilitation projects. In general implementing agencies feel that farmer involvement in the identifying problems in the schemes greatly helped in planning and design of rehabilitation.

However, some difficulties remain. Farmers often have new requests to be included in the rehabilitation program even after the program is finalized. In one case (GWRE) such requests were arising even halfway through the rehabilitation program. Requests of this sort can only be avoided by more effort at getting farmer input during the planning stage. According to reports from farmers and officers, attendance in the earliest meetings to discuss rehabilitation was satisfactory but declined at later meetings. Also, in two of the cases (GWRE, WW), a significant group of farmers was seriously affected by foregone cultivation; they felt that their rights were not adequately taken into account in the procedures.

Issues widespread in the sample schemes included the following:

Failure to Meet Farmers' Requests

A major reason for the loss of interest was that the farmers' major requests had not been honored. In all five schemes there were major differences of opinion between the farmers and the ID about how the available funds should be spent.

- * At WW and KMW, the farmers wanted to invest in tank de-silting.
- * At UBE, the farmers wanted to invest in an augmentation scheme.
- * At UME, the farmers wanted to line more of the main channel.
- * At GWRE, the farmers wanted improvements to a stream that serves as part of the main canal.

In every case, although the officers were sympathetic to the farmers' requests, they decided these requests could not be accommodated for reasons of NIRP rules and regulations and/or budget limitations. Failure to respond positively to what the farmers see as the major problems has tended to discourage farmers and weaken the FOs. These requests such as to de-silt the tanks should be considered seriously and the NIRP regulations must be flexible to accommodate such requests wherever possible.

Communication Difficulties

There is a reported communication problem at meetings. The ID officers generally refer to locations in terms of distance along a channel. Farmers often have difficulty in visualizing the exact location when referred to this way. This makes discussions about proposed works confusing and misleading, particularly to the farmers who are generally put in the position of reacting to the proposals of the officers. This problem does not arise during walk-throughs.

Lack of Discussion of Operations

Reports from the sample schemes indicate that rehabilitation planning has generally not included any discussion with the farmers of operations after rehabilitation, although the operations plan is critical to the success of the rehabilitation. In one case (KMW), there may well have been an undiscussed difference in understanding about operations following rehabilitation. If the rehabilitation design assumes an operations plan that the farmers are neither accustomed to nor willing to follow, the rehabilitation may actually make the system less functional rather than improving it.

Overall, the procedures and standards for farmer participation in planning and design could have been made clearer to both the farmers and the officers.

Farmer Contribution of 10 Percent of the Cost

A REQUIREMENT FOR support from NIRP is that the farmers formally agree to contribute 10 percent of the cost of the works. This is often done by assigning labor to the farmers to be done without pay. Other techniques are used in some schemes.

Farmers in all five schemes profess their willingness to contribute to the rehabilitation work. KMW farmers completed the earthwork that made up their contribution within two weeks after the allocation for rehabilitation was made. UME farmers are not hesitant about undertaking their earthwork and are confident that they can complete it when the demarcations are done. Farmers will sometimes do more than 10 percent of the work, if they can contribute in the form of labor (VWW, UME).

However, there remain some difficulties; for example,

- * VWW FOs had agreed to undertake earthworks and tried to get them done through *shramadana*. However, to date they have failed to complete their work. They now plan to complete it on a share basis.
- * At GWRE, the earthwork was 20 percent of the total estimate. All of this was given to the FOs on contract but half of the value was deducted to cover the 10 percent contribution. Farmer involvement was very weak and farmer leaders managed to complete the work using laborers for low wage rates, with the provided money. They felt that they faced enormous difficulties in achieving this target. This situation arose because 10 percent was not clearly separated. Therefore it is worth to recommend that the 10 percent share must be separated from contract work given to FOs, when and where possible
- * At UBE, there is not enough earthwork to cover 10 percent of the estimated cost. Because the FOs have agreed to undertake all the construction works, the ID expects to deduct 10 percent from all the contracts offered. This may affect the performance of the FOs in handling the contracts.

The major problems of the implementing agencies is that they do not know what to do if farmers neglect their 10 percent commitment. The major problem faced by the FOs is dealing with defaulters, since they have no legal powers to enforce their decisions. The FOs use various strategies to avoid this problem and several appear to be very successful, while others are not. For instance, KMW FO informed farmers that defaulters would be fined Rs 200 per fathom (6 feet). Because these farmers had the experience of this type of actions at the time of *Vel Vidane* (Irrigation Headman) system, farmers completed their share just after the allocation. Ability to mobilize labor appears to be related to general FO strength.

Construction Contracting by Farmer Organizations

CONTRACTS FOR SOME of the construction work are offered to the FOs. This practice is expected to help prepare the FOs for takeover of O&M responsibilities in three ways: (a) by giving them experience in mobilizing and organizing labor and resources to undertake jobs, (b) by giving them experience in and knowledge of various technical aspects of irrigation structures, and (c) by providing them with funds that can be used for O&M and to help raise further funds for O&M.

At the time of the study, only in WW and GWRE had FOs undertaken contracts. The FO at KMW had refused to accept contracts due to problems that arose with officials and politicians. The president of the KMW FO is a major opponent of the MP (ruling party) of that area. It was said that due to this reason, he wanted to dissolve the FO to pave the way for his supporters to be appointed for all the positions of the FO but failed because the FO had been registered at DAS by that time. Farmers felt that the officers of the ID too did not want to offer contracts to the FO though they promised contracts. The FOs in UBE had agreed to accept all the contracts in the program. The UME farmers had not decided on whether to take contracts; they are hesitant because of lack of capital and time to devote to the work. Most of the FOs lost money in their first contracts due to lack of experience. The FOs have managed to keep the quality of the work up to standard levels with the help of the officials. Farmers report two major problems with the contracts.

- * *Lack of capital to begin contracts.* The ID has provided materials in some instances to overcome this problem. However, the cost of materials supplied by the ID to the FOs is higher than materials purchased on the open market since the ID charges 25 percent as departmental overhead.
- * *Low rates for work set by the ID.* Even private contractors abandoned the work halfway due to this problem (WW, GWRE). According to the Project Manager at GWRE, all private contractors demand rates higher than those set by the ID. The estimates had been prepared long before the implementation. Even the price escalation allowance was not adequate to meet inflation. This was not considered before offering contracts to the FOs and the ID was not in a position to revise the contracts. The ID has to revise the rates of estimates for subsequent contracts. Sometimes, due to the slowness of the revising procedure, revised rates would not be able to meet the current market rates. Therefore if the NIRP can adapt a mechanism to expedite this process, FOs will benefit a great deal.

Some of the FOs in WW and GWRE have managed to earn very small amounts of money due to hard work by interested leaders with prior experience on contracts. Because the FOs are not maintaining proper financial records, it is not clear whether total amounts earned from contracts have been credited to the FO accounts. To avoid this situation, better financial discipline must be adopted.

One practice adopted by many FOs under other rehabilitation projects has been subcontracting to individuals in return for a commission, generally 5 percent of the estimate. This is a way of getting benefiting from the contract without having to put up the capital. Under NIRP, the ID has disallowed subcontracting, presumably to avoid the abuses reported from some places where contracts have been managed by FO office-bearers for their own personal advantage. Subcontracting to an outsider also has the disadvantage that the farmers fail to get

organizational management and technical experience from the work. However, these problems can be avoided if (a) the work is subcontracted to members of the FO, and (b) the decision to subcontract is consciously taken by the FO as a whole.

All the FOs at UBE were prepared to undertake all the contracts under the rehabilitation program. Although the UBE farmers understood that all contracts were to be offered to the FOs, the contracts were advertised in newspapers, thus causing some farmers to doubt the word and goodwill of the ID.

Construction Supervision by Farmer Organizations and Farmers

TO DEVELOP INTEREST and responsibility among farmers for the irrigation scheme, FOs are encouraged to help supervise the work done by private contractors and by the implementing agency. A group of farmers from each FO have been trained on the construction procedures for this purpose. These farmers have shared their knowledge with other farmers so that the others can help. Shortcomings or imperfections are to be reported to the implementing agency. It is presumed that the farmers will do a good job since they have a direct interest in the quality of the work.

In all three schemes where construction had commenced (VWW, GWRE, KMW), farmers took construction supervision very seriously at the beginning. However, interest has waned considerably, primarily because of lack of response by the agencies to reports of problems. For example,

- * At GWRE, farmers reported to the ID officers and directly to the contractors about problems observed with the retaining walls at *Bothota Amuna*. The contractors told the farmers that they were following ID standards. The ID officers neither took action nor responded to the farmers. The problematic walls collapsed with the first rain.
- * When KMW farmers complained that structures were being set at the wrong levels, no appropriate remedial actions were taken by the officers. As a result, the farmers suspect that the officers are in collusion with the contractor. They have now given up any attempt at construction supervision.

Neither the FOs nor the agencies have clear procedures for handling construction supervision by farmers. The FOs have mostly left construction supervision to the FRs without setting schedules and defining the way supervision will be carried out. Also, the agencies have not defined procedures for responding to farmer reports of construction deficiencies, either in terms of actions to be taken or in terms of reporting those actions back to the FOs.

Achievement of the Goals of Farmer Participation in Rehabilitation

AS INDICATED EARLIER, there are two main goals of farmer participation in NIRP rehabilitation:

- * Making the rehabilitation works more cost-effective and more appropriate to the needs of the farmers,
- * Preparing the FOs to take over O&M of the systems following rehabilitation.

Each is discussed below.

MAKING REHABILITATION MORE COST-EFFECTIVE

Evidence from the sample systems would seem to indicate that farmer participation is helping by making the plans and designs more responsive to farmer concerns and by getting farmer contributions to the work. Quality of work by the farmers appears adequate. However, the expected gains in quality through construction supervision by farmers are not being realized. Overall, there appear to be small gains.

PREPARING FARMER ORGANIZATION FOR TAKEOVER OF O&M

The evidence from the sample schemes indicates that there are some deficiencies in the preparation of FOs for takeover of O&M responsibilities. These include the following:

- * Because the agencies have emphasized FO involvement in rehabilitation to the virtual exclusion of O&M, the farmers have not yet begun to understand the O&M functions of the FOs.
- * The FOs themselves are weak in part because the farmers have not yet realized that they have benefits other than getting the rehabilitation.
- * In some cases, the FOs may not be appropriate for management of O&M; in the minor schemes there generally already exist O&M organizations other than the FOs created for rehabilitation, while in the medium schemes the FOs have been created on a wide variety of bases but all with the intention of mimicking the INMAS model for farmer organizations.
- * Farmer involvement in planning and design of the rehabilitation, while good, could be improved: more attention could be given to the major concerns of the farmers, and efforts could focus also on planning operations following completion of rehabilitation.
- * The difficulties faced by some FOs in getting the 10 percent contribution are more evidence of the need for strengthening the FOs so that they will be able to mobilize labor needed for maintenance in the future.
- * Construction contracting by the FOs does not seem to be serving the function of providing initial funds for the FOs; however, it may be helping by giving some organizational management and technical experience to the FOs.

- * FO experiences with construction supervision are generally discouraging the FOs rather than strengthening them.

The general weakness of the FOs in the sample systems does not bode well for the future O&M of the systems.

Emerging Issues

THE FOLLOWING ARE key issues arising from Phase 1 of this study that should be addressed both by the NIRP management and by Phase 2 of the study:

Organization for Rehabilitation

As promoted by the agencies, the FOs have been created solely to implement the rehabilitation; thus they are unprepared to take on O&M responsibilities. The following are needed:

- * IOs and other agency personnel have to focus their attention on O&M to prepare the FOs for takeover of O&M.
- * IOs and others need to work with farmers to identify additional FO activities that will benefit the farmers in the long run.

Direct Agency Support for FOs

Direct agency support for FOs is provided through the Institutional Organizers (IOs) and other officers and through training programs. The following would help:

- * Transportation is reported as a particular problem for IOs; some improvement would help a great deal.
- * ID Project Managers may not have the time to provide effective support for FOs, also they may have a conflict of interest between their roles as Project Managers and as Technical Assistants; this matter should be reviewed.
- * Assistance with auditing FO accounts could be given, in addition to more training in bookkeeping and financial reporting. A common financial discipline may be adopted.
- * The agencies should set up a system to monitor and report on the progress of the FOs.

Indirect Agency Support for FOs

The way the agencies carry out their activities affects farmer willingness to support the FOs. Although some agency services are now channeled through the FOs, this can be improved.

- * Necessary steps have to be taken to redress and strengthen the process of repaying loans provided through the agencies without damaging the relationship between farmers and the agencies
- * The ID, DAS, the Provincial Council agencies, and others could search for effective ways to channel more of their support through the FOs. For example, the Department of Agriculture might be able to channel agricultural extension services through the FOs. The DAS might look for ways to make its programs for supplying inputs, 2-wheel tractors, and other items more supportive of the FOs

The FO Model

The current models being used for creating FOs may not be the most appropriate. Two issues should be explored:

- * In minor schemes, if there is already an effective irrigation management organization, should a new FO be created solely for the purpose of satisfying NIRP requirements?
- * The INMAS model for an FO is currently being used by the ID but it is not appropriate for many schemes; alternative models need to be explored and evaluated.

Participation in Planning and Design

Farmer participation in planning and design under NIRP has not been fully satisfactory to the farmers. The following issues should be explored:

- * Agencies could respond more positively to farmers' ideas about the improvements to their systems; this may require revising the NIRP regulations.
- * The planning process should incorporate planning of operations following rehabilitation.
- * Ways to get around the difficulty in communication about locations between farmers and officers at meetings should be explored: these might include more extensive use of walk-through surveys or use of the walk-through surveys to establish common reference points which can then be used in discussions at meetings.

Farmers' 10 Percent Contribution

Although it appears that getting the farmers' 10 percent contribution is not a major problem, there is a need to consider the following:

- * What assistance in controlling defaulters can be provided to FOs?
- * What should be the agencies' response to failure to provide the 10 percent contribution?
- * The 10 percent share must be separated clearly from the other contracts given to FOs to avoid confusion

Construction Contracting with FOs

Exploration of the following issues may allow improvements in the effectiveness of construction contracting in serving the desired goals:

- * A cash mobilization advance of 20 percent of the contract should be offered to the FOs in lieu of materials so that they can purchase their own materials if so desired. In this case, there should be a procedure to ensure that individual IEs are not held liable in the case of FOs which have been registered under article 56(a) of the Agrarian Services (Amendment) Act, No 4, of 1991

- * Subcontracting to individuals could be allowed subject to the conditions that (a) the FO as a whole makes a formal decision to subcontract, and (b) subcontracts go to one or more members of the organization rather than to outsiders.
- * The rates provided in the contracts offered to the FOs should be reviewed at appropriate intervals; if inflation is rapid an interval should be less than one year.

Construction Supervision by FOs

The effectiveness of construction supervision by FOs can be greatly improved while strengthening the FOs:

- * The implementing agencies should adopt explicit procedures for responding to reports of problems from the FOs; these procedures should cover (a) the actions to be taken in response to the report, i.e., the responsible agency officer should inspect for himself and order whatever changes are needed, and (b) a procedure by which the responsible agency officer reports back to the FO on the action taken.
- * A clear procedure of supervising contracts should be introduced to the FOs.

ANNEX I

MONITORING FARMERS' INVOLVEMENT IN REHABILITATION: THE CASE OF WENNORUWA WEWA, KURUNEGALA

The Scheme

THIS IS THE only medium scheme in the Kurunegala Electorate. It is an ancient tank scheme renovated in the 1880s and 1930s by the Irrigation Department (ID). It provides irrigation to 188 hectares (ha) of land. The majority of the farmers own less than 0.8 ha of land each. About 80 percent of the farmers are either government employees or private sector employees. The percentage of owner farming is about 20. About 75 percent of all the farmers are either permanent tenants or temporary tenants.

This tank is located about 3.2 km away from the Kurunegala Town. Its catchment is about 10.24 km² (Hydrological Zone No. 3, Agro-Ecological Region WM 3). The capacity of the tank is about 1,500 acre-feet and it provides water to the command area through left bank (91 ha) and right bank (97 ha) main canals. The structures and the tank had deteriorated the time of NIRP initiation in 1990 and, therefore, it was decided to include this tank scheme for rehabilitation under NIRP. To fulfill the selection criteria of the project, FOs were formed late in 1990 and farmers agreed to contribute 10 percent of the total cost of rehabilitation, which was estimated at Rs 9.0 million (feasibility reports).

FARMER ORGANIZATION

Organizational Efforts

Formation of FOs was initiated by the officials of the Irrigation Department (ID) late in 1990. At the very beginning, there were no Institutional Organizers (IOs). IOs were appointed later and they greatly helped in organizing farmers. The purpose of forming FOs was explained at the meetings held at the beginning and the message of rehabilitation was conveyed to farmers. Farmers responded favorably and formed four FOs to represent the whole scheme, namely, Nawa Amuna (NA) FO, Udawalpola (UWP) FO, Uda Kotuwa (UK) FO and Wilgoda Amuna (WA)FO. NA and UWP FOs represent the head and the tail of RB, respectively, and UK and WA FOs represent the head and the tail of LB, respectively. One field channel from the middle of RB also belongs to the UK FO. These do not exactly represent the hydrological boundaries. Existing tracts based on administrative (*Grama Niladhari* or GN) divisions were amalgamated to form these FOs. FOs do not represent the different levels in the scheme such as field channel and delivery channel levels in the settlement schemes. All four FOs are based on the Main Canal (MC) level. A farmer representative (FR) from each tract is elected to the executive committee of the FO. This FR handles the FO activities at the grass-roots level. Registration of FOs was done with the involvement of IOs. The dates on which the FOs were registered at the Department of Agrarian Services (DAS) are shown in table 1.

Table 1. Information on FO registration.

Name of FO	Date of registration
NA	24.10.91
UK	04.12.91
UWP	04.12.91
WGA	31.01.92

At the beginning, attendance of farmers at meetings was quite high, about 75 percent. A series of meetings was held at the onset of the rehabilitation program in March 1991. Farmers were informed of these meetings by the DO and the GN. The project committee was formed on 20 December 1991. Representatives (President, Secretary, Treasurer and FRs) from all four FOs attended these meetings. The first awareness meeting of NIRP was held with the participation of the State Minister for Irrigation who is also the Member of Parliament (MP) for that area. Of the farmers 65 percent attended that meeting and so almost everybody knows about FOs and the rehabilitation program although many of them did not attend subsequent meetings. Information available on the meetings held is summarized in table 2. According to table 2, attendance at committee meetings (CMs) and Project Committee Meetings (PCMs) seems satisfactory. However, this information is not enough to make any conclusions on the attendance of farmers at General Meetings (GMs) of FOs. According to the evaluation of the study team, considering the information received, attendance at GMs is not satisfactory. The basic information on the FOs is given in table 3.

Table 2. Attendance at Farmers Organization (FO) and Project committee (PC) meetings.

Date	FO	Meeting	Total (farmers)	Attendance	%
05.11.92	Nawa Amuna	CM	55	23	42
08.12.92		CM	11	05	45
06.01.93		CM	11	05	45
31.01.94		GM	55	39	71
28.01.93	Uda Kotuwa	GM	116	42	36
16.12.93		CM	13	06	46
06.02.93		CM	13	05	38
29.03.93		CM	13	08	62
26.05.93		CM	13	09	69
16.06.93		CM	13	11	85
04.09.93		CM	13	08	62
17.10.93		CM	13	12	92
12.10.93		CM	13	08	62
24.01.94		CM	13	10	71
Once a month Uda Wal Pola		CM	09	-	90
Once a month Wilgoda Amuna		CM	09	-	90
10.03.93		PCM	42	15	36
30.04.93		PCM	42	13	31
17.06.93		PCM	42	10	24
01.09.93		PCM	42	19	45
17.12.93		PCM	42	20	48
Once a season project		AGM	-	-	50

Notes: CM = Committee Meetings
GM = General Meetings
PCM = Project Meetings
AGM = Annual General Meetings

Table 3. Basic information of the Farmer Organizations (FOs): Wennoruwa Wewa.

Name of FO	Area acres	No. of farmers	No. of members	No. of FRs	No. of tenants	Member fee bu/ac/s*	Entrance fee (Rs)	Other (Rs)	Fund (Rs)	Value of contracts (Rs)	Grama Niladari Division	Agrarian Services Division	Divisional Secretariat	Electorate
Nawa Amuna	72	55	37	11		1 bu/ac/s	10.00		5834.00	33389	Weherabenda, Doratiyawa	Kurunegala	Kurunegala	Kurunegala
Uda Kotuwa	106	116	82	13		1 bu/ac/s	10.00		487.00	74000	Henamulla	Kurunegala	Kurunegala	Kurunegala
Uda Wai Pola	146	145	56	6	118	1/2 bu/ac/s	10.00		9748.00		Udawalpola, Gettuwana, Kurunegala South	Kurunegala	Kurunegala	Kurunegala
Wilgoda Amuna	149	143	123	6		1/2 bu/ac/s	10.00		1300.00		Wilgoda, Kaudawatta, Dematagaha- pelessa, Aswedduma, Tittawawella	Kurunegala	Kurunegala	Kurunegala

Note: bu/ac/s = bushels per acre per season.

Institutional Organizers (IOs)

Two IOs were appointed by the DAS in April 1991. The ID had formed FOs by that time but not the PMC. These IOs greatly helped in formalizing FOs. Both of them had left the scheme by November 1992 and these positions were occupied by two new IOs appointed by the ID on contract under NIRP. They have been trained under the programs listed in tables 4 and 5. The major problem faced by the IOs is the difficulty of meeting farmers during the day time on week days either at their residences or in the field because the farmers were away engaged in their employments. They said that there is no one to guide them in solving problems they face in dealing with farmers. The (RST) was established recently and the IDO guides IOs to some extent. The views of IOs on some of the issues related to their work are listed below.

Difficulties Faced by IOs in Organizing Farmers

- * Farmers are scattered over a large area and they are not living in hamlets as in the new settlement schemes. Therefore, IOs face difficulties of traveling in the scheme.
- * The majority of farmers are part-time farmers. So IOs find it difficult to meet them personally and, due to the very same reason, attendance of farmers at meetings was poor.
- * New IOs had to receive organizational work that had been paralyzed due to the sudden departure of the former IOs.

How to Overcome the Difficulties

- * Meet farmers and hold meetings during holidays.
- * Share responsibilities (with other IOs) and work together whenever necessary.

Further Training Needs of IOs

- * Training in the basics of agriculture is useful and it enables them to help farmers to solve their agricultural problems.

Training Programs

Training classes for farmers have been organized by the DAS and the ID. A selected number of farmers, especially FRs, attended them depending on the number of places available in these training classes. A two-day session on agriculture had been held at the In-Service Training Institute at Maha Iluppallama. One-day sessions were organized by ID for several groups to represent all FOs and they were taught about water management, contract procedures, concrete mixtures, earthwork and quality control of constructions. The DAS held one-day training classes to teach farmers about FO activities, meeting procedures, accounting and bookkeeping. The IO also helped FO office-bearers on these activities. Some farmers attended these training classes, while some others did not. Some farmers claimed that the participants explained to them what they (participants) learnt at these classes, while some others were not aware of this training.

Table 4. Training program of one of the two Institutional Organizers (IOs) at Wennoruwa Wewa.

Subject	Venue	Trainers	Duration	Period
Under ISMP				
1. Duties of an IO, Institutional relations	PM's office Hingurakgoda	PM, IDO, IE and other officers	19 days	18/12/89 to 06/01/90
2. Crop diversification	Agriculture training school, Wariyapola	AI, Agricultural specialist, Sheladia	3 days	15-7/10/90
3. Operations, evaluations and back	ASC-Nikaweratiya	Mr. P. Periyasamy	2 days	3-4/5/90
4. Strengthening FOs and training of farmers	RPRDC- Anuradhapura	Mr. J. Maculum	11 days	21/10/90 to 01/11/90
Under NIRP				
5. Strengthening FOs	SLITI- Galgamuwa	ARTI trainers	7 days	12-19/10/92
6. Strengthening FOs	SLITI-Galgamuwa	ID RST trainers	8 days	23-30/6/93

Notes: PM = Project Manager
 IE = Irrigation Engineer
 RPRDC = Rice Processing Research and Development Center
 ID = Irrigation Department
 IDO = Institutional Development Officer
 ASC = Agrarian Service Center
 SLITI = Sri Lanka Irrigation Training Institute
 RST = Regional Support Team

Table 5. Training program of the other Institutional Organizer (IO) at Wennoruwa Wewa.

Training items	Venue	Trainers	Duration	Period
Under ISMP				
1. Duties of an IO, Institutional relations	PM's office Hingurakgoda	PM, IDO, IE and other officers	19 days	18/12/89 to 06/01/90
2. Crop diversification	Maha Iluppallama		3 days	28-30/5/90
Under NIRP				
3. Strengthening FOs	SLITI-Galgamuwa	ARTI trainers	7 days	12-19/10/92
4. Strengthening FOs	SLITI- Galgamuwa	ID/RST trainers	8 days	23-30/6/93

Notes: PM = Project Manager
 IE = Irrigation Engineer
 RPRDC = Rice Processing Research and Development Center
 ID = Irrigation Department
 IDO = Institutional Development Officer
 ASC = Agrarian Service Center
 SLITI = Sri Lanka Irrigation Training Institute
 RST = Regional Support Team

Farmers who attended the classes at distant places like Maha Iluppallama, were provided with food and lodging and an allowance for traveling. The participants claimed that they learnt many things through these training programs, which were very useful in carrying out FO activities. Some farmers were of the view that those who felt the necessity of these training classes were unable to attend the classes. Some of the participants were not real farmers but the office bearers of FOs.

Selection of farmers for the training classes was done by the respective FRs through discussions with the farmers in the group. In special cases, the selection was done by the subcommittees. A summary of the training classes held is presented in table 6.

Table 6. Farmer training classes.

Date	Duration	Venue	Items discussed	Trainers
18.9.91	1 day		na	na
5-6. 2.92	2 days	MI	na	na
11.7.92	1 day	ASC-Kurunegala	na	na
21.8.92	1 day	ASC-Kurunegala	Accounts	na
27-28.11.92	2 days	DDI's office, Kurunegala	Contract procedures	ID

Notes: MI = Maha Iluppallama
 ASC = Agrarian Service Centre
 ID = Irrigation Department
 na = Data not available.

When farmers were asked whether they needed training in any other field, most of them pointed out the need for training in crop diversification and new technologies, which would lead to increased production and income. Actually, this request was made by full-time farmers. According to them, there is little or no help from the government officers on these issues. The major reason for this, as they pointed out, is the abolishing of the KVS (Agricultural Extension Worker) cadre of the Department of Agriculture and the CO (Cultivation Officer) cadre of DAS.

Commenting on the training programs, the DO said that these classes can be held in the scheme or at a close by place without taking farmers somewhere else. This will not only help reduce the cost of these programs but will benefit more farmers. Some of the classes were held at distant places such as Maha Iluppallama to increase farmer interest through field experiences and to avoid monotony.

Present Status

The Nawa Amuna FO was very active at the beginning but this active activity collapsed later due to personnel disputes among office-bearers and the bad conduct of the President of the FO who is alleged to have abused officers at meetings. At the time of the study, this situation was gradually improving with newly elected office-bearers. The Wilgoda Amuna FO, which represents almost half of the scheme was very weak at the beginning but now it is in good shape. The Udakotuwa FO is functioning fairly well with the motivation of the secretary of the

FO who is also the secretary of the project management committee (PMC). The Udawalpola FO is the strongest and the most active FO at present, according to the officials. This is managed by more educated personnel compared to the office-bearers of the other FOs. With the recommendation of the ID, this FO has been registered under Article 56 B of the Agrarian Services Act, which gives more recognition and authority while all others have been registered under Article 56 A of the Agrarian Service (Amendment) Act No 4 of 1991 (Annex IV).

The common feature of all four FOs is that there are more part-time farmers than full-time farmers. The FOs of UK and WA have more full-time farmers and organizing activities were relatively easier, according to the IOs. In the case of UWP and NA, the situation is different. More than 80 percent of UWP farmers are part-time farmers while 70 percent of NA farmers are tenants. Legalized tenants participate in FO activities while seasonal tenants do not show much interest in them.

The Department of Agrarian Services (DAS) provided farmers with seed paddy and fertilizer on credit through FOs in the 1992/93 maha season. Farmers showed interest in FOs at that time due to this benefit. According to the Divisional Officer (DO), this program has been stopped temporarily due to the problem of recovery of debts in some cases. FRs feel that this type of facility would help sustain FOs and would help free farmers from the open-market traders who sell inputs at higher prices.

A similar "meeting schedule" is followed by all four FOs. Committee meetings are held every month and additional meetings could be held under special circumstances. General meetings of FOs are held once in six months. Project management committee meetings are held once in three months and are chaired by the Project Manager. This general schedule of meetings could change according to circumstances. All four FOs have agreed to charge Rs 25 as an entrance fee and Rs 5 per month as the membership fee. They have also decided to collect a *salaris*, a half a bushel of paddy per acre, which was earlier collected by the Vel Vidane and to pay 1/4 of the collection to the collector. They have another source of income, land taxes, which are being collected by the GN at present. The collector is given 1/4 of the collection and about 5 percent goes to the FO fund. No effective means of raising funds had

been decided or implemented at the time of the study. It is very difficult to collect membership fees from farmers, according to the FRs. Some farmers had paid the entrance fees but had defaulted on monthly payments. The *salaris* was collected once but it was not continued because no proper cultivation was done for four consecutive seasons. The 1993 yala cultivation was abandoned due to rehabilitation. Only a few farmers had cultivated their fields. The 1991/92 maha, the 1992 yala, and the 1992/93 maha seasons were not cultivated in full command area due to the drought that prevailed throughout the area.

According to the ID officials, DAS is responsible for overseeing the FO activities other than rehabilitation. However, this responsibility has been shirked. According to a DAS circular in September 1992, the DO had been instructed to provide reports under progress of FOs to the Commissioner of DAS (Annex II). The DO is in touch with two FOs, i.e., UWP and WA, because DAS has loaned a two-wheel tractor for each FO. Both FOs were continuing to pay installments from the income collected by hiring the tractor or from the available FO funds.

The FO concept is good according to both farmers and the agency officials. FOs in Wennoru Wewa were not functioning satisfactorily and it is very difficult to comment on the future of FOs by examining only the present status. According to one officer, farmers should feel the necessity to be organized. But here the opposite has happened. The government wanted farmers to be organized but the farmers have not seen any incentive to gather for a purpose that has been imposed upon them. The message of rehabilitation was the only

incentive to get them to be organized as they wanted to get the tank desilted. Farmers do not see the importance of other work like repairing canals, putting up structures (FTOs), etc., because they did not face many problems in receiving water during both the yala and maha seasons except losing the last issue of water in drought periods. Because most of the farmers are part-time farmers, they do not think of earning an additional income through cultivation of crops other than rice. They want only to cultivate rice in both seasons to secure their food requirements because they own these lands. They have other sources of income to support their other needs. If they can manage with the available water as they did earlier, they are satisfied because they have less priority for farming among their other income-generating activities. The minority who owns a small piece of rice land even on tenancy, and depends on wage labor (about 10%) is placed in a pathetic situation. They faced serious problems in providing themselves with food due to the suspension of cultivation during the last season for rehabilitation. However, the FOs are going on with the rehabilitation work with the help of a few enthusiastic and active farmers who have become officers of FOs. It is very difficult to conclude at this stage whether they show an interest on FOs due to the contracts and profits they can earn through FO contracts. Farmer participation is extremely weak for the major reason that they do not have incentives to be with the FOs. Lack of interest of farmers is the major reason for slow progress achieved in the FO activities. Farmers' awareness on this issue and the communication between agencies and farmers are not satisfactory. The Regional Support Team (RST) was not involved in Wennoru Wewa at the beginning. Now they are involved in quality control of the rest of the work in strengthening FOs.

Field-level officers of the ID said that it is difficult for them to attend FO activities on holidays and after office work. So supervision of farmers' work had been difficult which leads to low quality work. They have done it with many difficulties and have not been compensated for extra work. The officials who directly deal with FOs lack competence in handling FOs so as to win the confidence of the farmers for successful operation of the FOs. Involvement of officers to minimize the dominance of powerful farmers and to solve conflicts is not at a satisfactory level.

There is also the problem of not having reservations for some parts of the canal which run through private lands. Because the owners of the private lands do not allow the repair of bunds of the canal the protection of the canal is at stake. According to one FO officeholder, there was a case filed in a court to drive away a person settled in a reservation land but the case was dismissed due to the negligence of the ID. The ID has not produced the required documents and the maps with due coordination with the Survey Department. It is difficult for FOs to deal with such problems without having due support from the agencies. So, interagency interactions are not up to the required level.

PARTICIPATION IN PLANNING AND DESIGN OF REHABILITATION

Reported Participation

A feasibility study was done by PM/TA and WS with the guidance of the IE. Information collected from farmers was used in preparing reports. Because FOs were established to meet the NIRP selection criteria and the awareness meetings had been held, investigation surveys were done as the next step by the ID. Walk-through surveys were done with the help of

farmers. Most of the time, officeholders of FOs and FRs joined in walk-throughs. Problems were identified in every canal and in the tank itself. Farmers' suggestions were considered and prioritized according to their needs. The major problem faced in identifying problems was the farmers' request to desilt the tank. The farmers' view was that there was no use of other construction without desilting the tank. It was difficult to convince them by talking about restrictions of funds for desilting. Later on, the CIE used an indirect way to convince them on this aspect. He pointed out that a considerable amount of silt would be removed from the tank when repairing the bund and the roads. This idea was just enough to satisfy the farmers but still some of them insist on the necessity for desilting.

After the surveys were done with the help of farmers, estimates were prepared by the DD's office with the assistance of the IE, the TA and the WS of the scheme, according to the priorities discussed. The estimates were approved by the DD and a ratification meeting was held to discuss the estimates with the farmers.

According to the segments of estimation, the share given to farmers has exceeded 10 percent and is about 13 percent of the total estimate. This is because of the difficulty to exactly separate 10 percent from the estimate. The total estimate was not finalized by September 1993 (Rs. 9.0 million). Pending the estimate being sanctioned by the Director of Irrigation, implementation of the rehabilitation work had commenced according to the authority bestowed upon the DD. The total rehabilitation work would be implemented through the 10 percent contribution by the FOs (earthwork), private contracts, FO contracts and work done by the ID through direct labor. The normal assignment of tasks was done by the ID.

Special Issues

Desilting of Tanks

According to the engineers at the ID and RST, there is not enough evidence that siltation has reduced the water available for irrigation. In most of the cases, only the dead storage has been reduced due to siltation. Tank-bed surveys should be conducted to confirm this issue. According to the experiences of CIE, farmer participation is very high for desilting work in minor tanks. Desilting of some minor tanks in the Kurunegala District is going on. Machines required are provided by the ID while the cost of fuel is borne by the farmers. The CIE says that farmers do not hesitate to pay their share of money for fuel even though it is difficult to collect the membership fee of the FO which is only Rs 5 per month. Farmers of desilted tanks are very happy and they commend the agencies for this service.

Effectiveness of Participation in Planning and Design

Although almost all the farmers know about FOs and rehabilitation, some of them do not know about the initiation of the program either because they did not attend meetings or they were not interested. Generally, they do not have any objections to the FO activities. All four FOs are functioning with the effort of a few enthusiastic and active farmers. This group together with the officeholders of the FO and the FR was well aware of the FOs and the rehabilitation program. Most of them feel that farmers do not have many benefits and do not lose anything by this negative attitude. However, farmers agreed to fulfill their share in rehabilitation. The ID officers

said that farmers' contribution in identifying problems was useful in planning and designing the rehabilitation program.

PROVIDING 10 PERCENT CONTRIBUTION

This is the most difficult section of the rehabilitation program. At the beginning, FOs did not like to provide the 10 percent contribution. It was forced on them because it is compulsory under NIRP. So the FOs accepted this fearing they would not get the funds for rehabilitation.

Progress To Date

According to the IE, the following are the shares of 10 percent work done so far by the respective FOs.

NA	-	25%	1992
UK	-	100%	1992; 1993 work started
UWP	-	100%	1992; 60% 1993
WA	-	20%	1992; 20% 1993

The 10 percent contribution activity was not successful in the whole scheme. Many farmers had not completed their respective shares at the time of the study. The major problem faced by FOs is that there is no legal authority for them to deal with defaulters. Farmers neglect their duty because of this loophole. According to the agency officials, the responsibility for defaulted work is left with the FOs. Even IOs claimed that they are in difficulty, due to this situation when dealing with the farmers who are doing a proper job. Sometimes, FOs got the assistance of the police, the *Samatha Mandalaya* (local judicial body) and the State Minister for Irrigation (MP for the area) to get the work done through the farmers. Some FO officers said that they have promised the State Minister to complete the 10 percent work before the 1993/94 maha season ends. Meantime, farmers who have not yet completed their shares claimed that they have enough time until the end of 1994 to complete the work. There was another acceptable fact that some farmers could not do this work because some other farmers in their tracts had cultivated the fields this season which made forced to delay the work until the harvest. The IOs speak to farmers to get the work done but they cannot answer the farmers when they raise the question about defaulters. According to the IDO, the RST and the DO, if FOs decide on this at the kanna meeting, then the defaulters can be prosecuted at a court because the kanna meeting decision has legal authority. The majority believes that this type of program would help to increase farmers' interest on the scheme. However, they themselves, are not enthusiastic due to other high priority personal activities. One FO officer emphasized that this situation is due to mere negligence of farmers and not due to the fault of agency officers or for political reasons.

Farmers and even FO officers do not have a clear idea of the annual assignment of the work. Some farmers claimed that only the farmers who are adjacent to the canal bunds have to perform this 10 percent and the farmers who have their fields away from the canal do not have a share to complete. Some farmers said that they do not have a separate share but that they participate in *shramadana* (voluntary work) on the request of the FR. This

misunderstanding is due to the practice of both the *shramadana* and *pangu* (share) system. Some farmers will have to do their share alone and will have to participate in *shramadana* as well, while some others do neither. These are the cases which discourage farmers in FO activities. One officer claimed that 100 percent of the 10 percent work was completed under his FO, but what is true is that they have fully completed only the 1992 share of the work.

According to the IE, a pro-rata share has been given to each farmer. According to one IO, the ID has postponed assigning the share of FO officers in the 1993 program and has included it in the 1994 annual program, on a strategy to avoid them leaving FOs before the construction work is completed. Such a strategy has been adopted at WA. Construction of the meeting hall has been delayed by the ID until the farmers complete their 10 percent work.

Organizational Difficulties

After all, it has not been an easy task for both agency and FO officers to get this work done through farmers. There are many reasons for farmers' negligence over this task. The composition of the community is the major reason. More than 75 percent of the farmers are part-time farmers. The other thing is the tenancy status. Seasonal tenants (only for the particular season) do not show any interest in the FO activities, because they do not have the ownership of land. However, the permanent tenants do participate in the FO activities as they have the legal ownership for 3/4 of the produce without obtaining any inputs from the landlord. The poorest farmers who make their livelihood only through farming and wage labor, find difficulties in participating in rehabilitation activities, because they lose their daily wage. This situation was evident in this period, since cultivation had been abandoned due to rehabilitation. In the final analysis, the majority of farmers do not have a sense of ownership of the scheme, since they have less priority for cultivating the piece of land they own, because of the other activities they are engaged in.

With all these difficulties, FOs engage in carrying out this task. Part of the earthwork which is about 13 percent of the total estimate has been assigned as farmers' contribution of the 10 percent work. This share has been included in three annual programs from 1992 through 1994. Both *shramadana* and *pangu* systems have been used in accomplishing this task. Most of the farmers like to have separate proportional shares according to the extent of land they owned, because *shramadana* work is not proportional and not represented by all responsible farmers for the particular section. The TA and WS help FOs in allocating the work among individual farmers and in providing other technical support needed. Farmers who cannot participate in *shramadana* work send hired laborers on their behalf, but this is not always done; nor do all absentees do this. The other problem in *shramadana* work is that the targeted work cannot be completed within one day. Then, The FO finds difficulty in organizing another *shramadana* to complete the balance work. Therefore, FOs prefer individual work which is also preferred by farmers. According to the agency officials, individual work is better in quality compared to *shramadana* work.

Sometimes, women's participation in *shramadana* is as high as 30-40 percent of the participants. The lesser productivity of women laborers in this type of work makes it difficult for FOs to achieve the targets of the day.

CONSTRUCTION CONTRACTING

Contracts Offered and Work Undertaken

The ID explained the available contracts at a general meeting of FOs and asked them to decide on this issue. At the beginning, FOs hesitated to accept this offer due to lack of funds and lack of experience despite representatives of FOs having been trained on construction contracts. They agreed to accept the contracts later. Earthwork, in addition to the 10 percent work, was contracted to FOs at first. Small structures, bathing spots and retaining walls which were estimated below Rs 250,000 were contracted to FOs later. Only two major construction items were given to private contractors through open tenders. One contractor abandoned the work (tank bund) half way which was later completed by the ID through direct labor. The other contractor took a longer time than agreed to complete his work (a road-WA). About 60 percent of the total work is done by the ID through direct labor. This practice will be stopped by 1994 as a policy issue according to the ID officers, and open tenders will be called for all construction work except work earmarked for FOs. Contracts accepted by the FOs are given in table 7.

Difficulties Faced by FOs in Construction Contracts

Contracts taken by FOs are often done by FO officials or through subcontracts giving some percentage (5%) of the estimate to the FO fund. The UWP FO has appointed a committee of 5 members including FO officers from which, one member has already resigned. No information was available to substantiate his resignation. None of the four FOs had earned any profit from the first contract they had. According to the information from FOs, they lost money due to price escalations, lack of knowledge of construction work and the lack of experience in the contract procedures. No documents on these are available. The only confirmation came from the ID officials that the quality of their very first work was very low in spite of the continued supervision by the WS/TA because they could not find skilled labor and had difficulty in hiring skilled labor (masons) at government approved rates (Rs. 125/day) which is far below the open market rates (Rs. 200/day). Therefore, the ID helped alleviate this problem, allowing them to use ID-trained masons when they were free. With strong support from the ID officers, and in addition to the technical advice, the FOs ultimately managed to maintain the required quality of work.

Although one objective of offering contracts to FOs is to raise the FO fund, it has not been achieved any satisfactory progress yet. Giving sub-contracts, keeping 5 percent to the FO fund, is not promoted by the ID. The ID wants FOs to do the contracts, but the FOs do not have capital to begin the work and no payments are made to the farmers who handle this work.

Therefore, what is happening is that officeholders or their close associates do the contracts using their own money, paying or without paying a commission to the FOs. If sub-contracts are practiced, FOs can keep at least 5 percent of the estimate of the contracted work although farmers do not get any experience on construction work. The present condition is also the same. Only a few enthusiastic farmers are engaged in this work. If these farmers go away from the FOs, the latter will face the aforesaid situation. The first contract of the UWP FO was earth filling of a bund. According to the Treasurer, because they lost in this contract, they organized a shramadana to cover the deficit. Although this was not confirmed further, he said that the committee selected, used their own money and gave 5 percent of the profit to the FO fund. The President of the same FO said that the total profit of the contracts goes to the FO fund. No confirmation on the statements could be obtained. No proper records on these contracts are

kept. No agency has audited the accounts so far. The president of NA FO had done the contract given to the FO using his own money and he has given the full profit to the FO fund. This was confirmed by the IO and it was acceptable comparing the amount he has deposited in the FO account as profit, and the total estimate of the work. The ID does not bother on these issues but only on the quality of work and on the deadline. The ID feels that the DAS is monitoring FO activities but this has not happened so far. Farmers or sometimes FRs do not know who is doing the contracts, how things are going on and what the responsibility of FO over the contracts is. One FR said that he does not inquire about the accounts of contracts because it may breach the friendship among them. The farmers' view is that FO

Table 7. Contracts accepted by FOs.

Items	Cost (Rs)
<i>Uda Wal Pola FO</i>	
1. Improvements to Kabare Amuna	45,962.00
2. Construction of bathing steps	17,439.00
3. Construction of road	20,364.43
4. Construction of retaining walls	51,900.00
5. Construction of regulator cum FTO	35,840.00
6. Construction of pipe crossing	9,068.00
<i>Wilgoda Amuna</i>	
1. Improvements to Wilgoda Anicut (RB)	25,691.05
2. Improvements to 1 st mile of Wilgoda Anicut MC	50,594.00
<i>Uda Kotuwa</i>	
1. Improvements to Uda Kotuwa Anicut I.F.F. for LB	26,736.00
2. Construction of retaining walls	49,607.00
<i>Nawa Amuna</i>	
1. Construction of bathing steps	17,439.00
2. Construction of regulator-cum-FTO	15,950.00

representatives have taken these contracts privately. Some FOs do not present the budget at the committee meeting. According to the DO, now he is personally in touch with the accounts of WA and UWP FOs because these two FOs were given two-wheel tractors on credit. Now they are going to follow the same procedure for other FOs too. Now only have they received a circular from the top, asking for a report of FO activities. According to the ID officials, the UWP FO is the best-operated FO and the reason for it is that this FO is run by an educated group, compared to others. They won the confidence of the ID on contracts and on the recommendation of the IE the FO was registered under Article 56 B of the Agrarian Services Act which provides more powers than Article 56 A. Therefore, this FO got 20 percent advance payments for the later contracts of UWP FO. (This 20% advance could be released only when the IE is satisfied with the work of the FO). This FO has taken 4 contracts so far, one of whose

estimates is Rs 203,640 which is the highest estimate given on contract to the FOs. According to the IE, most of the time they provide this advance in the form of materials. The WA FO also has received some materials in advance. According to them, the cost of cement from the ID was higher than in the open market. According to the IE, the reason for this is that 25 percent department charges are added to the materials advanced. He wanted to get this exempted in favor of FOs, but could not obtain the approval for it. Now the ID is thinking of a scheme of credit to FOs from which credit could be recovered later. According to the FOs, they faced problem of delay in payments at the beginning but later this problem has been resolved.

Effects on FOs

FO Funds

According to the information available, the purpose of raising FO funds has not been fully achieved through construction contracts. It was not clear whether farmers who handle the contracts credit the total profit to the FO fund. Also the procedure of handling funds was not clear and the expected amount was not credited to the funds. Current bank balances of each FO fund are presented in table 2.

Technical Experience Needed for Maintenance

FOs will not have to undertake this type of work in maintaining the scheme except earthwork. However, it is doubtful whether farmers will be able to handle this work independently. Only the farmer leaders at present get this experience. Although they did not do these contracts they can handle small maintenance work such as earth filling of the bunds, desilting of canals and minor repairs to the structures. However, they seek technical assistance from the ID, according to the FRs.

Additional Experience in Group Activity Management

Officeholders of the FOs received training in official procedures. However, the construction contracts are not done by groups. These are handled by the farmer leaders. Group activity management depends on the acceptability of farmer leaders to other farmers. Group activities have not been successful so far because the benefits to the farmers from FOs are not evident yet.

CONSTRUCTION SUPERVISION

Representatives of the FOs were given training on construction work and they were requested to supervise and complain to the agencies if they observe any imperfections in the construction work. These participants requested other farmers too, to follow the same procedure, transferring the knowledge they had at the training classes. Farmers did not have much of a

role in this aspect because only two major contracts were given to private contractors. One contractor abandoned the work half way. Except for the work done by contractors and the FOs, all other work was done by the ID through direct labor. A share of this work is about 60 percent of the total estimate. There have been instances when FRs had inspected the work done by the ID and had complained to authorities over the wrong mixtures and low quality materials. Some FRs complained of one TA who used low quality materials and wrong mixtures. He had already been removed from the scheme not only because of complaints of FOs but also because his misconduct had been observed by the senior officials. Farmers do not have a clear idea of what actions were taken on their complaints. Therefore they feel that there is no use in complaining of the misconduct of ID employees because senior officials also protect such people. A better explanation should be given to farmers to avoid misunderstanding and disappointments. Except for the complaints of this type, farmers have good impressions over the responses of the ID and changes made on the issues they had pointed out from their inspections.

Most of the time FRs and FO officeholders do these inspections as time permits. They do not follow any regular schedule like periodic inspections by a team of members elected by the FO. Farmers feel it the duty of FRs to do all these activities on their behalf. They trust FRs are doing a good job even without involvement or interference of other farmers. According to the IO, farmers' supervision was very good on the construction of an interior road by a private contractor at WA. Farmers do not always complain to the authorities but their presence at the site helps avoid low quality work.

EFFECTS ON SUCCESS OF THE REHABILITATION

It is difficult to decide at this stage whether farmer participation at Wennoruwa Wewa makes the rehabilitation program a success. According to the farmers, irrigation problems are due to lack of water in the tank due to siltation. They feel that without desilting the tank, their irrigation problems remain unchanged. Participation in the rehabilitation was very weak and no special improvement in efficiency or quality was achieved from farmers' involvement. Even if the rehabilitation was done without the participation of farmers, the required efficiency and quality could be achieved with the close supervision of the ID.

EFFECTS ON DEVELOPMENT OF FO MANAGEMENT CAPABILITIES

According to the present situation, FOs are not in a position to effectively take on O&M responsibilities. It is difficult for them to take group responsibilities because farmers do not show much interest over the FO activities which do not bring them quantifiable benefits. Technical knowledge of both O&M is not at a satisfactory level but it would improve with the rehabilitation work. Managing funds would not be that difficult but raising funds is not an easy

task. Farmers do not have any idea of their responsibility for O&M and they always state that O&M should be done by the government.

ANNEX II

MONITORING FARMERS' INVOLVEMENT IN REHABILITATION: THE CASE OF GAMPOLAWELA, RAJA ELA, KANDY

THE SCHEME

THIS IS A medium-scale diversion scheme in the Kandy irrigation range. The headworks of the scheme are at the village of Ulapane in Ganga-lhalakorale Divisional Secretariat (DS) area in the Nawalapitiya electorate, Kandy District. The main diversion weir is across Ulapane Oya which is a tributary of the Mahaweli River. The greater extent of rice lands receiving water is in the Nawalapitiya electorate and the rest is in the Gampola electorate.

The Irrigation Department (ID) took over the scheme in 1923. The major improvements to the scheme were completed in 1938. A new canal was constructed by the ID to augment the supplies to the last 57.2 hectares (ha), i.e., 143 acres of the scheme in 1954. This canal which is called Dunhinda Canal starts from the Mahaweli River at a point about 1,300 feet (ft.) downstream of the Kotmale Reservoir. The main canal (MC) which starts from Ulapane is 12.8 km (8 miles) long. The Dunhinda Canal is 4.6 km (2 miles 4,500 ft.) long. The MC falls into the natural *kandura* (stream) at 3.23 km (2 miles 100 ft.) and is picked up at 5.12 km (3 miles 1,020 ft.) by the Bothota Amuna (Bothota Anicut). This stream runs through Thembiligala tea estate and the factory used this water to run turbines which are now out of commission. This water is again dropped into the stream to be picked up by the Bothota Amuna. There are 39.2 ha (98 acres) of rice lands upto 5.12 km (3 miles 1,020 ft.) and 15.2 ha (38 acres) of rice in Udagama and Ulapane which are irrigated by diverting water by means of an anicut known as Udadeniya located at 3.5 km (2 miles 1,065 ft.). There are about 118.8 ha (297 acres) of rice lands from 5.12 km (3 miles 1,020 ft.) upto 12.8 km (7 miles 5,250 ft.). This section starts from the Bothota Amuna. Drainage water and refuse water from homesteads and the Gampola General Hospital flows into the MC and enters the last field of 12-16 ha (30-40 acres). This has resulted in the virtual abandonment of cultivation in this area. A project to collect and divert this water into a drainage stream nearby was proposed in 1985, but it was not executed due to lack of funds. Now the estimates have been revised and included in the rehabilitation program. This area was highly productive before this problem arose. The total irrigable area is 158 ha (395 acres) according to the specifications. However, as per register of irrigable lands for collecting O&M rates, it is estimated as 180 ha (450 acres) which are all private lands. The additional area of 22 ha (55 acres) which has been asweddumized during recent times, mostly uses drainage water, obtained by systematic lowering of the homesteads and by the encroaching canal and other reservations. These plots are more or less evenly spread out along the canals. About 588 farmer families are benefited under this scheme. The average size of landholdings is about 0.2 ha (0.5 acres). Landholding size varies from 0.1 ha (0.25 acres) to 2.4 ha (6 acres) (Feasibility report). The majority of farmers own even less than 0.5 acres and some of them own even less than 0.1 ha (0.25 acres). This has created a serious problem in water distribution. Of the farmers 40 percent are either government employees or pensioners. About 75 percent of the farmers are tenants.

According to the paddy lands register, the number of farmer families is 1,060. There are 759 landholdings. There are 357 farmers each cultivating his own land. There are 402 owners who

have given out lands to 402 tenants which means about 53 percent of the farmers are tenants. This figure may be even less if the cases where one tenant holds more than one plot can be identified.

Hydrology

The catchment above Ulapane anicut is 15 km² (5.79 sq. miles) which consists of steep rock outcrops, shrub jungles, tea estates, home gardens and other crop gardens. The catchment yield figures are as follows:

- Specific yield for maha season - 10,676.4 acre-ft.
- Specific yield for yala season - 15,785.0 acre-ft.
- Specific yield for annual yield - 26,461.4 acre-ft.

The annual potential yield from the catchment is 26,461.4 acre-ft. The catchment area above the Dunhinda diversion is 435 km² (168.6 sq. miles). The supply to the Dunhinda Canal now depends on the direct releases from the Kotmale Reservoir during dry spells. The supply of 6 cusecs enters the GWRE at 10.7 km (6 miles 3,500 ft). This is the main source of water for the last 57.2 ha (143 acres) (Feasibility report).

The scheme which is under ID management is spread over 7 GN divisions, i.e., Ulapane, Udagama, Thembiligala, Halagama, Gampolawela, Eragoda and Maligapurana, two Divisional Secretariats (DS), i.e., Udapalatha and Ganga Ihala Korale, two electorates, i.e., Gampola and Nawalapitiya and one ASC, i.e., Kurunduwatta. A Project Manager (TA of the ID) is in charge of the management of the scheme at present.

The main crop cultivated in the scheme is rice. The average yield of rice is about 3.7 MT/ha (70 bushels/acre). However, some farmers get about 7.4 MT/ha (140 bushels/acre). A few farmers cultivate vegetables in the dry season. Farmers from outside the scheme get fields on lease arrangements to grow vegetables. Some people pay Rs 12,500 per ha (Rs. 5,000/acre) per season as land rent. Tenants do not like to grow vegetables even if the fields are left fallow in dry season, because they have to give a share to the landowner. Other reasons are lack of capital and technical know-how. In case of rice, tenants should pay 800 kg/ha (15 bushel/ac) to the landowner according to the present arrangement. Landowners do not provide any inputs in this case. Another factor is that although the certified price of unhusked rice is about 150 Rs/bushel farmers get only about 70-100 Rs/bushel from the private traders. Farmers feel that when the field is prepared for vegetable cultivation in the dry season, rice will require more water the next season. This may be due to breaking of the hardpan in land preparation for vegetables.

FARMER ORGANIZATIONS

Organizational Efforts

There were 8 FOs late in the 1980s. Thirteen members from these FOs represented the Project Committee. FOs have been initiated by the ID and the members were elected at a meeting held on 26.8.1987. All decisions regarding the scheme were taken at the Project Committee. Any problem they could not solve would be brought up by the AGA, the IE or the DDA at the District Agricultural Committee headed by the GA. This system was functioning satisfactorily upto mid-1988. With the civil disturbances in the island, these FOs became inactive (Project Report for VIRP). The Project Manager/TA and Work Supervisor (WS) have contributed much in reawakening the existing FOs with the help of an IO appointed by DAS at the inception of the NIRP in 1990.

According to a DAS circular in June 1990, the DO was asked to establish FOs on the basis of GN divisions. The first meeting regarding this was held for selected farmers at the ASC, Kurunduwatta in October 1990. Altogether, 11 FOs were established in the GWRE command area. These are not exactly GN divisions or hydrological bases. Farmers of the tracts closeby formed these FOs. The IO left the scheme around June 1992. Some FOs were active while some were not during this period. Two new IOs were appointed by the ID in October 1992. The PM/TA, WS and the former IO had informed the farmers and had made them aware of NIRP rehabilitation by this time and so the scheme was prepared for rehabilitation. A series of meetings had been held to explain to farmers about the NIRP and FOs were asked to take over the work to fulfill farmers' contribution. When new IOs assumed duties, two FOs had undertaken rehabilitation work, i.e., cleaning the canal and earthworks. Only 7 out of the 11 FOs had been registered at the ID by then (October 1992). The other FOs were gradually registered at the ID with the help of IOs. All these FOs had been registered under DAS sometime ago. The registered 11 FOs are listed below (table 1).

First, two FOs at the head end of the scheme were working together most of the time. The Udagama Parakum and Udagama Parakrama FOs were amalgamated to form one FO recently. Members of the Eragoda Parakrama FO were assigned to the Kurukude Ekamuthu FO and Maligapurana-Pallewela FO and devolved the Eragoda Parakrama FO concerning the farmers convenience. This FO was inactive for some time. Now there are only 9 FOs at GWRE. Basic information about the FOs is summarized in table 2.

The leadership of FOs has been more or less equally distributed between the old and young. Although there are tenants, owners have become members. Tenants do not show much interest as owners change tenants seasonally. There are many fields that belonged to temples in the tail of the scheme. Tenants of these fields have become members of the FO. These tenants have been cultivating these fields on tenancy arrangements for a long time.

FOs held meetings once a month to discuss the program of the previous month and the future plans. Three office-bearers (president, secretary and treasurer) of each FO represent the

Project Committee which meets at the field office of the ID on the first Tuesday of each month. The Project Manager (PM) and the officials of the line departments are represented at the meeting. The PM bears the office of secretary until the farmers are trained in these procedures.

Institutional Organizers (IOs)

First, the IO was appointed by DAS late in 1990. He contributed much in forming FOs. This was the result of a policy of the government to form FOs in every GN Division. In the light of NIRP, IO could hold hands with ID officials in this task. The IO was the pioneer to form FOs in the GWRE. At the time he left the scheme in mid-1992 there were 11 FOs which had been registered in DAS except Eragoda FO and 7 had been registered under the ID to obtain contracts under NIRP. The Project Committee had also been formed by this time. After he left the scheme there was no IO for several months. These IOs were recruited and trained by DAS before being released to the schemes. According to the circular of DAS on forming FOs, O&M of irrigation schemes are only two out of many objectives.

Meanwhile, The ID recruited a batch of IOs under NIRP and trained them. Two such IOs were assigned to GWRE in October 1992. Both of them had worked as IOs under ISMP in the Kaudulla Scheme. At the time they came to the scheme, some FOs were active while some were not. In some places (e.g., Eragoda), it was difficult to gather farmers for meetings even after canvassing them at homes. Also the representatives did not come to the PCM. Two FOs in Ulapane and one each at Kurukude FO, and Thembiligala were in the lead. Ulapane FOs had undertaken some rehabilitation work--cleaning canals and earthwork by that time. These IOs were always complaining that there was no one to guide them when they faced various problems in dealing with farmers.

They also faced problems of traveling in the scheme. This scheme is not like a settlement scheme; farmers are scattered all over. DAS is not dealing with these IOs because they are under the ID. Sometime later, a trainer from the ID was assigned to guide them. A monthly meeting of all IOs in the Kandy irrigation range is held at the DDI's office. The IOs submit advance programs for the coming month to the DD through the trainer at this meeting and progress of their work is reviewed. Monthly progress reports are submitted to the IE through the PM. The IDO at RST also now helps them in promoting activities of the FOs. The IOs themselves feel that they stand only for irrigation problems and the situation should be changed with some other strategies. Mentioned below are the training programs they participated in after their appointment under NIRP and their further training needs (table 1). The IOs write monthly progress reports according to the format provided. Although this format covered each and every piece of information, they have not been trained enough on reporting. There are many issues that they have not documented in the progress reports. Feedback from the ID to the IO is not satisfactory. According to the project management, IO involvement is necessary. Farmers are not independent yet and involvement of a full-timer is a great help in dealing with farmers.

According to the experience of these IOs

- * It is easy to motivate educated and innovative farmers.
- * There is a natural trend of leadership; the existing village leadership is reflected in the FOs.
- * Initiation of the FO was weak. Included 2-3 names from one house and formed the FO to achieve the stipulated number of members according to the relevant government circular.
- * Communication to ordinary farmers through farmer representatives is easy in settlement schemes, because all of the farmers are in one tract and live closeby. Here farmer representatives also face problems of traveling in informing other farmers about the FO activities. Therefore, messages do not reach ordinary farmer efficiently.
- * Interaction with other agencies is less. This situation may be due to rehabilitation work which continues. So farmers have a high involvement with the ID.
- * Demonstrations/model farms using new technology leading to higher incomes to the farmers are necessary.

Table 1. List of FOs that existed before.

Farmer organization	G.S. Division	No. of farmers	Acreage
1. Ulapane Uthura	Ulapane	69	45
2. Ulapane Uthura Gemunu	Ulapane	70	
3. Udagama Parakrama	Udagama	180	38
4. Udagama Parakum	Udagame		
5. Thembiligala Ranketha	Thembiligala	50	12
6. Halagama Ekamuthu	Halagama	172	45
7. Gampolawela Wewa	Gampolawela	37	44
8. Mangala ketha	Gampolawela	97	36
9. Kurukude Ekamuthu	Kurukude	103	48
10. Eragoda Parakrama	Eragoda		
11. Maligapurana Pallewana	Maligapurana	57	30

Table 2. Basic information of the FOs in GWRE.

Name of FO	Area in ac	No of Farmers	No of Members	No of Owners	No of Tenants	Member Fee (Rs)	Entrance (Rs)	Other (Rs)	Fund (Rs)	Value of Contracts	Grana Niladari Division	Agrarian Service Division	Divisional Secretariat	Electorate
Ulapane Uthura	45	69							2,800.00	195,971.00	Ulapane	Kurunduwatta		
Ulapane Uthura Gemunu	45	70							8,500.00	489,771.00	Ulapane	Kurunduwatta		
Udagama Parakrama	38	180							1,925.00	- Nil -	Udagama	Kurunduwatta		
Thembiligala Rankelha	12	50							1,850.00	217,644.00	Thembiligala	Kurunduwatta		
Halagama Ekamuthu	45	112							670.00	48,105.00	Halagama	Kurunduwatta		
Kurukude Ekamuthu	48	103							10,100.00	324,749.00	Kurukude	Kurunduwatta		
Gampolawela Wewa	44	37							4,200.00	75,892.00	Gampola wela	Kurunduwatta		
Mangalaketha	36	97							2,500.00	138,097.00	Gampola wela	Kurunduwatta		
Maligapurana	30	57							15,000.00	184,002.00	Maligapurana	Kurunduwatta		

Table 3. Training program of IO 1 at GWRE.

Training items under ISMP	Venue	Trainers	Duration	Period
1. Farming FOs, make farmers aware, DC and FC management	PM office Medirigiriya	PM, IDO, Account assistant	10 days	22/3/90
2. Mushroom cultivation, Yoghurt preparation, B.onion cultivation	-do-	Vet surgeon DOA office	4 days	25/4/90
3. OFC cultivation, land selection, land preparation fundamentals of nursery management P&D control of OFC irrigation and irrigation management of OFC	MI-in service	Training officer of in-service training institute MI	3 days	14-16/5/90
4. Amending office bearers of FO	Project office Medirigiriya	PM, IDO, account assistant PM & other officers	2 days	1991
5. DC and FC management	PM office	PM & other officers	2 days	-
6. Maintenance of agriculture machinery	Puliyan Kulama in-service, Anuradhapura	officers at in service	05	late 1991
7. Pesticide use, fertilizer use, organic manure-straw as manure	PM office Medirigiriya	AI-DOA	04	1991
8. Accounts	PM office Medirigiriya	Accountant	02	early 1992
9. Evaluation of FO activities and feed back	PM office Medirigiriya	Mr. Ellawala	03	late 1991
10. Paddy cultivation P&D management P&D control of OFC	In-service MI	office at in service	05	early 1992
Under NIRP		ARTI training officer	05	12-17/10/92
11. Make farmers aware farming FOs	SLITI Galgamuwa			
12. Accounts, contracts & construction	SLITI Galgamuwa	SLITI trainers	07	22-30/10/93

Table 4. Training program of IO 2 at GWRE.

Training items under ISMP	Venue	Trainers	Duration	Period
1. Orientation for IO's	Mahasen Mandiraya Hingurakgoda	Mr. Sena Ganewatte & team	15 days	15-30/3/89
2. Amending FO & farmer awareness	PM office Kauduluwewa	PM, accounts assistant IDO	01	early 1990
3. Land selection, OFC cultivation, land preparation, fundamentals of nursery management, P&D control irrigation and irrigation management	in service - MI	ADA-DOA team	03	14-16/5/90
4. Mushroom cultivation - use saw-dust as culture	Mushroom cultivation Training Institute Moratuwa	Training in the Institute	01	mid 1990
5. Yoghurt preparation, cattle management, soya-bean food preparation oriented to self- employment	PM office Kauduluwewa	Vet surgeon and team	03	late 1990
6. DC & MC management	"	PM & team	02	early 1991
7. Accounts	"	Accountant	02	mid 1992
8. Evaluation of FO activities and feed back	"	Mr. Ellawala	03	mid 1991
9. B.onion cultivation, fertilizer use, organic manure - straw as manure	"	DOA trainers	04	early 1992
Under NIRP 10. Responsibilities and duties of IO and revise the knowledge on FO formation	SLITI Galgamuwa	ARTI trainers	05	12-17/10/92
11. Accounts, contracts and construction	SLITI Galgamuwa	SLITI trainers	07	22-30/7/93

Training Programs to Farmers

Two day-classes were organized by the ID for each group of farmers. There were 3 groups and sessions continued for 6 days. These classes were held at the Ethgala Temple in November, 1992. The President, Secretary, Treasurer and three other farmers (altogether 6 farmers) from each FO participated in the sessions. Construction procedures were explained with practical sessions in the field site. Earthwork, concrete mixtures and identification of quality materials were the major topics of those classes. Another class was held at Gannoruwa to train them on official procedures, accounting, use of cheques, bookkeeping, etc. They need further training on cultivating cash crops, using new technologies, animal husbandry, etc.

The main purpose of teaching construction procedures to farmers was to train them to undertake/supervise construction and maintenance work of the scheme. These programs were conducted by the trainees from SLITI Galgamuwa. Under earthwork they learned how to use machinery and the required compaction. Under concrete works, composition, selection of materials and required reinforcements were explained.

Present Status of FOs

The general awareness among farmers on NIRP is better because already more than one year has passed from the commencement of rehabilitation work. However, farmers' participation in FO activities in the present rehabilitation program is very weak. Most of the time the FOs are functioning because of the courageous farmer leaders. They managed to accomplish the farmers' contribution for rehabilitation and completed the contracts undertaken. Contracts completed for 1993 and expected for 1994 are indicated in the table given below. The funds of all FOs have been built up from the profits of the contracts. The bank balances of the FOs vary from Rs 670 to Rs 15,000. Meanwhile, one FO faced a problem with a two-wheel tractor received on loan from DAS. The Thembiligala Ranketha FO was very active and the DO suggested to give a two-wheel tractor on loan. This was not provided with a trailer. The 1992/93 maha cultivation was abandoned due to rehabilitation. Although farmers were allowed to cultivate in yala 1993, delay and lack of rain kept farmers away from cultivation except at a few places at the head end. The breach of the Dunhinda Canal and Bothota Amuna also contributed to less cultivation in the tail end. Anyhow, the Thembiligala FO could not employ the tractor in full capacity and could not pay some installments. In spite of the fact that they had explained this situation in writing to the DO and asking for a concession, the DO is going to withdraw the tractor without refunding the money they have already paid. Because of this type of incident, farmers lose confidence in the agencies. Another fact is that farmers could not receive fertilizer or seed paddy from the ASC. Farmers also claimed that the ASC to which the scheme belonged is 5 miles away from Gampola. Because of the transport cost for the extra 5 miles, it is worth to buy fertilizer from private traders at Gampola even if the prices are a bit higher. The unanimous request of the farmers is to reduce the prices of inputs. When inquired about taking over O&M of the scheme, they expressed their reluctance saying that they would have to do it because it was a precondition for rehabilitation. Because they experienced two major damages to the scheme within the rehabilitation period, they say that FOs would not be able to afford such repairs. They have not been made aware of the time when the government provides funds to meet major repairs as in the case of natural disasters.

PARTICIPATION IN PLANNING AND DESIGNING REHABILITATION

Reported Participation

Walk-through surveys were done in the planning stage of rehabilitation with the help of farmers. The FOs were very primitive, and later it was found that farmers' ideas were not fully represented in planning. A few farmers in particular sections have arbitrarily given proposals in this walk-through but these did not represent the need of the whole community. Some broken structures which needed major repairs were found only after cleaning the overgrown bushes at the commencement of rehabilitation. However, the estimates were sanctioned and there was no room for new additions. The project management made some effort to include essential repairs which were not accounted in the estimate by doing away with some other comparatively less important works.

As late as February 1993, there were demands for inclusion of new sections in the rehabilitation program. This situation is accounted for two reasons: 1) farmers had no confidence that the project would materialize until it became a reality, and 2) investigations had not been done properly to discover actual and essential needs for rehabilitation. It seemed that there had not been proper communication links among farmers and between the farmers and the agency at the initial stages of the project. Another factor is that, it is still not clear to farmers whether some sections of the canal belong to the scheme. Officers have also admitted that they had observed clearly some rehabilitation needs only after the scheme was fully cleared by the farmers to undertake construction under NIRP.

Farmers agreed to abandon the 1992/93 maha season cultivation paving the way for rehabilitation work. Because farmers did not get any income from the field, they had exhausted their reserves by the following season, i.e., 1993 yala. Farmers did not have even seed paddy by then and faced financial problems due to abandonment of cultivation. Farmers wanted to receive inputs for the yala season from government departments on credit. Officials of the line agencies who attended the project committee meeting informed farmers that inputs were available in the departmental stores to be purchased with ready cash. These officers (DOs) had no authority to provide inputs on credit. At this meeting the FRs questioned if the government cannot provide even such concessions when the farmers are in trouble; they also asked what was the use of participating in all these meetings. They wanted to take up the matter to the Minister of Agriculture. Instead of this, Agricultural Manager (ADA) suggested that the farmers meet the Secretary to the Central Provincial Council (CPC). Following the meeting with the farmers, the Secretary CPC arranged a soft loan scheme with the help of a rural bank to provide loans to FOs within three days.

Agreements to take over O&M of the scheme were given to FOs in February 1993. The rehabilitation was on its way by that time. FOs did not have much understanding over this by then. FRs were complaining of many issues because they did not have much knowledge of what was happening under NIRP. Farmers felt that the situation of undertaking O&M of the scheme had been imposed upon them by the government and that they had to accept it without a proper understanding since there was no alternative. Farmers did not have a sense of ownership of the scheme and it was not developed. Also farmers feel that the cost of maintenance is high in this scheme in the hilly terrain, compared to new settlement schemes in flat areas.

Effectiveness of Participation in Planning and Design

Farmers' awareness of NIRP is satisfactory, because more than one year has passed since the commencement of rehabilitation. Most of the ordinary farmers do not have a sense on rehabilitation and FOs. At the beginning of the project, FOs were not so keen and there was no full participation of farmers in walk-throughs. That was why farmers brought many new proposals to be included in the rehabilitation program later. In light of this, it can be assumed that if farmers participated effectively in the planning stage there would have been a more effective rehabilitation.

Special Issues

1. Drainage water and refuse water from homesteads and the Gampola General Hospital flows down the main canal and enters the last 12-16 ha (30-40 acres). This has resulted in the virtual abandonment of cultivation in this area. This issue has been taken up in the rehabilitation program.
2. GWRE MC flows through a natural stream just after it enters the Ulapane upto Bothota Amuna. Farmers in the area do not belong to the GWRE Scheme. Farmers in the Udagama FO who had rice fields in the area were asking for repairs to the side walls of a section of this canal. Farmers encroached upto the stream and cultivated rice. When the stream overflows in the rainy seasons, their cultivation is submerged. Therefore, these farmers wanted the ID to construct sidewalls on both sides of the stream section. They emphasize that it is a part of the main canal and that the ID should include this section under the rehabilitation program. According to the ID officials, he cannot do any maintenance or rehabilitation to a natural stream. However, farmers could not be convinced. Some essential rehabilitation work of this section worth Rs 400,000 has also been done under NIRP. Further, the ID has promised farmers to demarcate the reservations of the stream for their own benefit.
3. Farmers were informed not to cultivate OFC/vegetables in the 1993/94 maha season according to the decision of the kanna meeting. It is amazing that farmers are not allowed crop diversification if they like to do so, despite the government effort of promoting crop diversification. Some farmers had cultivated vegetables against the kanna meeting decision. These farmers have come from outside the scheme and have rented the fields. Farmers in the scheme give many reasons against this vegetable cultivation:
 - * Increased P&D problems for rice when part of the tract is cultivated to vegetables. Weeds in these plots become a host to the insects.
 - * When vegetables are cultivated in one season, rice grown in the following season needs more water (scientific explanation may be due to break of the hardpan with land preparation for field crops or cracks due to less water in the field)
 - * Outside farmers leave/bury empty containers of insecticides in the field which become a hazard to the farmer who cultivates the field the next season.
 - * When farmers in the upper part of the catena cultivate vegetables, rice farmers in the lower part of the catena cannot get water because they practice plot-to-plot irrigation. The farmers in the upper part do not like to give a field ditch for a season for fear that it would become a permanent ditch.

- * The lower part of the catena cannot be cultivated with field crops due to poorly drained soils/waterlogging.
- * Lack of technical know-how. No extension workers to advise them.
- * Vegetable farming needs high capital.

The very last reason is the one which made farmers stick only to rice cultivation which draws no profits. The PM of GWRE said that they do not encourage farmers to do other crops in the maha season because of the heavy rains. Some farmers have left their fields fallow because tenants do not like to cultivate rice which draws no profits.

PROVIDING THE 10 PERCENT CONTRIBUTION

Progress To Date

The total estimate for rehabilitation of the GWRE is Rs 9.7 million. The total civil cost is Rs 7.7 million. The farmers' 10 percent contribution is Rs 0.77 million. The estimate for total earthwork is Rs 1.5 million. Leaving aside the farmer contribution, the earthwork estimated to cost about Rs 0.7 million was contracted to FOs. That is about 50 percent of the estimate of earthwork. Farmers were not asked to contribute individually. Therefore, the total earthwork contract was given to farmer organizations that were paid 50 percent of the cost deducting the 10 percent contribution, i.e., Rs 0.77 million. The FOs undertook this work in December 1992 and completed it by August 1993.

Organizational Difficulties

It was difficult to organize shramadana for 10 percent of the work. The pangu system was also not practiced. The total amount of earthwork was taken as a contract. The payments for this is only 50 percent of the estimate. Therefore, FOs paid low wage rates to the workers and compensated for the balance work. Sometimes, they used laborers from closeby tea estates under lower wage rates. Therefore, there was no real farmer participation on an equity basis at the GWRE. The major problem in organizing shramadana is that there are many part-time farmers. FOs were not given a proper understanding of this work. They always state that they had no profits from earthwork contracts and that they barely managed by paying less wage rates. The 10 percent contribution was not borne by farmers for them to have a sense of ownership of the scheme. FO leaders pointed out that the FO does not have any authority to deal with defaulters.

Role of Project Management

If the management allocated 10 percent work and asked the FOs to complete the work, the farmers would participate in this work. Farmers who cannot come for this work due to their employment, could send a person in lieu of him or could pay relevant wages to the FO so that the latter can employ a laborer. Because of the system they practiced, most of the farmers did not know how this 10 percent was covered, although they knew that the FO should cover a

share of the cost of rehabilitation. The project management could have guided the FO to try out a possible way of getting farmers directly involved in rehabilitation work as expected in the project planning. Since FOs completed their task by any means the project management did not have much problem in enforcing the agreement.

CONSTRUCTION CONTRACTING

Contracts Offered and Work Undertaken

The FOs first undertook the contracts on earthwork. They found it very difficult to fulfill this task because they were paid only 50 percent of the money deducting the 10 percent contribution. Another thing is that rates of the estimates were far below the current market rates. Because of this reason, FOs could not make profits from the contracts even after doing the earthworks. Farmer leaders complained that because of the *janasaviya* program, it was very difficult to find laborers and the wage rates are about Rs 100-125. The project management has told them that the rates could not be revised for the contracts for which the agreements had been signed. They will get the estimates on new rates for the next contracts. FOs were provided with materials such as cement and iron.

Difficulties

The first difficulty they faced was finding capital for contracts. Able farmers put some money collectively at the beginning. They may have expected an interest for that money. Sometimes, FOs borrowed money from outside to pay interest, with the consent of the farmers in the FO. Most of the time, farmers complained at PCM for delaying payments. Some FOs faced the problem of paying wages due to delay in payments. Depending on the type of contract, some FOs earned a little bit of money for the FO fund with much difficulty. Gampolawela Wewa FO lost from a contract done at the Dunhinda Canal recently. When they went to the IE's office to receive the cheque for the work done it had not been prepared. Therefore, these FRs were disappointed and did not participate in the project committee meeting held on 7 December 1993. They pledged not to have ID contracts any longer because they would lose due to low estimates. The Halagama FO also heavily lost in a contract and abandoned it on the way. Another FO took up the balance work and completed it. Lack of experience also contributed to losing from contracts. Because of the low rates of estimates, 2 private contractors out of 5 abandoned the work. Even tender rates of the private contractors were higher than the estimates. However, some contractors had undertaken work on the ID's request.

Effects on FOs

FO Funds

All FOs decided to collect member fees. This is not enough to cover the FO activities even if all farmers pay the due amount on time which, of course, never happens. The FO also decided to collect one bushel of unhusked rice per season to raise the fund without discriminating over

the size of landholdings. This could not be practiced because the cultivation was abandoned for two seasons. Farmer leaders have not paid attention to charges proportionate to the landholdings. This could not be practiced because the cultivation was abandoned for two seasons. Farmer leaders have not paid attention to charging in-kind proportionate to the landholdings. For the moment, they feel that membership rights are equal among all members. The argument is that therefore the payment also should be equal. However, they also feel that this problem may arise because the income and the benefits from the FO depend on the landholding size. The other major source of raising funds is through construction contracts. This has not been successful as expected. At the onset of this project the FO took contracts on earthwork. Total earthwork was about 20 percent of the total estimate. All this work was given to the farmers. Deducting 10 percent as farmer contribution, FO was paid for the balance 10 percent. FOs managed to complete this work within the allocated amount of money, paying low wage rates to laborers hired from outside the scheme or to the farmers in the scheme itself. Therefore there had not been real farmer participation for this work. If FOs could cover 10 percent contribution through free labor of farmers, they could have saved more money for the FO fund by contracting only 50 percent of the earthwork (10% of total estimates). Although the ID provided material in advance, the FOs did not have money to cover other expenses. Some FOs borrowed money from banks or moneylenders on interest. In some FOs, well-off farmers contributed in bulk to build up capital, probably expecting an interest on the money. Excepting one FO, all others have taken contracts. Of these one FO totally lost and was seeking another contract in 1994 to cover the loss and to save some money. The major reason for losing in contracts was low rates of estimates. Even private contractors abandoned work due to this situation. Farmers suffered much and managed to save some money with much difficulty. According to the types of contracts the profit which could be earned is varied. Therefore, some FOs managed to save Rs 10,000 to 20,000 while some other FOs failed. One FO has taken a tractor on loan from the DAS. They could not pay installments as there was no work in the last 2-3 seasons. Now the DAS has threatened to withdraw the tractor from the FO.

Technical Experience to FOs

Only the present farmer leaders (president, secretary, treasurer) are engaged in contract works. Some leaders have had experience of this type even beforehand. The others who newly experienced this venture have definitely gathered some knowledge on construction contracts. However, the problem is how this experience can be transmitted to the next leaders. Nevertheless, it can be supposed that if there are experienced people in the community they would help leaders in maintenance work. For major repairs, the FO will have to resort to agencies for technical expertise and for funds too.

Additional Experience in Group Activity Management

The training of farmer leaders at the beginning of the project, helped them toward achieving success in this task. Some FOs strictly follow official procedures, as they learnt in training classes. In FO activities, especially for financial matters, they will have to face many baseless accusations. The current activities of FO were explained to the ordinary farmers in detail at the FO meetings. This has not happened in a regular way in all FO meetings. Few FOs practice this strictly. Therefore, it can be predicted that these are good signs of future development of group activities. Major reasons which obstruct this are less benefits to the farmers located far from the FO and discouragement from the agencies as in the case of two-wheel tractor affair.

CONSTRUCTION SUPERVISION

Farmers supervised the contracts done by private contractors. It was mainly the farmer leaders who attended the supervision work and reported to the officials. Construction of retaining walls at Bothota Amuna was a serious issue raised by farmers. Farmers complained of bad construction work by private contractors but the officers did not respond to the complaints and so the farmers gave up the supervision. Ultimately, the constructed walls collapsed in a heavy rain.

EFFECTS ON SUCCESS OF THE REHABILITATION

Farmers in the head end said that they did not benefit much from this rehabilitation because they did not face problems of getting water even before the rehabilitation. However, tail enders will definitely be benefited because they had many problems in receiving water. Drainage and refuse water from the Gampola General Hospital will be diverted under this project benefiting part of the tail-end area. Farmers will be able to practice rotations effectively with new structures and gates. However, the heavy silting of the canal is still a serious problem. Because of the hilly terrain, silt traps constructed under the project were filled with the first rain and silting of the canal is continued. Farmers asked the ID to maintain the system until they undertook O&M of the scheme. According to the ID officials, there are no funds for such activities while rehabilitation is going on.

The quality of work done by farmers is satisfactory according to the ID officials. According to the project management, Quality Control officers in the Quality Control Unit at the DDI's office became a hindrance sometimes when they strictly followed the guidelines which cannot be achieved practically and without which the required quality can be maintained. Private contractors were reluctant to take over contracts due to this situation. According to the farmers, a low quality work done by a private contractor, having all these quality control measures, was destroyed with one occurrence of rain. However, the efficiency of work is not high. In FO contracts they could not reach this efficiency which was aggravated due to lack of funds and due to delay in payments.

EFFECTS ON DEVELOPMENT OF FO MANAGEMENT ACTIVITIES

FOs have taken the initial step on operation of the water issues and it could be continued with further training with agency activities. If this present interest of farmer leaders continues, they may be able to achieve this task. Participation of all farmers in FO activities is doubtful. If all these farmers pay at least the due subscription to the FO, O&M could be done using that fund. The project committee hopes to appoint one person for operation of the scheme and to pay him accordingly. It is difficult to conclude their capability of group responsibilities and maintaining themselves as a group. At present, they have raised funds through rehabilitation contracts which are inadequate. The ability to manage funds cannot be judged at this stage. It cannot be concluded whether they are gaining technical knowledge needed for both O&M. Agencies will have to work with farmers for some time until FOs are confident to do it. The general view of farmers and FO leaders is that the ID should maintain the scheme because they still feel that

they are not capable enough to handle this. The main reasons put forward is that farmers do not have responsibility in FO activities because they do not receive adequate benefits from the FO except rehabilitation. Independent work of FOs will have to be monitored after withdrawing IOs.

ANNEX III

MONITORING FARMERS' INVOLVEMENT IN REHABILITATION: THE CASE OF UDUGODA BANDARA ELA, KANDY

THE SCHEME

THIS IS A medium-scale diversion scheme benefiting two electorates; Pathadumbara and Kundasale in the Kandy District. It comprises a main diversion weir across Ruwan Oya at Udugoda. This area belongs to three Divisional Secretariats (DS) Panwila, Menikhinna and Wattegama, four Agrarian Services Centers (ASC) Wawinna, Menikhinna, Huluganga and Wattegama and eleven Grama Niladhari (GN) Divisions. The main canal (MC) of the scheme is 6.8 km (4 miles, 23 chains) long and there are 7 pick-up anicuts across Ratmal Oya and an augmentation tank across Ratmal Oya at Mahara Bandara Wewa and a stock tank at the end of the scheme at Dambarawa. The total length of the scheme is about 9 miles (Feasibility report).

The main anicut diverts water to the MC which has a base conveyance capacity of 7 cusecs. The MC provides water to the fields in Udugoda and Wawinna villages at the Pathadumbara electorate. The bifurcation structure at the end of the MC distributes water partly along the branch canal (BC) to the fields in the Walala Village of the Pathadumbara electorate and partly through the saddle to the Ratmal Oya to feed the fields. Under the Ratmal Oya Basin within the Kundasale electorate, 5 pick-up anicuts out of 7, across Ratmal Oya situated upstream of Mahara Bandara Wewa. The order of the anicuts along the scheme is given below (Feasibility report):

1. Nuguna Vihara Ela Anicut
2. Nuguna Anicut
3. Gale Danda Anicut
4. Pitawala Anicut
5. Paldeniya Anicut
Mahara Bandara Wewa
6. Amunuwela Anicut
7. Hambe Amuna Anicut
Dambarawa Wewa

Hydrology

This anicut has a catchment area of 5.9 sq. km (2.28 sq. miles) with a steep slope covered with vegetation. Data on specific yields obtained from the ID, and isoyield curves are as follows (Feasibility report):

Specific yield for maha	- 1,505 ac.ft/sq. mile
Specific yield for yala	- 400 ac.ft/sq. mile
Specific annual yield	- 1,905 ac.ft/sq. mile
Annual yield from the catchment	- 4,345.4 ac.ft

Table 1. Irrigable area in ha (acres).

Udugoda fields	4.64 (11.60)
Wawinna fields	18.32 (45.79)
Branch channel-Walala fields	32.27 (80.64)
Nuguna Vihara Anicut	3.38 (8.45)
Nuguna Anicut	9.73 (24.32)
Galedanda Anicut	4.00 (10.00)
Pitawala Anicut	6.34 (15.84)
Paldeniya Anicut	0.80 (2.00)
Mahara Bandara Wewa	
Vihara Ela	11.70 (29.26)
Amunu Wela	2.78 (6.94) (5.2.LB + 82 RB)
Hambe Amuna	22.10 (55.25) (5.15 RB + 50.10 LB)
Dambarawa Wewa	6.06 (15.14)

	122.12 (305.23)
	=====

The catchment of Mahara Bandara Wewa is 3.35 sq. km (1.3 sq. miles) and its capacity is 96.19 ac.ft. The catchment of Dambarawa Wewa at the end of the scheme is 0.64 sq. km (0.25 sq. miles) and its capacity is 17.8 ac.ft.

The total command area of the scheme is 122 ha (305 acres). The schemes is not functioning at its full capacity due to deterioration. Water flow in the canal has been sufficient to irrigate only about 60 ha (150 ac), i.e., 50 percent of the command area, on a rotational basis during dry spells. From the Dambarawa Wewa water flows only half way along its MC. Farmers of the tail end of the canal have converted their fields to homesteads since they could not receive water for their fields for long periods. Recently, part of the canal has been closed to construct a road to a nearby village.

The total number of farmers in the scheme is 585. Out of this 60 to 75 percent are tenants. Most of the farmers cultivate long-aged rice varieties while some farmers grow short-aged varieties due to risk of water shortages at the end of the season. Rice varieties used by UBE farmers are BG 400-1, H4 BG 11-11, H-8, BG 90-1, BG 90-2, and BG 34-8. Some farmers still grow traditional varieties like Hondarawala, Heenati, etc., to prevent their extinction; these are more palatable than the new varieties. Land holding size varies from 0.04 ha to 2.4 ha (1/10 acres to 6 acres). Although many farmers in the scheme obtain unhusked rice yields below 3.94 MT/ha (75 bushel/acre), farmers in the Nituletenna area which is the tail end of the scheme, claim they get more than 100 bushels/acre. Sometimes, their yields are as high as 7.35 MT/ha (140 bushels/acre). Most of the farmers claim that they do not use chemicals intensively because they do not face frequent incidences of pests and diseases. Once in a way they face attacks of thrips and plants hoppers. Then they use pesticides to control them. Also they do not use much fertilizer because they use organic manure (straw, green manure and cow dung) through traditional experiences.

Because of the water shortages experienced for a long period, farmers in some sections have now got into OFC cultivation. Farmers at the very head-end and the very tail-end areas cannot grow OFC since they do not face water shortages but waterlogging problems in poorly drained soils. Generally, farmers in other parts cultivate crops such as bean, tomato, okra, green gram, black gram, snake gourd, bitter gourd, pea, brinjal, cabbages, and chili in the dry season. The major problem faced by these farmers is lack of knowledge and experience in growing cash crops. Farmers claim that there is no one to give them instructions since the extension service of the Department of Agriculture has been paralyzed with the removing of its KVS (extension officer) cadre. Some innovative farmers grow OFC in the fields close to the streams. If they do not own such fields, they rent a piece of land close to the stream at the current rate of Rs 500 per acre. Farmers are increasingly interested in OFC cultivation. The major problem is that they do not have easy access to new technology.

FARMER ORGANIZATIONS

Organizational Efforts

Initial steps were taken by DAS to form FOs in 1990. The ID was also involved with the message of rehabilitation under NIRP. Two Institutional Organizers (IO) were appointed by DAS at the beginning. They organized farmers into 14 FOs. These two new IOs were appointed in October 1991. One of them has been absorbed into the ID and is still working in the field while the other has left the job. There are 12 FOs in the UBE Scheme now representing head to tail sections of the scheme. Farmers were organized enthusiastically into FOs with the news of rehabilitation. The scheme had deteriorated severely with the dilapidated structures and eroded canal profiles which made farmers to abandon cultivation in some parts of the scheme because they could not carry water to the fields along the existing canal system. Therefore, the message of rehabilitation was an incentive to the farmers to be organized into the UBE FO. The basic information of the FOs is summarized in table 2.

Table 2. Basic information on the FOs.

Name of FO	Area in acres	No. of farmers	No. of members	No. of owners	No. of tenants	Membership fee (Rs)	Entrance fee (Rs)	Other (Rs)	Pund (Rs)	Value of contracts	Gramasewaka Niladati	Agrarian Service Division	Divisional Secretariat	Electorate
Udugoda	17.5	28	25			20 - s			500.00	10960.00	Udugoda	Huluganga	Panwila	
Wawinna Pallegama	18	117	85	40	77	10 - s			350.00	102014.00	Wawinna	Wawinna	Kundasale	
Maharatenna Batahira	45	80	38	50	30	10 - s	20.00	25.00	100.00	997495.00	Maharatenna Batahira	Menikhinna	Kundasale	
Walala	45	87	30			5 - m	10.00		870.00	440742.00	Ketakahala Paikotuwa	Wattegama	Pathadumbara	
Napana	13	30	30			10 - s		50.00	200.00	121900.00	Napana	Wattegama	Pathadumbara	
Hamindagoda	30	39	20	4	35	20 - s			450.00	306050.00	Hamindagoda	Wattegama	Pathadumbara	
Aswedum Palama		51	34				10.00		500.00	538522.00	Hurikaduwa Batahira	Menikhinna	Kundasale	
Pitawela Amuna		41				100 - y	10.00		780.00	326246.00	Hurikaduwa Batahira	Menikhinna	Kundasale	
Vihara Amuna		35	26			100 - y	10.00		250.00	144200.00	Hurikaduwa Batahira	Menikhinna	Kundasale	
Udawela	25	26	22			25 - s	10.00		500.00	344100.00	Dodamgolla	Menikhinna	Kundasale	
Dambarawa Ekamuthu	40	55	29			25 - s	10.00		250.00	382600.00	Dodamgolla	Menikhinna	Kundasale	
Nituletenna	12	29	29				10.00		500.00	139550.00	Nituletenna	Menikhinna	Kundasale	

Notes: Member fee: s = per season
y = per year
m = per month

These FOs are based on the existing tracts consisting of adjacent fields; they are not based exactly hydrologically. There is a project committee consisting of the representatives from all FOs. The president, secretary and treasurer of each FO represent the project committee. All these FOs function in a similar manner. That may be due to the guidance of IOs. According to the scheduled activities, the FO meets separately once a month between two project committee meetings (PCM) and farmers' problems and suggestions brought up at the next PCM are discussed. The PCM is held at Menikhinna every month. The Project Manager (PM) and officers from other line agencies like DOs from DAS, AI from DOA, Agricultural Manager from ADA and GNs are supposed to attend this meeting to help farmers in decision making and to solve their problems in situ whenever possible. The PM and IOs definitely participate in the PCM while other officers attend them only if they are invited.

It has been very difficult to organize farmers at Udugoda Village which is at the very head end of the scheme. These farmers did not show much interest in FO activities, may be because they did not face problems of water shortages. Actually they had excess-water problems. These farmers became positive over FOs due to the efforts of the IOs. They face many administrative problems. They belong to the Panwila DS and Huluganga ASC. Therefore, farmers have to travel a long distance to reach these places despite the nearby ASC at Wattegama. Because of this separation, these farmers have also been denied interaction with the other farmers in the scheme. Receiving inputs for the cultivation is a serious problem for these farmers due to this situation. Some FOs had arranged to supply farmers with required inputs such as fertilizer, seed paddy, etc. through the Menikhinna ASC in the 1992/93 maha season. The FOs were facilitated to obtain loans from the ASC to buy and transport inputs to the FO area with the help of the DO. These inputs were distributed among farmers, keeping 2 percent commission to the FO which goes to FO fund. This system greatly helped farmers in saving their money and time in their search for inputs. Some FOs had suggested to operate seed paddy farms to produce the required seed paddy within the scheme while some other FOs wanted to practice model farming to demonstrate OFC cultivation. These suggestions were realized.

Farmers at UBE expected rehabilitation even before the 1992/93 maha season. Two years had already passed from the initiation of FOs informing them of rehabilitation; a considerable time had also passed after the surveys done for planning rehabilitation. In the beginning of 1993, farmer queries regarding rehabilitation work had been increased. Farmers expressed their doubt on rehabilitation which was a barrier to assemble them for FO meetings. Farmers were ready to undertake rehabilitation work by then, but delays in official procedures discourage the farmers. They lost confidence in the officials, and felt that the latter were relating fairy tales from time to time like politicians. The project committee could not decide on the 1993 yala cultivation as it was uncertain of the period when the MC would be closed for rehabilitation. Officers who deal directly with farmers were in trouble, because they could not provide satisfactory answers to the farmers' questions. IOs faced immense difficulty in explaining the situation to the farmers. Officers of the FOs faced the same situation. The message of rehabilitation was an incentive for the farmers to come round to the FOs. The unexpected delay in approving funds made farmers desperate and kept them away from the process.

Farmers' attendance at FO meetings was very low toward the end of March 1993. One immediate reason was that it was the harvesting period and then the farmers had to prepare for the new year festival in mid-April. An unsatisfactory political situation prevailed throughout the island in the eve of provincial council elections after the new year festival and this kept farmers away from FO activities up to the end of May. However, the major setback was the delay in rehabilitation. Farmers wanted to skip cultivation in the 1993 yala season for rehabilitation because they did not like to abandon the maha season cultivation when they receive adequate water for rice. Attendance of the PCM also dropped drastically. This situation developed to the level of cancellation of the PCM for the month of May. The other reason for this was that the project management faced difficulty in providing satisfactory information to the farmers on the commencement of rehabilitation. The bad repercussions of putting rehabilitation forward as an objective of farming was learnt from this. Although there should be many things to be discussed at the PCM, farmers were not guided or directed in such a way. When the expectations of the farmers collapsed in the short term, they lost confidence in the agencies and in desperation tried to keep away from the FOs. This is a good lesson for the agency in that it should not promise to provide something to farmers if it is not prepared to make these provisions readily available to farmers. Officers who deal with farmers must be given better training on working with adult groups.

One FO representative did not like to canvass his fellow farmers for FO meetings due to a false sense of status. He is also in active politics holding an office in a local government body. He had suggested to one IO to send cyclostyled letters to summon farmers for meetings. The IO had not agreed to this, because it would be an extra burden to the FO in future when farmers would be used to such formal invitations for FO meetings. There was another problem concerning membership of FOs. The owner of a land does not like his tenant to be an FO member. He lives away from the scheme and does not participate in FO activities. Although the tenant is qualified to be an FO member, he does not do so for fear that he would lose his tenancy from the next season. The other problem in the scheme is caste consciousness of the community. This usually becomes a problems in collective work.

With the efforts of IOs a shramadana was organized in July to desilt the MC to keep farmers from being demoralized but ultimately it was postponed due to unavoidable circumstances. Individual FOs had also decided to organize shramadanas for desilting their respective field channels but it was difficult to gather farmers.

Farmers expressed their fear of having a good and adequate rehabilitation for the scheme because of the reduction of initial estimates for rehabilitation. Farmers felt that all the items listed in the initial estimate should be included for the scheme to be successfully rehabilitated. They felt that the rehabilitation would end with low quality work because the allocated amount of money is far below the required amount. The project management expects this situation to ease when rehabilitation commences. Farmers' interest in the FO increased again at the end of September with the ratification meetings. The inauguration ceremony was held on 5 November 1993 with the participation of the State Minister for Irrigation. Farmers were ready to undertake rehabilitation but it had yet to be started. FOs hope to commence work wherever possible without waiting till the maha harvest is collected. Generally, awareness of farmers in FO activities and rehabilitation is good even though they had lost interest. Coordination

between FOs in planning cultivation is still weak which leads to staggered cultivation. The PCM was postponed in July because IOs were away for training. Membership increased with the news of commencement of rehabilitation because farmers thought that membership of the FO would be a qualification to receive work at rehabilitation sites. The Wawinna FO temporarily stopped giving membership because it would be a problem to the FO if the farmers who could not work to full capacity at construction sites demanded work claiming their right to receive work as they are members. This is an example to show that farmers should have some incentive to become a member of an FO.

The membership and entrance fees vary according to the FO. There is another problem which cannot be understood yet, that is, whether the FO officers' interest on this social work is in the light of giving contracts to the FO. They may seek to get subcontracts leaving a small commission to the FO although it is not promoted by the ID. Or else, they may expect to swindle from these contracts. A summary of the basic information about FOs has been given in table 1.

Institutional Organizers (IOs)

DAS appointed 2 IOs to facilitate the formation of FOs in April 1991. There had been 5 FOs formed by the GN in 1990, when new IOs assumed duties at the scheme. These were the Udugoda, Nithuletenna, Walala, Dambarawa and Napana FOs and they were nominal and not active at all. Then the IOs established 14 FOs including the existing FOs and registered them in DAS during the latter part of 1991 and the early part of 1992. Later, 3 FOs at Wawinna were amalgamated reducing the total number of FOs to 12. These IOs helped in organizing farmer training classes as well as FO meetings and helped farmers to keep up the FO activities. These two IOs were absorbed into the ID under NIRP by July 1992. Immediately after this, one IO left for another job and the other one worked alone for several months. Then a new IO was appointed by the ID in October 1992.

The IO who has been working from 1991 in the scheme worked for 5 1/2 years in the capacity of an IO out of his twelve year service at the Association of Nation Builders (ANB). Just after he was appointed an IO at DAS, he underwent an orientation program of 5 days at the In-Service Training Center at Maha Iluppallama. All training programs he has participated in so far are summarized in table 3.

The other IO working at present with him came from the new batch of IOs recruited by the ID. They were released to field sites after a five-day orientation program held at SLITI, Galgamuwa. She had been working as an IO under ISMP at the Minneriya Irrigation Scheme from 1989, until she joined the ID in October 1992. Table 4 gives details of the training programs she has undergone as an IO.

The monthly meeting of IOs is held at the DDI office chaired by a trainer of the ID assigned to guide the IOs. The IOs review the progress of the previous month at this meeting and submit a progress report according to the guidelines provided to the IE through the PM. They also submit an advanced program for the coming month which goes to the DDI through trainers, at their meeting. The IDO at RST also attends this meeting and guides the IOs on

strengthening FO activities. The DDI also attends this meeting whenever possible and helps solve the problems faced by IOs.

Table 3. Training program of IO 2 at UBE.

Training items	Venue	Trainers	Duration	Period
Under ISMP 1. Orientation	Mahasen Mandiraya, Hingurakgoda	Mr. S. Ganewatta	8 days	15-30/3/89
2. Systematize FOs	RPRDC Anuradhapura	Mr. J. Maclum	10 days	Mid
3. OFC cultivation (B-onion, greengram, cowpea, chili)	Maha Iluppallama - in- service	-	3 days	Mid
4. Machinery use (Transplanter)	-do-		1 day	Mid
5. Bookkeeping	PM office Minneriya		2 days	Mid
6. Evaluation, operation and feedback programs	-do-	Mr. Ellawala	2 days	End
7. Preparation of maintenance plan	Seruwa Hotel, Polonnaruwa	Mr. J. Maclum	2 days	End
Under NIRP 8. Duties of IO, responsibility, establishing FOs (revision) (orientation)	SLITI	Mr. Ranasinhe Perera and team	5 days	12-17/10/92
9. Financial management (accounts) construction and contracts	SLITI	ID/NIRP	8 days	23-30/7/93

Table 4. Training program of IO 1 at UBE.

Training items	Venue	Trainers	Duration	Period
Under DAS	In-service - Maha Iluppallama		5 days	April 1991
1. Establishing FOs, leadership, interagency interactions, agriculture				
2. Financial matters, working as a trainer	AR&TI		3 weeks	July 1991
3. Revise former training	SLITI	AR&TI team	1 week	October 1991
4. Construction, water measurements, earthworks	SLITI	SLITI	5 days	April 1992
Under ID/NIRP	SLITI	SLITI	8 days	July 1993
5. Construction, contracts financial matters				

According to the IOs at UBE, it is very important to have further training on the following areas which will facilitate dealing with farmers and in finding solutions to their problems:

1. OFC cultivation, horticulture, e.g., orange/banana
2. Budding and grafting
3. Pest and disease control
4. Pesticide use
5. Fertilizer use

According to IOs, the difficulties faced by them in organizing farmers are as listed below:

1. Problem of tenants/lessees
2. Caste consciousness of the community
3. Owners of the fields living away from the scheme
4. Part-time farmers
5. Traveling difficulties within the scheme

They also feel that it is easy to organize farmers when they are educated. Government employees or pensioners can be convinced easily because they are educated. When pensioners are involved, FO work is easy because they can devote more time and they are willing to engage in social work. Dealing with farmers after farmer training classes is also easy. The PM feels that involvement of IOs is necessary because it is difficult for him to organize activities having one WS for the scheme.

The IOs suggested the following for the improvement of FOs:

1. Field training classes/demonstrations/model farms
2. Field trips to see other schemes
3. Increasing support from the agencies

Training Programs

So far, two training programs have been held for farmers by trainers from the ID. Six farmers from each organization including the president, secretary and treasurer attended these classes. The duration of each class was 2 days. Farmers were taught about financial matters of FOs in the first class and about construction and contracts in the second class. In addition, there was another training class for 3 days at the Gannoruwa In-Service Training Institute to teach farmers about matters related to agriculture and the scheme. This session was organized by the DAS.

There had been seminars and training programs for the officers which had not been attended by the PM of UBE so far. He hopes to attend a training program in January 1994.

Present Status

All farmers know about the NIRP, the FOs and rehabilitation. The news of rehabilitation of the scheme having been spread 2 years ago, every farmer is wondering why there is no rehabilitation as yet. Attendance at FO meetings was very poor or there was no attendance by August 1993. Farmers including farmer representatives were disappointed over the delay of construction works. The ratification meetings were held in September 1993 when farmer participation increased, but not to a satisfactory level. The inauguration meeting was held on 5 November 1993 with the participation of the State Minister of Irrigation. Now farmers are waiting to undertake contract works.

Farmers in UBE participated in 22 shramadana campaigns organized by FOs. Once the FOs issued fertilizer to the farmer on 50 percent credit with the help of ASC, Menikhinna. Also farmers had the facility of obtaining a cultivation loan of Rs.20,000 from the Rural Development Bank at one time. Ordinary farmers who are not FO member yet, hasten to become members these days seeing the work done in consultation sites.

It is difficult to comment on the strength of FOs yet. The position of all FOs regarding their activities is more or less the same. Office-bearers of FOs are enthusiastically waiting to commence construction work. Most of these farmer-leaders have experiences in contract works. There is a suspicion as to why they show so much interest on FO activities. Some farmer leaders said that after rehabilitation they would quit from the posts they are bearing now, giving responsibility to some other farmers. Therefore, it is necessary that the agencies involved keep a close eye on their activities when construction works are going on.

PARTICIPATION IN PLANNING AND DESIGN OF REHABILITATION

Reported Participation

The preliminary investigation for rehabilitation was done in the time of the former TA around mid-1991. Participation of farmers in walk-throughs was not reported. Again, the surveys were done from the beginning of August 1992. By this time, the farmers were asked for their proposals for rehabilitation at FO meetings. The ID officer walked with farmers after the meetings to identify necessities. Committee members or farmer representatives joined these walk-throughs. Ordinary farmers also pointed out the needs at their sections. The RST was not established at that time. Even now the RST is not involved with rehabilitation of medium schemes done by the ID but it is involved in the minor schemes done by the Provincial Council.

The first estimate of the survey was 14.1 million. Because this amount exceeded the selection criteria of NIRP, new surveys were done and the estimate was reduced to 8.5 million. The first estimate had included unnecessary channel lining and reinforcements. Farmers did not like this reduction expressing their doubt of having enough repairs to the scheme which would solve the present problems. However, after explaining the situation to them, they accepted it reluctantly because there was no alternative but to accept the view of technocrats. Farmers are questioning the use of consulting farmers if their requests are not complied with.

Ratification meetings were held for individual FOs in September 1993. Total estimates were explained at the project committee meeting (PCM). Ordinary farmers do not have a clear idea of the explanation given at these meetings. According to the farmer leaders, many of the farmers' requests have been granted under this program. Attendance of individual ratification meetings is listed in table 5.

These attendance details show how farmers lost their interest in rehabilitation because more than 2 1/2 years had passed after they received the message of rehabilitation. Agreements for takeover of O&M were distributed to FOs in November at the PCM.

Table 5. Attendance in the ratification meetings.

Name of farmer organization	No. of farmers	Attendance at meeting	Date
1. Udugoda rice cultivation	28	9	15.9.93
2. Wawinna Pallegama	117	46	13.9.93
3. Maharatenna Batahira	80	20	6.9.93 (2 meetings)
		13	22.9.93
4. Walala	87	21	7.9.93
5. Napana	30		
6. Hamindagoda	39	10	8.9.93
		16	16.9.93 (2 meetings)
7. Asweddumapalama	51	36	10.9.93
8. Pitawala Amuna	41	19	12.9.93
9. Vihara Amuna	35	10	12.9.93
10. Udawela	26	17	17.9.93
11. Dimbarawa Ekamuthu	55	8	9.9.93
		11	19.9.93 (2 meetings)
12. Nituletenna Praboda Eksath	29	26	11.9.93

Effectiveness of Participation in Planning and Design

Although ordinary farmers know about rehabilitation they do not understand what exactly would happen. Leading farmers are the main actors. The ID officers feel that farmers' help was useful in identifying rehabilitation needs, but it was difficult to include all their requests into estimates due to many other limitations. Some farmers think they will not have enough water in the scheme even after rehabilitation because the command area has been expanded due to encroachments. Therefore, they suggest an augmentation scheme to supplement the flow of Ruwan Oya with the water of Appalebedda stream. The reduced estimates have made farmers unhappy. Some farmers including the GN complained that drainage water from a nearby colony directly released to the MC of UBE results in the silting of the canal. The PM/TA answered that no such reports had reached him and that enough drainage ways have been made underneath the canal where necessary. Another problem is in the Kotalpitiya area where farmers requested to change a section of the canal which is susceptible to frequent damages. Farmers in that area feel that even after rehabilitation the situation would not change. The DD and IE inspected this and promised to repair the present section of the canal to resist damages since the suggested changes of the channel were just not economical to provide water for 16 ha (10 acres). Farmers have not been satisfied with this and have brought the matter to the attention of a member of parliament (MP). According to the treasurer of the Maharatenna Batahira FO, that MP has promised to provide grants for the proposed change of the canal from the decentralized budget.

Special Issues

Effect of a Tube Well Project

The Nituletenna FO area represents a highly fertile lowland area below the Dambarawa Tank. They did not have problems of water since they are downstream farmers and receive a yield of 140 bushels/acre. Poorly drained soils of this area made it difficult to use machinery in these fields and to cultivate OFCs. They used only buffaloes as means of farm power and transplanting was the general practice of establishing the crop. A project of deep tube wells for supplying water for domestic needs was commissioned in this area in the recent past. Farmers affirmed that all the spilling wells and even the streams dried up as a result of this project and their crop was also destroyed due to this situation in the 1992 yala season.

Augmentation Scheme for UBE

Farmers claim that the problem of water is due to encroachments which increased the command area of UBE. They expressed their doubt of getting enough water to feed the full command area even after rehabilitation. Therefore, they suggest an augmentation to the Ruwan Oya from a nearby stream called Appalebedda, water of which is not used at present. They suggest to construct a storage tank which can supplement UBE in the dry spells.

According to the ID officials, plans for this scheme had been prepared by the ID, but it could not be included under NIRP because NIRP is not catering for any new construction but for rehabilitation.

PROVIDING THE 10 PERCENT CONTRIBUTION

Progress To Date

Rehabilitation has not commenced yet. The total estimate of the rehabilitation is Rs 8.5 million. The total civil cost is Rs 645,887.61. Therefore, farmers' 10 percent contribution is Rs 64,588.76. Farmers cannot cover this amount with earthwork alone because the total estimate of earthwork is about 5½ percent of the total estimate. The FOs requested to obtain all the contracts under rehabilitation. Therefore, it is expected to deduct 10 percent from all the contracts which would be given to FOs. FOs asked farmers to contribute one day's free labor per 6 days at the construction sites. If the farmer cannot come for work, he should send a person in lieu of him or should pay one day's wage rate to employ a person on his behalf. The FOs do not have a clear vision on what they can do for the defaulters. One FO representative said they hope to seek the help of the *Samatha Mandalaya*, a local judicial body. The ID also does not have a policy on what to do if farmers neglect their 10 percent work even though FOs have signed an agreement.

CONSTRUCTION CONTRACTING

As work has not commenced yet, all the FOs are ready to undertake contracts. First, they hope to get contracts for earthwork and do it with *shramadana*. The money received from this will be used as the capital for other contracts which are needed to buy materials. However, the PM has suggested not to give earthwork contracts first as a strategy to get the 10 percent work done. The FO will be provided with a 20 percent advance in materials. The PM has no idea of how the FO will find capital for the initiation of work. He said that the arrangements will be made for weekly payments as a solution to this problem.

The FO has pledged to get all the contracts. Meantime, the ID advertised in the newspapers calling for tenders for UBE work. Farmers suspect that the ID is going to offer contracts to private contractors although FOs have declared their willingness to obtain them. The ID explained to the farmers that if FOs failed to honor the contracts and abandon them half way, it will have to give contracts to outsiders who have submitted quotations. This step has been taken to avoid unnecessary delays in this process. Farmers say that the ID wants to give out some profitable contracts to private contractors with the excuse that FOs are not capable enough to do better work. They suspect that the ID would leave some contracts to FOs only to cover the 10 percent contribution.

The PM expressed at the PCM in November that FOs must have his signature on the cheques to withdraw money from FO accounts in addition to the signatures of the president, secretary and treasurer of the FO. Farmer leaders protested against this stating that it was an unnecessary requirement because they have the authority of encashing cheques under Article 56A of the Agrarian Services Act. The PM explained that he wanted to avoid any swindling of money when FOs handle contract works. The farmer leaders questioned whether the FO wants the approval of project management to encash cheques when the ID is not providing even advances in cash. Some control over the financial management of the FO must be practiced through any agency without which the objective of fund-raising for the FO would not be fulfilled.

CONSTRUCTION SUPERVISION

The FOs had not thought about this issue because all the rehabilitation work would be handled by them.

EFFECTS ON SUCCESS OF REHABILITATION

Farmers still suspect the results of rehabilitation due to the reduction of initial estimates. They have a strong feeling that the rehabilitation would not help solve their irrigation problems without augmenting the scheme.

EFFECTS ON DEVELOPMENT OF FO MANAGEMENT ABILITIES

This differs according to the FOs. It is too early to decide on this aspect. FOs with capable farmer leaders are in a position to take over the O&M responsibilities. Also they are equipped with other management abilities. The situation when the office-bearers are changed cannot be predicted at this stage.

ANNEX IV

**MONITORING FARMERS' INVOLVEMENT IN REHABILITATION:
THE CASE OF KOBEIGANE MAHA WEWA, KURUNEGALA**

THE SCHEME

THIS IS AN ancient minor scheme situated in the Kobeigane Village in the Nikaweratiya electorate in the Kurunegala District. The command area of the tank is 33.2 ha (83 acres), but another 2.4 ha (6 acres) of earlier rain-fed land have been acquired to the scheme under the rehabilitation project which increased the command area to 35.6 ha (89 acres). The tank has a capacity of 178 ac. ft. and the catchment area is about 2.58 sq. km (1 sq. mile). There are about 150 farmer families benefiting from the tank. There are two main channels (RB- 1.2 km, 1.5 cusec and LB- 0.6 km, 1 cusec) running along the boundaries of the command area. Rainfall figures in yala and Mala are 262.5 mm (10.5 inches)(560 ac. ft.) and 575 mm (23 inches) (1,226.6 ac.ft.), respectively. Specific yield of the catchment is 583 ac. ft. for Mala and 260 ac. ft. for yala. Cropping intensity is around 130 percent or even below (Mala-full command area, yala-12.8 ha-32 acres) (Feasibility report). Farmers do not grow field crops in the yala season due to lack of experience and high preference for rice. Therefore, the yala cultivation is almost abandoned when tank level has not reached a considerable level.

FARMER ORGANIZATION (FO)

Organizational Efforts

The scheme being minor is under the management of DAS. Although the initiation of the FO was done by DAS, the ID was involved in construction works of the rehabilitation under NIRP. The message of rehabilitation reached farmers with the formation of the FO early in 1991. There was a formal meeting at a temple nearby the scheme which was attended by the officers of the DAS and ID and the representatives of the World Bank. This was the first meeting and 84 farmers out of a total of 96 members of the FO attended it. There was no IO at the beginning. The IO assumed duties in April 1991. The committee meeting was scheduled to be held once a month and the general meeting was scheduled to be held once in three months. There are three tract committees named as 1, 2 and 3 for easy identification to represent three tracts, i.e., Kobeigane, Hirigolla and Holambalawa, respectively. It has not been an easy target to form the FO. About 50 percent of the farmers are wealthy and own large extents which vary between 3 and 10 acres while the other 50 percent consists of poor farmers who own small plots of land and farm on tenurial arrangements. The wealthy farmers who are powerful economically as well as politically dominate over the needs of the other farmers. Two such farmers are the president and the treasurer of the FO and, therefore, poorer farmers' views and needs are not reflected through the FO. (Source: Poorer farmers and the officials)

Institutional Organizers (IOs)

The first IO was appointed by the DAS in April 1991. He served up to April 1993 and after a two week service-break he was reappointed to work for two other schemes in May 1993. By this time another IO was appointed and she left the job after three months for permanent employment. Again the former IO was assigned to this scheme in August 1993. So he had to look after three schemes by the time of the study. There had been a nominal FO at the scheme when he assumed duties in 1991. He had been really helpful in FO activities. The wealthy farmers who are the farmer leaders do not like to canvass other farmers to inform them of FO activities. Therefore, the IO's involvement was vital to avoid the effects of such disparities. The situation became worse when the IO was not in the scheme. The IO has been trained under the following training programs for career development.

Training Programs to Farmers

There was a 2-day training session at Mala-Iluppallama which was attended by four representatives including the secretary of the FO. As part of training they were taught about concrete mixtures, earthwork, contract procedures, etc. Another one-day session was organized by DAS on water management at the Agrarian Services Center, Kobeigane, which was conducted by the TA of the DAS. Farmers knew that some of their colleagues attended training classes and they claimed that those participants informed them about what they learnt at those classes. Further they said that they needed instruction on crop diversification which would help them to increase their income. Although this was the idea of farmers, the wealthy people do not want to cultivate OFCs because they have other sources of income and they want only to cultivate rice for their consumption.

Present Status of the FO

The current status of the FO is not satisfactory. Since this is a smaller group, all farmers are aware of the FO and the rehabilitation program. Attendance at meetings declined gradually and only 26 farmers attended the general meeting held in August.

Political intervention and the dominance of powerful farmers have become a serious problem in FO activities at Kobeigane Maha Wewa. Political ideas of the members of the FO did not affect the formation of the FO but the involvement of the MP for the area had a negative effect on the farmers toward the FO. On the other hand, the dominance of the powerful farmers has blocked the representation of the needs of poor farmers through the FO. For example, the FO had not shown interest in obtaining seed paddy and fertilizer on credit from DAS in the 1992/93 Mala season because economically powerful farmers who dominate the FO, felt these facilities were not necessary. Also they did not want to purchase a two-wheel tractor provided through DAS on credit because they felt that most of the farmers own tractors and enough tractors are available in the area (source: president of the FO). However, ordinary

farmers could have benefited much from those activities. Although the ordinary farmers (> 50 %) feel that they need instruction on cultivation of OFCs to improve their income, the well-off farmer leaders want only to cultivate rice since they have other sources of income. Because of this situation poorer farmers do not receive what they expect from the FO. These aristocrats do not think of the poor and do not allow the poor to dominate over their ideas. The poorer farmers feel that the current representation is not correct but they do not have the courage to go against this setup because, socially, they depend on those powerful groups. The former secretary was a good and active farmer. He decided to resign due to a dispute with the president. The president of the FO wanted to override the committee meeting decision without calling for another committee meeting, to help his friend. Any decision could have been changed or taken at the committee meeting giving the decision an official recognition. The president was against this and kept the keys of gates of the tank to issue water against the committee meeting decision. Following this incident, the secretary handed over the keys to the GN and resigned from the post at the general meeting held in August 1993. The co-secretary was acting as secretary. At this time the IO of the scheme had been transferred to some other area. A new IO was appointed but she had also left the scheme by then. Ordinary farmers liked the former secretary very much. The president also feels that this would not have happened if the IO was involved. The agency involvement must be there to reshuffle the FO.

Although they have not signed the agreements to take over the O&M of the scheme, all the farmers are aware of the agreements. This will not be a problem as in major schemes because farmers were used to the former Vel Vidane system and still they admire it. Farmers claimed that when the Vel Vidane system was in operation, desilting of the tank was done every year. Generally, they feel that the FO system is better, but they must have more incentives to feel the need of the FO and to adapt to the situation.

Farmers in the adjacent smaller tanks (3 tanks) are also included in the Kobeigane FO. This situation creates problems because those smaller tanks do not benefit from the rehabilitation. The farmers under these tanks also want to have their tanks rehabilitated through the FO. The farmers in the main tank feel this to be an extra burden on them. Some farmers have the idea that training classes can be held in the scheme itself for the benefit of many farmers. Only a few lecturers will have to come to the site then. Also farmers think that the officers of the agencies override the FO decisions. Officers need farmers to agree to their plans for formality and justification, according to some farmers. The IO does not have authority or responsibility over the FO. There is thus a lack of coordination between the DAS and the ID.

PARTICIPATION IN PLANNING AND DESIGN OF REHABILITATION

Reported Participation

Farmers have been consulted in the design and planning stage of rehabilitation. But some farmers feel that the ID had prior plans for rehabilitation. Farmers had strongly requested for desilting the tank using available funds. They do not see any importance of the FTO and other

small structures except for two major anicuts. Some farmers complained that the locations of FTOs which had been proposed by farmers have been altered by the contractors. Farmers are still reluctant to abandon the idea of desilting because nearby minor tanks have been desilted using machinery of the Provincial Council with the contribution for fuel from the farmers. The farmers are not used to the system of FTOs, and they feel that more problems would arise in future in sharing water. Farmers irrigated their fields directly from the canal earlier. Each farmer makes a separate turnout cutting the bund at his field. Now there is one FTO for several plots. So farmers feel it difficult to get water from field to field while the upper-end farmers do not allow the lower-end farmers to make a field ditch through the upper field to facilitate irrigation. If so, when the lower-end farmer delays cultivation, the upper-end farmer will be in trouble. According to the agency officials, this situation would not arise once they get used to the new system.

However, farmers have participated in joint walk-throughs and their suggestions have been incorporated in design and planning. Farmers accepted to do their 10 percent contribution without any problem. The FO did not take any contracts due to some problems that arose during the process. Therefore, some of the work was given out to private contractors through open tenders and some work is being done by the ID through direct labor. The FO officers feel that mere explaining the estimate at the ratification meeting is not enough and that they did not get a copy of the estimate. The DO also claimed that he did not get a copy of the estimate.

Effectiveness of Participation in Planning and Design

The FO has not yet signed the agreement to take over the O&M after rehabilitation. However, the farmers have been informed and they are well aware of the situation. The requests for additional work are still coming from farmers according to the IE. That indicates that farmer participation at the planning level was not a success. Post-evaluation is needed to evaluate the progress of the FO after rehabilitation and to see how the FO works with the new operational plan.

Special Issues

Desilting

The major request of farmers is to desilt the tank. Even the government officers in the area are supporting this idea pointing the examples of desilted tanks near the Kobeigane Scheme under some other projects. Although the farmers of such schemes bear the cost of fuel for machinery used in desilting, it is highly uneconomical if such cost is considered. One machine-hour is required to remove 10 cubes of silt. The cost per machine-hour is Rs 1,400.

Desilting is not needed according to the ID and RST officials. Frequent spilling of the tank should be reported if the tank is silted. Dead storage of the tank is reduced a little but two or more contours are still left below the sluice sill level of the tank. There is a risk of increasing

percolation if the hardpan is disturbed when desilting. On the other hand, the command area of the minor scheme has also not increased significantly as in major schemes. The major reason for less water in the tanks, according to the officers, is that the inflow has reduced due to low rainfall and has disturbed the catchment. Catchment management is necessary to avoid silting and to increase inflow. It will be an alternative to desilting.

PROVIDING 10 PERCENT CONTRIBUTION

Progress To Date

Only the earthwork was included in farmers' share. The pro-rata share of the work was 10 fathoms/acre. Altogether, farmers had to perform work worth Rs 100,000 because the total estimate was around Rs 950,000. Just after the ID and private contractors began work in September 1992 farmers started their work and completed it within two weeks. Farmers did the work on improving the canal bunds.

Organizational Difficulties

There had not been any problem in getting farmers' share of work done. The FO used the strategy of fining Rs 200 for each defaulted fathom. Since farmers had experienced punishments for defaulting at the time the Vel Vidane system was in operation, they willingly undertook this work. Farmers who have more land used hired laborers to complete the work. Generally, farmers have a sense of ownership of the scheme.

Some farmers feel that it is difficult to take tractors into the fields due to the raised bund and that when tractors are taken into the field the bund will deteriorate quickly. Also some feel that the fertile runoff water flowing through highland to the fields would be stopped due to the raised bund. Later, the team found that running water through their fields was not much of a problem for the farmers. When the team interviewed some farmers, they appreciated the raising of the bund, since they had faced much difficulty when submerging and silting their fields and breaching the field bunds as a result of rain water running through their fields.

Project Management Weaknesses

Farmers have been discouraged and disappointed due to the delay of the ID and the private contractors to complete their work. Technical support was provided by the ID. Most of the time, the WS supervises the work. The TA does not come on inspection frequently because he has been assigned to take care of the work in some other schemes. The TA feels that close supervision is difficult due to the heavy workload assigned to him. Overall, the ID is not satisfied with the quality of FO work, according to the reports of the soil tester. The work is not up to

standard. The ID feels that if farmers organize shramadana for this work, informing it of such work in advance, close supervision would be easy. Otherwise, individual farmers do the work whenever they can, and officers find it difficult to attend such occasions.

CONSTRUCTION CONTRACTING

Contracts Offered and Work Undertaken

The FO has not accepted contracts.

Difficulties

At the beginning, the ID wanted the FO to accept contracts. The FO did not want to accept this offer due to lack of funds. Later on, DAS promised to provide a soft loan of Rs 50,000 to the FO as an initial capital needed for contracts. Therefore, the FO asked the president of the FO who is also a contractor, to do these contracts on behalf of the FO. He agreed to give 2.5 percent of the profit or some percentage of the total estimate to the FO fund. This person is one of the major political opponents of the member of parliament of that area. For this reason the latter wanted to dissolve the FO on the grounds that this FO could not be recognized; he wanted to appoint only his supporters as office-bearers of the FO. The FO had been registered at DAS by that time so that it could not be dissolved. Then the president refused to accept contracts predicting possible bad repercussions. After sometime, the FO was asked to do these contracts again but it was not realized due to political interference. Therefore, the contracts were given to outsiders on open tenders. According to the ID sources, the contracts were not given to the FO, because the ID realized that the president of the FO was planning to do it privately, and not as FO work. The ID does not allow FOs to give out subcontracts.

Effect on FO

The objectives of offering contracts to the FO such as providing it with funds, technical experiences needed for maintenance, and additional experience in group activity management eroded with the decision of the FO not to accept the contracts due to political influences.

Fund Raising

The FO lost the opportunity of earning money for the FO fund through construction contracts. It decided to collect 1/4 bushel/acre as *salaris* for the FO fund. It was very difficult to practice due to the problem of collecting. On the other hand, no action could be taken against

defaulters. Then the FO decided to collect Rs 50 per season and a membership fee of Rs 5 per month. Collection of this is also very difficult. There was a sum of Rs 12,000 in the FO account by the time of the study. The FO decided to pay a salary to a person who would be appointed to carry out distribution activities. A former Vel Vidane was appointed for this and he demanded Rs 300 per month. The FO could not afford that amount considering the financial situation of the FO and refused his demand. Therefore, he resigned from the activities and handed over the keys of the gates to the FO. If the FO could practice subcontracts, it could have received some percentage of the estimate as the FO fund. The FO thus gave the private contractors the opportunity for getting all contracts.

Construction Supervision

Some representatives from the FO had training on construction work. So they were requested to supervise the work being done in the scheme. The FO formed a committee of 9 members including the president, secretary and treasurer of the FO, to supervise the construction work. The secretary was very active in this role but not the president and the treasurer. Farmers knew about the supervision but they did not get involved because they considered it was the responsibility of FRs. However, when they noticed any shortcomings of the ongoing work they used to inform FRs about them. The ID responded to the requests made by farmers and kept a notebook at each work site for farmers to note down their suggestions and complaints. At the initial stage, it was practiced fairly well but, subsequently, the practice declined. According to the Secretary of the FO, he had not received the due help from other office-bearers on this task. On the other hand, private contractors and the ID did not continue their work smoothly. Private contractors had stopped work due to shortage of cement or for some other reason. Because of this delay, the FO lost interest over construction and stopped the supervision. The farmers were also disappointed over the unnecessary delay in construction work despite the fact that they had accomplished their task within a short period.

When supervision was going on, farmers faced resistance from the contractors who used to say that they were doing work according to the instructions given by the ID. Farmers were not satisfied with the way the ID responded to their requests or complaints. Senior ID officials came to meet the WS or the contractor directly, after the complaints, but they did not show any interest in meeting the FO members who made such complaints or in seeking further clarification. Such situations discouraged farmers in the supervision work. Overall, farmers became desperate over the work done and said that it was a waste of money except for the two anicuts constructed. Farmers drew the attention of the RRA team over three special issues:

- * Some regulators were already broken, as they believe, due to wrong cement mixtures.
- * FTOs are far below the level of fields.
- * One anicut which is not high enough to head up water up to the bed level of the diversion canal.

The RRA team observed these and farmers complaints seemed to be correct, accordingly to the naked-eye judgement. Farmers had demanded a demonstration of water distribution from the ID, because they were sure that those structures would create problems in distributing water. To confirm the technical side of those, the RRA team met the TA and the IE according to whom there was no problem of levels. According to their explanation, the structures were broken by mischievous farmers. However, it may also be due to improper construction work. According to the TA, the particular anicut has no problem of levels and it was tested even after the construction was over. The FTOs also do not have problems of level, although farmers feel these are problems. The IE said that they had already decided on a date for demonstration of water distribution. However, according to the senior officials of the ID there is a serious problem of levels of those structures. The setting-out of these structures is wrong due to the wrong levels established which is now irreparable. It can be shown in a demonstration that these structures are alright by sending large amounts of water in the canals. When 1 cusec of water is sent in, canal problems may emerge. If this happens, farmers will resort to the old system of receiving water through cutting the canal bunds and all effort and money spent so far would be wasted.

Farmers also feel that the ID neglects the small works. Therefore, they need DAS to do the construction and they strongly believe that DAS has enough resources to do work on contracts like this which are worth Rs 1 or 2 million. The ID is a stranger to farmers of the scheme which is managed by the DAS. Therefore, the ID may practice due care in dealing with this type of scheme.

Officers who are connected to the rehabilitation, feel that the FO in this scheme was not good. Commenting on this the RST said that when there are educated, intelligent and knowledgeable farmers in the group, officers feel it difficult to deal with them. If farmers accept whatever the officers say without questioning, officers categorize them as good FOs. Thus the officers must take the lead to win farmers before implementing this type of project. Officers should also have a training on how to deal with adult groups like farmers without depleting the objectives of such projects.

Effect on Success of Rehabilitation

Farmer participation was very good at the beginning. The FO completed the 10 percent share of work within a short period of time. Because farmers were not involved in contract works, objectives of offering contracts to the FO could not be achieved. Farmers believe that their problems in irrigating would not be solved even after the rehabilitation. According to the ID officials, earthwork done by the FO to complete the 10 percent share is not up to the required standard.

Effects on Development of FO Management Abilities

Farmers are capable and willing to undertake O&M of the scheme, but they hesitate to do it now due to incorrect structures constructed under the rehabilitation program. In spite of social disparities among farmers, group responsibilities are fulfilled. Farmers have a sense of ownership and complete the respective shares by themselves or by using alternative methods as employing hired laborers.

ANNEX V

MONITORING FARMERS' INVOLVEMENT IN REHABILITATION: THE CASE OF UDAWELA MAHA ELA, KANDY

THE SCHEME

THIS IS A typical village irrigation scheme located in the Teldeniya (East Harispattuwa) Division of the Department of Agrarian Services (DAS) in the Kandy District of the central province. This is a diversion scheme and the anicut has been constructed across Dehiatta Oya. Administratively, the scheme also belongs to Medadumbara Divisional Secretariat (DS) in the Teldeniya electorate. In the lowest level of the administrative hierarchy, a larger part of the scheme comes under the Udawela Grama Niladhari (GN) Division. Part of the tail-end area belongs to Randeniya, Welletota and Rambukwella GN divisions.

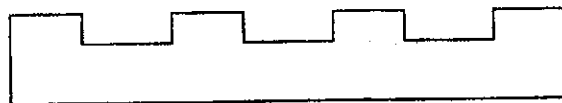
The scheme has a sloping catchment which is about 3.5 sq. miles, covered with tea and mixed vegetation. The irrigable area is also sloping. The scheme comes under Agro-Ecological Zone-IM 3 and Hydrological Station Zone-3. Seasonal specific yields of the catchment are 1,750 ac. ft. per sq. mile and 500 ac. ft. per sq. mile for maha and yala, respectively, which add up to make annual specific yields of 2,250 ac. ft. per sq. mile. The potential annual yield is 7,830 ac. ft. (2250×3.48). the canal system (main canal and field channels) is over 1.5 miles long from the concrete crest weir across the Dehiatta Oya (1.25 MC, 0.25 BC, 0.15. FC). The command area of the scheme has been reduced from 114 acres to 59 acres due to inundation of the tail section into the Victoria Reservoir. According to the available official records, the number of farmer families was 214 (RST file). However, the present figure is 105 which needs confirmation, according to the IO. The exact figure was not available in the DAS documents. According to the president of the FO, the number of farmers is around 60-70.

The size of landholdings varies from 0.25 acres to 2 acres. About 75 percent of the farmers are tenants. Rice is the main crop in the scheme and yields vary from 50 to 70 bushels per acre in both seasons. Usually, farmers like to grow long-aged (4-4½ months) rice varieties such as BG 11-11, BG 400-1, BG 379. However, they grow short-aged (3-3½ months) varieties in well-drained soils as a precaution against water shortages at the end of the season. Most of the farmers use organic manure according to the traditional way and also because of the price of fertilizers.

A farmer leader spoke out on less rice yields experienced by the farmers and said that there is no exact acreage in the field as indicated. Farmers express the extent according to the quantity of seed paddy used for sowing. They use higher rates of seed paddy for a lesser extent which will result in low expressions of yields. The other reason which may account for this problem is higher percentage of bunds in a field of hilly terrain (ratio of net to gross acreage is very low). Then the actual extent of crop grown is less than that expressed. The majority of farmers in the scheme practice transplanting to establish the rice crop. However, many of them complained that transplanting is becoming difficult due to higher wage rates. The system of exchange labor is rarely practiced.

According to the farmers, sharing water is not a problem. In the recent past, they have used an ancient device called *askatta* (a divider) to share water equally among different canals. This is a divider made out of coconut trunk or a timber log. Sections of the log are removed to make an *askatta* which allows water to flow according to the requirement of the canal sections and it is placed at the bifurcations (figure 1).

Figure 1. Askatta (a divider).



The major problem of the scheme is seepage from the main canal. Head-end farmers do not have problems of water. They suffer with excess water resulting from high seepage rates in the sloppy terrain. However, the tail enders suffer without water particularly in the yala season. An adequate amount of water does not reach the tail end due to high seepage in the head end. Therefore, some farmers in the tail end grow vegetables such as cabbage, bitter gourd, snake gourd, bean and chili in the yala season. The other complaint of farmers is high prices of inputs such as fertilizer and agro-chemicals. Also, because there is no field-level cadre of the extension service, farmers do not receive new technological information.

This scheme had been proposed to be rehabilitated under VIRP. Because it was not selected under VIRP, the proposals were made under the NIRP and it was selected for rehabilitation. Management of the scheme is done by the Central Provincial Council and the rehabilitation work is handled by the Central Engineering and Construction Unit of the Provincial Council with the support of the RST.

FARMER ORGANIZATION (FO)

Organizational Efforts

Initial steps of forming the FO in the scheme were taken in March 1992. The Divisional Officer (DO) of DAS informed farmers through the GN to form an FO. In the first meeting held in March 1992, an officer from DAS explained to farmers the objectives of forming an FO and informed them about World Bank assistance for rehabilitation under NIRP. The president, vice president, secretary, co-secretary, treasurer and six other committee members were elected unanimously at this meeting. The committee members represent the yaya (tracts) in the scheme. The place where they hold meetings is the village temple--Udawela Bodhimalu Viharaya. The FO does not summon meetings every month. There is no exact schedule for meetings. Whenever necessary, only farmers are called for meetings. When they need to hold a meeting, the FO secretary displays written notices in the village and use *anda bera* (drum beat). However, the verbal communication is the most effective. The GN put on notices for the very first meeting.

Although most of the farmers attend meetings, many of them have not received membership. Only 5-6 meetings have been held between March 1992 and November 1993. Farmers should apply for membership submitting a completed form to the secretary. As decided in the first meeting, membership fee is Rs 10 the per four months. Rs 5 is charged as an entrance fee and Rs 3 is for the application form. The FO has so far collected only Rs 150 as membership fee. The FO was registered at the DAS in April 1993. Although most of the farmers are tenants, they attend meetings as well as shramadanas organized by the FO. Mostly

young farmers attend these meetings while women participation is less. Usually, the GN of Udawela also attends meetings.

The FO organized a shramadana to clean the canals before the cultivation commenced for the 1993/94 maha season, on 20th October 1993--the *govi dinaya* (farmers' day). According to the register, 49 farmers have attended this meeting. According to the president of the FO, altogether about 75 attended the meeting including children. By this time, the GN brought news of a contract offered by the Divisional Secretariat to the FOs. The FO signed an agreement for the contract and gave it out on sub-contract keeping a 3 percent commission to the FO. This activity added an extra Rs 2,000 to the FO fund. The FO fund had a total of Rs 2,200 by November 1993.

Institutional Organizers (IOs)

There had not been an IO in UME before March 1993. The FO was only nominally formed in March 1992. The IO assumed duties in March 1993. The IO's involvement enhanced and formalized the FO activities. He has to look after two schemes in the area, i.e., his UME and Keenagahakadulla Scheme in Udispattuwa. The IO has been appointed by the DAS on contract for two years. This batch of IOs underwent an orientation program for 3 days at ARTI before being deployed to the field sites. Then there was another training for 1 week at Maha Iluppallama in June 1993. Another one week's training session was held at In-Service Training Institute, Neboda, Kalutara in October 1993 (table 1). According to the IO, the training given to them on agriculture was not sufficient in dealing with farmers. When farmers draw the IOs' attention on problems related to agriculture, the IO directs them to the AI or tries to find remedies in consultation with the AI or relevant officers. It is clear that the IOs' involvement and the news of rehabilitation facilitated organizing of farmers.

The Institutional Development Officer (IDO) in the RST helped IOs through advising them on how to keep the farmers' interest on FO by having some other activities, in addition to the O&M of the scheme. There is a monthly meeting of IOs at the district office of the DAS. The IOs report the progress of their work at this meeting. They forward the problems they have faced while working with the farming community, seeking guidance on the difficult issues. The IDO at RST is preparing an action program to promote farmers' activities related to FOs.

Further Training Needs (According to IO)

- * agriculture which helps farmers in agricultural activities
- * better understanding of irrigation schemes

Difficulties faced by the IO in organizing farmers:

- * At the beginning, it was somewhat difficult to explain to farmers the current activities because this is a new experience to them. Farmers adapted themselves to the situation later.
- * Farmers expected agricultural inputs through the FO but could not realize the expectations. Therefore, they lost interest in the FO which led to a breach the confidence between officers and farmers which in turn put the IOs into difficulties in the matter of speaking to the farmers.

Table 1. Summary of the training programs for IOs.

Training item	Venue	Duration	Trainers	Period
1. Orientation-IOs responsibility on FOS	ARTI	3 days	DAS/ID	Feb 1993
2. Further on IOs' duty and problems faced within last 3 months, touch on agriculture, pesticide use, fund raising, importance of involvement of farmers in matters related to the scheme	MI in-service	6 days	DAS/ID/DOA	June 1993
3. Offering contracts to FOS. Organizing farmer training, reviewing the progress of FOS, Responsibility of FO and FO activities in construction works, concrete mixtures, structures, Demonstrations in the field, discussion with farmers in minor schemes	Kalutara/ Neboda in-service	6 days	DAS/ID	Oct 1993

Training Programs

DAS organized a one-day awareness program at the ASC, Teldeniya. Five farmers from the UME attended the session. There was another one-day training program at the same place and two farmers from the UME attended it. Participants were provided with lunch, tea and a traveling allowance (Rs.50). The DO selected the farmers capable of making other farmers aware of the program. DCAS, TA (water management) (DAS), Engineer (DAS), RST (NIRP), and ARTI officers attended the second program. The following items were discussed at the training sessions:

- * objectives of establishing FOS
- * farmers' role and responsibility on FOS
- * how to make profits from agriculture
- * bookkeeping
- * accounting

Present Status

Although many farmers had not become members of the FO, they participated in the FO activities, i.e., meetings and group work like shramadana. However, farmers do not have any incentive to become members of the FO other than the expectation of rehabilitation. This scheme was surveyed for rehabilitation long ago under VIRP. Meetings were held and promises were given but these promises were not kept. So, farmers were disappointed by the time of the ratification meeting in August 1993. At the beginning, the IO was embarrassed when farmers inquired whether a parliamentary election was expected shortly. Political influences are there although it is not problematic among farmers.

It was decided to hold another ratification meeting because a member of a local government body was unhappy for not being invited to the meeting where his participation was not essential. The idea of a second ratification meeting was given up later as there was no such pressure from the top political level. The president of the FO prepared a list of farmers who wished to have fertilizer on credit from the DAS on the request of the DO who had taken this action according to a circular received by to him. Meantime, the government did not implement the program for some reason. Farmers kept on inquiring from the FO president and the DO and ultimately purchased the fertilizer from private traders. With this incident, farmers were

questioning the purpose of becoming a member of the FO if the government does not provide even such concessions to them.

PARTICIPATING IN PLANNING AND DESIGN OF REHABILITATION

Reported Participation

Farmers of the UME were consulted in the planning stage. Walk- through surveys were done by officials with the help of farmers to identify problems and to obtain their suggestions. Farmers pointed out the work they needed: side walls, locations of structures, clearing and desilting canals, and lining of the main canal up to the first bifurcation. The major request of the farmers was to have a concrete lining to the head section of the main canal. Because of the high seepage rate and leaks in the canal bund which is on the top of the highly steeped catena, tail enders suffer without water while head enders suffer with excess water. The farmers' request was complied with to arrest seepage and the leaks in the canal bund.

The ratification meeting was held on 17 August 1993. About 50 farmers attended of whom 50 percent are tenants. The proposed rehabilitation items were explained to the farmers one by one in order, beginning from the anicut. Farmers were worried that their request because lining the full length of the canal had not been included in the work plan. Farmers were not sure of the exact length of the canal included in the plan for lining. The total length was not included due to dropping of technically unwanted sections to meet the pro-rata cost which allows only the most necessary repairs, according to the RST. Other than this, farmers are in agreement with the proposed rehabilitation.

Effectiveness of Participation at the Planning Stage

Generally, FO officers have a better understanding of the rehabilitation program than the farmers. Although ordinary farmers know about the rehabilitation, they do not know many of its technicalities. All of them know about the contribution they have to make in rehabilitation. All of them are dreaming of concrete linings of the total length of the main canal but only the essential sections have been approved for technical and financial reasons. Even though most of the farmers attended the ratification meeting, they still do not have a clear idea of the length of canals approved for lining. Farmers were worried that their main request would not be fulfilled.

Farmers have already given their consent by signing a list for contributing 10 percent of the estimated work. The total estimate is Rs 102,000. The pro-rata cost is Rs 35,866 per ha. Both RST and the CECU of the Provincial Council are strongly concerned over farmers' involvement in most of the decisions. According to the RST, they are trying to do more work within the given allocation, for the sustenance of the scheme, getting even more than the 10 percent from the farmers when and where possible. Farmer leaders are confident that it is not a difficult task to get farmers' contribution for earthwork. They claimed that weeding and desilting of the canals were a longstanding practice of farmers at the beginning of each season. They have cleaned and desilted the canals for the current season too. Therefore, they have to do only earth filing of the bunds demarcated with the onset of rehabilitation. Also, farmers are aware of handing

over of O&M responsibilities to the FO after the rehabilitation and they feel that they are capable of handling them. They have signed the agreement to take over O&M.

PROVIDING 10 PERCENT CONTRIBUTION

Organization of 10 Percent Work and Progress To Date

Farmers will have to contribute work worth Rs 747,82.80 as 10 percent of the estimate. Actually, farmers have accepted to perform work worth of Rs 170,180.35. Due to the problem of exceeding the pro-rata cost, only work worth of Rs 74,782.80 has been included in the estimate. The total estimate of civil works is Rs 802,851.00. Adding 27 percent contingencies and overheads, the estimate becomes Rs 102,000. Farmers contribute extra work worth Rs 95,397.75 outside the base cost. The types of work that farmers will have to accomplish are clearing shrub jungle, desilting, and earth filling to the canal bunds. Farmers have already pledged to perform their share, once they are demarcated and instructed by the authorities. The FO plans to complete this work on the share basis to avoid any misunderstanding among farmers. In case of shramadana, the FO has not decided yet how to deal with defaulters. Already, some farmers have sent others in lieu of them when they themselves cannot participate in the group works. The FO wishes to collect money from absentees in future to compensate for the cost of the balance work.

Responsibility of the Project Management for the 10 Percent Contribution

The project management cannot prosecute farmers or the FO even if they fail to accomplish the 10 percent work. If they do not agree at the beginning, the scheme would not be selected for rehabilitation. The only way of getting it done is by pressing farmers not completing the essential items until they complete their work. If such negligences occur, taking over of O&M by the FO is also doubtful. If the FO has legal authority to deal with defaulters, this risk could be avoided to some extent.

CONSTRUCTION CONTRACTING

The CECU had sent a letter asking whether the FOs were willing to undertake contracts. The CECU expected a response within 7 days. Although CECU did not receive a response from the FOs within the stipulated time, it hopes to encourage FOs to take at least a few contracts. Otherwise, these contracts would be given to private contractors after calling for open tenders. The major problem of the FO at the UME is lack of funds to initiate contracted works. The DO was also encouraging the FO in this regard and he tried to provide a loan from the Agrarian Services Committee. At the time of this study, there were signs that the FO would get at least a few contracts. The FO did not like to obtain contracts because it felt it could not handle big estimates and farmers are not rich enough to share the initial capital. The FO fund at that time was not adequate at all to begin this type of work.

CONSTRUCTION SUPERVISION

The FO had not thought of this issue since construction under rehabilitation had not commenced at the time of the study.

EFFECTS ON SUCCESS OF REHABILITATION

Farmers requested lining of the full length of the main canal to arrest seepage which is their main problem but only sections were allowed for lining after technical investigations. Although this had been announced at the ratification meeting, farmers had no clear idea of the approved sections and lengths. They still express their doubt of getting rid of the seepage problem without lining the full length of the main canal.

EFFECTS ON DEVELOPMENT OF FO MANAGEMENT ABILITIES

Here the FO does not hesitate to take over O&M responsibilities of the scheme as it has been a usual practice for them except in major repairs. According to the farmer leaders, even collecting membership fees is not easy. Therefore, they have faced the problem of raising funds for the FO.