

THE GAL OYA FARMER ORGANISATION PROGRAMME: A LEARNING PROCESS ?

by
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Introduction

The post 1970 era has witnessed three main types of irrigation development activities in Sri Lanka. They are the construction of major irrigation systems such as the Mahaweli Development Project; the rehabilitation of major irrigation systems; and the rehabilitation of village-level minor irrigation schemes. Water management is recognized as an important aspect of irrigation development and since the 1970s, the State as well as donor agencies have become aware of the fact that the irrigation systems, whether large or small, need the involvement of both officers and farmers to operate and maintain them efficiently.

The Gal Oya Left Bank Rehabilitation Project, started in 1979, falls into the second type of irrigation activity--a large-scale rehabilitation programme with heavy investments. As a part of this exercise, a farmer organisation programme was introduced as an experiment to obtain farmers' participation in water management. This paper is a case study of this experiment, which has been in **progress** for the last 5 years.

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The Gal Oya Irrigation System, located in the south-eastern part of Sri Lanka² was the largest irrigation-based settlement project in the island prior to the Mahaweli Development Project. The construction of the irrigation system began in 1948 and was completed in the early 1950s. The reservoir, Samudraya, can store 770,000 acre feet of water and has a command area of 120,000 acres. The Gal Oya Irrigation System has three main divisions: the Left Bank, the Right Bank, and the River Division. The Left Bank (LB) command area is the largest of the three divisions with about 65,000 acres of irrigated land.³ The LB system is comprised of nearly 32 miles of main channels, 50 miles of major distributaries, and about 600 miles of field channels.

The physical system of the Gal Oya Left Bank (GOLB) in the late 1970s was aptly described as a "hydrological nightmare" (Uphoff 1986); channels were silted, structures were broken, and the channel capacity had been greatly reduced by erosion.

In 1978, the Government of Sri Lanka and the United States Agency for International Development (USAID) selected the Left Bank of the Gal Oya Irrigation Scheme for rehabilitation as the first step of a comprehensive plan of improving water management in major irrigation schemes. The rehabilitation project in the GOLB focussed on both physical rehabilitation and water management.⁴

The Irrigation Department (ID) was appointed as the project implementing agency with the technical assistance of PRC Engineering Consultants, Inc., an US engineering firm. Through a Letter of Understanding, the ID was further assisted by the Agrarian Research and Training Institute (ARTI) which worked on the farmer organisation and socio-economic components of the project. The ARTI was assisted by the Rural Development Committee of Cornell University, USA. The project initially spanned over 44 months (August 1979 to March

²The scheme is located in the Dry Zone, where the average annual rainfall is about 327 mm. The reservoir's catchment area receives its main rainfall (about 70%) from the north-west monsoons, which blow during the month of November, December and January. In the Dry Zone, cultivation of a second crop, mainly paddy, entirely depends on irrigation water.

³Officially the LB system irrigated about 42 acres.

⁴Specifically, the project was to (i) rehabilitate the GOLB physical system; (ii) conduct on-farm water management research at Gal Oya and Uda Walawe; (iii) improve the central support provided by the Irrigation Department; and (iv) assist in the establishment of farmer organisations in the construction, operation and maintenance of systems. The Project was to develop procedures and techniques which can be replicated throughout Sri Lanka (USAID 1983:3).

1984). But as a result of a "shortfall of funds and an inadequate time period to achieve the project purposes," the project life was further extended by 21 months, i.e., until 31 December 1985. USAID provided financial support in two ways: a grant of US\$ 5.1 million and a loan of US\$ 10.8 million. The Sri Lanka Government's contribution was US\$ 24,478 (USAID, 1983: AND ANNEX D).

Pre-Rehabilitation Status of the GOLB

By 1978 the Irrigation system of the GOLB was in a very deteriorated condition. Main system management was haphazard and in 1982 water was regularly controlled and measured at only seven points, for the entire Left Bank system. Because of water shortages, at least one-third of the LB command area seldom or never got water in the yala (dry) season (Murray Rust et al. 1982).

A survey carried out by the ARTI in GOLB revealed that the average size of the lowland per settler was only 2 acres with a range of 0.5 acre to 5.0 acres, which indicated a skewed distribution of land ownership. This was a result of several interrelated factors: mortgaging, share-cropping, and extensive encroachments, especially in the upper reaches of the COLB. In some places, as much as 40% of settlers were non-owner operators (Ranasinghe-Perera 1984).

Cooperation among farmers was minimal. Social relations among settlers, who came from different areas of the country, were often strained. Settlers generally had a low self-image. Relations between farmers and ID officials were marked by mistrust and recriminations. Farmers had no confidence in the competence or the trustworthiness of the ID's staff. For example, a farmer asked the ARTI research team in early 1980, whether it was possible to get an agency other than the ID to implement the rehabilitation project (Uphoff 1981). Many field-level officials such as Maintenance Overseers, Jalapalaka (JP) and Yaya-palaka (YP) were notorious for their corruption and thuggery.⁵ The main obstacle to efficient water management, from the farmers' view point, was the local-level officials, who had political and bureaucratic power behind them.⁶

⁵One JP used to promise that he **would** provide enough **water** for any cultivator if the latter gave him Rs. 50/- and a bottle of arrack (Uphoff, 1981).

⁶One JP who was selected by the farmers as their field channel Farmer Representative attempted to use his **new** power to his advantage. He had his land allotment at the bottom **of** the field channel **and** had used his influence to raise the field inlets of all allotments which were located **above** his, so that water could come **along** the field channel first **to his** allotment. Because he **was an** influential person in the area, the others could not correct this injustice.

On the other hand, the ID officials, especially irrigation engineers, believed that farmers could not use water responsibly and carefully. Therefore, they argued that it was necessary to organize, educate, and discipline the farmers to do what the ID asked them to do. Thus farmers were considered a part of the problem while the latter constituted the solution.

The ARTI found that the farmers' lack of confidence in Government officials was the main obstacle to farmers' participation in operation and maintenance activities in the GOLB. Unreliability of water supply and lack of initiative among ID officials created this general ill-feeling among the farmers (Wijayaratna 1985). Farmers' participation in water management had been further discouraged by the heterogeneity of the population and the rural leadership that prevailed in the area; it was often politically oriented or interested in personal gains (Ranasinghe-Perera 1984). Under these circumstances, organizing farmers in the Gal Oya left Rank appeared to be a challenging task. The ARTI/Cornell research group (hereafter referred to as the ARTI team) soon realised that until and unless the technical staff of the ID changed their attitudes on water management and farmers, it would be difficult to change farmers' attitudes towards water management. Furthermore, the ARTI team found that "there were low expectations of what could be done. The obvious challenge summoned forth many people's best efforts, as there was no room for complacency. Any progress was quickly recognizable and much appreciated. Perhaps most important, farmers were ready for self-reliant approaches. They knew after 30 years of hardship and neglect that if they didn't help themselves, nobody else would" (Uphoff 1986).

Although no concrete evidence was available then to support the above, this belief formed the philosophy behind the Farmer Organisation Programme as introduced by the ARTI team in the Gal Oya Left Bank. The ARTI team henceforth called it a "methodology" that would "stimulate the evolution of organisations by farmers themselves" (Wijayaratna 1985).

Objectives of the Programme

Both the Government and USAID agreed that to make maximum use of the rehabilitated irrigation system of the GOLB, it was necessary to develop better water management practices. To achieve this, it was imperative that the beneficiaries of the irrigation system, i.e., farmers, be drawn into look after, and manage at least those sections of the irrigation facilities that directly serve them. Otherwise it would not only be difficult to ensure the efficient use of the available water but also to prevent the gradual decay and ruin of the facilities themselves as happened during the pre-1979 era. Farmers' involvement in such

activities was to be come through farmer organisations. The main objective of the Farmer Organisation Programme (FOP), was to promote farmers' participation in water management and system maintenance at all stages from decision making on, including the identification of needs to implementation, to including the enjoyment of benefits.⁷

The establishment of farmer organisations and the promotion of farmers' participation in these organisations were assigned to the ARTI. However, these issues had been left rather undefined in the Project Proposal except for the question of "freelabour." From the ID's point of view, it was the farmers' duty to contribute their labour for rehabilitation **work**. The farmer organisations were to have **an** uniform legal framework imposed by the ID. Thus the farmer organisations were to be formulated in such a way that engineers could supervise their activities. However, even if the ID official had the opportunity to develop an amicable relationship with the farmers, the ID did not have enough staff to promote a farmer organisation programme throughout the GOLB. Upon the ARTI request, the Government withheld the introduction of such farmer organisations at the GOLB and allowed the ARTI to evolve a type of farmer organisation which could accommodate both farmers' demands and interests, and officials' work and time targets. In this regard, the ARTI had not possessed its own "blueprint" organisation for the GOLB farmers.⁸

The basic hypotheses that guided the FOP can be summarized as follows:

1. No single model would be appropriate for the whole of GOLB given its ethnic, hydrological, and other variations.

⁷More specifically the FOP was expected to develop an institutional mechanism to fulfill the following functions which were considered to be essential for effective management of any irrigation-based settlement project in the Dry Zone of Sri Lanka.

(a) take on the responsibility of looking after the equitable distribution of water;

(b) perform the task of aborting or resolving conflicts which would otherwise be disruptive to the system;

(c) promote among farmers the knowledge and attitude necessary for the conservation of water and the maintenance of the system;

(d) ensure that the work of cleaning and maintaining the channels and structures within the field channel area are done regularly and in time; and

(e) arrange to communicate the needs of the farmers to concerned agencies outside as well as to communicate to the farmers all relevant information from outsiders, e.g., the data of water issue to the field channels in the GOLB area (Kasynathan 1986).

⁸Physical rehabilitation began in 1979 and the ARTI wanted to promote farmers' involvement in this activity with a view to encouraging them to see the system as 'theirs'. This need left little time for experimenting with different farmer organization models in the field. Thus the institutional organizers as catalysts for farmer organization development were recruited, trained and deployed in the GOLB by 1981.

2. Given the negative attitudes of farmers towards the ID, its water management/system would not only require reorientation but also some structural changes.
3. An informal farmer organisation with the tasks that farmers could agree upon has more chances of viability than a formal organisation introduced from outside. Of course, when farmers gather experience and recognise the importance of their group activity they, could then evolve their informal organisations into formal ones.
4. Water management is central to farmer organisations but it is not their exclusive concern. Farmers' involvement in efficient water management requires strong linkages with various agricultural service agencies as Department of Agriculture and Department of Agrarian Services.
5. The FOP is a bottom-up approach which will evolve through practice a methodology which shows how to utilize both local and external resources effectively. In this regard, the programme depended on two assumptions: (a) carefully selected and trained young people can work effectively with farmers showing them the value of group activity and organisation; and (b) farmers will respond positively to their sincere and informed efforts (Uphoff 1981).

The FOP that is based on the above assumptions could be considered as an institutional mechanism that would work with appropriate modifications along its way (Uphoff 1986). A good example for this is the very first modification introduced with a view to linking physical rehabilitation with farmer organisations. The original project design was to operate farmer organisations separately and independently from physical rehabilitation work. These organisations were to take over field channel-level water management activities. This was a neat and simple idea that any administrator or a policy maker would have accepted. But the ARTI team was expected to link farmer organisations with physical rehabilitation to assist the ID's activities, taking input of farmer suggestions to redesign and carry out field channel rehabilitation. This attempt posed difficulties for the farmer organisations as rehabilitation activities had a chequered progress. However, this linkage later became an important aspect of the FOP as it facilitated discussions between engineers and farmers about designs and construction activities at the field channel level.

Strategy for Promoting Farmer Organisations

The original Project Paper set a target on Organizing 19,000 farmers on

57,000 acres by the end of 1984. It envisaged 'farmers' organisations at the field-channel level to desilt and rehabilitate field channels. Farmers were expected to donate their labour and thus no funds were provided in the Project Budget for this purpose. Farmers' participation in this manner was taken for granted and the ARTI was expected to bring about such participation as part of the effort to implement the Project.

However, the ARTI early reconnaissance studies had clearly shown that the lack of mutual respect and cooperation between farmers and engineers was the fundamental problem impeding better water management in the GOLB. In this regard, the ARTI strongly emphasised the need for a "catalyst" to bring together the water bureaucracy and farmers. "In effect, what had to be done was to make a planned intervention into the community, strong enough to catalyse the internal dynamism of the community and controlled enough not to dominate it. This intervention was made through a catalyst agent called an Institutional Organizer (IO)" (Wijayaratne 1985). The IOs were expected to work with farmers and to instill the value of group activities in achieving their demands and in helping each other to develop an efficient water management system.

Recruitment of Institutional Organizers

Several key criteria were emphasized in selecting IOs. The ARTI advertised calling applications from graduates (both male and female) who possessed at least two of the following qualifications: (1) knowledge of irrigated agriculture; (2) willingness to live in remote villages for extended periods of time; and (3) leadership skills and organisational experience'.

More than 70% of the successful candidates were children of small farmers and this background helped them to win the confidence of farmers, to understand their problems quickly, and to live and work under hard living conditions, both physical and mental (Wijayaratne 1985)

IO Training

The IOs were trained for 4-7 weeks before they were fielded in the GOLR. Their training consisted of lectures and discussions on the broad areas of agriculture, irrigation, local institutions, and communication. The nature and extent of the training varied from batch to batch. Some batches received more formal training and less field training, while others were exposed to more field training. The field training of the later batches was facilitated by the presence of experienced IOs in the field. More emphasis was placed, during the field training

period, on a practical on-the-job training in the methodology of promoting people's participation by working in partnership with farmers. IOs learned how to enter into the rural community and establish rapport with the farmers. Further, they learned how to identify farmers' needs and problems and how to resolve their problems. The most important component of this training was to learn how to work with farmers and officers and how to promote healthy relationships between the two groups.⁹

Deployment and Supervision of Institutional Organizers

A team approach was the basic strategy of deployment of IOs. Four to five IOs were assigned to an area, within which individual assignments were made, but not exclusively. The group would meet weekly to discuss their work and problems, seek solutions by consensus, and become acquainted with the area.

The IOs in the field were supervised by Research and Training Officers of the ARTI. A Government Officer (District Land Officer) from the Ministry of Lands and Land Development was appointed on a part-time basis as the resident IO supervisor in the GOLB. He was in charge of administrative and logistics problems of the IOs.¹⁰

Process Documentation

The learning component of the FOP was initially done through a "process monitoring programme," using participant observation as its main tool. Process Documentators (PD) who were selected from the IOs, observed and reported the social dynamics generated as a result of the intervention of IOs in the community. Process documentation attempted a continuous assessment of the progress of farmer organisations, their defects, strengths, problems, and potential solutions. At the beginning, each PD discussed his report with the whole team during its weekly meetings. They identified problems, and collectively devised strategies to cope with them.¹¹ Quite often problems were discussed and solutions were found in the field itself.

⁹The ARTI conducted in-service training sessions and seminars occasionally to update their knowledge and skills and to share their field experience.

¹⁰During the first two years of the Project, IO supervision was carried out systematically. After that, due to the rapid turnover of the Research and Training Officers attached to the Programme, the supervision of IOs became erratic and discontinuous.

¹¹The processes documentation reports were sent to the IO supervisors and to the ARTI team for feedback. These reports helped the ARTI team in their research and in the preparation of training for IO training activities.

Establishment of Farmer Groups and Organisations

The most significant feature of the IO training was that each of them was expected to enter the community with a trained but an open mind; he did not take with him a model organisation. He did not have a ready-made organisational structure, complete with constitution, by-laws, qualifications for membership, objectives, functions, sanctions for transgressions, etc. His objective was to initiate a process, encompassing a range of options applicable to different locations and situations (Wijayaratne 1985).

The first step towards organizing farmers was the IOs' private meetings with farmers. This was done in farmers' paddy fields or at their homes. Through these informal meetings, the IO and farmers developed a sense of friendship and in this way the IO managed to explain the participatory and egalitarian objective of the farmer organisations to the latter.¹²

After initial familiarization with the area and farmers, the IO met with groups of farmers, who cultivated land using water from the same field channel, to discuss their problems and needs. The focus of such meetings was to formulate strategies for solving problems, first through their own group initiative, and thereafter seeking outside assistance.

The next step was to organize an *ad hoc* committee or to choose a spokesman to represent the group and to direct group activities such as desilting a field channel, repairing a broken channel gate, or planning a rotation of water so that the tail-enders would also receive their fair share of water. When farmers got used to working together and realized that such group activity was beneficial to them, the IOs encouraged farmers to form a more visible farmer organisation at the field channel level. These are not formal or legalistic organisations but informal groups (*kandayam*) and they functioned mostly through the offices of a representatives chosen by consensus. Thus one can see an evolution of community activity starting from a collective action towards a farmer organisation.

With the commencement of physical rehabilitation, these organisations facilitated the IO's work in several ways. They provided the forum for the engineers to discuss location-specific problems with farmers. Such meetings improved farmer-engineer relations and promoted farmers' support for rehabilitation work.

¹² Each IO was expected to know his area of operation well. In fact IOs were told at the end of their training to prepare two types of profiles - *area profiles* and *household profiles*. Data on geography, socio-cultural activities, economic factors and political factors in community organization were to be collected for the area profile; household income, land ownership, social status etc., for the latter.

Structure of Farmer Organisations

By the end of 1985, the FOP had a four-tier structure, each tier corresponding to a hydrological unit of the GOLB irrigation systems: Field Channel Organisation (FCO) at the FC level, D-Channel Organisation (DCO) at the Distributary Channel Level, Area Council (AC) roughly at the Branch Channel Level, and Project Committee (PC) at the apex covering the entire GOLB.

Field Channel Organisations

The primary level of irrigation activities from the farmers view point is their field channel. Therefore, in the GOLB, farmers were encouraged to manage the irrigation system through small groups of farmers, whose fields were served by a common field channel. Sometimes farmers simply selected a representative for each channel, where there were more than 25 farmers to a channel, they selected two representatives and where there were 40-45 farmers, three representatives. Thus the average size of a FCO was 12-15 farmers. The primary objective of a FCO was to promote cooperation for water management as well as to develop attitudes conducive to participation in system management among farmers. These groups were informal and had no regular meetings or records of discussions. However, the extensive process documentation carried out by the IOs provided information on subjects discussed in these meetings.

With the establishment of DCOs and ACs, the concern of the FCOs has largely become confined to the internal problems such as channel cleaning and water distribution. As a consequence, there seems to be less need now for FCO meetings. Farmer Representatives (FRs) now take farmer problems to more effective forums such as DCOs and ACs. According to a recent study, 56% of the farmers said that their FCO meets once every season to discuss their problems (Kasyanathan 1986). After working closely with 10-15 farmers over several years an FR rarely encounters new problems at the field channel level. On the other hand, important topics are now discussed at larger organisations, such as DCOs and ACs, as decisions can easily be taken at these levels. Farmer problems therefore are communicated to FRs and they are fulfilling their duties by representing matters at more effective forums. Thus 93% of the farmers judged that FRs are "acceptable to all or most" (Kasyanathan 1986).

D-Channel Organisations

An important activity of the IOs was to encourage FRs of field channels along a distributary channel to meet informally and work out schedules for water delivery. Once these activities are consolidated, farmers were expected to

form DCOs. Demarcation of a DCO area was done entirely by farmers within the help of IOs. Where D-channels were short or where several D-channels were located so that the fields fed by them constituted one hydrological unit, they were brought together under a single D-channel organisation. As a result, the extent covered by each DCO varies from 200 acres to 1500 acres. Each DCO has all members of the FCOs under it as members of its general body. FRs represent their FCOs in the DCOs Committee meetings, They select by consensus the President, Secretary, Treasurer, and other office-bearers of the DCO.

Since DCOs have been devised by the farmers themselves and were not determined by any master plan, they vary from each other in their stated objectives as well as in other features. For example, while some DCOs stipulate that a FCO should be represented at the DCO meetings by its FR, other DCOs permit any farmer to be sent up as a representative of a FCO. A DCO may allow all water-users including drainage farmers to become members of its general body, while another may restrict membership in its general body only to the legal water-users (Kasyanathan 1986).

One of the main subjects discussed in all DCO meetings has been that of rehabilitation and the deficiencies observed by the users of the system. They often complained that the ID had not incorporated their suggestions in design plans even after such suggestions were accepted by the officials. Water rotation and uncooperative behaviour of some farmers were the other topics that were discussed at DCOs. The question of "reservation-farming" is another matter often brought up at DCO meetings.

A DCO serves as a forum where the farmers could organize themselves to present a common plan and to speak with one voice as at the *Kanna* (seasonal) meetings, Seventy-two percent of the farmers feel that DCOs strengthen the capacity of FCOs. Many farmers (64%) reported that they receive adequate briefings about the decisions of the DCOs from their FRs (Kasyanathan 1986).

Area Councils

ACs were envisaged to evolve from DCOs. When links between FCOs and the DCO were well developed, farmers take their unresolved problems at the DCO level to branch canal level assemblies. At present, each of the four areas of the GOIB, namely Uhana, Weeragoda, Gonagolla, and Paragahakelle is served by an AC. All the FRs attend the AC general meetings to discuss important issues such as severe droughts or flood damage.

Project Committee

The Government Agent's invitation in early 1982 for FRs to sit on the District Agricultural Committee created a fourth level of farmer organisation far in advance of the ARTI's expectations. However the formal GOLB Project Committee was formed only in June 1985. Ten FRs were chosen from all four ACs for the Committee; they were chosen from the Uhana (3), Gonagolla (3), Weeragoda (2), and Paragahakelle (2) areas. The Government Agent (GA) and the Deputy Director of Irrigation of Amparai had been invited to be the Chairman and Secretary of the Committee respectively. The district level heads of all the relevant departments are ex-officio members of the Project Committee. Thus the Committee has a total membership of about 15 Government officials and 10 FRs.

The main objective of the Project Committee is to involve farmers in policy discussions and to solve the problems which cannot be resolved by farmers and officials at lower levels. The Committee is expected to meet quarterly.

Scale of Farmer Organisations

The FOP in the GOLB had several phases of expansion. The first phase covered the pilot area of operation - 5,500 acres around Uhana (at the head of the system, which was to be rehabilitated first) and 1,700 acres around Gonagolla. In March and October 1983, two more areas totalling over 17,000 acres were brought into the FOP. In early 1984, the ARTI attempted to extend the FOP to the tail-end area of the GOLB. For this purpose, a total area of 19,400 acres from Mandur, Vellavelly, and Silakkody were selected. Twenty-six IOs, who could speak Tamil, were selected as nearly all the farmers in these areas were either Tamils or Muslims. However, 24 out of 26 IOs soon left the programme to become teachers and the FCOs were not established in these areas. Unsettled security conditions eventually led to the abandonment of the FCO activities in these areas. In 1985, Paragahakelle area was chosen for FCO activities.¹³

¹³Number of Field Channel Organisations in the GOLB at the end

Year	No of FCOs
1982	110
1983	132
1984	230
1985	380

Source: Kasyanathan (1986).

The first DCO was established in Uhana in May 1982. By the end of 1984, 12 DCOs had started functioning in the Uhaña and Weeragoda areas. Twelve DCOs were formed in the Gonagolla and Paragahakelle area during 1985. By November 1985, 29 out of the projected 42 (69%) DCOs had been established in the GOLB.

Farmer Representatives: Leaders in Farmer Organisations

The identification of leaders has been a part of the formation of FCOs. When the farmers of a field channel gathered enough experience in solving their problems collectively, they were encouraged by the IOs to *select* their representatives (not *leaders*) by consensus. The FR position was not one of political power. However, leaders who had been working with their community were encouraged to become FRs. At the same time, enough opportunity was given to emerging new, young leaders. Farmers were encouraged by the IOs to discuss among themselves the criteria that they were to consider in selecting FRs. Thus they could work out their own job description for FRs.

Farmers were expected to keep away from party politics when they worked as a group in managing their activities in FCOs. Political neutrality was hard to achieve but in a way it allowed the FRs to represent farmers' interests authentically at higher levels.

FRs were ordinary farmers who did not have much wealth or political power as in the case of traditional leaders. Thirty percent of FRs owned less than 2 acres each while 90% owned less than 4 acres. Farmers on the other hand, showed an inclination to select as their representatives those who were more educated and had the ability to articulate community feelings and interests. Seventy percent of them were men who had completed at least seven years of schooling. Sixty-five percent of FRs had some experience as leaders in voluntary organisations such as Rural Development Societies and Funeral Aid Societies before becoming the FRs (Kasyanathan 1986)

FRs performance at higher levels in representing farmers' needs and interests has been continuously impressive. As early as 1982, the GA invited four FRs to sit together with the District-level Government officials in the District Agricultural Committee (DAC). In the 1982 yala season, the FRs managed to persuade the Government Agent to approve cultivation of a larger extent of land than originally authorized by the II).

Results and Impact of the Farmer Organisation Programme

A proper evaluation of the FOP could be done only by analysing its contribution to the objectives of the GOLB rehabilitation programme. "The real indicators' of progress in water management in the GOLB ought to be the extent to which, other things being equal, water is made available for cultivation of additional lands and the extent to which tail-end lands which were earlier abandoned due to lack of water are now restored once again for cultivation. But the presence of two factors, namely the abundant rains of the last few seasons and the improvement in water conveyance due to the physical rehabilitation of the system make it difficult to assess the progress attributable to improved management by farmers alone" (Kasyanathan 1986). Therefore one has to rely on perceptions and impressions of the project beneficiaries (farmers) as well as of the project implementing agencies to find out the degree of improvement in farmers' behaviour, changes in water distribution, water conservation, and conflict management.

Farmers' Contribution to System Design and Construction Work

In the GOLB, farmers as groups have been directly involved in the physical rehabilitation of the system in two ways. First, farmers have participated in the designing of their field channels. Second, they were responsible for doing earth work involved in reconstruction of field channels.

Many engineers and Technical Assistants (TAs) said that they got valuable information and advice from farmers who took part in design meetings. In such meetings and subsequent 'walking the channel' meetings,¹⁴ farmers informed the engineers about field channel conditions, the lay of the land, the length, position, and effectiveness of poles, etc., which the engineers would have been hard put to gather by themselves. Farmers' participation in design meetings and walking the channel meetings ranged from 30%-90%. Nearly 70% of the farmers who took part in design meetings felt that at least some of their suggestions were incorporated in the eventual rehabilitation. However, about 90% of farmers complained that where their suggestions were not incorporated, they were never informed of the reasons (Kasyanathan 1986). As late as January 1986, many farmers in Weeragoda area showed their frustration over rehabilitation works. They said although the rehabilitation is now officially over, there is some work

¹⁴The Irrigation Engineer walked along a field channel along with the farmers observing defects of the system and discussing possible solutions.

in the area still not completed due to the poor performance of the TA (Uphoff 1986a).

Farmers' contribution to earth work did not progress well. The results have been far below expectations. Between 1981 and 1983, only four FCOs had completed 75% of their assigned work. ID officials complained that the delay in the completion of FC structures was due to the farmers' inability to finish earth work in time. In November 1985, only 1% of farmers claimed that they had done all the earth work assigned to them, while 25% said they had done up to 75%. About 48% accepted that they had done less than half the work required of them. (Kasyanathan 1986). It seems the Project had expected quite unrealistically from farmers that they should carry out earth work through community or group spirit. Most of the field channels were too long for farmers to complete on their own. A large number of non-owners of land along FCs did not show much interest in doing such work. The failure of the ID to keep to its own schedules for construction work also may have contributed to the loss of farmers' enthusiasm. On the other hand, it was not fair to expect farmers to do all earth work free of payments, while other activities in relation to rehabilitation were given to private contractors who were allegedly making lucrative profits from such contracts. Only two FCOs succeeded in securing contracts from the ID to do rehabilitation related construction work (Kasyanathan 1986).

In some instances, FCOs have rushed to break irrigation structures in emergencies. But quite often farmers have repaired such damage by themselves. On the other hand, several FCOs have completed many jobs on their own initiative that had been neglected by the ID.¹⁵

Changes in Farmers' Behaviour

Changes in farmers' behaviour can be seen in several spheres in which they have shown their initiative in improving the GOLB water management system. For example, through FCOs they met ID officials to discuss design problems to introduce new water saving methods such as water rotations to bargain with officials over their needs and demands and to overcome opposition to their group meetings from rich farmers, political leaders, and field-level officials such as JPs, YPs, and KVs. It is evident that 10s have made a successful effort in promoting a sense of unity and cooperation among farmers. FCOs demonstrated this feeling in action whenever they had a chance to do so. Furthermore, FCOs

¹⁵For example, (i) repair of breach on distributory channel LB 29 in Gonagolla - 38 farmers from FCOs on LB 29 worked for two days to complete the work; (ii) construction of a drainage canal of LB 7-6 farmers worked for 5 days, (iii) farmers repaired a leak on UB 2-3 which the ID labourers could not correct for a long time (Kasyanathan, 1986).

have instilled a sense of responsibility among farmers for the "system." For example in the Yala 1981, the ID announced the schedule of water issue in advance; five days on, five days off. Farmer groups of 38 field channels, however, voluntarily restricted their own quota by one-three days, thus saving water in the distributory channel so as to assist downstream farmers (Wijayaratna 1985).

In November 1985, 88% of the farmers said that, in areas where there were FCOs irrigation water wastage was definitely reduced. Only 11% of them thought that strict controls introduced by the ID had anything to do with the improved farmer behaviour; whereas in field channels, where there are no FCOs, 49% of the farmers said that any improvement in farmers' water management practices were due to external control such as the ID's directives. Farmers' attitudes towards the savings of water and their concern for other water users are perhaps solely related to the sense of unity and cooperation among farmers that have been developed by the FCOs. Seventy-eight percent of the farmers from FCO areas said that they wanted to save water for the benefit of the tail-end farmers, while in non-FCO areas, only 12% of the farmers admitted to having any such concern. In non-FCO areas, 62% of the farmers felt that no one would bother to close the pole on his own initiative, while in the FCO areas only 4% had such fears (Kasyanathan 1986).

Several powerful farmers and politicians in the area opposed the FOP at the beginning. But by 1985, such opposition was neutralized and in some cases, influential farmers began to support the Programme. Some farmer politicians who have strong political party links have spoken publicly in favour of the non-partisanship of the FCOs. Practically every FR said that party politics or local influence did not play any role in the selection of FRs. On many occasions, the ARTI team found farmers who belong to different political parties holding office in the same FCO. And it is not unusual to find farmers belonging to rival political parties nominating each other to offices in their FCOs. Farmers often emphasized that if politics entered FCO activities, it would seriously undermine the capacity of the farmers to act together.

Relationship Between Government Officials and Farmers

On the whole, after the FCOs were established, there was an improvement in the relationship between farmers and Government officials. As early as 1982, farmers successfully negotiated with the ID over the issue of water to cultivate paddy. The ID authorized only 5000-acre cultivation, whereas farmers wanted to cultivate at least 12,000 acres. This was based on their confidence that they could share water carefully through FCOs. Ninety FRs met the GA and showed their willingness to cultivate more lands. The GA agreed to their demand. He was impressed with their sense of responsibility and invited them to send four FRs to attend the DAC.

Farmers felt that Government officials responded favourably to their problems and needs. This feeling was highest in the case of the Deputy Director of the ID (100%) and lowest for KVS (14%). At the same time, farmers' evaluations of officials' responsiveness as "poor" has decreased remarkably after the establishment of FCOs. In the case of ID officials this decline has averaged around 60% (Kasyanathan, 1986).

Government officials too felt the improvement of the officer-farmer relationships after the establishment of FCOs. Yearly 75% of the officials in the GOLB felt the FCOs had improved the officer-farmer relationship. Nearly 70% of the officials said that FCOs had facilitated better communication and promoted greater understanding and mutual trust between farmers and officials (Kasyanathan 1986). As discussed earlier, this is, to a large extent, an outcome of the dialogue and cooperation the farmer groups have had with the engineers in rehabilitation work.

Water Saving Measures

In the GOLB, efforts to involve farmers in system operation and maintenance have concentrated on two things: promoting equitable water distribution along field and distributary channels and clearing channels voluntarily. These two objectives were given serious thought from the beginning of the Project. For example when the FOP started in 1981, farmers of the GOLB were faced with a lack of sufficient irrigation water for paddy cultivation. This situation, one would expect from past experience, would have led to more farmer conflicts and damages to structures. But with the establishment of FOs, farmers instead quickly started several water saving exercises.

Water Rotation

This was the chief method adopted to ensure equitable and efficient use of water within and among field channels. The popular rotation practiced in the GOLB is as follows: each field channel is divided into upper and lower sections or into upper, middle, and lower sections. Water is delivered to each section alternatively and in some field channels, the lower sections are given water first. This practice has a great impact on farmers' perception of FCOs. Thus, Ranasinghe-Perera (1984) reports "farmers were able to save much of their crop during water shortages during the Yala 1981 season mainly due to water rotation and water management programme" (1984). The adoption of water rotation in 44 FCs allowed the cultivation of additional 832 acres in Maha 1985. Ninety-eight percent of FRs felt that water rotation leads to equity in water distribution and 79% of the farmers felt that they would themselves be assured of adequate water under alter rotation (Kasyanathan, 1985).

Shramadana Work in Channel Clearing

With the help of IOs, farmer groups began to clear field channels, through *shramadana* work. FCOs accepted field channel clearing as a duty of the group since March 1981 and continue to do so every season, on a group basis. FCOs sometimes have cleaned some D-channels which have not been cleared by the ID, due to lack of finance. On such occasions, the ID willingly provided the necessary technical guidance to the FCOs. Field level officials such as JPs, YPs and KVSs have often taken part in shramadana work together with farmers. This encouraged better communication between FCOs and officials. From March 1981 to November 1983, FCOs in the Uhana and Gonagolla areas contributed 2420 man-days of shramadana labour into maintenance activities (Ranasinghe-Perera 1984).

A recent survey indicated significant differences in the level of channel cleaning, before and after the establishment of FCOs. Eighty percent of the farmers said that channel cleaning in the FCs was poor before the FCOs were established. But in the survey, only 6% felt that there was still poor channel clearing. Nearly 70% of farmers felt that at present, the channels are in good condition; this was corroborated by the FRs, 92% of whom reported that channel maintenance was being done regularly. Of the FRs, 84% said that the quality of the cleaning work was good, 12% said that it was fair, and 4% complained that it was poor (Kasyanathan 1986).

Conflicts and Conflict Resolution

Inadequate and unreliable water supply, damaged control structures and ignorance or lack of confidence in water rotation caused many conflicts before FOP was introduced in the GOLB. Now with the assured water supply and the availability of a forum, i.e., the FCO, to discuss and settle disputes at the FC level, the frequency and the seriousness of conflicts have been greatly reduced in FCO areas. Nearly all FRs said that there had been a decline in the number of water-related conflicts in their areas. Seventy-seven percent of the farmers said that during the Maha and Yala seasons of 1985, not a single conflict over water distribution took place in their field channels. Twelve percent of the FRs attributed this to rehabilitated physical conditions of field channels and structures. Sixty-nine percent of the FRs and over 75% of the farmers attributed this to changes in farmers' attitudes and to the harmony and understanding that have emerged among farmers due to FCOs (Kasyanathan 1986).

Cost and Benefits of the Farmer Organisation Programme

A comprehensive cost-benefit analysis of the FOP in the GOLB has not yet been done. The main cost component of the programme are the costs of training and of maintaining IOs in the field. During the period between 1981 and 1985, 169 IOs were trained and fielded in the GOLB. The rapid turnover of IOs had to be trained. If each IO had served at least two years, then the cost of training, administration, and supervision would have been much less. The average annual cost of the IO component was Rs. 1,976,361 for the period of 1981-1985 (Kasyanathan 1986).

TABLE 1. Approximate Cost of One Institutional Organizer per Month.

Salary	1500
Travelling and subsistence	400
Stationery	100
Capital Costs	175
Administration and Supervision*	2000
In-Service training	330
Total	4505

* Includes salaries of the ARTI research staff, their travelling costs, honoraria and office support, but does not include the payments to consultants.

Until 1983, the cost of placing and maintaining IOs in 15,000 acres in the GOLB was Rs. 3,522,600. Thus the cost had been Rs. 235 per acre. At Rs. 65 per bushel of paddy (1983), this was equivalent to a cost of 3.6 bushels per acre or less than two bushels of paddy per season. On two channels alone-LB 29 and M5, the cultivated area had been increased by 717 acres through FCO activities in 1983. If that additional land produced a yield of 53 bushels an acre (GOLB average), the value of the produce was Rs. 2,470,065. This is equivalent to a cash benefit of Rs. 165 per acre for the whole area (Brewer 1984). In fact, more equitable water distribution raised yields in the tail-end lands of many field channels and kept other land in cultivation as well. In addition to tangible production benefits and the contribution of farmers to the rehabilitation process, the FOP has resulted in the decrease in water conflicts and an improvement in the distribution of income. Furthermore, the maintenance of field channels and distributary channels by FCOs is more effective than in the past, thus resulting in decreased cash costs for maintenance.

¹⁶Wijayarathna calculated the per hectare cost of the IO programme at Rs. 15 for 1982 (1985:130).

Key Problems Faced by the Farmer Organisations

Problems faced by the **FCOs** in the **GOLB** can be categorized into two areas: structural problems of the system and organisational and operational problems of the **FCOs**.

Structural Problems of the System

The successful operation of **FCOs** have been affected by the unauthorized use of irrigation water by "drainage farmers" and encroachers. They do not have direct access to irrigation water and therefore resort to various wasteful practices such as breaking bunds and blocking channels to obtain water. Regular activities of the **FCOs** such as water rotation, better channel maintenance, etc., have lessened the opportunity they previously had to move water to their fields. At least one-third of the farmers in the **GOLB** are non-owner operators,¹⁷ and many of them do not want to join **FCOs** as such an action would expose their illegal land transactions. Thus it is difficult to obtain the support and cooperation of such categories of farmers for the **FOP**. This will be a lingering problem until a solution is found to accommodate non-allottees in the system or elsewhere.

Although farmer-official relationships have been improved significantly in the **GOLB** during the last 5 years, clashes and mutual distrust between the two groups have adversely affected the **FOP**. A Government Official's respect for a group of farmers and their ideas is quite often an outcome of the official's personality. Therefore, it is difficult to predict how officials in general will behave towards farmers. A good example of this is the role of the Deputy Director of Irrigation, Ampara, as the manager of the Project. He was considered by the farmers as a benevolent, sympathetic, and simple man who would do his best for the farming community. Farmers can narrate many a good story about his activities and character. But the same farmers would provide a list of officials who acted as bullies and cheated them. This is especially true of field-level officials. The refusal of farmers to carry out a *shranadana* activity merely to protest against a TA who cheated them is an example of this (Uphoff 1986a). Thus an amicable official-farmer relationship is still more a matter of an official's personality than an outcome of change in their attitudes towards each other.

¹⁷In colonies 29 and 30, for example 46% of farmers were part-time farmers. "The participation of part-time farmers in the work of **FCOs** such as water rotation, maintenance activities etc., is very poor since they are out of the farming community during most parts of the day." (Ranasinghe-Perera, 198459).

Organisational and Operational Problems

The ARTI has continuously encountered numerous problems in carrying out the FOP as a action-research project. The IOs who were the catalysts of the FOP were employed on contract with no assured prospect of career. When the Ministry of Education began a large scale recruitment of graduate school teachers, many trained IOs left the Project to become teachers in the Government sector as it assured permanent employment. As a result, **41%** of the IOs left the FOP within 6 months after their appointment. Thus, although six batches and a total of 169 IOs were recruited and trained between 1980-1985, the effective number of IOs in the field never exceeded 50 and averaged around **30** (Kasyanathan 1986). This has prevented the ARTI team from making an accurate assessment of the capacity of IOs to consolidate FCO activities in their respective areas. The ARTI planned to withdraw the IOs from the field at different times with a view to studying how FCOs react to this and how farmers organize and sustain their group activity by themselves without the IOs' support. For this purpose, the ARTI had a plan of action for fielding and withdrawing IOs.

TABLE 2: Time Schedule for FO Promotor Activities

	Duration	Range per IO	Objectives ¹⁸
Phase I	12 months	500 acres or 150 farmers	<i>Formation of FCOs at FC level</i>
Phase II	6-12 months	1500 acres	<i>Consolidation of FCOs and Formation of DCO and AC</i>
Phase III	Continuing	3000-5000 acres	<i>Maintenance consultant func- tions to FRs, DCOs and ACs.</i>

It has been difficult to follow this proposed plan because of the heavy drop-out rate of IOs. This to some extent has weakened the confidence of farmers in IOs and the FCOs. In many instances, IOs left the field suddenly, at the time FCOs were about to be formed. Then these FCs were left without an IO as the appointment of new IOs was delayed. In some FCs, IOs had to be replaced as many as seven times during the first 2 years (Ranasinghe-Perera 1984). During Phase II, it was particularly difficult to find the necessary number of IOs for FCO consolidation work. Thus quite often new IO recruits were assigned to do

¹⁸Phase I is the most intensive period of work in FCO formation when the IOs have to work hard to motivate farmers to organize into collectivities and to select their leaders. Phase II is to be characterized by the farmers' involvement in policy formulation at the D-channel and Area council levels. Phase III is supposed to be characterized by independent FCOs with a core cadre of IOs to oversee larger areas and train FRs, and to serve as ombudsmen and evaluators of the programme.

work which should have been carried out by experienced IOs. At the same time, an IO was often expected to oversee more FCOs than originally planned. Such changes were not based on any feedback from field conditions and experiences but from sheer need for ad hoc arrangements to keep the FOP moving. Such problems were suitably labelled throughout the Programme as manifestations of a "learning process." In the GOLB, head and middle areas are cultivated by Sinhala farmers who do not face water shortages as frequently as the lower-middle and tail-end area farmers who are predominantly Tamil. The ARTI team wanted *to* study the way the combination of ethnicity and relative water availability affect the FOP. But this study could not be completed because of the security problems in the tail-end areas of the GOLB and the exodus of the Tamil-speaking IOs to become school teachers soon after their appointments.

Major Lessons Learned

It is possible to abstract several principles and techniques from the Gal Oya FOP that may be useful in attempts for improving water management in large-scale irrigation settlement projects in Sri Lanka.

In traditional villages, there had been some well established community arrangements associated with water management such as bethma to ensure equitable distribution of water and subsistence ethics. Such values and norms cannot be expected to emerge automatically in Government-sponsored large-scale irrigation systems, as the population in such systems are characterized by their heterogeneity in culture, traditions, and belief systems. Therefore, it is necessary to *introduce* some form of organisational set-up preferably with the commencement of settlement.

Such organisations should be loosely structured multi-purpose organisations. They should preferably be established on hydrological lines, that is, the members must jointly share and control a single water source such as a field channel. Furthermore, such organisations should be small enough to be self-managing. In Gal Oya, the ideal size appears to be about 15 farmers for an area of about 50 acres. Thus if a field channel serves more farmers than this number, farmers should be encouraged to form more than one FCO along the field channel.

Too much concentration on rehabilitation or water management for example, has in some instances alienated farmers from FCOs as such an emphasis generally led to the neglect of agricultural work and agricultural development. Fortunately, the FOP as a "learning process" has understood this at an early stage and managed to provide a balanced focus for each FO which addressed different demands and needs of the farmers in its area of operation.

The consensual and informal approach to select FRs has contributed to the development of active FCOs. This method has made the chosen leaders acceptable to all farmers. FRs leadership has been very effective in ensuring farmers' support and cooperation for FCOs. Furthermore, such leadership is acceptable to outside agencies such as the DAC as it has continuously been separated from partisan party political biases.

The federation of FCOs at different levels, i.e. D-channel, Branch çanal and Project level, has allowed farmers to articulate their problems and demands all the way up to the highest district level, The Agricultural Development Committee. This has facilitated farmer-officer relationship and promoted farmers' self perception as the share-holders of the Project.

The evolution of FCOs from the bottom level, i.e., field channel to the Project Committee level does not need to be strictly sequential. It is advisable to go ahead with the formation of higher level organisations so that the vertical linkage thus created between FC level farmer groups and District level service agencies, lend interlocking support and strength to the whole programme. In this way, it is possible to sustain the farmers' enthusiasm and more importantly to resolve their problems through the intervention of high level officials.

In a large-scale irrigation system such as the Gal Oya Project, where both farmers and Government officials are expected to take part in water management, it is mandatory that amicable relationships are developed between the two groups which are characterized by mutual trust, understanding, and respect. Changes in attitudes cannot be achieved in isolation from each other, but only through situations which permit mutually profitable interaction. In this regard, a total outsider such as an IO could play a meaningful role.

An important lesson the ARTI learned from the Gal Oya FOP is the advantage of fielding IOs in teams rather than as individuals to form FCOs. This created a capacity for decentralized self-management which facilitated a problem-solving interactive approach. The IOs, for example, met regularly to assess the progress in organising FCOs, to identify problems, to seek solutions, and to help each other. They thus managed to resolve many problems at the field level itself rather than waiting for directions from the ARTI.

The IOs showed a great promise in understanding the concepts of a participatory and bottom-up approach. Being graduates, they had the self-confidence to negotiate with the Government officials on behalf of farmers, and the officials also showed them respect. This facilitated IOs' work enormously, especially in organising the farmers to establish their FCCs.

The appointment of IOs only for a short period to help farmers organize FCOs is correct. But it is difficult to accept that the tenure of an IO should also be **temporary**, because without a career prospect, no intelligent and innovative graduate would agree to remain on a contract basis as an IO, when permanent employment opportunities exist for them. Furthermore, it is profitable to keep experienced IOs to act as consultants at Phase III of the programme. Thus there is enough justification to create a permanent cadre of IOs from among the better IOs. However, until now, no permanent cadre of IOs has been created and this has adversely affected the FOP. If it is difficult to create a permanent IO cadre, then it is necessary to ensure at least, the trained IOs remain for the period they were recruited, e.g. two years. A possible arrangement would be to **work** out with the Ministry of Education an agreement to retain IOs on secondment until they complete their contract for the **FOP**, if they were chosen to become teachers during this period.