

**Beneficiary-Centered Management  
of Irrigation Systems:  
Retrospection on Recent Endeavors**

# **Beneficiary-Centered Management of Irrigation Systems: Retrospection on Recent Endeavors**



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International Irrigation Management Institute*

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## Foreword

DURING THE LAST decade attempts have been made to enlist farmer participation in the operation and maintenance (O&M) of irrigation systems. Special programs were launched by the Irrigation Management Division (IMD), the Mahaweli Authority of Sri Lanka (MASL) and the Irrigation Department (ID) on farmer participation in O&M. This workshop intends to discuss the findings of the programs implemented with a holistic approach and to facilitate the smooth transferring of National Irrigation Rehabilitation Project (NIRP) schemes to farmer organizations (FOs) for O&M.

In keeping with this mandate, the workshop seeks to achieve the following objectives:

- i. To discuss the salient features of the programs implemented in the recent past that can be translated to NIRP.
- ii. To document the experiences, findings and recommendations of such programs for dissemination.
- iii. To provide a forum for policymakers, technocrats and the researchers to deal with the subject in close collaboration/ interaction so that the recommendations can be widely acceptable and applicable.

In order to assimilate and adopt the successful features of already implemented projects, papers were invited from those who have implemented studies or done research either individually or collectively and whose experiments could be applied to NIRP.

The Workshop consisted of two sessions which were conducted in the morning and afternoon and two papers were presented at each session. The methodology used was the presentation of papers-cum-open discussions.

The proceedings included the chairperson's address (by Mr. Jaliya Medagama, Secretary, Ministry of Irrigation, Power and Energy) and the keynote address by Dr. Jacob W. Kijne, Director for Research of the International Irrigation Management Institute (IIMI). Four invited papers were presented at the Workshop. It concluded with the declaration of Workshop recommendations in terms of beneficiary involvement in system management. In addition to these researchers, 25 participants were selected from relevant departments, statutory bodies, institutions and NGOs to participate in the Workshop. The organization of the workshop and the publication of the workshop proceedings were the responsibility of the International Irrigation Management Institute and the Irrigation Research Management Unit (IRMU) of the Irrigation Department. The Workshop was held on 25th May 1995 in the Irrigation Department committee room, Colombo 07, Sri Lanka.

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## Acronyms

ARTI	- Agrarian Research and Training Institute
DCO	- Distributary Channel Organization
DCs	- Distributary Channels
FCGs	- Field Channel Groups
FOs	- Farmer Organizations
ID	- Irrigation Department
IDO	- Institutional Development Officer
IMD	- Irrigation Management Division
IMPISA	- Irrigation Management Policy Support Activity
INMAS	- Integrated Management of Major Agricultural Schemes
IRMU	- Irrigation Research Management Unit
ISMP	- Irrigation Systems Management Project
MANIS	- Management of National Irrigation Systems
MASL	- Mahaweli Authority of Sri Lanka
MLI&MD	- Ministry of Lands, Irrigation and Mahaweli Development
NDF	- National Development Foundation
NIA	- National Irrigation Administration
NIRP	- National Irrigation Rehabilitation Project
RPM	- Resident Project Manager
SLFO	- Sri Lanka Field Operations
TCFO	- Territorial Civil Engineers' Organizations
USAID	- United States Agency for International Development
VIRP	- Village Irrigation Rehabilitation Project.

## **SESSION I**

# **SUSTAINABILITY OF FARMER ORGANIZATIONS AND OPERATION AND MAINTENANCE**

## Chairperson's Address

### Beneficiary-Centered Management of Irrigation Systems: Retrospection of Recent Endeavors

I AM PLEASED to participate at this Workshop which seeks to collate the knowledge and information on beneficiary involvement and management in irrigation. A review, as it were, of the local state of the art will enable to apply some lessons learnt in implementing the rest of the NIRP work. Lessons learnt are especially on those aspects of encouraging farmer contribution to system rehabilitation. Irrigation Systems Management Project (ISMP) experiences may be of some relevance here as would be those of Gal Oya and MIRP. While this could provide for fresh tactical approaches to be made to achieve project targets, it cannot compensate for the inherent design deficiencies in the conceptualization of project implementation strategies and for the planning assumptions on which implementation has been based.

It is, therefore, very important that while the successful features of already implemented projects are being considered for assimilation and adoption where possible, the organization and institutional environments under which they were implemented should **also** be considered. These were projects that were implemented as part of an overall program, reinforcing the themes or key aspects the program was meant to cover. For example, Integrated Management of Major agricultural schemes (INMAS) should be examined in the overall context of the INMAS Program and organizational and implementation strategy of the IMD, rather than in isolation as a rehabilitation project with transferable experiences to NIRP. The reinforcing contributory factors to success or failure arise from the priority, focus and approach of the organization itself to the various constituent components and not merely to the project design.

Sustainability of the rehabilitated systems and continuing farmer participation with a clear role definition of both parties, that is the state and the farmer organizations, will result only from the full acceptance of beneficiary involvement in irrigation management by the respective agency staff and "internalization" by the agency itself, reflected by the priorities and resources being allocated to support such acceptance. Otherwise, the danger exists that the attempts to involve the beneficiaries are seen as mere ploys to somehow coerce the farmers to contribute to achieve project stipulations or to absorb a share of the responsibilities of the agency to enable the agency to maintain the status *quo* in the face of a diminished resource base.

The last decade has seen considerable acceptance of the **role** of farmer participation and the resulting improvements to system management. Pressure from donors, researchers and research results with efforts of some committed individuals in the sector, has paid dividends and the policy of participatory management is now an accepted government policy. The legal reforms necessary to support the institutional changes are gradually falling into place and what is required is that all involved in irrigation support the changes necessary within the agencies and fully internalize the concepts so that this will be clearly reflected in the day-to-day operations including resource allocation.



Otherwise, the danger exists that fora such as this remain merely platforms for rhetoric or mouthing fashionable platitudes to convey that the experiences in the field of irrigation management are in fact being considered and incorporated but the status quo remaining as before.

One of the major drawbacks to successful implementation of such beneficiary involvement programs in the true sense has been the lack of a multidisciplinary approach. While there is no doubt that, with training, qualified technical staff do prove to be successful institutional staff, this is essentially tied to personal qualities but in instances with conflicts of interests with respect to irrigation, especially construction work, it is unlikely that true participation will result. This often leads to a lack of transparency, eventually culminating in a breakdown of confidence between agency staff and the participating beneficiaries who may feel that they are merely being used to achieve project or agency objectives.

I note with some concern that even at this stage of implementation the department has yet been unable to attract other disciplines even at the recruitment grade level to support such programs. I believe not a single other discipline is reflected in the staffing of the IRMU so that the IIMI contribution is likely to be lost unless some quick action is taken. Such delays are for various good reasons no doubt, but the priority shows; and unless a concerted effort is made to really give effect to at least the basic requirements to function in the required mode, it is unlikely that other than some success due to certain individual efforts and interventions, these will not reflect as a mainstream activity of the agency.

I also see that there could be greater interest in trying to mobilize resources that may support the institutional program from outside or even within the umbrella of the Ministry itself, for example, I feel the IMD which has a certain resource capability and institutional resource base can be opted in to support the NIRP program in a more effective manner. It would be naive to consider that all the requirements for mounting a successful institutional development program can be attained with "converted" technical staff doubling up on institutional duties as well. The conflicts of interests, opportunity costs of using such staff, for nontechnical functions, and the comparative advantage or disadvantage such staff have in relation to normal institutional staff have to be evaluated in setting goals and targets and for achieving success in a program.

I wish to leave you with these thoughts for consideration in your deliberations, I would also recommend that the proceedings of the two workshops that were held earlier--one in May 1986 on Participatory Management in Sri Lanka's Irrigation Schemes and the other in February 1990 on Research Mobilization for Sustainable Management both held under the auspices of IIMI, be also considered, as there are many lessons to be learnt and aspects to be considered, in the context of the situation we are placed in 1995. As the intention is to take a holistic approach, I hope the outcome will result in a series of recommendations that will reinforce the performance of the NIRP in particular and the ID and the irrigation sector in general.

# KEYNOTE ADDRESS

Irrigation Management Turnover  
Jacob Kijne<sup>1</sup>

## Trends in Irrigation Management

EXCEPT WHERE SUBSISTENCE is still very problematic, the most important performance objective farmers have for irrigated agriculture is the profitability of irrigated agriculture. The challenge for irrigated agriculture in developing countries, at present, is more one of poverty alleviation than one of food security. However, the problem of food security could return as a more widespread issue in the longer term (by the year 2000) as projected population increases overtake existing levels of productivity and limits to sustainable resource use.

The prior emphasis on increasing yield per unit of land is shifting in many places to an emphasis on increasing profit per unit of water and/or labor. This is especially true where obtaining access to water has a cost and rural economics are diversifying.

With advancing population sizes and diversifying economics in developing countries, irrigation management is increasingly affected by competition over water between irrigation and other uses. This often occurs in a context where there are no clearly defined or recognized water rights.

Environmental degradation is quickly rising in importance as both a constraint on sustainable irrigation management and as a consequence of "unsustainable" irrigation practices. In developing countries problems of salinization, waterlogging, declining water quality and siltation are advancing in the absence (or failure) of government regulation.

The widespread shift from subsistence to commercial farming in developing countries, largely as a result of the green revolution, is making irrigated agriculture more diversified, costly and challenging for irrigation management,

The widespread poor performance of government agencies in irrigation management and agricultural extension, the increasing commercial orientation of farmers and their rising capacity to organize at higher levels, are leading toward a need for (and in some cases the emergence of) new kinds of organizations important to irrigation management:

- a. Third-party management organizations which are accountable to farmer groups.
- b. Farmer-sponsored support service organizations. This is likely to become an important future trend to enable farmers to cope with problems of competition for water, environmental degradation, and enhanced profitability through economies of scale and greater leverage in markets.

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The notion of farmer participation, prevalent in the late 1970s and the early 1980s, emphasized the value of farmer resource mobilization and local knowledge. Since then, it is becoming increasingly clear that both kinds of local assets cannot be effectively employed in development unless control over decisions and resource rights are developed to user groups. Recognition of the insufficiency of mere farmer participation in government irrigation programs has led to the more complete concept of irrigation management transfer.

Why Management Transfer Occurs:

- \* Financial failure
- \* To conserve revenues
- \* Poor management performance
- \* Confidence in farmers

### Argument **for** Management Transfer

Organizational survival of farmer organizations depends on their ability to be financially self-sustaining. Financial viability can only be achieved by recovering operation and maintenance costs from the actual users. Yet, users will only pay water fees if the organization managing the irrigation system delivers water reliably and ensures the long-term productivity of the system.

Requirements for successful management transfer:

- \* Sustainable water rights
- \* Compatible infrastructure
- \* Clear responsibility and authority
- Adequate resources
- \* Accountability and incentives

### Key Motivating Conditions **for** Management Transfer

- \* A clear water right and a compatible and reliable water distribution arrangement are necessary to motivate farmers to take over irrigation management.
- \* Farmer organizations must have legal and political recognition to make **all** decisions necessary to manage the irrigation system.
- \* Farmer organizations must have full control over raising and spending of revenues, hiring and firing of staff, applying sanctions and entering into contractual relationships.
- \* Farmer organizations must be seen as beneficial to the large majority of farmers in the area served by the organization.

- \* Investment by farmers in construction or in operation and maintenance, either through labor, payment of a fee or by other means encourages a sense of ownership and serious concern about the performance and sustainability of the irrigation system among farmers.
- \* Farmers must have a clear basis for assuming that management turnover will enhance the profitability of irrigated agriculture for them. This means that the benefits of **self-management** (such as cost efficiency, responsive and reliable service, productivity and sustainability) will outweigh additional costs (in time or ,expense).
- The value of water and farmer investments in irrigation exceeds the opportunity costs.
- Skills required to manage irrigation systems turned over to farmers must be made available among farmers or be recruitable by farmers.

### Variations in Management Transfer Approaches

As was documented at the Wuhan Conference held in China, 1994, a wide variety of approaches to transferring management to the private sector is being tested in different countries. The following are some of the approaches that were presented and discussed by participants.

1. *Introducing irrigation service fees.* The government levies fees from water **users** who pay for part or all of the cost of O&M, and sometimes part of the capital investment costs. In many cases, such as large systems in Indonesia. the government continues to provide the O&M services.
2. *Fostering competition in **service delivery**.* The government encourages private-sector organizations to provide irrigation services, in particular from groundwater sources. In Bangladesh, Pakistan and Nigeria, governments are actively encouraging private-sector development of locally managed tube well irrigation.
3. *Contracting.* The government specifies the scope of work, terms and conditions and pays nongovernmental contractws or water users' associations to do the work. Examples were presented where this was being done by distributary channel organizations in Sri Lanka and in the "stage one" arrangement for turnover in the Philippines.
4. *Vending.* The government produces a service upon request. Payment is by a nongovernmental entity. In some African countries, such as Sudan, the government provides inputs to individuals or groups upon request and payment. Another example is the Mohini Water Distribution Cooperative Society in India, where a local cooperative orders and purchases water volumetrically (Datye and Patil 1987).

5. *Franchises*. The government awards rights to nongovernmental organizations to supply an irrigation service for a specified period of time. However, unlike service contracts, in this system services are paid for directly. An example is in Hunan, China, where local irrigation management organizations hold auctions and grant franchises to local groups to manage **O&M** for a specified period of time (Svendsen and Liu 1990).

6. *Grants/Subsidies*. The government provides a payment or subsidy to either the water user or the service provider to reduce the local cost of providing the service. Grants may be provided in the form of payments, material or special loan privileges. Under the Village Subsidy Program in Indonesia, the government makes annual grants to villages and allows the villages to decide how to invest the funds (Hafid and Hayami 1979). Other examples are subsidies for energy costs of pumping water or for tube well parts such as is found in many States in India.

7. Joint agency-user investment. In this case, the investment by the government in irrigation O&M or specified system improvement is contingent upon some corresponding level or proportion of local investment. An example is when the agency provides materials and technical guidance for maintenance if the water users' association agrees to provide the necessary labor such as is the case in many of the Chinese irrigation systems. Other arrangements are based on proportional equity investment, such as 50/50 sharing of costs.

8. Agency becomes financially autonomous. In this case the agency, which was funded by central government revenues, is converted into a semi- or fully autonomous agency which must become largely self-financing through payments for its own services. The example of the National Irrigation Administration (NIA) in the Philippines and the recent commercialization of the River Basin Development Authorities in Nigeria exemplify this approach.

9. Joint agency-user management. This includes the participation of farmers in an advisory or joint decision-making capacity in the planning of water allocations and delivery schedules, operations, maintenance and system improvement or rehabilitation. This system was presented in many of the Chinese papers as well as in the papers from Mexico.

10. Devolution of control. Governments turn over full management responsibility and authority to the water users or their representatives, although generally, the government retains some role in the irrigation sector such as regulation of the overall water sources, support services or ownership of the actual facilities. Governments may transfer management responsibility for subsections of large **systems** or entire small-scale systems. Examples of these approaches were discussed for the case of Indonesia, the Philippines, Sri Lanka, Mexico and Colombia.

11. Withdrawal of functions. The government agency totally withdraws from an activity or sector, at all levels. An example is the withdrawal of the Government of Senegal from irrigation management.

12. *Privatization of assets.* This is the conversion of ownership of irrigation property from the government to nongovernment organizations or individuals. Such property may include irrigation infrastructure and/or water rights. Privatization may be implemented through sale of assets, sale of stock, or legal transfer of ownership. Examples are the sale of public tube **wells** in Bangladesh and Pakistan and the sale of all public irrigation systems to the water users' organizations in New Zealand.

Given the diversity of types of transfer models, policymakers at the Wuhan Conference recognized that policy alternatives for management transfer should not be limited to any single model. Third party contracts and franchises, partial or full transfer, complete privatization including the disposal of all assets, formation of mutual companies, etc., are just some of the alternative approaches to management transfer that are being implemented.

### Important Reasons **for** Failure

#### 1. Lack of Political Support

- \* No clear water rights
- \* Transfer considered as short-term project

#### 2. Lack of agency reorientation

- No motivating conditions
- \* Rapid withdrawal of agency

#### 3. No **genuine** negotiation between government and FO during transfer

- \* Responsibility for future rehabilitation
- \* Support for FO: accounting, management structure, training, bylaws, etc.

#### 4. System design and operation not compatible with local management capacities.

#### 5. Emphasis on profitability conflicts with system sustainability.

### Closing Remarks

The importance of strong leadership has been identified as one of the key determinants for success of management transfer. The nine reasons for failure listed in one of your documents, to be discussed at this workshop, includes disputes among farmers, shortcomings of the agencies, lack of perceived benefits for the farmers, political interventions, and the failure to honor farmers' requests for rehabilitation, All of **these** weaknesses can be compensated and

prevented if there is strong leadership of the farmer organization. With strong leadership we do not mean that the chairman of a farmer organization should be dictatorial. On the contrary, strong leadership is characterized by the willingness to provide all information to the members of the organization, to be accountable to them for all actions including the financial affairs of the farmer organization entrusted to the chairman, clearly defined roles of those who are responsible within the farmer organizations, and probably most importantly, the personality that is prepared to put the common interest above one's personal interest.

Finally, I would like to make clear that IIMI as a research organization does not propagate management transfer. We recognize that management transfer is happening in a large number of countries, and whether we personally like it or not is immaterial. IIMI studies the determinants of success and the effects of management transfer. One of the effects of management transfer is illustrated in the attached table where for a number of systems, the water fees charged before and after transfer are listed. From the values of the table, it is obvious that in some cases (for instance in New Zealand), after transfer, the system was run more economically than before and that water fees could be lowered. In other cases, the water fees were higher after transfer than before. The reasons why these changes occur and other effects of management transfer on the sustainability of irrigation systems are the topics that IIMI is interested in and is studying in a number of countries. However, the period over which we have been studying these trends has been fairly short, so definitive answers cannot be provided as yet. Nevertheless, in my presentation today, I have given you some insights on what are the key determinants for success and for failure in management transfer processes. I hope I have succeeded also in conveying to you that there are government agencies in many countries struggling with these issues, and that the answers are not always easy to find. I wish you a successful discussion of these management transfer processes in the Sri Lankan environment.

Table 1. Selected examples of changes in water fees: Before and after transfer.

System	Water Fees	
	Before Transfer	After Transfer
Indonesia(srf)	0	5-20
Indonesia (Pump)	15	66-111
New Zealand	24	10
Colombia	50	47

Source: Water Resources Department, Volume II, No.1, 1995. Sam H. Johnson III.

## **PAPERS AND DISCUSSION NOTES**



# The Rise and Fall of the Farmer Organization Program in Gal Oya

M.G.M. Razaak<sup>2</sup>

## INTRODUCTION

IN 1978, THE United States Agency for International Development (USAID) decided *to* assist the Government of Sri Lanka in improving the management of water in major irrigation projects in the dry zone. It was understood that this required building an adequate knowledge-base and new institutional capacities both of which take time but neither of which can be purchased 'off the shelf.' USAID and the Government of Sri Lanka recognized that a successful effort to improve water management could well take 20 years, but it would have to begin in a focused, concrete way, in a pioneering project that would begin to build up in-country knowledge and institutional capacity.

In 1979, the government and USAID selected the Left Bank *of* the Gal Oya Irrigation System for rehabilitation. This planned change program was *officially* called the Gal Oya Rehabilitation and Water Management Project. The Irrigation Department (ID) was appointed by the government as the project implementing agency. Technical assistance was to be obtained from the PRC Engineering consultants Inc., a U.S. engineering firm. Through a Letter of Understanding, the ID was further assisted by the Agrarian Research and Training Institute (ARTI), which dealt with the socioeconomic components of the project. ARTI was assisted in this regard by the Rural Development Committee of Cornell University, USA. The project initially spanned 44 months (August 1979 to march 1984). The project life was subsequently extended by 21 months, until December 31, 1985 as it needed more time to reach its assigned targets.

With this policy objective, the Farmer Organization Program was included as one *of* the components of this major water management and rehabilitation project. The project assigned the establishment of farmer organizations (FOs) and the promotion of farmers' participation in these associations to ARTI.

The main objective of this paper is to describe how these FOs evolved. The paper stresses that there was a cyclical trend *of* FO evolution. It describes how FOs began and flourished at the initial stage of the project and the socio-administrative-climate that provided a conducive environment to such growth. Then it examines the crises and dynamics of the program's decline during its latter **part**

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## MATERIALS AND METHODS

The main source of information for this paper was derived from interviews with fifty (50) farmer leaders in Gal Oya. Most of these data are qualitative. Therefore, to strengthen the arguments, a large quantity of secondary information was gathered. Some of the most useful documents referred to for this purpose are as follows:

- a. administrative and process documentation reports of Gal Oya WUA program collected at ARTi
- b. progress reports (Water Management Quarterly) of the Gal Oya Water Management Project made by the Irrigation Department of Sri Lanka
- c. assessment and evaluation studies on the Gal Oya FO program carried out by different agencies
- d. research reports and articles on the Gal Oya FO program published from 1981 to 1990
- e. field (trip) reports prepared by a consultant of the FO program throughout the project life

## RESULTS AND DISCUSSIONS

Although the program implementors started with a learning process approach for organizational development in Gal Oya, they needed a tentative schedule to execute the program. They assumed that an Institutional Organizer's (catalyst) uninterrupted presence was necessary at the initial stages of FOs and that this presence could be incrementally reduced with the consolidation of the FOs. At the beginning, it was difficult for the program implementors to predict how long the IOs would take to organize farmers into FOs. However, as they gained field experience, program implementors identified three phases of FO development: (i) organizing phase (achieving effectiveness), (ii) consolidation phase (increasing efficiency), and (iii) maintenance phase (Uphoff 1983:3). These three phases were closely interrelated with each other (see figure 1).

However, the following discussion will show that the FO program did not evolve according to this anticipated sequence.

Farmer organizations did not emerge through farmers' spontaneous realization of the importance of having their own organizations. Rather, they began as a result of motivation and encouragement to farmers by IOs to form FOs as a means of participation in system management. Eighty percent of sample farmer leaders mentioned that they organized as groups because of the IO's requests.

Figure 1. Schedule for FO promotion activities (1981-1985).

Phase	Duration	Area per IO	Objectives	Role of IOs
1981-1982 (Organizing)	12 months	200-500 acres	Organizing farmers for water management at field channel (FC) level; formation of FC water-user groups.	Motivate farmers for collective action. <i>Motivator-facilitator.</i>
1982-1983 Phase III Consolidation	6-18 months	1,000-5,000 acres	Consolidating and strengthening the FO at FC links level. Formation of Distributary Channel Organizations.	Contact with farmer groups; develop with farmer representative (FR) officials <i>Educator-advisor</i>
1984-1985 Phase III <i>Maintenance</i>	24 months Continuing  D Channel	2,500-3,000 acres	Maintenance of WUA activities coordinate the Organization organizations and formation of Area Councils and higher level organization	Consultants to FRs training and monitoring the D Channel  and area councils Monitor and troubleshooter.

Further, most of them believed that the FO program showed significant progress and functioned efficiently until 1983. After that, they pointed out, the program took a downward direction (table 1).

Table 7. *Distribution of farmer leaders' reports that year as to which FOs functioned effectively (N=50).*

Year	Number	Percentage
1981	5	10
1982	12	24
1983	23	46
1984	8	16
1985	2	04
Total	50	100

When we reviewed the literature, the findings of several research studies (ARTI 1984; ISTI:1985; Ranasinghe Perera 1985) and records maintained by Institutional Organizers indicated that FOs made a significant contribution in most of the above aspects of system management of Gal Oya between 1981 and 1983.

Ranasinghe Perera (1985) reports that FO attendance at FO meetings was fairly high. Farmers' attendance at FO meetings in the two initial areas (Uhana and Gonagolla) was between 67 percent and 80 percent during 1981 and 1982. Further, this study shows that compared with traditional kanna (seasonal) meetings, farmer attendance in FO meetings was substantially higher. Moreover, according to a preliminary survey of ARTI, the frequency of meetings of field-channel FOs at the initial stage was very high. Fifty two of the respondents of this survey mentioned that their FOs met several times a season to discuss and find solutions to their problems at the early phase of the program (ARTI 1986:41).

The degree of farmer participation in field-level water distribution also indicates a considerable improvement during the period between 1981 and 1983, especially as it concerns the adoption of water users. At the initial stage of the program, farmers were encouraged to practice water rotations<sup>3</sup> through FOs. The mid-term impact assessment study of the program reports that the FOs adopting water rotations increased from 28 percent in the 1981 yala (dry season) to 78 percent in the 1983 yala (dry season) (ARTI 1984:63). Farmer participation<sup>4</sup> in water rotations was average, about 75 percent (Ranasinghe Perera 1985:41).

<sup>3</sup>Two major types of water rotations were practiced: (1) tail-first rotation where the tail enders got water first followed by the head enders, and (2) head-first rotation where the head enders got water first followed by the tail enders.

<sup>4</sup>Participation rate is defined as  $\frac{\text{No. of participants}}{\text{Total no. of water users}}$

FO involvement in rehabilitation and maintenance of the system during the early years was also encouraging. At the beginning, FOs participated in rehabilitation in two ways: (i) participating in rehabilitation design meetings, and (ii) contributing free labor for earthwork at field-level construction.

The aim of design meetings was to consult water users to incorporate their idiographic knowledge into the rehabilitation design plans so as to ensure the quality of design work at the field-channel level. The figures in table 3 show that farmer participation in these design meetings was remarkably high.

Table 2. Farmer participation in design meetings in Uhana from January 1981 to July 1982.

Period	No. of Meetings		NO. of Participants	Percentage
	Expected*	Actual		
Early 1981 to end, 1981	16	445	429	94.5
Early 1982 to mid-1982	06	84	72	86

\* Expected participation included only water users who cultivated their own allotments while non-allottee users were excluded.

Source: Ranasinghe Perera 1985:34.

The high rate of farmer participation in design meetings during the initial period of the program was attributed to two major reasons. First, prior to the FO program, there was no dialogue between farmers and system managers regarding system management activities. Therefore, this new system of contact created a great deal of interest among the farmers. Second, since farmers had already been convinced by the IOs that FOs could be a mechanism to get their participation in the ID's physical rehabilitation activities, farmers were enthusiastic about the meetings.

Channel cleaning is one of the major system maintenance activities. The State Irrigation Ordinance defines that the cleaning of field channels is the responsibility of farmers who get water directly from the field channels. As indicated earlier, the cleaning of field channels prior to the FO program was not done properly for several reasons, among which was the lack of both local institutions or effective leadership and cooperation and individualistic views among farmers. However, with the introduction of FOs, farmer involvement in channel cleaning improved significantly. Farmers were encouraged to participate in this kind of activity by the IOs through shramadana (collective voluntary labor). FOs were used as mechanisms for organizing farmers into such collective work. It was revealed that a large number of shramadanas had been undertaken by the FOs in Uhana and Gonagolla from 1981 through 1983. The total value of such activities amounts to Rs 96,286.40 (approximately \$2,500.00). At the beginning of the FO program, a major emphasis was placed on improving the

relationship between farmers and system managers of the ID. It seemed essential to undertake organizational activities. For this purpose, the IOs developed a system of regular meetings between the two groups. In these meetings, farmers discussed a system of regular meetings between the two groups. In these meetings, farmers discussed their problems with officials who, in turn, had a chance to explain the difficulties they were experiencing in solving **those** problems. These meetings greatly helped increase understanding of problems and limitations on both sides and reduce the mistrust which had prevailed for years (Ranasinghe Perera 1985:27). After some time, most farmers felt that system managers both acknowledged and cared about them. Table 3 illustrates this increased popularity of high level ID officials among farmers.

Table 3. Farmer *participation* and changes in the attitudes of ID officers (% responses)

	Before FO			After FO		
	Good	Fair	Poor	Good	Fair	Poor
Jalapalaka	30	38	32	50 (+66%)	34	16 (-50%)
Work Supervisor	32	30	38	42 (+31%)	43	15 (-60%)
Technical Assistant	33	29	38	53 (+60%)	32	15 (-60%)
Irrigation Engineer	13	06	81	25 (+92%)	45	30 (-61%)
Deputy Director of Irrigation	10	08	82	40 (+30%)	28	28 (-68%)

Source: Final Impact Evaluation Survey, ARTI: 1986.

However, most farmers and farmer leaders interviewed for this study believed that the initial performance of the FO showed a decay towards the end of the program (see table 4).

Table 4. Farmer leaders' perception about the decline of FO activities during the *program* life (percentage), *N=50*.

Response	Number	Percentage
FOs declined	42	84
Not declined	03	06
Undecided	05	10
<b>Total</b>	<b>50</b>	<b>100</b>

The most crucial challenge to **the FO** program occurred during the third quarter of the year when the program received national publicity through a "farmer convention." Though this convention was initially organized by farmers without any political motives, it turned into a highly politicized drama on the day the convention was held. According to official records, nearly 3,000 farmers attended and two leading politicians of the then ruling party, the Minister of Agriculture and the Minister of Lands and Mahaweli Development, were invited as chief guests (Water Management Quarterly 1985).

Even though it was difficult to make a complete objective assessment of FO performance during the last two years of the project due to lack of data, it was possible to see a downward trend in the FO involvement in system management toward the end of the program. Several research studies (ISTI 1985; ARTI 1986; Uphoff 1987) of the FOs in the Gal Oya report the trend of declining frequency of field-channel FO meetings during the last *two* years of the project. When this is compared with the figures for the early phase where most farmers stated that they used to meet "many times" during a season (table 5), the decline in frequency is quite noticeable.

Table 5. Frequency of field-channel FO meetings *during* the initial and final phases of the WUA Program (N=111).

Frequency	Early Phase	Final Phase
Never	01	01
Once a year	03	07
Once a season	30	<u>56</u>
Many times a season	<u>52</u>	<u>28</u>
Once a month	15	01
Regularly	09	07

Source: Final Impact Assessment Survey, ARTI 1986

It was further noted that there was an impression among both systems managers (ID) and farmers at the end of the program that less than half of the field-channel FOs had a chance of survival after the official completion of the project in 1985 (ISTI 1985:15).

Farmers involvement in system rehabilitation and construction had also become less prominent during the final phase. Although such a claim cannot be proved without sufficient data, available records (ARTI) indicate that the once popular "design meetings" and "walking-throughs" to incorporate farmer knowledge into ID rehabilitation designs were not practiced in the same way as they were in the initial period. However, there may be several explanations for the reluctance of FOs to participate in these endeavors. First, the ID did not emphasize farmer cooperation in rehabilitation design plan during the final stage because their major rehabilitation concern had shifted from field level to **Distributary** Channel and main system level physical rehabilitation. Thus, the ID did not want to consult farmers to the same degree as it did earlier. Second, the trust and confidence among farmers in the advantages of these practices were damaged because they felt that their knowledge was not being incorporated into ID rehabilitation works. For example, 90 percent of the respondents to ARTI's final impact survey of the project mentioned that their suggestions were not incorporated in the ID rehabilitation plan and that they were not informed of the reasons (ARTI 1986:63).

As far as farmer participation in field-level construction (earthwork) was concerned, there was a clear decrease in the number of earthwork assignments undertaken by FOs after 1983. This decrease was mainly due to farmers' unpleasant experiences in these activities during the early phase.

It was noted that farmers were actively involved in water rotations during the early phase. But during the last two years of the program there was a significant decrease in the number of water rotations adopted by farmers. For example, in 1983 yala, 78 percent of the farmer members of WUAs adopted some water rotations. But this number decreased to 51 percent during the 1985 yala (ARTI 1984 & 1986).

It was shown previously that shramadana was one of the popular methods adopted by WUAs in channel cleaning. During the early phase, IOs encouraged farmers to practice such collective actions to clean channels, and farmers were also enthusiastic about participating in such activities. But, the available figures indicate that farmer involvement in channel cleaning through shramadana decreased toward the latter part of the project. For example, in 1983 about 73 percent of channel cleaning was done through shramadana. But, in 1985, the number of farmers involved in channel cleaning through this method was reduced to 20 percent and the majority of the farmers cleaned the channels individually (ARTI 1986). Table 6 further illustrates the decline of the number of shramadanas toward the end of the project.

Table 6. Farmer participation in cleaning through shramadana during the project period

Year*	NO. of WUAs	NO. of Shramadana	NO. of Manhours
1981	96	80	9.982
1982	113	81	81.81
1983	163	124	10.082
1984	270	166	10.643
1985	341	56	4.085

(\*) Situation at end of year.

Source: Water Management Quarterly Reports from 1981 to 1985; ISTI 1985; Ranasinghe Perera 1985.

The relationship between water users and system managers (ID) exhibited the same negative trends on other aspects toward the end of the project. It is noted that in the early phase of the program, farmers and ID officers were closely associated to find solutions to irrigation problems, and farmers took part in system management decision making. But, this improvement did not last until the end of the program. Table 8 shows that the degree of frequency and close relationship between the two groups had reverted more or less to the pre-project situation (see also table 7).



**Table 7. Degree of relationship of farmers and system managers (ID) (\*) (in %)**

Degree of Relationship	Pre-Project (1979)	During Project (1981-1984)	End of the Project (1985)
Farmer contacts with ID officers are frequent	36	51	32
Farmer contacts with ID officers are occasional	17	15	57
Farmer contacts with ID officers are rare or nonexistent	47 =215	34 (=168) <sub>2</sub>	11 (n=100) <sub>3</sub>

(\*) There may be some discrepancies in defining the qualitative relationship employed in following three different studies.

Sources: Baseline Survey, ARTI 1982; Final Impact Survey, ARTI 1986, and Razaak and Perera 1989.

**Table 8. Reasons for the rise and decline of the FO program from 1981 to 1985: Farmer leaders' opinion (percentages) (3; N= 50).**

Reasons for the rise (from 1981 to 1983)	(%)	Reasons for the decline (from 1984 to 1985)	(%)
Strong support and guidance from IOs	32	Lack of IO Support	20
Politically unbiased in serving farmers	22	Dismay over use of FOs for party politics	32
Enthusiasm for physical rehabilitation	16	Dissatisfaction among farmers over physical rehabilitation	22
Cooperative behavior of the ID	18	Poor response from ID to the farmers' problems	18
Leaders' ability to mobilize their FOs	12	Leaders' inefficiency	08

The above discussion shows that the Gal Oya FO experienced a significant initial success until 1983 and thereafter, i.e., toward the latter part of the project, began to decline. Uphoffs (1987:22-23) quotation from the memorandum of a farmer leader, Mr. Kuruppu Arachchi of UB2 Water User Association, Gal Oya summarizes the above discussion.

Farmers in Gal Oya originally came from many different areas, So there was no cooperation among them. Some didn't even attend the funerals of their neighbors. When the IOs came they sacrificed a lot to bring us together. Some of them wen? even accused of being CIA agents. There was pressures to obstruct the IO's activity first from the mudalalis (merchants). But, the idea of farmer organization was accepted.

Now (**1986**) there is a new generation, and some young people are not even aware that an *IO* lives in the area (Gal Oya Left Bank). We need more training for everyone. **About 80** percent of the field-channel organizations were not functioning by the middle of **1984**.

There are several reasons for this unfortunate situation. First is the Farmer Convention. Second, a few of the *IOs* were “not *good* (quality *of* work). *Third*, we were gathered here (the meeting where he presented this memorandum) on the request of *IOs*. Farmer representative cannot *do* this (farmers are dependent upon *IOs* for *WUA* activities). Fourth, some farmers tend to form direct links with officers at the expense of our farmer organizations.

Farmer leaders who were interviewed for the study identified more or **less** similar reasons for the significant initial growth of the **FO** program and the sharp decline in its performance during the latter period (table 8). The main reasons they cited are: (i) degree and quality of catalyst (**IO**) support for FO activities, (ii) political capacity of their **FOs**, (iii) degree of benefits offered by the program to farmers through **FOs**, and (iv) degree of cooperation of irrigation department officials with FO activities.

When carefully examined, table 8 indicates that these factors affected to different degrees the rise of FO activities in the early phase and their decline in the latter phase of the program. For example, the strong support and guidance from *IOs* during the initial period greatly affected the rise of FO activities. But, political interference and the use of **FOs** for political gains by vested interest groups affected the decline of the FO program in the latter phase more intensely than the other factors.

## **CONCLUSIONS**

The farmer organization program which was implemented in the Gal Oya Left Bank during 1980-85, was one of the innovative efforts of participatory irrigation management in Sri Lanka. Clearly, the above analysis indicates that the FO program made significant growth in its initial three years and, thereafter, it began to decline. Such a trend was seen in at least in four FO activity areas: FO meetings; farmer participation in water-saving methods; group activities in system maintenance and relationship with farmers and officers.

The discussion also revealed that there were four major reasons for such a cyclical evolution of farmer organizations. They were: degree *of* catalyst (**IO**) support; bargaining capacity of **FOs** as independent organizations; degree of benefits offered through **FOs**; and support from Agency (ID) **officials** for FO activities. Based on the above analysis, this paper concludes that the FO program in Gal Oya could not maintain the initial growth speed until the end of the project. Non-farmer members of program **implementors** took significant efforts to make **FOs** sustainable after the project was completed in 1985.

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## Discussion Notes

THIS PAPER SEEKS to describe the local organizational building effort that took place in Gal Oya from 1979 to 1985. It examines the cyclical evolution of farmer organizations: how they began and flourished at the initial stage under the socio-administrative climate which was conducive for its growth and the consequent decline of the project toward the end by using selected indicators.

The group discussion on the paper on *The Rise and Fall of the Farmer Organization Program in Gal Oya* commenced with Dr. C.M. Wijayaratna, Head, SLFO/IIMI as the chairperson. The discussion was centered on the relevance of data presented in the paper to the present context, effectiveness of the socioeconomic indicators used and the problems identified.

The rise and fall of FOs during a particular period of time from 1979 to 1985 is analyzed by using selected indicators such as (1) number of FO meetings, farmer participation in water-saving methods, group activities in maintenance and the relationship between farmers and officials.

However, the appropriateness of such socioeconomic indicators needs to be examined in relation to the nature of the FO program which was implemented in Gal Oya. The need for collective activities such as shmmadana, farmer meetings, participation in water-saving methods and the relationship between farmers and officials became less significant with the systematic flow of activities which accompanied the growth of FOs.

Since the data relate to a particular period of time it would be pertinent to examine the relevance of such data to the present FOs functioning under an entirely different socioeconomic context.

IO support was a key factor which contributed to the success of the program. At the initial stage, due to the favorable administrative attitude particularly the commitment, guidance, and leadership of Institutional Organizers (IOs) FO activities remained at a higher level. But poor guidance provided to IOs and the non-recruitment of IOs from the project areas contributed toward the decline of IO support at the latter stage.

The political interferences and the use of FOs for political gains have had a negative impact on the FOs functioning in the project area.

The FOs in the Gal Oya Irrigation System were artificially raised small organizations forming into federations. As a result, these organizations collapsed with the withdrawal of institutional support and exposure to the natural environment.

## Can Farmer Organizations Take Over Operations and Maintenance of Irrigation Systems?

R. de S. Ariyabandu<sup>5</sup>

D. G. Karunaratne<sup>6</sup>

### Introduction

SINCE ABOLISHING THE *rajakariya* (work performed by the people to the King) system by the British in **1932**, most irrigation systems went into disrepair necessitating premature rehabilitation. Though subsequent rehabilitations had positive features to improve productivity, the main constraints identified were weak planning, lack of management and resources. In **1966**, the World Bank mission emphasized the need to increase productivity to justify investments.

The **25** major irrigation water management programs that were subsequently initiated, increased the rice yields, introduced subsidiary food crops into the rice mono-culture and had many other positive factors. However, the programs failed to sustain due to inadequate institutional development and noninvolvement of farmers in the decision-making process. Farmers' involvement in this attempt was considered as another input in the production process.

The first attempt by a technocrat to solicit farmer participation in water management was made under the Minipe Settlement Project in the Kandy District. The *modus operandi* selected was to employ community leaders, i.e., the local priest, school teachers, etc., to organize farmers for better water management. An improved effort to organize user participation was attempted in the Gal Oya Water Management Project. Extensive system deterioration in Gal Oya was attributed to lack of user participation and initiative taken by the ID or any other agency to involve farmers in the decision-making process (Wijayarathna **1984**). The strategy adopted in this case was to employ social science graduates as catalyst to solicit user participation. This approach was initiated by organizing farmers at field-channel level; these organizations were later federated at the distributary channel and system levels. Reasons for the success in this approach were, involving farmers right from the planning and design stage in the rehabilitation process, taking farmers into confidence in overall system management and involvement of the Agrarian Research and Training Institute (ARTI) as an independent organization.

Besides these attempts, there had been a number of scattered attempts by various NGOs and enthusiastic individuals in obtaining farmer participation in system management. Some of the noteworthy attempts were, the Kimbulwana Oya Water Management Project initiated by an Irrigation Technical Assistant, the Hanguranketha Water Management Project undertaken by

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the Nation Builders' Association (NBA) and the Muthukandiya Farmer Participation Project undertaken by the National Development Foundation (NDF).

## **PARTICIPATORY MANAGEMENT POLICY**

These historical developments lead us to the question whether there had been a policy on participatory management and what the future policy should be. Though it was thought that village irrigation systems possessed all the characters of participatory management, it was not the same with major irrigation schemes, mainly due to the size of the scheme, settlement patterns, beneficiary selections and other logistical facts. The main objectives of state intervention in major irrigation were sustainable settlements and economic and equity considerations. The state policy at this stage was heavily biased toward farmer dependency on the state for irrigation management. Thus the interest of the state was to minimize O&M costs and reduce farmer complaints in system management. However, due to the large number of small farmers and social welfare objectives, the state could not achieve both these objectives. Hence, the state decided to involve farmers in irrigation system management as the best available alternative to achieve the abovementioned objectives.

While recognizing the importance of beneficiary participation in Irrigation Management, there were two different policy scenarios implemented by the government in 1984, with the common objective of improving O&M. One policy attempted to institutionalize the O&M fee collection which was given up in 1988 due to poor response from the farmers. The other was the participatory management concept where the users were considered as equal partners in system management. Since independence, the institutional arrangement for O&M in Sri Lanka had been characterized as "centralized financial dependency", where the O&M funds had been allocated from a government budget to the centralized irrigation agency (IMPASA Staff Working Paper 3.1 1991). However, the central dependency had to be changed subsequently due to pressures from donor agencies for poor ex-post performance levels and due to budget austerity and serious foreign exchange shortages during the 1970s (*ibid.*). The post-1977 policies witnessed a dynamic growth in the national economy through the large-scale investment in irrigation infrastructure. This resulted in widening the gap between the actual O&M needs and O&M allocation, causing serious deterioration to irrigation systems that had been poorly maintained thus far. The situation was much aggravated due to the myopic policies of the Territorial Civil Engineers' Organization (TCEO) during 1971-78. The end result of these changes was the adoption of the irrigation service fee collection scheme by the government in 1984. Though this scheme was successful during the initial years, it almost totally collapsed by 1988 due mainly to political reasons combined with inadequacies in the law to apprehend defaulters. Therefore, it was inevitable that the policy on irrigation fee collection, which makes a farmer a fee payer and a service receiver contradicted with the participatory management model that was implemented through INMAS which warranted a sense of ownership and working as equal partners in irrigation system management.

However, in 1988, the Cabinet approved the Participatory Irrigation Management Policy, Hence, the full responsibility of O&M and resource mobilization at FCs and DCs in major irrigation systems was to be turned over to farmer organizations. In return, farmers would be exempted from payment of an irrigation service fee. The government would retain responsibility for O&M of the head works and the main systems. The goals of the policy were, to improve the productivity of irrigation systems through farmer participation and increasing the share of O&M expenditure borne by farmers and relieve the pressure on the government budget by transferring a large portion of O&M responsibility to farmers' organization.

## STATUS OF PARTICIPATORY MANAGEMENT

The Integrated Management of Major Irrigation Schemes (INMAS), which began in 1984, paved the way for systematic participatory management in Sri Lanka. Now there are 36 major irrigation schemes where the INMAS concept had been implemented. The success in implementing INMAS, with regard to participatory management, by the IMD, encouraged the Irrigation Department to commence a similar effort in medium schemes in 1986, to solicit farmer participation in Irrigation Systems Management. Thus, the Management of Irrigation Schemes (MANIS) program is being implemented in approximately 160 medium schemes with varying degrees of farmer participation. The Accelerated Mahaweli Program, which commenced in 1977, had been experimenting with user participation in irrigation systems management since 1980. The Mahaweli Economic Agency (MEA) which was responsible for soliciting farmer participation did not have much success with the program. However, since 1992, MEA, implementing an INMAS type approach, had been successful in soliciting farmer participation in irrigation systems management. The Department of Agrarian Services (DAS) too, had been involved in participatory management efforts in minor irrigation schemes under the Village Irrigation Rehabilitation Project (VIRP). At present, both the ID and DAS are involved in participatory irrigation systems management through the National Irrigation Rehabilitation Project (NIRP).

## TURNOVER OF IRRIGATION SUBSYSTEMS TO FARMER ORGANIZATIONS

Turnover is a process by which irrigation management agencies transfer some or all of the system management responsibility to recognized FOs. The end result is either joint management (major schemes) or self-management (minor schemes). Turnover implies a reduction and change in the role of the agency but not a complete withdrawal.

Though one of the objectives of the INMAS Program was handing over systems to FOs for O&M, it was only in May 1988 that the Director of Irrigation issued a circular pertaining to handing over O&M of DCs and FCs to FOs. Subsequently, the Ministry of Lands, Irrigation and Mahaweli Development (MLI&MD) issued instructions to accelerate the turnover process. The

turnover was in effect the only mechanism available to the ID to transfer maintenance contracts to the FOs. This was viewed by some quarters as the birth of "contract organizations." The conditions specified by the Ministry for turnover of DCs were considered to be vague and subject to misinterpretation by the implementing agency.

However, according to the IMD report of 1990, 549 DCs have been turned over for maintenance to FOs and some for operations too. The ISMP report of 1991 states that 75 percent of the DCs under ISMP had been turned over and most of the balance DCs were in Ridi Bendi Ela and Gal Oya Left Bank schemes.

## **Turnover Process**

Essentially, turnover should precede farmer organization development and participatory planning, design and construction. In addition to the above policy objective, both parties should know what to turn over, how to carry out the turnover and what should be the role of the government after turnover (Burns and Atmanto 1991).

The point in question is whether Sri Lanka followed this process in preparation for the turnover. The initial concept of establishing FOs in Sri Lanka had been to increase productivity per unit of land and water through better water management by the users. Once this objective was accomplished it was a case of strengthening FOs for sustainability. The issue of sustainability was viewed in the context of the ability to mobilize local resources and improve financial status of the FOs. The turnover as such was an offshoot of this development, necessitated as a result of government budgetary constraints and the ever-deteriorating physical condition of many irrigation systems. More so, the turnover in Sri Lanka was a condition laid down by many donor agencies to increase the accountability of users toward the system. Another reason that can be attributed to turnover is the failure of the O&M fee collection scheme.

In Sri Lanka, there are two types of turnover processes: official turnover by virtue of an agreement signed between both parties, i.e., the FO and the ID, and unofficial turnover amounting to almost all O&M being handled by the FO but without any contractual agreement between the parties. In most turned-over cases there had been no systematic evaluation of the FO before turnover, while in the ISMP a clear set of guidelines are prepared for evaluating FOs prior to turnover. Turnover in this case refers to distributaries consisting many field channels. Early in the 1990s, statistical achievements in turnover were considered to be an indicator of progress by project managers. This invariably had a negative effect of having DCs turned over to FOs which were not fit for turnover where FOs were not capable of handling O&M in their distributaries and vice versa.



## SUSTAINABILITY OF TURNED-OVER DISTRIBUTARIES

The ability to convey water equitably in a distributary should be the prerequisite to turnover, However, in Sri Lanka many distributaries were turned over without a proper rehabilitation of the system. This was mainly due to inadequate O&M funds and continuous pressure from the donors. Under the concept of turnover, those distributaries turned over should essentially not receive government O&M funds. It is the duty of the FO to maintain the sub-system with its own funds. However, this system did not prevail in Sri Lanka as many DC FOs found it difficult to maintain the distributary without government O&M funds.

Hence, one can identify influencing factors that help sustain turnover in Sri Lanka. These can be categorized as system physical condition, FO leadership and project management leadership, strength of FOs, household income, agency commitment and political influence. If these factors act favorably, then turnover can be a success and one could expect cost-effective maintenance, effective operation of the turned-over system and minimal occurrence of conflicts among farmer beneficiaries.

Thus, the effectiveness of turnover depends on the strengths and weaknesses of the influencing factors. The overall turned-over process is channeled through the FOs. In this case, DC FO acts as the functional unit of the turnover process. The FO responsible for sustaining the turned-over system attempts to improve the water availability within the system under its command (figure 1). The process explained thus far attempts to improve just one component, namely better availability of water in a cycle where many other components combine to give an improved farm income. The improved farm income would have a direct bearing on one's household income.

In addition to direct contribution from farm income, the FOs in many systems have ventured into other income-generating activities that influence the household income. Also household income can be supplemented by other sources outside farming. However, these are few and insignificant compared to the farming income. Hence, what figure 1 indicates is the improvement of total household income of the farming community through a process, where turnover of irrigation systems has an impact on only one particular factor contributing to farm income. Figure 1 also tries to show that attempting to improve only "better water availability" through turnover would not improve farm income without the other supporting factors (credit, inputs, marketing, land tenure, crop diversification, etc.). If the total household income and individual farm income do not improve then one cannot expect the turnover to be taken in isolation and be sustainable.

Hence, if turnover is to be sustainable, one has to consider the influential factors that affect the efficiency of turnover.

## STATUS OF THE PHYSICAL SYSTEM

The status of the physical system has become the most critical influencing factor that leads to a successful turnover. In the past, much of the DCs turned over to the FOs were not

rehabilitated prior to turnover. It is common knowledge that turning over of DCs under ISMP was done due to donor agency pressure. It is believed at the time of turnover, the agencies involved in the process had promised the FOs that, subsystems needing rehabilitation would be attended to.

Incidentally, equitable water distribution in the system should be a prerequisite for turnover. However, at present there is evidence from Kaudulla and Minneriya that there FOs are requesting for "reverse turnover" due to operational difficulties emanating from physical system deterioration and the unmanageable size of some DCs. Worse situations have been reported from Muruthawela and Tabbowa where DCs have been turned over without rehabilitation and the FOs are unable to manage the water efficiently. The question is once a subsystem is turned over, is it the duty of the Irrigation Department to take it back, if FOs cannot manage it. If the DCs were turned over to FOs for "better management," then would the ID accept them back when the FO cannot manage it? If so, the ID should have improved its management during the period the FOs were experimenting with the management. On the other hand, if the DCs were turned over as a cost-effective means to the state, then the ID cannot accept these DCs back without supplementary funds to manage what is given back.

## **OPERATION AND MAINTENANCE ALLOCATION**

Ideally, once turned over, the O&M allocation should be withdrawn. This, in fact, was attempted under ISMP, but was resumed no sooner it was realized that FOs cannot maintain the turned over subsystem without O&M allocation. With decreasing O&M allocation given to the ID, it becomes increasingly impossible for the ID to maintain these DCs without FO participation. On the other hand, the FOs have got accustomed to the O&M allocation without which they could limit their cleaning only to the canal bed, just adequate to take minimum water. This could lead to faster deterioration. Hence, what appears best is a kind of joint management with O&M allocation given to DC FOs after turning over.

Getting accustomed to the O&M allocation was evident from Kaudulla where some of the Field Channel Groups (FCGs) do not attempt to attend even to minor repairs in their FCs expecting the ID to give them the job on contract. This is a scenario where the FOs are becoming dependent on O&M allocation because they know that such allocation still exists. If the allocation is completely withdrawn, FOs would come to accept that they could not hope for the O&M allocation and, thus, would attend to their own work with FO funds. The question is how long the FOs would take to realize this and by that time what would happen to the canal system? Only time can answer this question.

However, the question would be how farmers would fund O&M being in paddy farming. It is well known that the cost of production per acre of rice is ever-increasing and profits from rice production are either marginal or sometimes negative. According to a recently concluded study, the O&M cost per acre represents approximately 3-20 percent of farm income at present (including family labor) per season. At the present rate of returns, farmers will never be able to pay for O&M cost unless farm income increases substantially. One way of increasing farm

income is to diversify into subsidiary crops during yala and engaging in small-scale agro-based industries. If the state is not going to subsidize the farmer further, from the current levels, many farmers, even in major irrigations would become subsistence farmers (evidence is emerging from Minneriya and Kaudulla). If rice subsidies are gradually withdrawn (to face the reality) or even maintained at current levels, farmers will decide the best course of action, first for survival and then for commercial farming.

Many farmers have already adopted this strategy to survive in the farming sector. There was gherkin cultivation in places like Radagalpotha and Komarika Ela and chili, onion and tobacco cultivation in many major irrigation systems in yala.

The few farmers who had ventured in OFC cultivation had done it through sheer necessity with minimum assistance from the state and the private sector. Thus, if the small farmer is to be competitive in the open market, pay for his own O&M, etc., the state and the private sector will have to play a major role in providing services to improve the standard of living of the small farmers.

## **AGENCY COMMITMENT**

If turnover of irrigation subsystems is to be a success, the agencies involved in the process of turnover should be fully committed with an open mind to the cause. In the recent past, it had been evident that the ID had responded positively to FO requests for O&M in many major irrigation systems (Rajangana, Tabbowa, Muthukandiya, Kaudulla, Muruthawela, etc.). This could be considered as an ideal joint management between the system implementors and users. Incidentally, what should be expected from both parties prior to turnover *is* a period of joint management.

Though we observe a change in the attitudes of ID personnel toward participatory management, still a large majority, especially field staff need to accept the concept of participatory management. If the government continues with the open economy policies, it is difficult to imagine that irrigation would continue to be subsidized. Therefore, the ID will have to accept that subsystem O&M have to be a joint operation or done solely by the beneficiaries. For that matter, the action taken by the Deputy Director, Polonnaruwa for the FO request to "reverse hand over" a DC (Raja Ela) in Minneriya is commendable. Once an FO had accepted a DC for O&M, the ID should not take it back when the FO feels that they cannot maintain. The FOs will have to realize their responsibility and also realize that the ID is not there for them to fall back on. This situation can be practical as long as the ID too realizes that their responsibility is not fully over with the turnover. Maintenance works (even excessive desilting) beyond the capacity of FOs have to be attended to by the ID. This, however, is being practiced to a limited extent due to constraints in funds.

The catalyst agents or institutional staff should also realize that their responsibility is to form, strengthen and sustain FOs rather than attempting to achieve statistical targets in turnover. Though the responsibilities of other line agency staff cannot be mentioned individually, their efforts should be integrated to achieve the common goal of increased farm income.

## LEADERSHIP

It is undisputed that leadership plays a major role in a strong organization. There are two types of leadership, FR leadership and PM leadership. Success/strength of most FOs can be attributed to a combination of these two types of leadership. The success stories at Kaudulla, Rajangana, Komarika Ela can be attributed to the above. When the leadership is weak (Muruthawela, Muthukandiya, Tabbowa, Ma Ela, Mediyawa, Murapola, etc.), the FOs too are weak. Thus, the function of the leadership is to strengthen the FO and prepare it for accepting turnover. However, the experience from most irrigation schemes (specially under INMAS) is that the effectiveness of the leadership had created a dependency among the **FO** membership. The most notable example for this would be Kaudulla. During the term of the former Project Manager, FOs functioned well and there were no complains on turned-over systems. Since the change of the Project Manager everything has gone wrong and the **FRs** at a Joint Management Committee meeting decided to 'reverse hand over' all the canals handed to them by the ID. Two reasons can be attributed to this situation: one, all farmers respected and obliged the former Project Manager and when he was out, farmers gave vent to their feelings. Two, most farmers in the FOs followed him as a leader, thus creating a dependency. What probably happened at Kaudulla is a combination of both.

It is unfortunate that, while leadership is crucial for strengthening FOs, it also creates a dependency which becomes the order of the day. This situation had been particularly **so** where the leadership given by the Project Manager (Kaudulla, Rajangana, Kimbulwana, Komarika Ela) had become more bureaucratic than catalytic. Unfortunately, it is an unavoidable situation unless immense concentration is devoted to prevent the change from catalytic to bureaucratic. However, NIRP will have to be mindful of this change, specially when the Project Manager is a permanent ID official.

## FO STRENGTH

Outside the condition of the physical system, FO strength can be the most important factor that governs the status of turnover. The FO strength is measured using indicators like structure, membership, leadership, funding, financial management, communication and the use of funds. Turnover, with respect to strength, refers to "who **does** what" in system O&M. Table 1, indicates that with increase in **FO** strength, FO O&M performance also increases (figure **2**). This means the stronger the **FO**, the more it **gets** involved in **O&M** of the system. It is interesting to note that Rajangana under INMAS and Komarika Ela under MANIS get equal scores for FO strength. Though the former had received much institutional support, the latter had come to the same level through much dedication and hard work. Another important aspect is, with increased FO strength, nonirrigation activity performance has also increased. This implies that when an FO is strong in its essential characters, it can take the responsibility for system O&M. Once this primary task is taken care of, the FOs can venture out to other areas that basically strengthen their existence as a functional unit at village level. It is the

nonirrigation activities that finally strengthens the household income, which in the final outcome, affects sustainability of FOs.

When O&M responsibilities with regard to turnover are scored against FO strength, it is evident that there is a relationship between the two. The stronger the FO, the higher the O&M responsibilities taken over by the respective FOs. Table 1 indicates that Komarika Ela has the highest proportion for turnover of responsibilities mainly because the main canal is also maintained by the FOs.

If present O&M responsibilities taken over by FOs and the agency are scored individually, one could come to any point on the AC diagonal in figure 3. If this point is extended to meet the "x" axis of figure 3, then one would get the current position line "PQ." What is expected at full turnover without O&M allocation is a state at line "BC." However, what can be achieved under the present situation, with O&M allocation is line  $P_1Q_1$ . The position of line PQ could vary with respect to schemes depending on the status of O&M responsibilities. The factors that influence to move line PQ to  $P_1Q_1$  are those that contribute to FO strength. Thus, one could evaluate these factors (variables) and attend to the weak ones, which would influence the movement of line PQ towards  $P_1Q_1$ . Moving the line PQ to BC depends on the withdrawal of the O&M allocation. According to our experience, it will be very difficult to achieve this status, unless some hard decisions (refer agency commitment) are taken by the implementing agencies. Hence, for the time being, what we should aim at is line  $P_1Q_1$ . If O&M responsibilities can be maintained at PQ for a reasonable length (decided upon by FO and agency) of time, then the agency can decide to withdraw the O&M allocation, thus moving toward the least-cost line, BC.

## POLITICAL INFLUENCE

Even if all the preceding factors are perfectly conducive for turnover, without the political will it will not be a possibility in the long run. Ideally, politics should not be an influencing factor in this process, but that is not reality. If politicians view O&M as something that should be done by the state, and act in derogation to the whole effort then the process of turnover will not be a success.

Thus, what is required by politicians is to understand the present government policy and act in support of the process that had been in operation for the past decade in irrigation systems management. Hence, like the implementing agencies, politicians also need to take some hard decisions if they want to see the development of the irrigation sector in particular and the nation as a whole.

## CONCLUSIONS

NIRP has come a step forward in attaining a sustainable turnover due mainly to transferring the O&M responsibility after rehabilitation. However, "all is not won" until NIRP strengthens FOs to be viable and sustainable, have a firm agency commitment toward turnover and, thereafter, get the necessary leadership both from agency and FOs and the political will to continue the process. Thus, the sustainability of turned-over systems depend on the improvement of farm income and household income. Hence, NIRP needs to concentrate on the components given in figure 1 with an integrated approach to attain sustainable turned-over systems.

## RECOMMENDATIONS

1. To attain sustainable turnover NIRP should rehabilitate the systems prior to handing over and the rehabilitation should be in concurrence with the FOs.
2. The turnover should not be in isolation. It should be an integrated approach to improve farmer household income. Only then can a sustainable turnover be achieved.
3. The ID should not accept any type of "reverse turnover," if the FOs demand so after a period of operation. This will discourage those FOs whose progress is good after turnover.
4. It is acceptable to continue with the O&M allocation for a period of one year after turning over (Joint Management Phase). During this period the ID staff should make the FOS realize that O&M funds would be withdrawn and that FOs will have to bear full responsibility.
5. NIRP project management should work closely with the FOs after turnover but should not make the FOs feel dependant on the Project Manager.
6. After turnover the Project Manager's role should be one of a co-ordinator or facilitator than that of an implementor.
7. The ID staff should not feel that their responsibility is over once the systems **are** turned over. Our experience suggests that FOs need at least a coordinator to fall back on in a crisis situation.

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## Discussion Notes

THE PAPER HIGHLIGHTS important issues regarding the integrated approach to turnover of **O&M** of irrigation systems to farmer organizations (**FOs**). It examines the influencing factors such as systems physical condition, FO leadership and project management leadership, strength of **FOs**, household income, agency commitment and political influence that help to sustain the turn over process resulting in successful and effective operation of the turned over systems in the long run.

The discussion on the paper on Can Farmer Take Over the Operation and Maintenance of *Irrigation* Subsystems took the form of a panel discussion with Dr. C.M. Wjyaratna as the chairperson. It was centered on the problems identified, the need for an integrated approach and suggestions for future programs on irrigation management transfer.

- \* Prior to handing over the O&M to **FOs** a systematic evaluation has to be carried out to determine the ability of **FOs** to perform such responsibilities and to develop comprehensive guidelines for effective systems management.
- \* The turnover process should be viewed **as** an integrated approach that can be translated to NIRP. More emphasis needs to be paid to areas such as crop diversification, marketing of farm products, credit, and inputs which perform a significant role in increasing farmer income for the turnover to be sustainable.
- \* The turnover should not be limited to the transfer of O&M responsibilities to **FOs**; instead farmers should have the right to manage their own resources and take decisions where necessary as equal partners in system management. Hence, the specific roles and functions of the 3 parties, the **FOs**, the ID and the IMD involved in the turnover process should **be** clearly defined.
- \* The communication gaps existing between the **FOs** and the officials attached to various implementing agencies have to be bridged for smooth functioning of the turnover process.
- \* Despite the fact that political interference may have a negative impact under certain conditions efforts have to be made to achieve objectives within the existing conditions.
- \* Two types of leadership are emphasized: project management leadership and farmer organization leadership for sustainable turnover, Leadership qualities could be marketed in the open economy; hence there is a need to examine the incentives the farmer leader gets in performing his role.
- \* To evolve a national policy in relation to **FOs** based on the experiences gained in this area.



- \* To explore the possibility of providing a support system until the FOs are strengthened to carry out the O&M of irrigation systems without outside assistance,
- A period of joint management between the system implementors and users prior to turn over is a prerequisite to sustain the turnover process.

## Chairperson's Remarks

SESSION I CONCLUDED with the chairperson's remarks. Dr. C.M. Wjayaratna discussed the major issues emanating from the two papers presented in Session I.

- \* Dr. C.M. Wjayaratna emphasized the significance of FOs as a key factor contributing toward the success of irrigation management based on his own experiences gained from other countries. However, application of one unique model for all irrigation systems was not recommended taking into consideration the diversity of FOs in the country.
- \* An important question arising from the present context is whether implementing agencies are willing to perform the role of a catalyst and transfer the resources, the decision-making power and funds to FOs for successful O&M.
- Careful consideration has to be paid to examine whether small farmers would be able to survive with the additional responsibilities entrusted by FOs. A challenge faced by the implementing agencies is to promote the small farming sector as a viable private sector by exchanging the roles performed by both parties over a long period of time.
- \* Despite the fact that strong leadership is crucial for strengthening FOs, examples have revealed that effective and strong leadership may sometimes create a dependency among membership or be individual oriented. There is a need to determine the criteria for the selection of a suitable leader. It may be pertinent to bear in mind that since strong leadership is marketable it has to be rewarded for its capabilities to obtain satisfactory results. Financial benefits have to be maintained at a very high level at the initial phase of a project to sustain good leadership.
- \* The existing laws pertaining to land and water will need to be strengthened to protect the FOs keeping in line with the turnover process.
- \* ID and IMD should be rewarded based on their inputs especially for performing the role of a catalyst with regard to all activities related to irrigation management.
- \* It would be pertinent for the IRMU to evaluate the M&E studies done by HARTI and IIMI in order to determine a set of indicators to establish an M&E system for NIRP.

## **SESSION II**

### **SHARING TURNOVER EXPERIENCES**

# Experiences in the Irrigation Systems Management Project in the Participatory Management Process

*G.T. Jayawardena<sup>7</sup>*

THE WORKSHOP HAS been designed with the ultimate objective of finding avenues and means through which smooth transfer of irrigation systems of Farmer Organizations (FOs), subsequent to rehabilitation, could be effected for operation and maintenance of such systems by these FOs.

The paper attempts to present experiences encountered in the implementation of the Irrigation Systems Management Project (ISMP) and the process developed to achieve Participatory Management of some major irrigation systems in Sri Lanka.

The paper also deals with how the farmers were made aware of the importance of this practice, and addresses the following main topics:

- \* Awareness of agency officials, farmers and attitudinal changes effected
- Establishment and strengthening of FOs
- \* Training imparted to officials and representatives of FOs
- \* Roles and responsibilities of FOs and line agencies involved
- \* Legal status of FOs
- \* Monitoring and evaluation process

## INTRODUCTION

### ISM Project

It is thought desirable that a brief description of the project be presented indicating the goals, purpose, objectives, and the components of the project.

The ISM Project itself constituted the second phase of the assistance of the United States Agency for International Development (USAID) for improving water management on Major Irrigation Schemes in Sri Lanka. The first phase of this program was the Gal Oya Water Management Project completed in **1985**.

### Project Goal

The goal of the project is to expand food and agricultural production, increase rural employment opportunities, raise net farm income and thereby the standard of living of the farmers utilizing the small landholdings.

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<sup>7</sup>Additional Director (Engineering), Irrigation Management Division and Project Director ISM Project.

## Project Purpose

The general purpose of the ISMP is to develop a national institutional capability to increase food production from existing irrigated land. The specific purpose is to develop the necessary infrastructure to:

- \* Support O&M of the Major Irrigation Systems on a sustained renewable basis, i.e., without recourse to periodic major rehabilitation
- \* Improved responsiveness to agricultural needs to sustain long-term continued increases in agricultural productivity
- \* Test and demonstrate the effectiveness of different combinations of management and structural improvements carried out in various selected Major Irrigation Scheme

## Project Objectives

The major ISM Project objectives are:

- \* To develop and strengthen capabilities within FOs to assume responsibility for O&M
- \* To enhance the O&M capabilities of the staff of the Irrigation Department
- To support the program for Integrated Management of Major Agricultural Settlements (INMAS) under the Irrigation Management Division
- \* To institutionalize the training capacities of the agencies involved in supporting FOs by improving O&M and project management skills

## Project Components

The ISM Project consisted of the following major and interrelated components:

- \* Farmer Organization Development
- \* O&M Improvements
- \* Financial Management Improvements
- \* Training Capacity Enhancement
- \* Research
- \* Crop Diversification
- \* Monitoring, Evaluation and Feedback
- \* Commodity Procurement

## Awareness Program

The role of the staff of the Irrigation Department has been gradually changing from major construction to rehabilitation and management of the irrigation systems. So is the role of other line agencies such as the Department of Agrarian Services. The staff of the line agencies had to be motivated through training and by holding workshops with the participation of farmer representatives themselves. A free and unbiased dialogue amongst the farmer representatives and the officials was facilitated thereby allowing a free exchange of ideas. What the farmer representatives expected from the officials and vice versa were discussed and a general idea of what was expected by each other was gained and a program common to both was evolved at these workshops. Farmer representatives themselves were aware that these same officials would be working with them in effecting the improvements to the system and would also become trainers to train them (farmer representatives) in operation, maintenance and other activities connected to the functioning of the FOs.

Institutional Organizers (IOs) were also recruited at the same time and were given a training in the activities expected of them as "change agents" in this process. These IOs also attended the seminars held for the farmers and other officials.

IOs were initially recruited on an island-wide basis after notification in the government gazette. All of them were graduates from the universities and most held the degree in social science. They were recruited on a contract basis and practically all of them left for better and permanent jobs. Termination of work on their (IOs) part was expected to continue and the vacancies created by the departure of the graduate IOs were filled from the locality by reducing the educational qualifications of candidates to the General Certificate of Education (Ordinary level) and (Advanced Level) Examinations.

These latter IOs, also appointed on a contract basis, were given a training on the work expected of them and they continued to function till the phasing out program commenced. Most of the phased out IOs obtained employment either in the MARD Project in Mahaweli System "B" or in the National Irrigation Rehabilitation Project.

Subsequent to the training programs for the agency officials and the IOs most of them became effective trainers and motivators and were deployed as resource persons engaged in training.

At the end of many training programs and workshops, the agency officials and farmer representatives were aware of what was expected of them to reach the objectives of the project.

## Establishment and Strengthening of FOs

The major irrigation systems in this country contribute to more than 50 percent of rice production in this country. However, there have been concerns about the diminishing returns on the massive investment in this field. It was realized that the answer to the problem of low productivity in irrigation systems depends on the better management of the resources with the active participation of the farmers. Involvement of farmers in the planning and implementation of the programs designed to improve productivity and efficiency has been minimal in the past few decades, mainly because there were no organizations of farmers in these areas. To remedy this situation, the institutional building and the establishment of FOs were commenced

early in the 1980s under the program of the Integrated Management of Major Agricultural Settlements.

Thus the Farmers Organizations had the following objectives:

- Establishment of continuous dialogue amongst farmers themselves and between farmers and officials
- \* To ensure farmer participation in water management and planning and implementation of the agricultural program
- \* To safeguard common interest of the farmer
- \* To develop self-management capability to have a self-confident and self-reliant farmer community
- \* To develop a total system consciousness among the farmers to encourage them to think in terms of the whole system
- Motivate farmers to obtain high production and productivity
- \* To further the duties and responsibilities vested with the farmers by the Irrigation Ordinance

#### Basic Principles for Setting Up FOs

- The organization should be based on hydrological boundaries
- \* The lowest level farmer group should be for manageable areas at turnout/field channel (FC) level and comprising 15-20 farmers on an informal basis.
- \* The Middle-Level Organizations/Distributary Channel (DC) should be the formal organization with representatives elected from the FC groups.
- At the DC Organization and the FC group meetings officials act only in an advisory capacity and the Project Management Committee (PMC) should have a majority of farmer representatives. The PMC should have representatives from the line agencies and these meetings should be chaired by the Resident Project Manager.

The Apex body, the System Level Farmer Organization (SLFO) has been established and the farmer representatives (FRs) nominated by this body attend the District Agricultural Committee Meetings and where relevant the Mahaweli Water Panel Meetings. The office of the Sri Lanka Field Operations of IIMI is expected to be equitable in dealings with the FOs. Training had been imparted to them as more fully described in the section under training.

Since the farmers were also expected to increase their earning capacity the organizations have been strengthened in the use of resources in their area of operation. They have also been trained on how to maintain proper accounts, on the preparation of the kanna calendar, timely use of agro-inputs such as fertilizer, chemicals, etc., and in better maintenance and operation. FOs are now being given contracts for O&M improvements, within their area of operation, up to Rs. 75,000 and most have performed well.

## Training Officials and Farmer Representatives

Prior to the commencement of the introduction of the training programs both officials and FRs were given an awareness training of what is expected of them. Most of the officials and FRs were given this training at informal workshops where interaction and free dialogue between the two parties were facilitated. Since all farmers could not be accommodated at workshops only their representatives attended these workshops. Also as the message had to go to the entire farming community a half-day program was introduced at the FC level where a group of about 20 farmers participated. In most cases, either the Resident Project Manager (RPM) or the Institutional Development Officer (IDO) together with the area IO and the FRs attended these meetings. At these meetings the concept of FOs and the objectives of the project were discussed. This way the entire farming community was made aware of both programs.

## Training Programs

Training programs introduced by the project can be broadly classified into four categories. Viz;

- \* Farmer organization development
- \* Operation and maintenance improvement
- Financial management improvement
- \* Monitoring, evaluation and feedback

## FO Development/O&M Improvement/Financial Management

To achieve the objectives under the ISM Project participatory management process training programs were developed, validated and implemented. Due to the educational standards of most of the FRs the most difficult to program to be conducted was that on Financial Management. However, this was overcome by co-opting younger members to **the** FO solely for the purpose of maintenance of books and accounts.

However, in the preparation of the training programs, it was necessary to focus on methods which addressed the vital issues:

- \* Ensuring that the participants wished to be able to do the job to set a standard at the end of training
- \* Clearly identifying what the **job** was and its standards



Information obtained from the participants themselves revealed that they themselves were not clear of the role they had to play in achieving the objectives of the ISM Project. It was, therefore, necessary to set a framework in which the courses could be run and to bring the new job roles directly into focus during the training courses. To motivate the participants and also to instil in them the feeling that the management considers them a vital human factor in attaining the objectives, a member from the management actively participated during the opening and closing of each training program. On almost every occasion after the preliminary day the trainees were taken to where the work was to be performed where actual jobs were used as a vehicle for training.

There were many occasions where the trainees had to work long hours and in addition had to perform "homework" in the night for presentation the next day. In the training for 'FC groups where the participants comprised only farmers, the night assignments given to them were accomplished commendably which showed the enthusiasm displayed by these group leaders.

The sequence of implementation which was adopted to enable the achievement of results at each stage was as follows:

- The IOs' course to begin the further strengthening of the FOs and the FC groups
- \* The training of the Monitoring, Evaluation and Feedback/Financial Management (ME&F/FM) Assistants to support good financial management and the general economic development in the area of small business
- \* The development of the skills of the Technical Assistants in both the preparation of Annual Maintenance Plans and the skills to advise, guide and train farmer members of the FOs
- \* The development of the skills of the Works Supervisors to achieve quality control, effective work methods and an ability to advise and guide the FOs and FC groups
- \* The development of a course for FC group representatives covering the management, operations and maintenance of field channels
- \* Bringing these skilled persons together in Range Training Teams to be supportive of the **ISM** Project objectives and of each other to implement the FC group representative course on a wide and effective scale.

The training modules developed under ISMP cover:

- \* DC management for FOs committees
- \* DC area development for the same target group, i.e., FOs
- \* Training as a function of management for project managers and irrigation engineers
- \* Human resources management for Institutional Development Officers and Technical Assistants

- Results-centered management for all managers from senior management through to the most junior line managers

## Formation of Range Training Teams

Prior to the formation of the Range Training Teams, the required training was imparted to the Irrigation Engineers, Technical Assistants, Work Supervisors and the Institutional Organizers.

The following Training Programs developed greatly assisted in forming the Range Training Teams:

- \* Training of Engineers Overseas (USA) in O&M
- \* IO In-Service Training
- \* Financial Management Training
- \* For Technical Assistants
  - Annual Maintenance Plans - DCs
  - Annual Maintenance Plans - Main System
  - Annual Maintenance Plans - Implementation
- For Work Supervisors
  - Work organization
  - Quality Control
- Training Program for FC groups
- \* Range Training Team-Briefing Program

The purpose of the formation of Range Training Teams was to undertake training of FC group representatives. It was considered best that at least two farmers from each FC canal group be taken in for training. Initially, Range Training Teams were established in Polonnaruwa and Ridi-Bendi Ela to undertake training of 2,590 farmers from **1,295** FC groups. In the consolidation phase the Range Training Team Leaders underwent a training on "how to train" and they were joined on the last day in the formation of the team by a Works Supervisor and an IO. The number of teams trained were sufficient and the entirety of training of the 2,590 farmers was completed within six months.

Subsequently, Range Training Teams were formed in the Gal Oya area and training of practically all FC group representatives has been completed.

## Roles and Responsibilities of FOs and Line Agencies Involved

The process of turning over of the canal system to the FOs was undertaken according to the following sequence:

- Formation of FOs
- \* Strengthening of FOs
- \* Joint Operations and Maintenance Phase
- \* Evaluation of the FOs and Turnover

Formation of FOs and the procedure adopted in strengthening farmer organizations have been mentioned in the earlier paragraphs. The Joint Operations and Maintenance Phase was put into practice after the FOs reached a certain degree of capability. This was not assessed formally but through observation of the activities and the display of leadership of the FRs as well as the keenness of the members of the FOs. Based on the estimates prepared by the IE, (estimate depended on the allocation whereas it should have been vice-versa) maintenance work was contracted to the FOs. The FOs were informed that they could undertake works like the removal of vegetation, desilting and jungle clearing on a shfamadana (voluntary group labor) and any proceeds could be used by the FOs for any other works or deposited in the bank for future use. This practice continued till the final act of turnover.

As regards joint operation of the systems, the Technical Assistant, the Works Supervisor and the Patrol Laborer (Water Issue Laborer) had discussions with the nominees of the FOs, called *jala* palakas (Water Controllers), and they were educated in reading the gauge heights and converting such readings to the quantity of flow and sufficiency.

Water is issued by the Irrigation Department to the DC and with the assistance of the Staff of ID the *jala* palakas learnt the procedure of distribution of water into FCs even while rotational issues were on. After this phase was completed and the ID was satisfied with the capability of the *jala* palakas the evaluation process commenced. This was done through a questionnaire based on criteria prepared for the specific purpose.

The list of responsibilities of the agencies and the list of rights and responsibilities of FOs were prepared in draft form and were taken up at a discussion between Agency Staff and the FRs when a final decision was arrived at. These were incorporated in the Memorandum of Understanding signed between the Deputy Director of Irrigation and the FOs. The accompanying documents contained the following:

- \* Relevant sections of the Blocking Out Plan and the issue tree
- \* The Maintenance Plan
- \* Unpriced Bill of Quantities of Work to be done under the Maintenance Plan

## Legal Status of FOs

There have been many amendments to Chapter 453 of the Irrigation Ordinance in this aspect. Initially, the FOs were legally recognized under Clauses 56 A & 56 B of the Agrarian Services Act. The term Farmer Organization has been substituted for the term Cultivation Committee in the principal enactment. Hence, all the responsibilities that the Cultivation Committees shouldered have now been transferred to the FOs. The FOs that have undertaken O&M of DCs in their area of authority have now the right to get the membership exempted from the Irrigation Fee and also to collect from the membership a contribution for O&M or any other work in the canal system.

## Monitoring and Evaluation

A System for Monitoring and Evaluation has been developed for the ISM Project and it has been practiced for the last **4-5** years. This has been adopted in all "INMAS" projects in **the** Island. This program has six elements:

- \* Farmer organizational development
- Maintenance efficiency
- Water delivery operations efficiency
- Rice production
- Other food crops
- \* Off-farm employment

Based on the questionnaires developed data are collected monthly by the FOs themselves at no cost to the project and this has been practiced very well indicating that the ME&F Program will go on. The data are analyzed at the Project Office itself and taken for discussion at the next ensuing Project Management Committee Meeting. The IMD centrally analyzes the data for the whole of the ISM Project and the results are sent to various officials of line agencies.

A Quarterly Report is prepared at the IMD showing the performance of each of the six elements indicated above.

A Post-Seasonal Survey is conducted by trained enumerators who are paid a fee for each of the questionnaires completed and each Resident Project Manager prepares a report on the performance of his system.

## Future Trends

The International Irrigation Management Institute, Sri Lanka Field Operations together with the Kobbekaduwa Agrarian Research and Training Institute has been conducting a study to monitor and evaluate the Participatory Management Process in Sri Lanka. The study is more or less over and the Final Report is expected. However, as per the Main Report (Draft) Volume 1, the conclusion is that the process of participatory management should be continued. The report also points out that "there is a need to reconsider certain aspects of the organization and support for the policy."

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## IRRIGATION SYSTEMS MANAGEMENT PROJECT

Evaluation for **DC** FO Prior to Takeover of **DC System**

## I. GENERAL INFORMATION

1. Name and number of DCO : .....
2. Location : .....
3. Service area (ha): .....
4. Dateformed: .....
5. Total number of farmers: .....
6. Total number of members: .....
7. Date of registration with: .....
- \* Commissioner of Agrarian Services : .....
- Department of Irrigation : .....
- \* Irrigation Management Division : .....
8. Total number of members that pay membership fees : .....
9. Amount of money deposited in the bank : .....
10. Amount of money in DCFO development fund: .....

## REHABILITATION = 15 Points

<i>Indicators Points</i>	<i>score</i>
1. Rehabilitation of DCs	
• Total Length DCs km	
* Length completed to date km/Total km x	<b>6</b>
2. Rehabilitation of FCs	
* Total Length FCs km	
* Length completed to date km/ Total km x	<b>4</b>
Total Rehabilitation	<b>10</b> <b>==</b>

## III. MAINTENANCE = 35 points

1. DC FO representatives in each FC:

<i>Points</i>	<i>score</i>
* Trained in maintenance	<b>2</b>
* practice what they have learned	<b>3</b>

2. DC FO prepares Annual Maintenance Plan with ID assistance	
• Walk-through survey & description of work	4
* Scheduled work/man power/equipment	4
* Cost of labor/material/equipment rental transport	3
3. Committee members of DC FO supervises the implementation of maintenance plan with ID Assistance	4
4. DC FO shows sufficient evidence of capability in:	
• Mobilizing local resources	7
* Generating sufficient funds for Annual Maintenance Plan	5
5. DC FO Annual Maintenance and Annual Budget be ratified at a general assembly meeting called for that purpose	3
Total Maintenance	35
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**IV. OPERATION = 20 Points**

<i>Indicators Points</i>	<i>score</i>
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1. DC FO appointed jalapalaka and FC representatives for water distribution are sufficient in number	3
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<i>Indicators Points</i>	<i>score</i>
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2. Jalapalakas:	
* Trained in O&M	2
* Have operated the system jointly with ID for at least one crop season	2
• Read and record gauge heights	3
• Plan/distribute irrigation water equitability	4
* Submit records as required by the ID to the nearest ID official	1

- |   |          |
|---|----------|
| 3. Each FC group has elected a leader   | 1        |
| 4. Executive officers of DC FO able to prepare a draft of seasonal cropping calendar, have it ratified by the members of the executive committee and submit it at least one month before the initial release of water | 3        |
| 5. FC group leaders submit weekly reports on farming activities to jalapalaka   | <u>1</u> |
| Total operations  | 20       |

**V. FARMER ORGANIZATION AND MANAGEMENT = 35 Points**

<i>Indicators</i>	<i>Points</i>	<i>score</i>
1. DC FO service area clearly defined by hydrological boundaries		2
2. DC FO has duly ratified constitution and by-law are registered with the:		2
* Commissioner of Agrarian Services		1.0
• Department of Irrigation		1.5
• Irrigation Management Division		1.5
3. DC FO maintains an office with minimum furniture, safety locker and a notice display board		2
4. DC FO maintains an updated list of membership		2
5. All irrigation water users are members regardless of tenurial status		2
6. Executive office-bearers meet every month		2
7. DC FO committee meets at least once every two months		2



8.	DC FO holds general meetings before every crop season at which the following are discussed and approved:	
	* Annual Maintenance Plan	1
	• Operations Plans	1
	• Financial Statement and	1
	* Annual Budget	1
9.	DCFO keeps: legal records, minutes of meetings, historical list of membership, books of accounts, record of membership fees/dues collection, etc.	3
10.	Office-bearers and FC group representatives are all trained in financial management and maintain records	2
11.	DC FO members participate in cleaning and desilting DCs and FCs	3
12.	DC FO members cooperate in the equitable distribution of irrigation water	3
13.	DC FO deposits its money in the bank and disburses it in accordance with the approved budget	2
14.	Notwithstanding 13 above, the treasurer maintains accounts for petty cash imprest allowed to him by the DCFOs	2
	Total FO and management	35
	Total score all categories	100

Rights and Responsibilities **of** the Distributary Channel Farmer OrganizationA. The **FO** shall have the right to:

1. Receive its allocated share of the available water during the irrigation seasons
2. Collect fees and to manage those and other funds received from DC FO activities
3. Resolve conflicts and impose sanctions against members of the DC FO violating the official **rules** and regulations
4. Enter into contracts for providing or receiving services and materials, provided that all gains or **losses** resulting from such contracts are shared by the DC FO as a whole
5. Representation at the system level through a System-Level Farmer Organization directed and managed by the farmers
6. Request technical assistance from the ID for repairs, etc., including the rental of machinery from the ID, if they are beyond the resources of the DC FO
7. Obtain all details inclusive of expenditure regarding the O&M activities of the main system from the ID
8. Request the ID to attend to all repairs outside the activities enumerated in the Annual Maintenance Plans including damages caused by floods and/or other damages beyond the control of the DC FO at no cost to them
9. Monitor the O&M activities of the main system

B. The **FO** shall **be** responsible for:

1. The preparation of an annual maintenance plan and budget for each DC and **FC** under its control with the help of the ID officials, to ensure the following responsibilities of maintenance, at least annually. The plan will include, but not be limited to the following:
  - \* Seasonal control of weeds and clearing of canals and canal bunds
  - Desilting and maintaining of proper canal profiles
  - \* Filling sours and attending to repairs of structures
  - \* Painting and greasing of gates
  - Maintenance of **DC** and **FC** roads
  - \* Maintenance of drainage canals
  - \* Maintenance of water measuring devices
2. The full implementation of the maintenance plan referred to in (1) above through the FOs, monitoring of such implementation and raising the necessary funds
3. Taking any other measures required to ensure proper maintenance
4. The security of canals, canal bunds, structures and the protection of canal reservations
5. Prompt communication of major damages to the canal bunds and structures to the **ID** officers

6. The preparation of seasonal water distribution schedules with the guidance of ID officials for the DCs under its control to assure timely and equitable delivery of water to each water user
7. Implementation and monitoring of the water schedule and making in-season adjustments
8. Resolution of conflicts among the water users of the DCs and prevention of illicit tapping of water
9. Educating the members on water conservation and water management practices
10. Solicit assistance of ID officials in water distribution wherever and whenever necessary
11. Ensuring the availability of sufficient funds, material and labor for O&M of DCs and FCs through the mobilization of local resources, e.g., water user contributions
12. Prevention of unauthorized modifications on the irrigation and drainage system and expansion
13. Ensuring that the DC FO is an active member of the System-Level Farmer Organization
14. Ensuring that books and accounts are properly maintained. It shall also be necessary to get such accounts audited periodically

### Responsibilities of the Irrigation Department

TO ENSURE THE smooth turnover and operation of the canals under this agreement the ID shall be responsible for rehabilitation of the canals to a level which can provide adequate water delivery and control for each fanner and also for the following:

1. To develop, in conjunction with IMD and System Level Farmer Organization Representatives, criteria for determining at what level of development DC FOs are ready for turnover
2. In conjunction with IMD, to determine as to when the above criteria are satisfied
3. Assisting FOs to prepare maintenance plans, budgets and water schedules and monitoring of the implementation of such plans and schedules
4. Providing technical assistance and necessary training to FOs in O&M of canals/channels
5. Joint preparation of guidelines and manuals for O&M with FOs
6. Maintenance of headworks and main canals to ensure the agreed need of water to the FOs
7. Preparation and signing of contracts with the FOs
8. Attending to flood damages and any other damages due to reasons beyond the control of the FOs at no cost to them
9. Attending to repairs of structures and structural improvements outside Annual Maintenance Plan on request by the FOs at no cost to them
10. Maintaining a suitable water measurement device in good repair at each DC head gate to monitor and record delivery by volume
11. Communicating with the FOs regarding requirements, efficient water use and conservation and preparation of seasonal water use reports, in respect of DC FO areas and the whole system
12. Assessing the water requirements for each DC with the FOs on a periodic basis
13. Assuring timely and equitable deliveries to meet the agreed needs of the FOs
14. Provide periodic expenditure in respect of O&M of the main system

## Responsibilities of the Irrigation Management Division

1. To develop in conjunction with the ID and System-Level FO representatives, criteria for determining at what level of development DC FOs are ready for turnover
2. In conjunction with the ID, determine when the above criteria are satisfied
3. To assist the FOs at all levels in organization and training
4. To implement the Monitoring and Evaluation (M&E) program and to provide follow-up support to the FOs whenever the need arises

## Roles and Functions of the System Level FOs

### Irrigation **Systems** Management Project

1. Composition *of the* System-Level **Fanner** Organization (SLFO)
  - The members of the SLFO shall be drawn from each DC FO in such a way that at least one accredited member from each DC FO is represented at this apex body
  - \* There shall be a president, a secretary and a treasurer elected from amongst the members of the SLFO
  - Depending on the number of members the SLFO shall have a Board of Directors either comprising the entirety of members or one elected from amongst the membership. The president of the SLFO shall be the chairman of the Board of Directors
  - \* Depending on the number of members a minimum of three sub-committees shall be elected for the following fields/activities:
    - \*\* Operation and Maintenance
    - \*\* Finance
    - \*\* Agriculture Development Planning
2. Rights *of the* SLFO
  - \* The SLFO shall have the right to be represented at the Project Management Committee
  - \* The SLFO shall have the right to nominate at least one of its members to the District Agricultural Committee on behalf of the project

- \* The SLFO shall have the right to nominate one of its members to attend the Mahaweli Water Panel on behalf of the Project if such a request is made by the Mahaweli Authority of Sri Lanka
- \* The SLFO shall have the right to obtain secretarial services from the Project Management Office

### **Roles and Functions of the System-Level FO**

1. In the event of disputes amongst the signatories to the Memorandum of Understanding for turnover of tertiary systems the SLFO shall make every endeavor to settle such disputes. If settlement cannot be resolved then the SLFO shall proceed to the Project Management Committee requesting that the disputes be resolved.
2. Be fair by each DC FO thus maintaining equity and balance in allocation of resources available to the SLFO.
3. **Settle** any dispute pertaining to irrigated agriculture between DC FOs. It shall also resolve any disputes between FC groups which are referred to it by the respective DC FO.
4. Improve the income of members of the farming community
5. Assist the farmers in marketing, and cooperative storage of marketable products.
6. Take the lead role in the timely and adequate supply of inputs required by the farmers.
7. Play a major role along with the DC FO and FC groups in the **O&M** of tertiary systems.
8. Assist the irrigation agencies in the O&M of the main system.
9. Plan, implement and monitor the agricultural program for the project
10. Collect ~~data~~/information on agriculture, irrigation and tenurial status through DC FOs and FC groups.
11. Identify training requirement of farmers, farmer representatives and field-level officers; plan, implement and monitor such training programs.
12. Effect necessary liaison and coordination with departments and agencies involved in irrigation and agricultural matters.
13. Plan and implement a program for the protection of the irrigation system and take suitable action against the irrigation offenders.

14. Assist in the strengthening and consolidation of weak DC FOs.
15. Provide supervision and support in financial control and management of the finances of the DC FOs.
16. Implement other related activities that would benefit the farming community.

### **Duties and Functions of FC Groups**

- \* Collective maintenance/ clearance of FC structures.
- \* Protection of irrigation structures in the system.
- \* Organizing water saving activities.
- Motivating farmers for on-farm water management,
- \* Collecting information/data on all matters relating to agricultural development (no. of acres, allotments, tenurial status, details of water management problems).
- Identification of irrigation problems affecting the group, and discussing possible solutions.
- \* Resolving problems that could be solved with the assistance of officers.
- \* Presenting other problems to the higher levels to be resolved.
- \* Conducting regular informal meetings of farmers.
- Resolving conflicts among farmers.
- Planning agricultural activities of the group.
- \* Participating in activities of the DC FO/Sub-Project committees through their representatives.
- \* Informing authorities of offenses relating to the irrigation system and assisting in checking such offenses.
- \* Undertaking community shramadana activities such as clearance of irrigation channels and construction and maintenance of project roads.
- \* Helping in the collection of O&M rates.

### **Duties and Functions of the DC FO**

#### **Water Management Activities**

- i. Rotational distribution of the water within the FCs in collaboration with ID officials
- ii. Planning and implementing the programs to save water by preventing wastage by farmers

#### **Maintenance of the System**

- i. Protection of the irrigation system within the area of authority

- ii. Identification of critical problems and presenting them to the Project Committee
- iii. Solving whatever problems within their collective capacity to resolve with the help of the authorities
- iv. Participating in the preparation and implementation of a program for repair and maintenance of the system
- v. Organizing shramadana activities to attend to earthwork in main canals and DCs with intimation to irrigation authorities
- vi. Undertaking irrigation repair work on contract basis within the area of authority, after legal sanction is obtained.
- vii. Assisting officials in the collection of **O&M** rates

### ***Preparation and Implementation of the Agricultural Program***

- i. Participation in the preparation and implementation of the annual agricultural program at the project level through their representatives
- ii. Collection of agricultural data/information through FC groups
- iii. Resolving problems regarding supply of inputs and marketing with the help of the officers

### ***Socio-Cultural Activities***

- i. Organizing socio-cultural activities such as **VapMagul** and **Aluth Sahal Mangalyaya**, etc., with the help of the FC groups
- ii. Participating in all other socio-cultural activities in the scheme to promote cordial links with the non-farming population and to develop community cohesiveness

### ***General Functions***

- i. Establishing close links with the FC FO.
- ii. Establishing close and cordial links with the officials.
- iii. Strengthening weak FC groups
- iv. Organizing training of Farmer Representatives and farmers in water management and agricultural activities and in FOs
- v. Resolving conflicts within FCs and among FC groups



- vi. Plan and implement a program to check irrigation offenses within the area of authority
- vii. Present to the Project Committee **problems** which cannot **be** solved at **their** level
- viii. Maintaining records of decisions of meetings, discussion, etc.
- ix. Coordinating with relevant government departments and agencies

## Evaluation Criteria for FOs Prior to Turnover of the Tertiary System

### Maintenance

1. The DC FO representatives in each FC trained on maintenance by ID/IMD and they practice what they have learned to the satisfaction of ID.
2. The DC FO prepares Annual Maintenance Plan that includes details/exhibits (sources) and cost of hired labor, cost of labor contributed by members, cost of materials, equipment rental, fuel/oil; (cost for contingencies, overhead cost, work schedule, etc.)
3. Committee members of the DC FO supervise the implementation of the maintenance plan.
4. The DC FO shows sufficient evidence of capability in mobilizing local resources and generating sufficient funds for the implementation of the maintenance plan.
5. The DC FO Annual Maintenance Plan and Annual Budget is ratified at a general meeting called for that purpose.

### Operation

1. Sufficient number of jalapalakas/FC representatives are appointed by the DC FO for operations within the DC.
2. Jalapalakas and/or FC representatives trained in O&M should have operated the system jointly with ID for at least one season. Both categories should submit records as required by the ID to the closest ID official, who is preferably a member of the Water Management Unit.
3. Each FC group has elected its won leader for operations within the FC
4. The DC FO prepares and submits the seasonal cropping calendar on time to the System-Level FO.
5. The FC group leaders submit weekly reports on farming activities (land preparation, crop growth stages) to the jalapalaka.

## Organization and Management

1. The DC FO service area is clearly defined and is based on hydrological boundaries.
2. The DC FO has a duly ratified constitution, bylaws and is registered with the ID, the IMD and the Commissioner of Agrarian Services.
3. The DC FO maintains an office with minimum furniture, a safety locker and a notice display board.
4. The DC FO maintains an updated list of membership
5. **All** farmer water users are eligible to be members of the DC **FO** regardless of tenurial status but in accordance with the constitution of the respective DC FO.
6. Executive office-bearers (chairman, vice chairman, secretary, treasurer and possibly an auditor) meet every month.
7. The DC FO Committee meets at least once every two months.
8. The DC **FO** holds general meetings every crop season at which the annual maintenance plan, the financial statement and the budget are discussed.
9. The DC FO keeps legal records, minutes of meetings, historical list of membership, books of accounts, records of membership fees/dues/collections, etc.
10. Office-bearers and FC representatives, trained in financial management, maintain records.
11. The DC FO members participate in voluntary (shramadana) work in clearing and desilting DCs and FCs.
12. The DC **FO** deposits money of the organization in the bank and disburses or spends it in accordance with the manner approved, in the annual/seasonal budget or other expenditure approved by the committee.
13. Notwithstanding item 12 above, the treasurer maintains accounts for the petty cash imprest allowed to him by the DC **FO**.

## Discussion Notes

THE PAPER PRESENTS the experiences encountered in the implementation of the Irrigation Systems Management Project (ISMP) and the process developed to achieve participatory management in some of the major irrigation systems in Sri Lanka.

The group discussion on the paper on Experiences in *Irrigation* Management Project in the Participatory Management System commenced with an address by the Chairperson, Mr. N.G.R. de. Silva, Managing Director, MEA. The discussion was centered on the following issues:

- \* Forming Women's Organization under ISMP was prompted by the very low level of women's participation in **FO** activities; simultaneously it aimed at improving the standard of living of people as the ultimate objective. However, due to the non-availability of loan facilities, results could not be obtained from the training provided to women on agro-based industries.
- \* As the government policy has already indicated empowering FOs for managing Agrarian Service Centers, the evaluation of irrigation systems should be considered as the joint responsibility of relevant institutions and FOs. Both parties should be held responsible/accountable for the work performed by them, thereby maintaining a kind of transparency.
- There is a need to explore the possibility of strengthening the FOs, so that they would be in a position to go against or withstand political interferences and seek legal justice. FOs were legally recognized under clauses **56 A** and **56 B** of the Agrarian Services Act, as they have been substituted for cultivation committees but strong legal protection is required for FOs to perform their duties satisfactorily.
- Attention has not been focused on developing a rationale for the farmers to take over O&M. It is recommended to analyze the development path followed by other countries and examine their experiences to provide guidance in this regard.

# Participatory Management and Turnover of irrigation Systems to FOs: Experiences from Polonnaruwa Irrigation Systems

*K.W. Ivan de Silva,<sup>8</sup>*  
and  
*A.M.U.B. Alahakoon<sup>9</sup>*

## Introduction

IRRIGATION MANAGEMENT HAS become a very popular subject among people involved in the irrigation sector today. Many strategies have been developed since the early 1980s with the assistance of farmers. Participatory management, turnover and walk-throughs are some of these new strategies. How far have we achieved the expected targets in these new strategies is an important question that should be raised at this stage.

Until the mid-1980s very little emphasis was given for irrigation management as compared to the attention paid in achieving construction targets. However, emphasis has now moved from the construction phase to the management phase. Accordingly, since 1992, various models/ methodologies have been tested in the irrigation sector to improve irrigation management. The Integrated Management of Major Irrigation Systems (INMAS) and MANIS are accepted management practices adopted in major and medium irrigation systems, respectively. Experiences gained in implementing INMAS and management of irrigation systems at Polonnaruwa are discussed in this paper.

## Irrigation Systems in the 1970s

In the 1970s more emphasis was given for achieving construction targets, as the main objectives were to increase the rice acreage. However, increasing demand for land and water and the increase in population have restricted new development. It has also been proved that increasing the productivity of existing irrigation systems is more effective and economical than attempting to increase the irrigated area. A major constraint to the efficiency of irrigation systems is weakness at the planning stage and the subsequent lack of proper management and utilization of resources. The need for increasing the productivity of these systems has also been highlighted on several occasions by various aid missions.

In the 1970s, O&M of all parts of irrigation systems were done by the ID except that of field channels. FCs were self-managed by the farmers with technical assistance extended from the ID. The *velvidane* (Irrigation Headman) of each *yaya* (tract) appointed by the DAS generally attended to all O&M works in FCs of the respective tracts. Operation was completely handled by the *velvidane* according to a schedule provided by the ID. A reasonable share of unhusked rice which was agreed at the cultivation committee meeting was given to him by the beneficiaries at the end of each *kanna* for his services. Maintenance of FCs was undertaken according to an agreed *pangu* (share) list which was prepared by the DAS with the concurrence

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of the beneficiaries' at the kanna meeting. The farmers **who** did not attend to maintenance according to this list was charged by the District Office in accordance with Agrarian Services Act. Accordingly, O&M of DCs and above were attended to by the ID, while general administration of FCs was done by the DAS. In addition, line department activities were coordinated by the GA through the District Agricultural Committee. This system was quite satisfactory in the early 1970s. However, some problems arose, specially in O&M, at all levels of irrigation systems toward later part of the 1970s due to many reasons, some of which are **as** follows:

- \* Lack of funds for O&M
- \* Giving priority for construction than for O&M, as performance was measured on achievement of construction progress
- \* Social and economical changes
- \* Political changes
- Open economy

### Irrigation Systems in the 1980s

To improve the deteriorating management system that existed at the latter part of the 1970s, the Mahawel, **Lands**, and Land Development authority implemented INMAS in major irrigation systems, from the early 1980s.

The initial emphasis under INMAS was on the following aspects:

- \* Increasing agricultural production per unit of water
- \* increasing agricultural production per unit of land
- \* Adequate and equitable distribution of irrigation water to farmers
- \* Arrangement for timely supply of agricultural inputs and sale of produce
- \* Organizing and developing farmer institutions to facilitate their participation in management
- \* Recovery of O&M costs from beneficiaries in major irrigation schemes
- \* Maintenance of irrigation systems at the optimum level of performance
- \* Identifying major systems needing urgent rehabilitation
- \* Farmer education

The long-term focus, however, was on the following:

- Integrated development of the farm lot to a commercial holding
- \* Crop diversification and rotation
- \* Social and economic development of the farming community
- Marketing of agricultural produce and byproducts
- \* Agro-based industries
- Processing of agricultural produce to semi-finished or finished products
- Handing over to FOs some of the management and operational functions of major projects

As the necessity for a similar management system was felt for medium schemes as well, the ID implemented MANIS for such schemes. This also emphasized almost the same aspects as in INMAS but at a reduced scale.

### Turnover of Irrigation Systems

Since the mid-1980s, a large sum of money has been spent by various agencies such as the ADB, the World Bank, etc., to implement this new concept of irrigation management. This attracted many disciplines into the irrigation sector and they came out with various suggestions for implementing it in the field. Some of them were of the view that farmers would be able to hire technical personnel for O&M, once new management systems were in place. With this objective, the subject of turnover of irrigation systems to FOs was broached and, accordingly, almost all DCs in the Polonnaruwa irrigation systems were turned over to FOs.

At the beginning, FOs were very keen in taking over O&M of canal/channel systems upto the headworks. However, many FOs are now reluctant to continue with O&M of DCs due to many reasons, especially their inability to mobilize adequate resources for O&M. Under the Irrigation Systems Management Project, DC FOs are expected to undertake O&M of DCs on a voluntary basis with their own resources. As this system was unsuccessful in irrigation systems at Polonnaruwa, O&M of DCs were awarded to DC FOs on a partly voluntary basis, where a part of the O&M costs were paid to the DC FOs by the ID. If this system of O&M is allowed to continue the irrigation systems in Polonnaruwa may very soon require another major rehabilitation.

Generally, in irrigation systems, FCs are expected to be self-managed by the FOs. However, to date, progress of maintenance of FCs in irrigation systems in Polonnaruwa during this yala season (1995) is on an average of 25 percent. It is, therefore, evident that FOs are still not capable enough to self-manage FCs. In such a situation, attempting to turnover DCs and above to FOs may create adverse effects on the O&M of the existing irrigation systems. Although new strategies have been discussed in Colombo for institutional development for strengthening support to FOs, including bringing about attitudinal changes of the agency officials toward FOs, it is difficult to find genuine officials who are devoted to implementing such a difficult task in the field. There are many people who come out with unrealistic targets in irrigation management. However, when it comes to real implementation they tend to give undue priority to achieve their own targets than to the farmers well-being. Clearly, the above discussion indicates that the FOs are not yet capable of taking over the O&M of DCs of the irrigation systems. It is, therefore, recommended that instead of handing over DCs to the DC FOs, joint management of the systems by the ID and DC FOs should be adopted as a policy in the short term, which is expected to help improve O&M of the systems.

## Discussion Notes

THE PAPER DISCUSSES the various strategies adopted to improve irrigation management in Sri Lanka, particularly experiences gained under the Integrated Management of Major Irrigation Systems (INMAS) and management of irrigation systems in Polonnaruwa.

### Managing National Irrigation Systems

The discussion and the paper on Participatory Management and Turnover of Irrigation Systems to FOs took the form of a panel discussion with Mr. N.G.R. de Silva as the chairperson. It was centered on the ISMP experience, objectives and how far the project targets were achieved.

- \* There is a need for close monitoring of the system management by officials to ascertain the true position prior to handing over O&M responsibilities to FOs. The turnover should be envisaged as an integrated approach and it should not be confined to O&M or done immediately without proper analysis of the true situation.
- \* Despite the important role performed by FOs in decision making with regard to water distribution, due to lack of personnel and technical know-how, they have not been able to attend to the maintenance work satisfactorily.
- There should be a well-planned program of education for farmers and officials of the implementing agencies such as the ID or the IMD on irrigation, water management and farmer organizations which would promote intensive official commitment and farmer participation.



## Chairperson's Remarks

SESSION II CONCLUDED with the chairperson's remarks. Mr. N.G.R de Silva discussed important issues emanating from the two papers presented in the session. He observed that the objectives of the turnover process could not be realized unless it is part of a transparent package which would accrue its benefits to the identified beneficiaries.

Proper maintenance of the irrigation systems should be accorded high priority as a joint responsibility of the ID and the FOs. However, there is a need to enlighten the farmers on the fact that deterioration of the system would bring about adverse economic impacts on them.

Farmers' lack of funds was identified as the major factor affecting the maintenance of the irrigation systems despite their awareness about the importance of such work. Hence, it was recommended that the possibility of providing or generating a revolving fund for a limited period of time, as a remedial measure, be explored.

## Workshop Recommendations

- \* Launch a massive awareness program focusing on human resources development to educate the staff of concerned agencies and FOs on beneficiary-centered management of irrigation systems.
- \* Declare a national policy and a farmers' charter to strengthen the position of FOs.
- \* Extending participatory management on financial management and decision making is more effective than targeting for turnover of irrigation systems to FOs.
- \* Explore the possibility of developing and upgrading leadership skills of both officials and farmers, to maximize the benefits of the turnover process.
- \* Recruit Institutional Organizers (IOs) from the local areas or respective Divisional Secretariat Areas.
- \* Examine the possibility of improving farmers' income by focusing on crop diversification, infrastructural facilities, processing and marketing, so that they would be in a better position to bear the O&M cost.
- \* Effect attitudinal changes in both the officials and FOs in terms of beneficiary-centered management of irrigation schemes.
- \* Channel funds allocated for O&M to those who are vested with the responsibility of O&M.
- \* Turnover of O&M should not be the ultimate objective of FOs; the small farming sector should be upgraded to form farmer companies as a viable private sector to face the challenges posed under the open economy conditions.

# APPENDIX

Workshop on  
Beneficiary-Centered Management of Irrigation Systems:  
Retrospection on Recent Endeavors

WORKSHOP PROGRAM

SESSION 1 Sustainability of Farmer Organizations and O&M

Chairperson: Dr. C.M. Wijayaratna, Head - SLFO/IIMI

Paper 1. The Rise and Fall of The Farmer Organization Program in Gal Oya

11.00 - 11.20 a.m. Mr. M.G.M. Razaak

11.20 - 12.00 noon Open Discussion

Paper 2. Can Farmer Organizations Take Over Operations and Maintenance of Irrigation Sub-Systems?

12.00 - 12.20 p.m. Messrs. R.de. S. Ariyabandu and D.G. Karunaratna

12.20 - 01.00 p.m. Open Discussion

01.00 - 02.00 p.m. LUNCH BREAK

02.00 - 02.30 p.m. Chairperson's Remarks

SESSION II Sharing Turnover Experience

Chairperson: Mr. N.G.R. de. Silva, Managing Director, MEA

Paper 3. Experience in Irrigation System Management Project in Participatory Management Process

02.30 - 02.50 p.m. Mr. G.T. Jayawardene

02.50 - 03.30 p.m. Discussion

03.30 - 03.45 p.m. TEA BREAK

Paper 4

Participatory Management and Turning Over of Irrigation Systems to Farmers' Organizations.

03.45- 04.05p.m.

Mr. A.M.B.U Alahakoon and the Team

04.05- 04.35p.m.

Open Discussion

04.35- 04.50p.m.

Chairperson's Remarks

04.50- 05.00p.m.

Declaration of Workshop Recommendations.

Workshop on  
Beneficiary-Centered Management of Irrigation Systems:  
Retrospection on Recent Endeavors

LIST OF PARTICIPANTS

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