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TAMIL NADU

POLICY OPTIONS FOR PARTICIPATORY IRRIGATION MANAGEMENT

Farmer Organisations and
Organisational and Procedural Changes

CWR

CENTRE FOR WATER RESOURCES,
ANNA UNIVERSITY

in collaboration with

ISPAN

IRRIGATION SUPPORT PROJECT
FOR ASIA AND THE NEAR EAST

Sponsored by the U.S. Agency for International Development

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EXECUTIVE SUMMARY

Tamil Nadu has largely exploited its water resources. The only way to extend the irrigated area now is through better water management. Further, despite the large investments made in the past 45 years in developing water resources, the returns in terms of agricultural production, social and economic benefits are less than the expected. In recent years there has been a growing recognition about the important role played by farmers in improving water utilization.

Water distribution, repairs and maintenance by farmers are not new to irrigation system in Tamil Nadu. For the last six to seven centuries, tank systems were managed by farmers collectives known as 'Opadi Sanghams' and even today many of these survive. Historical evidence suggests that rulers built the tanks but left the day-to-day management to farmers, who did it efficiently. They faithfully followed Kudimaramathu, a system under which the repairs and maintenance of the canal system was the sole responsibility of the farmers.

However, by the turn of the nineteenth century the government found itself increasingly drawn in water management. With the construction of major gravity systems after Independence, the government took over their management and also some of the responsibilities that earlier would have remained with the farmers.

The twin problems of under utilization of water resources and the increasing cost of system maintenance has redirected attention to the revival of FOs. The change in thinking started in the early eighties. A variety of FOs have now come into existence, sometimes on the initiative of the farmers themselves, at others, due to government efforts and in few cases through autonomous institutions like CWR of Anna University, Irrigation Management & Training Institute supported by donor agencies. Though the exact number of functioning FOs is not available, the number would easily exceed 5000, taking into account about 3000 associations initiated by AED, IMTI and other institutions.

The ultimate objective of the FOs is to take over management functions - water distribution, operation and maintenance. Though this is yet to be achieved in full measure, it is instructive to study the process of organisational build-up of the existing FOs and their functioning in view of the diverse routes through which they have come into existence.

From this point of view, existing FOs may be classified into four broad categories depending upon the nature of the catalytic agent. This characteristic has imparted certain features to FOs depending upon nature of incentives offered, approach to the farmers and organisational structure. The first category represents the traditional FOs, which are now being revived and/or modified to meet the new social and technological demands. In the second category fall those FOs which

were initiated by autonomous institutions like CWR, Anna University and IMTI (not NGOs, but having the necessary operational flexibility for approaching farmers with an incentive package). The third category represents FOs organised by AED in the Lower Bhavani and Periyar-Vaigai projects. The last set of FOs comprise those organisations wherein the donor agencies have made FO formation a pre-condition for funding project rehabilitation. Specific cases of each of the above categories are discussed in Chapter 2.

One commonality of the four approaches to FOs is the steady transfer of management functions, including maintenance and repairs, to FOs. If turnover is defined as the transfer of management functions to FOs with the requisite autonomy in decision making and corresponding empowerment, the process is now well under way in Tamil Nadu. The collation of various experience and drawing relevant conclusions for formulating a strategy for accelerating and completing the process is now needed.

Lessons Learned

An analysis of the experiences gained lends support to significant lessons relevant for formulating an overall strategy.

1. The farming community, especially in the irrigated command, recognizes the advantages of turnover and is willing to take the necessary legal and organisational steps. However, farmers require outside help (in the form of catalytic agent) to guide them in the registration process, negotiations with the irrigation agency, technical help in maintenance activities and in organisational procedures such as maintenance of accounts and audit.
2. Two or three tier FO works quite well for managing irrigation both on tanks and reservoir fed canal systems. The several tiers and their respective functions have a rational base in hydraulic continuity or both in hydraulic and territorial identity.
3. As, in principle, the ownership of water rests with the Government, the first move toward irrigation management transfer must come from the Government. A policy declaration was made by GOTN in July 1994. Needed now is conversion of the policy into a programme, carrying out the required procedural changes and identifying the agencies for implementation.
4. A maintenance trust fund for FOs is implementable. While in old irrigation systems farmers regularly contribute labour and sometimes cash for maintenance, the FOs on new projects cannot count on such support on a continuing basis. Yearly organization of voluntary maintenance may not be possible. In this context the idea of a one time effort to which farmers and government contribute equally can be adopted, as a starting point.

5. The gradual involvement of women in FOs is a notable experience in Tamil Nadu, although their role has not been explicitly dealt with. In the Periyar-Vaigai command, satellite women organisations have been formed around the FOs initiated by the AED. At present FOs provide secretarial support to these women for getting off-farm, off-seasons benefits from government and non-government agencies. If these women organisations turn out as vibrant associations, it would be a short step to the induction of women in the management of full fledged farmer organisations.

Policy Recommendations

Government of Tamil Nadu has already announced its policy of actively initiating and supporting FOs for the ultimate transfer of management functions in respect of water distribution, repairs and maintenance. It is now necessary to work out programmes within the policy framework, specify functions, give FOs the authority alongwith the needed budgetary support for carrying out their responsibilities..

The policy framework should specify at how many tiers the FOs would be organised, the relationships among the tiers, rights and responsibilities of FOs and the incentive package, if any.

The agencies, governmental and non-governmental, who would be responsible for organising and subsequently for monitoring FOs should be decided upon. The role of the AED, district administration and the PWD in regard to participative irrigation management needs to be clarified.

Basically, FOs are human organisations and as such human resources development (HRD) needs to be chalked out. The training component of the farmers, their leaders, staff of the FOs, lower irrigation functionaries, need to be delineated and the agencies for delivering training identified.

The state government needs to become a full party to participatory irrigation management efforts. Organising and supporting farmer organisations is only part of the requirements. The transfer of management responsibilities to farmers will also mean significant organisational and procedural changes in the line agencies as the roles of users and government shift.

ACRONYMS AND TERMS

ASSEFA	Association of Serva Seva Farms
AED	Agricultural Engineering Department
CADA	Command Area Development Authority
CE(I)	Chief Engineer (Irrigation)
CWR	Centre for Water Resources
DDC	District Development Council
EEC	European Economic Community
FO	Farmer Organisation
GO	Government Order
GOTN	Government of Tamil Nadu
HPC	High Power Commission
HRD	Human Resources Development
IIMI	International Irrigation Management Institute
IMTI	Irrigation Management Training Institute
ICO	Irrigation Community Organiser
IMTP	Irrigation Management and Training Project
ISPAN	Irrigation Support Project for Asia and the Near East
kudimaramathu	Indigenous system of voluntary labour
mha	Million hectares
MI	Minor Irrigation
MOA	Memorandum of Association
MOU	Memorandum of Understanding
nadu	State
NGO	Non-governmental organisation
NK	North Kodaimel Azhagian
NWMP	National Water Management Project
OFD	On Farm Development
O&M	Operation and Maintenance
OPC	Organisational and Procedural Change
pasanakottam	Irrigation Division
pathinettupatti	A group of eighteen hamlets
PWD	Public Works Department
PWD(WR)	Public Works Department (Water Resources)
RA	Research Assistant
RWS	Rotational Water Supply
STI	State Training Institute
SLIC	Scheme Level Irrigation Committee
tank	Simple, natural or man-made reservoir
TN	Tamil Nadu
TNEB	Tamil Nadu Electricity Board
TWAD	Tamil Nadu Water Supply and Drainage Board
USAID	U.S. Agency for International Development

WALMI
warabandi
WRCP
WRCRC
WUA

Water and Land Management Institute
System of water rotation on a watercourse
Water Resources Consolidation Project
Water Resources Control and Review Council
Water Users Association

Chapter 1

BACKGROUND

Despite the huge investments by government and donors in irrigation development, the economic returns have been less than satisfactory. Among other reasons, the unsatisfactory water distribution and inefficient system management have been found to be major contributors. As a result, in part, there has been a shift towards recognising the important role that a farmer organisation (FO) can play in improving water utilisation and contributing to agricultural productivity.

The Government of Tamil Nadu is among the few states in India that has harnessed its surface water resources to the fullest extent. Farmers have been brought to the forefront in the improvement of irrigation utilisation and agricultural production under irrigation projects.

The rehabilitation and improvement of existing systems will not alone lead to the desired results. Unless there is active participation of end users in management, the economic returns to investment in irrigation will continue to be less than satisfactory.

The active participation of farmers in the exploitation of water resources is not new to Tamil Nadu. The state has centuries old tradition of farmers organisations (FOs) which collectively developed, conveyed and distributed waters to farmers. Since the 1920s, farmers perceived government as the owner of the irrigation works and responsible for their maintenance. This dependency was accentuated by new irrigation projects constructed after Independence which were maintained and managed by government.

The present study aims at analyzing the experiences with FOs in major and minor irrigation systems in varied socioeconomic contexts. Lessons are then drawn for a future policy frame indicating the needed organisational and procedural changes.

Irrigation in Tamil Nadu

The geographical area of Tamil Nadu is 13 million ha (mha), out of which the area sown is 5.8 mha and the area under irrigation is 2.7 mha. In the early seventies, the areas under canal, tank, and well irrigation were nearly equal. At present, however, the areas under canals, tanks, and wells are 34.7, 20.1 and 45.2 percent, respectively. There is a vast gap between the potential

created and utilised. The utilisation under canals, tanks and wells is 53, 59 and 72 percent, respectively. There are 2.47 million wells, of which 122,000 are unproductive due to poor recharge conditions and/or overdraughts. To meet the demand of the growing state population of nearly 1.4 percent, a three to four percent increase in food and fibre production is essential. Only irrigated agriculture can help meet this challenge.

Evolution of Irrigation Administration and Law

Irrigation in India has a long history. It was extensively practised in the Indus Basin in the north and the Cauvery Delta in the south. The practices compared favourably with contemporaneous irrigation practices in the Nile Valley and Mesopotamia. The irrigation works were built by the rulers and managed by the community.

When the British East India Company annexed Indian territory, the irrigation works became the company property. Initially, the company gave these as settlement to different agencies against recurrent payment of revenue and remained indifferent to the mode of their use and maintenance. When some of these systems showed deterioration, and hence loss of revenue, the company undertook the repairs.

The need for comprehensive legislation relating to irrigation was first considered in the mid-nineteenth century. The result was the Northern India Canal and Drainage Act (1873), followed by similar acts by the provincial governments of Bengal and Bombay.

However, similar acts were not passed in South India. Presumably, enactment was not thought necessary since the systems were managed satisfactorily by the village communities. Paddy was the predominant crop. Water was supplied to an outlet and then shared by farmers with their own system of control and rotation.

In the absence of a comprehensive irrigation act, the Board of Revenue's standing orders and certain provisions of the Indian Penal Code are still invoked to deal with irrigation offenses. A compendium of rules and regulations of all reservoirs and irrigation systems in the state are the guiding rules for the operation of these systems. These rules, however, are too general and leave much to the discretion of the government officials. A notable feature of these acts and Rules currently in operation is that there is no provision for consultation with farmers or their participation or involvement in operating the system. A list of the acts which govern different aspects of water use is presented in Annex A.

Irrigation Policy Changes

At Independence, the economy of India was overwhelmingly agrarian-based. Nearly 85 percent of the people lived in villages and earned their livelihood from agriculture and related pursuits. Irrigation facilities were available only for about one-sixth of the cropped area. The government's main concern was to control persistent and severe inflationary pressures and to alleviate shortages of essential food items. It was anticipated that an 80 percent increase in food production could be achieved by extending irrigation to more areas. Priority was given to the construction of large reservoirs and extensive canal systems.

As the irrigation infrastructure expanded in the 1950s, 1960s, and 1970s, there was concern about the gap between the created and utilized irrigation potential. Attention turned to improvements in the performance of irrigation systems. As a step in this direction on-farm development and farmer organisations below the outlet were recommended under the Command Area Development Programme (CADP) starting in 1974. The major component of CADP was physical improvements below the outlet and investment on on-farm development (OFD). Tamil Nadu did not accept the organisational structure recommended for CAD and instead implemented the programme through a special wing of the Agriculture Department which was later converted into the Agricultural Engineering Department (AED).

The CAD concept laid emphasis on taking water to the eight ha command at government cost and on the introduction of warabandi, a system of rotational water supply prevalent in northern India. It was observed that without farmer involvement, the warabandi system frequently broke down.

In the eighties, USAID developed the Water Management Synthesis Project. It focused, in part, on the institutional and social constraints. These aspects were not adequately covered in the training of the typical officer of the line agency. With World Bank and USAID support, a number of state governments created Water and Land Management Training Institutes (WALMIs). Selected universities were helped to upgrade their capabilities. In Tamil Nadu, the Irrigation Management Training Institute (IMTI) and Anna University were involved in water resources management and training.

It was thought that by training all concerned, including policy makers, field staff, and farmers, the productivity of land and water could be increased. The WALMIs were designed as human resources development (HRD) institutions. The final evaluation carried out by ISPAN in 1992 observed that many of the issues that affect the irrigation system performance are beyond the WALMIs control and require structural changes in the irrigation departments.

In 1987, the National Water Management Project (NWMP) was formulated by the World Bank with the assumption that good water management depends on a well organised main distribution system. NWMP surmised that substantial benefits can be obtained through a more reliable and predictable water delivery system in the existing irrigation projects. Equitable water distribution could be ensured with an operational plan evolved in consultation with farmers. NWMP was implemented initially in the southern states of Tamil Nadu, Andhra Pradesh and Karnataka. An important feature of NWMP was the involvement of farmers through scheme level irrigation committees.

Under NWMP in Tamil Nadu, activities focused on the repair and rehabilitation of selected irrigation projects rather than on the development of operational plans and their implementation. Even the scheme level irrigation committees were not constituted. Farmer participation remained a marginal issue.

By 1987, a national water policy was formulated for the first time and endorsed by all the state chief ministers of India. The policy provided guidelines for acquiring, conserving and utilising water resources and the need to ensure equity and social justice. The policy recommended greater involvement of farmers in irrigation management. The Policy has so far not made a decisive impact on the state irrigation policies.

Recent Changes

The most significant policy level changes recently have been brought about in the organisation of the Public Works Department (PWD). Taking off from the suggestions of a World Bank mission in connection with the proposed Water Resources Consolidation Project (WRCP), the GOTN bifurcated the PWD into the Water Resources Organisation and the Building Organisation, created a water resources organisation along river basin lines and functional specialization, established the Water Resources Control and Review Council under the chairmanship of the chief minister, and adopted a state water policy.

According to state policy, the government is committed to farmer participation and eventual system turnover. Some suggestions are still under consideration. The most important provisions include a commitment by the state to contribute Rs. 265 on average per hectare for maintenance and the transfer of O&M responsibilities to farmers to the distributary level.

Departments Dealing with Irrigation Management

In Tamil Nadu, irrigation falls under the Public Works Department. In addition, the PWD is also in charge of public buildings, fishing harbours and minor ports. The Agricultural Engineering Department (AED) is responsible for soil conservation, minor irrigation, and land reclamation. It is also responsible for the on-farm development works, under CADP. The PWD is in charge of tanks with command areas exceeding 40 ha. Out of the roughly 39,000 larger tanks in the state, only about 9,000 tanks come under the PWD. Village panchayats and panchayat unions which are functioning under Rural Development Department are in charge of the 30,000 smaller tanks in Tamil Nadu. The Revenue Department which maintains land records collects irrigation cess as part of land revenue.

Types of Irrigation Systems

Surface Irrigation

The management of irrigation systems lies with officers of the government and the farmers. PWD is responsible for planning, executing, and managing the irrigation system to the outlet. From there onwards, the farmers take over. PWD has a pyramidal organisational structure. The section officer is at the base and the chief engineer at the top, with six tiers, in between. The executive engineer has the pivotal role as the head of an irrigation division.

Under the divisions are sub-divisions and sections. Generally, the command area looked after by the section is 2,000 ha, by sub-division 10,000 ha, and by the division 50,000 ha. There has always been a tendency to define the jurisdiction of the irrigation engineers synonymously with the revenue division. However, water resources management cannot be confined to district boundaries. It has to be basin, sub-basin, and micro-basins defined. Recently, the Government has issued orders for the reorganisation of irrigation systems along these lines.

Each irrigation system has a set of rules of operation approved by the government. All the irrigation systems in the state are classified into three categories. For large irrigation systems, the government has to order their opening and closing. They are Mettur, Bhavani Sagar, Periyar-Vaigai, Sathanur, Manimuthar, Kodayar Basin reservoirs and Parambikulam-Aliyar systems. Amaravathy and Krishnagiri reservoir come under the another category for which the chief engineer is the authority to order release of water. All others are operated by their respective system managers. The rules and

regulations of reservoir operation are quite general with much left to the discretion of the scheme managers.

The district collector occupies a place of special importance in irrigation matters. He or she issues the notification in the district gazette and newspapers about the release of water for all the irrigation systems. Farmers generally believe that the collector is in charge of the system. The district collector, executive engineer, and joint director of agriculture review irrigation problems every week during the irrigation season.

The District Development Council (DDC), of which all district officials are members, reviews developmental programmes in the district, including irrigation. The collector presides over the DDC. Some farmers are also invited to attend meetings on specific occasions. In this forum, farmers can describe their irrigation problems, but their voice may not always be heard in these meetings.

Tank Irrigation

There are 39,000 tanks in Tamil Nadu. The command areas vary from less than 20 to more than 1000 hectares. System tanks receive water from a perennial source or seasonal flows from stream by diversion works and/or from a storage facility. Those that depend on their catchment and flows from upper tanks are designated as non-system tank. Depending upon the size of the command, they may be put under the administrative control of the concerned government agency.

Whoever may be in charge of these tanks, the operation and maintenance has always been the responsibility of the farmers. If the tank command extends beyond one village's boundaries, an understanding is developed between the villages on the sharing of waters and responsibilities.

The decision-making process regulating water use in small tanks is informal. Four elements seem to shape the outcomes: custom, that is, the way things are normally done; informal, participatory decision-making fora, where farmers discuss the crop calendar and water sharing; the influence of particular individuals; and collective actions taken when the sluice is opened.

Tanks have a number of sluices located at different levels to command lands of varying elevations. Those that come under deep sluice in the deep portion of the tank may receive water for a longer period than those fed from a higher sluice. The lands are classified under different categories based on the dependable duration of water supplied. Land cess is levied accordingly. This

compensates the unequal quantities of water drawn by individuals from these sources.

Well Irrigation

Lift irrigation systems are the initiative of individual farmers. Attempts have been made by the government at various times to develop community wells. Except for a few systems developed at Ramanathapuram District, they have not succeeded in Tamil Nadu. Subsidised and free power supply encourage a large number of farmers to develop them with their own resources. This has led to a quantum jump in the area irrigated by wells.

Maintenance of Irrigation Systems

Government responsibility for maintenance ends with the outlet, below which the burden falls on farmers. Currently, the government expenditure on maintenance is in the range of Rs. 85-125 per hectare. There is considerable pressure to increase this amount as it is found inadequate to meet all the needs, but the costs are already prohibitive.

Regular inspection is done by system managers to assess the conditions of the irrigation structures. The extent of damage is quantified and estimates for repairs prepared and sent to the higher authorities for sanctioning. Funds are allocated by the government based on area under the command and subject to availability of funds. In view of resource crunch, estimates are prepared to cover the most essential items of maintenance.

Traditional Voluntary Labour: Kudimaramathu

Kudimaramathu, practised only in Tamil Nadu, is based on principles of self-reliance and self-discipline and encompasses all maintenance activities of the system below the minor. Kudimaramathu literally means "the act of maintaining water sources required for irrigation and other community purposes, by the people who benefit from such works." According to the Madras Manual of Administration, kudimaramathu means the contribution of labour for petty repairs to irrigation works.

During British rule, the practice of maintaining irrigation systems through kudimaramathu was formalised by government order. Orders issued by the government after independence periodically extended the practice. Not surprisingly, it was not practised seriously by the farmers. The government had taken a voluntary, local institution of mutual help and tried to transform it into a regimented labour draft. The attempt failed.

Realising the seriousness of the situation, the government issued an order in 1963 introducing the concept of sharing of cost of maintenance by government and farmers. The order also specified the mode of sharing. Out of the estimated cost of Rs. 2.50 per acre, the sharing of the maintenance expenditure was fixed at Re. 1 by government and Rs. 1.50 by farmers. The implementation of the order was not satisfactory. The government subsequently issued orders increasing the share of the government to Rs. 1.5 per acre. This proposal too was not accepted.

In 1974, further orders were issued for kudimaramathu with respect to supply channels covering more than one panchayat. The cost sharing was fixed at 4/7 by the government and 3/7 by the farmers. Further orders issued in 1976 stated that kudimaramathu should be carried out by the panchayat unions or panchayats, and the cost must then be recovered from the farmers.

Despite these attempts by the governments, there has been a continuous deterioration of the physical condition of the systems, affecting their performance. Attempts to launch special programmes for carrying out improvement works were also not successful, for want of the investment required.

Clearly, irrigation management requires improvement in Tamil Nadu. Previous efforts to involve farmers have been more prescriptive than participatory. If significant increases in irrigation efficiency are to take place, a restructuring of the relationship between government and users is required. This report examines, in detail, Tamil Nadu experiences with farmer organisations and sets forth a framework of recommendations for participatory irrigation management.

Chapter 2

EXPERIENCES WITH FARMER ORGANISATIONS

This chapter relates the experiences of Tamil Nadu in organising FOs and managing water resources for irrigation. Farmers of Tamil Nadu today are demanding greater participation in decision-making about system management. Though most decisions were, and still are, made by the government, farmers now want clear guidelines and direct involvement in irrigation management.

Traditionally, farmers managed irrigation, especially tanks systems, with considerable competence. In the British period and in post-independence India, government policies and guidelines hindered farmers participation. In the early 1980s, efforts were made to encourage greater user involvement. More recently, farmers have responded and participated in irrigation management the many commissioned projects. Farmers' attitudes have changed rather rapidly over the past decade. The attitude of the government has also matured.

This chapter discusses both the positive and negative experiences of FOs in Tamil Nadu. Eight cases varying from small to large projects have been chosen to illustrate the different ways farmers have been involved, how they function, and how they interact with them.

Categories of Farmer Organisations

The diverse irrigation systems of Tamil Nadu have been grouped into four types based on the approach of catalyst/motivator working for their formation. As different types of FOs have developed over time, it has become clear that the differences among them can be largely attributed to the approaches of the catalysts concerned. Within the following four categories, distinctions are made according to river fed systems that are large and tank systems that are generally farmer-managed:

- traditional FOs formed on irrigation systems, probably in response to recurring water scarcities
- FOs organised through non-governmental efforts
- government-formed FOs in which the line agency acted as organiser
- donor-sponsored FOs wherein the usually international donor imposed funding pre-conditions

Although the examples considered here do not reflect the universe of FOs in Tamil Nadu, they do however the most significant efforts made in the state so far.

Traditional Farmer Organisations

Peikulam Farmers Association of Tamiravaruni System

Although prevalent in all parts of the state of Tamil Nadu, the TFOs have are best documented in the southern parts of the state (IIMI-India Collaborative Research, 1992). Tamiravaruni System may have the largest number of FOs of any in Tamil Nadu: 132 in 250 villages. Of these, 34 are registered, but some of the unregistered FOs function more effectively than those registered.

Peikulam, one of the tanks fed by the North Main Channel, takes off from the Sri Vaikundam anicut across the Tamiravaruni River. The tank has a capacity of 2.36 mm³ (83.25 mcft) and an ayacut of 1,000 ha.

Peikulam was established in 1872. The rules and regulations of the FO were first drafted and approved in June 1913. They have undergone many revisions over the succeeding years, the latest in 1975. Peikulam has continuously renewed its registration by submitting audited accounts.

Peikulam FO's functions include water acquisition, distribution, and sub-system maintenance. Kudimaramathu and warabandi are also its responsibilities. It has its own staff for area policing (Pathiakaval in Tamiravaruni). There are irrigators (neerpaichis and neerkattis) and toll collectors. It appears to have consistently provided its members with services that are timely and appreciated by all water users in a tailend water scarce tank. The Peikulam association has both political clout and power, which it uses to fetch water to the fields.

The FO mobilises financial resources in a variety of ways. Annual subscription is Rs. 50 per acre for banana, which is collected in cash. In addition, 25 kg. of paddy per acre are collected in kind and sold by the FO, as provided in the rules. Banana and paddy are the two major crops in the command, although diversification efforts are being made.

The executive committee (EC) of the Peikulam FO has 64 members and is responsible for the administration of the FO. Of the 64 EC members, 40 are from the main village of Sebathiapuram. The FO has a convention that the president is never selected from the main village. The FO is a multi-caste, and the Nadars dominate the caste structure of the villages.

The FO is multipurpose. In addition to conveying water, it promotes increased production and facilitates marketing of the produce at a profitable price. In return, the FO receives a commission on sales besides a subscription from members. Another important function of Peikulam is conflict analysis and resolution. This is performed as a routine matter, calling for a panchayat-like meeting in which the parties in conflict are given a hearing. Offenses such as water thieving are punished with acts of penance and fine.

Despite political interferences and caste conflicts, the FO has remained strong because of its financial strength and strong, self-renewing leadership. In contrast, many traditional FOs which have failed because of internal weaknesses, Pathinettupatti is an example of such a failure.

Pathinettupatti of Thanjavur District

Pathinettupatti FO was originally organised as a three-tier hierarchical system of 18 village councils, three nadu councils and one confederacy council. The village council was at the lowest rung, and the confederacy council was the apex body. It has existed for centuries in Pathinettupatti performing several functions which have included managing its 25 tanks, resolving conflicts, and organising village religious festivals. The FO functioned well until two events occurred after independence.

One was the building of the Kattalai Canal popularly known as the New Kattalai High Level Canal (NKHLC) from the Cauvery in the late 1960s. With the canal, expectations of the people of Pathinettupatti rose since they thought it would charge the system tanks. Farmers in the area thought that the expected increase in water would make the FO unnecessary. This produced strains in the working of the organisation.

The second centered on panchayat raj elections in the later 1960s when the FO divided along political party lines. It brought a split between the old and the young and according to caste identity. In response, the organising of the religious festivals by the FO was ceased and solidarity within the FO was severely undermined. Collection for the ceremonial fund ceased. Kudimaramathu fell into disuse, and festivals in connection with the village deity, which brought rains and prosperity, was given up. Since then, there has been a revival of religious practices, but water management activities remain neglected.

Non-government Promoted Farmer Organisations

Salipperi Approach to Farmer Organisations

Program Origins. Salipperi is a tailend village in the Cauvery Delta, Nagai-Quaid-e-Milleth (formerly Thanjavur) District. It is a small village of 122 farmers, 3 minor channels with a command of 300 acres, and a youth association with proven record in repair of temples, which cleans roads and holds cultural activities. The Action Research Programme (ARP) of IMTI, Trichy carried out action research in a command of 2000 ha, in Cauvery Delta. Farmers were approached and brought for training, which stressed the importance of maintenance of the irrigation system and channels.

A save the channel campaign was conducted under which farmers were asked to clean up channels in their village, reviving the traditional practice of kudimaramathu. As a result, there were no obstructions in the flow of water in the channels in the following season. Although farmers took part, they thought that it was too expensive for them to do on their own, as the channel had remained in disrepair for so long. A method of ongoing maintenance was needed, backed by sufficient funds and farmer commitment. To address this problem, IMTI conceived the idea of a maintenance trust fund.

Role for Youth. Salipperi was selected for an experiment because the youth there showed merit. Farmers organised an informal meeting in the village, attended by faculty members of the ARP. The IMTI's ideas of a fund and the need for an FO were discussed. The farmers agreed to form an FO, and the youth agreed to serve as motivators and create a fund under IMTI guidance. Training programmes were also held periodically, and the youth were given special training in organising FOs. The IMTI deliberately remained in the background.

Resource Mobilisation. In Salipperi, the maintenance trust fund for each channel has been the primary resource mobilisation strategy. It was proposed that the water users of an irrigation channel make a one-time payment of Rs. 100 per acre to this fund, which when collected from all users would be matched by the government. The fund would then be deposited in a bank so that the interests accruing from it, year after year, could be used for the annual maintenance of the channel.

Discussions between the IMTI and farmers began in March 1989, at which time the farmers themselves suggested the following:

- A special cess of Rs. 20 per acre per year should be collected from the farmers. This would go to make a corpus fund, which in turn would, as

a special case (like Kisan Vikas Patras), fetch a higher annual interest of 20 percent.

- Alternatively, Rs. 1.0 for each bag of paddy (65 kg) could be collected for funding maintenance and sold to the government.

In the end, the farmers chose the IMTI approach, and the fund now is in operation.

In six months, with the youth of the village acting as catalysts, the Salipperi farmers collected Rs. 30,000, to which the IMTI contributed an equal amount. The total sum of Rs. 60,000 formed the corpus fund, of which Rs. 45,000 was put in a fixed deposit and the balance of Rs. 15,000 in another account. The interest from first has been set aside for annual channel maintenance and the interest of second would be added to the capital of the first account, presumably to neutralise cost escalation.

With the creation of the corpus fund, the knotty problem of mobilising funds for maintenance year after year was resolved. Water being of equal interest to all, factors such as political influence and caste dominance have not so far distorted the operation of the maintenance activity. Ever since the WUA came into being, the going has been smooth.

The Structure and Functions of the FO. With the creation of the fund, bye-laws of the Valappar-Salipperi Village Water Users Association, were formulated and approved by the general body of the farmers. Every month on the new moon day, the members assemble, discuss matters and take decisions. This is the general body. The association has an executive committee elected by the general body. The office bearers include a president, vice president, secretary, and treasurer and five other members. The FO was registered as a society under the Societies Registration Act (1975) at end of June 1989. The deposits were made in the State Bank of India in August 1989. The corpus fund now carries the name Valappar-Salipperi Channel Maintenance Permanent Trust Fund.

The general body takes all policy decisions, and the executive committee puts the decisions into action. The general body appoints sub committees to look after various functions, such as auditing of the accounts, auctioning of usufructs of the trees that belong to the society, and the collection of revenues. With these committees, the management of the affairs of the society became easier for the villagers. The bye-laws were drafted by the general body in consultation with the IMTI faculty. They authorise the executive committee to appoint a manager for book-keeping and a common irrigator to look after the distribution of water. A watchman has also been appointed.

The FO maintains the channels in good condition. Kudimaramathu is practised with careful use of the interest income. The FO also ensures proper distribution of water. It has responsibility for informing the line agency about the conditions of the structures and sluices of the channel, resolves conflicts among farmers and protect crops against damage by cattle. Members are advised against encroaching channels, and those who do are evicted by the FO.

The FO has the village as its boundary. The minor channels fall within the village boundary. The present FO constitutes the lower rung of a three-tier organisation. A federation of the village-based association which gets water from the same distributary is the next tier called the channel committee. Each village association, it is proposed, nominates two representative to the channel committee. At the apex is the river committee. One of the two members nominated to the channel committee represents each FO on the river committee. The committees discuss and coordinate channel and river activities.

FO Operation. The FO has been functioning smoothly ever since its formation in 1989. The deposits have generated adequate funds for Kudimaramathu and other activities. Caste politics and political parties have deliberately been kept out.

The idea of giving a matching grant was put forth by IMTI and the IMTI had sufficient funds to provide this grant in the study area only. Hence, IMTI suggested to the government that it make an allocation in the budget for this purpose. The government agreed in principle, and this policy was announced in the Legislative Assembly by the irrigation minister. The CE (I and G) set about 1 percent of O&M expenses for the Cauvery delta system (about Rs. 3.0 million) and placed it at the disposal of IMTI for this purpose. IMTI was able to form 28 associations and released Rs. 1.0 million as matching grant. More organisations are expected. The CE(MI) had sent proposals to the government to divert one percent of the O&M expenses for giving a matching grant to tank command organisations.

The IMTI has now formed some 30 village-based organisations. The higher level bodies have not yet been formed. In their absence, informal agreements are reached among the villages on water sharing. Either the irrigation department ensures equity or the faculty of IMTI intervene and help the villagers. However, as all these organisations are formed either in the Cauvery Delta or under minor irrigation tank commands, conflicts regarding water distribution are not severe and rotation is followed by custom. The sustainability of village level FOs in the absence of other tiers will have to be watched in the future.

North Kodaimel Azhagian Channel Farmer Organisation

North Kodaimel Azhagian (NK) Channel takes off from the first anicut, in the Tamiravaruni system. The channel is 18.5 km long with 66 sluices and 20 small tanks that irrigate roughly 1000 ha. There are 10 villages and about 2,800 farmers in this command. The NK Channel Association covers the entire channel.

The NK Channel Farmers Association was organised by a team from the Centre of Water Resources (CWR) assisted by the ISPAN project. The team consists of 10 research assistants (RAs), 8 of whom were trained in sociology and two in engineering. Four RAs were women to help in organising women participation which is a priority concern.

Registration of the FOs is needed to give them a legal existence and to make them functionally effective. The traditional FOs enjoy social legitimacy even if they are not registered. The NK Channel Farmer Organisation has now been registered to give it leverage in respect of negotiations with the line agencies of the Government for irrigation management transfer.

The Strategy. The strategy for organising farmers was drawn from the experience gained by CWR in organising FOs in four tanks under a project assisted by the Ford Foundation, India. The approach gave importance to working directly with farmers and gave priority to their concerns rather than implementing a preconceived action plan. Farmers were asked to identify their own priorities and concerns which were an integral part of the implementation process.

After about two months of intensive village contacts, the first farmers meeting was organised. Fifty-seven farmers attended the meeting as representatives of the ten villages. The farmers resolved to form an FO for the entire command and to accept turnover as the ultimate aim of the association. As a first major step towards the formation of the NK Channel FO, an advisory committee was to be constituted with at least two and but not more than four members from each of the ten villages. Thereafter farmers in each village met to select their representatives and the advisory committee was formed.

The committee divided itself into several ad hoc committees for such purposes as mobilising resources, organising farmers support, and women's participation. Farmers were involved in motivating others to join the FO through regular visits and meetings in every village and hamlet.

The advisory committee was treated as a general body in order to select the office bearers of the executive committee of the FO. The office bearers consist of a president, two vice presidents, a secretary, two joint secretaries, and a

treasurer. Additionally, twelve EC members were unanimously selected by the general body. Women have 30 percent representation in the EC.

The channel level FO helped organise village level or branch FOs. They are called the branch FOs on the channel. The latter ensure full participation from each village. They help in the collection of subscriptions, development of leadership and quick administrative response. Apart from these, women farmers form a separate FO. All the branch FOs, as well as women FOs, are affiliated with the NK Channel FO.

One advantage of the NK Channel command is the existence of a strong tailend FO, the Vaigakulam Land Holders Association, which has been functioning since 1945. Being among the most deprived, the tailend farmers of Vaigakulam as elsewhere are keen to get water. The Vaigakulam FO developed the capability to work as a collective to ensure the availability of water. It supported any organisation that could bring order to the entire system and become the approach as well as the principal motivator for the creation of a functional FO for the NK Channel as a whole.

Women in FOs. A notable feature of the NK Channel experiment is the importance given to the role of women in agriculture and irrigation. Women play a vital role in all phases of irrigated farming as marginal and small farmers constitute the majority of the farming community. The initial impetus for women's participation came from the Vaigakulam Farmers Association which had women members in the FO. In order to motivate women, weekly meetings were organised using women leaders and women's groups. Even male farmers, particularly key farmers, were persuaded to commit themselves to including women in the FOs. A committee of four women and one man was specifically constituted for women development and for integrating women into the turnover process.

Resources Mobilisation. Resource mobilisation is in two forms: an entry fee of Rs. 2 each to become the members of the FO and a subscription of one measure of paddy for every eight cents of land owned by the farmer members. This amounts to about Rs. 125,000 a season for the area within the FO's jurisdiction.

Long-term Operation. The Tamil Nadu experience suggests that the factors that make FOs sustainable in the long run are financial autonomy, multipurpose activities, and strong leadership. The sustainability of the NK Channel FO, should the farmers demand more than what the government might be willing to give, depends on the ability of the farmers to rehabilitate the system with whatever assistance is available from the government. They were confident of their own capability to execute works. They have already begun to intervene

in disputes and solved some. They have also shown interest in learning about better farming technology and the prospects of marketing.

Government Promoted Farmer Organisations

Thindal Distributary of the Lower Bhavani Project

The Thindal Distributary of the Lower Bhavani Project is the outcome of the pioneering work of the Agricultural Engineering Department. This story is one of involving farmers on a sustained basis for taking up the full responsibility of managing the water distribution below the distributary level. It is reported that more than 85 percent of the 2,900 FOs established at the sluice level continue to function.

The Lower Bhavani Experiment. For convenience of management, the command has been divided into three zones of upper (ten irrigation divisions or pasanakottams), middle (11 pasanakottams) and lower reaches. The upper reach has no water problem, but the middle has pronounced water problems during periods of scarcity in over 25 percent of the area and the lower reach has severe water problems in over 50 percent of the area in irrigated dry crop season.

The Pilot Project. Thindal Distributary with a command of 1,615 ha forms one of the 38 irrigation divisions known as the M6 (to mean the sixth of the middle reach irrigation divisions). The objective of the experimental programme was to devise a strategy to form farmers into organisations.

The distributary has four branch channels and 33 direct sluices. In consultation with the leading farmers, it was decided to treat branch channels as sub-systems. There were 44 sluice commands in which to organise FOs. Vallipurathan branch channel with an ayacut of 399 ha, the biggest single sub-system, was chosen for the pilot study. To start the process of organising FOs, 3L sluice of the sub-system with 68 ha command operated by 69 farmers was selected.

Origin of the Approach. The Thindal effort was inspired by a visit to the Philippines of the then chief engineer of AED in 1987. The structuring of the FOs was conceived at three levels: farmers association at the sluice level, farmers council at the level of distributary with an area of command of 2,000 ha, and an apex council for the command area as a whole. The apex council is yet to be formed. Only a two-tiered structure exists presently.

The Strategy. In the process of forming FOs, the farmers were consulted many times by the specially appointed irrigation community organisers (ICOs) who were posted in villages to work with the farmers. The ICOs were carefully

chosen, trained and asked not to talk about irrigation until rapport had been established with farmers. The ICOs met the farmers as many times as they could, and in many cases became part of their everyday life. They began by sorting out personal differences among farmers by meeting them regularly. After two weeks, as the ICOs became confident, they were asked to identify potential leaders and talk to them about irrigation water management.

At this stage, the farmers came out with many complaints, especially of the AED's work in on-farm development, the quality of work executed by contractors, inadequacy of lined channels, improper planning, undependable water supply and their extreme dependence on the subordinate staff of the line agency for water. This prompted the AED to look for solutions. In the meantime, farmers were told that they could take up on-farm development works as FO and that estimates could be prepared after approval of plans on the village map. This had a salutary effect. Farmers met and discussed the planning and execution of OFD. This initial show of involvement made it easy for the ICOs to formally begin motivating farmers towards forming FOs.

In four weeks after initiation, a farmers association was formed and a general body meeting consisting of all farmers was held to elect the office bearers of the first farmers association in the Lower Bhavani Project. It was registered in 1988. Leaders were identified and groomed by the ICOs, but the electoral process was democratic.

Replication Efforts. With the forming of the FO, there were many other hurdles: inexperience in the execution of OFD, a financial crunch and official resistance to giving up rights and powers. It took another month to resolve these difficulties. With the success of these efforts, efforts were initiated more rigorously in another 22 sluice commands.

Fourteen FOs were quickly formed, and efforts of the AED and the ICOs succeeded in forming FOs in all the sluice commands of the M6 Irrigation Division and farmers councils for four branch channels. On average, a council is composed of ten to 20 sluices and three to five branch organisations. Fifty ICOs were appointed on daily wages to catalyse FOs.

Functions. The FOs are structured to perform two main functions: irrigation water management at the farm below the sluice outlet and the procurement, allocation, and distribution of water at the distributary and sluice levels. Irrigation water management at the farm level is for optimising the use of water and increasing productivity. It is at the farm level that the farmers take full responsibility for sharing water equitably among members (a 100 percent membership in the FO is a requirement) through collective action. Rotational sharing has already been worked out. At the distributary and sluice levels,

however, the concept of optimal flow (1 cusec for paddy in 40 ha) is practised. The distributary command receives its due share according to this formula.

Conflict resolution, time scheduling for water deliveries, crop discipline, maintenance of infrastructure, developing alternate crop strategies in consultation with the farmers council, enforcing regulatory procedures and punishment are the main duties and responsibilities of the farmer organisations.

The farmer council, on the other hand, is vested with the powers for demanding the water allocated for distribution and the responsibility of ensuring the allocated flow of water at each sluice outlet. Negotiating with the irrigation and revenue authorities to ensure design flow at the head of the distribution and branches all the way to direct sluices, prevention of water thefts, maintenance of the division system, resolution of conflicts that cannot be resolved by the farmers association, and recommending reallocation of water are among the responsibilities of the council.

Resource Mobilisation. A management subsidy is available to support the FOs at the council level for three years under CAD Programme of the Government of India at Rs. 100 per ha for the first two years and Rs. 75 per ha for the third year. The farmers are expected to match the government subsidy as their share in a trust fund. The individual contribution to the matching fund has been fixed at Rs. 40 per ha farmers for a period of three years. The M6 Council has contributed Rs. 50,000 to the matching fund, which is about a third of its total requirement. By March 1994, only five farmer councils had received the management subsidy.

Present Status. The FOs have begun the task of operation and maintenance as practised under kudimaramthu and warabandi. The experience so far suggests that FOs are sustainable, though guidance and follow-up will be needed for a few years.

There remains the problem of coordination between the Government Department of Public Works (PWD) which is responsible for irrigation systems above the sluice outlets and the AED which is responsible for OFD and other activities below the sluice outlets. The difficulty focuses on the optimum flow concept of the AED; PWD is not properly maintaining the main system.

The purpose of the FO at the sluice level is the equitable distribution of irrigation waters, and there already exists a well defined rotational sharing. No difficulty in operations is expected. Leadership has not been questioned, and grounds for conflict do not seem to exist. Rotational sharing has not resulted in frictions as the AED has programmed it in consultation with the farmers. The farmers meet when necessary either to talk about rotational sharing or to resolve disputes that arise in irrigation. They contribute money and labour for

Kudimaramathu. Cropping has become a better proposition, and income has increased because of better yields. The area under irrigation too has increased after the formation of the FOs. One indication of the success of the approach is its application in the Periyar-Vaigai system.

Periyar-Vaigai Command

The Periyar Vaigai Project covers an area of about 130,000 ha. The PWD is involved in the major conveyance development works, system operation and maintenance under Periyar-Vaigai Improvement Scheme from 1977. The other hand, the AED has been responsible for OFD works under the centrally-sponsored programme since 1982. Under this programme OFD works and a warabandi system were introduced.

Around 1990, realizing the crucial role of water users in all aspects of irrigation management, the AED developed a strategy for farmers participation. The AED decided to form FOs to deal with problems relating to water scheduling, equitable water distribution, better water use efficiency, conflict resolution and system maintenance at the tertiary level.

Rotational Water Supply System. The AED, Madurai has created a sub-division exclusively for introducing rotation water supply (RWS) system. RWS is modelled on warabandi, according to which water is supplied to farmers in proportion to their land holdings and according to a predetermined schedule. The irrigation system has been designed for paddy cultivation where field to field irrigation is practised. According to AED's RWS model, water is supplied to individual holdings through watercourses. For this purpose, the AED has taken up construction of field channels as well as lining them to blocks and micro-blocks. System maintenance such as desilting, removal of weeds, and earthworks are done by the FO.

Organising Strategy. As a first step, the AED recruited young men and women to serve as irrigation community organisers (ICOs). This is a direct corollary of the Thindal experience. Care was taken to select ICOs from the same area so that they would not have difficulty integrating themselves with the community. Since most of the ICOs had a civil engineering background, a short term training in community organising was given to them immediately after appointment. They were responsible for organising farmer organisations, training farmers, and addressing water-related conflicts. The ICOs were to be the vital link between the irrigation bureaucracy and the farmers.

As in Thindal, the first and the foremost task of the ICOs was to gain acceptance in the farming community. They were cautioned against talking about irrigation too early, lest they be identified as agents of the irrigation bureaucracy. They called farmers and served as social facilitators by helping

them with day to day problems. Over time, the ICOs tried to identify factors that tended to inhibit the formation of FO. Encroachment of field channels, taking bulk flows, creating channels on private lands, water disputes and litigations were determined by ICOs to be constraints in the formation of FOs. Therefore the ICOs, by addressing these problems, carved a niche for themselves in the community.

With the help of key farmers, they organised farmers meetings and informed them of the functions they can perform in irrigation management. These fora helped farmers to come out with their grievances against the irrigation agency in relation to poor quality of construction work, undependable water supply and improper planning. The ICOs convinced the farmers that they could solve these problems with collective efforts and they could take up OFD works on their own. Thus, the AED's strategy succeeded in instilling confidence in farmers and in the creation of FOs that could address the problems of irrigation management at the farm level.

As a matter of strategy, after an FO is formed, the ICOs moved on to the next sluice so as to cover the entire irrigation division (pasanakottam) of 2,000 ha within the stipulated time. The FOs formed earlier could not get technical services or guidance of the ICOs over an extended period time. This adversely affected the development and sustainability of the FOs. In the absence of follow-up, farmers may not be able to resolve issues entirely on their own. The solution to this problem has not been found and continues to undermine the FOs.

Farmer Organisations. As in Lower Bhavani, a three tier structure was conceived. At the grassroot level are the farmers organisations, each consisting of one or two sluices. Until March 1994, 619 farmer's organisations have been formed covering 41,440 ha and benefitting 56,703 farmers. All the land holders are eligible to become members. Since women are rarely the title holders of land, they remain outside the FOs. A few women who own lands and become members play a passive role. ICOs reported that though women attended farmers meetings, they were unable to voice their viewpoints due to cultural barriers. No woman found a position in the governing body of the FOs or councils.

At each sluice level, the FO has officers. The FO appoints a full time water distributor (neerkatti) in consultation with informal block level committees. The neerkatti implements water deliveries to the micro-blocks and is generally in charge of four or five blocks. Neerkattis are paid in kind or cash by the FO. The presence of full time neerkatti is immensely valuable as conflicts relating to water distribution can be avoided.

Farmer Councils. A group of organisations in a pasanakottam form a council in which all the office bearers of the FOs become members. Until March 1994, 23 farmers councils were formed. Each council has its own executive committee and office bearers. The executive committee consists of a representative from each FA at the sluice level. From among them, five members are selected to be the office bearers, namely, President, Vice President, Secretary, Joint Secretary and a Treasurer.

Women's Groups. An interesting feature of the Periyar-Vaigai project which is different from the Thindal experience is that fora were formed to involve women in irrigation management at the sluice level and provide them with development programmes to supplement their family income. A few ICOs took the lead to support such fora in five villages. As the development programmes launched by women's associations were not connected to irrigation, by and large, they remained outside the fold of the organisation for irrigation management.

Impact of Farmer Participation. An evaluation of the impact of participation in RWS implementation in the XI branch channel showed that well planned canal operation, coupled with rotational water supply, has resulted in the saving of water (8.68 per cent), besides increasing the yield of paddy (77.3 kg/ha). The area irrigated per unit of volume of water has increased by 15.12 per cent. RWS has ensured higher production in the head reach by preventing excess use of water and in the tailend by supplying adequate water. Wastage of water through natural drainage during rains and crop maturity period has been reduced by adjusting sluice discharges. Water distribution has been systematised and farmers are informed of the availability of water. Depending on the availability of water, potential crops are decided in the farmers meetings and farmers are informed about the same.

Donor Influenced Farmer Organisations

Amaravathy New Canal System, Coimbatore

The new Amaravathy canal takes off from the Amaravathy Dam commanding about 9,000 ha. The management and maintenance of the canal system is looked after by the PWD. However, under the World Bank assisted modernisation programme, FOs involved in system management and maintenance below the distributary level have certain requirements. In a sense, the World Bank wants farmer councils on the lines of work done by the AED. The organisational structure would have a three-tier structure consisting of a sluice level organisations, farmer councils, and an apex body.

Improvements to the main canals are nearing completion under the National Water Management Project. This is expected to improve the equitable supply of water between the head, middle and tail reaches of the system. Farmers are now confident about getting their share of water.

Some sluices have informal FOs. They manage water distribution within the sluice area with the help of a neerkatti. Farmers pay 50 kg paddy per acre. The sluice level FOs have limited credibility at the government level, as they are far too small a body to be of any great value in handling system management. Distributary-wide farmer councils, with at least a command of 2,000 ha, would have greater clout dealing with problems of system management and maintenance.

Initially, the consultants intended FOs to cover an area of 2,000 ha, but farmers expressed the view that such a large area would involve ten or more villages and would be difficult to manage. They felt that an area of about 500 ha covering three to five villages would be suitable. The farmers' views were accepted. Considering the characteristics of the sluices and the manner in which they could be grouped, 27 councils have been proposed with the area under each ranging between 200 ha to 600 ha.

After long discussions, it was agreed that farmers would pay Rs. 200 per acre towards a trust fund to be created at the level of the council. This fund would be deposited in a bank and the interest from it would be used to maintain the system and the channels in the area of the council. The three-tier structure would be as follows: outlet committee, farmer councils and the apex body. The organisers will be the O&M staff of the line department. Only the farmer council is required to be registered, and the government will enter into a memorandum of understanding with the council on sharing responsibilities. It is very close to AED's approach.

Tank Farmer Organisations

While tanks of great antiquity exist in Tamil Nadu, their importance as contributors of agricultural development and rural prosperity has been only lately realised. Anna University with the Ford Foundation assistance initiated pilot studies on participatory approaches to tank rehabilitation and management in 1982. Encouraged by the results, Ford continued its institutional research assistance to the CWR, Anna University, while funds for rehabilitation were provided to the government of Tamil Nadu by the European Economic Community. Under the project, four tanks, Kattiamandal (Chengai-MGR district), Kedar (Ramasamy Padaiyachiar district), Kannangudi (Pudukkottai district) and Sowdarpatti (Madurai district) were selected for participatory rehabilitation in 1988-89.

The formation of water user organisations (WUAs) by giving priority to community concerns and making farmers key decision makers was a new approach to the government. The success of the project depended on the line agencies' accepting a new role and whether farmers were committed to work cooperatively. A CWR team of an institutional organiser, process documenter, and technical assistant were provided, backed by a team of professionals drawn from Anna University and from outside. The administrative support apparatus for the project consisted of the PWD and AED, a voluntary agency ASSEFA, and other departments of the government. A steering committee was chaired by secretary PWD, which is the principal line agency.

WUAs were formed in all tanks and were registered under the Tamil Nadu Societies Registration Act 1975. The government agreed to award the WUAs the contract to execute some rehabilitation works and advanced loans for the purpose as farmers could not be expected to possess adequate resources. Some difficulties were encountered, and a guarantee for financial surety, security deposit, and power of attorney were needed. These were eventually overcome. The steering committee and the CWR played an important role in overcoming these and similar hurdles.

As would be expected, some WUAs had strong local leadership which succeeded in closing ranks when issues of collective interests were involved. However, others were not so successful. As a result, the rehabilitation work was smoother in some villages (Kedar and Sowdarpatti) than in others (Kattiamandal). In one case, an NGO provided sustained support and moderated between factions to sustain the WUA. On the whole, the office bearers managed to resolve internal conflicts and the WUAs continued to function as a representative of the farmers.

The experience with the four tanks shows that the line agencies can change their approach in dealing with WUAs provided they are backed up from the highest levels of government. Similarly, established government procedures can be modified, for instance, with regard to awarding work contracts to farmers, changes in rules to suit the financial capability of farmers, and granting communities rights as regards usufruct and fishing in tanks.

Farmers too can take the initiative, a certain amount of risk and also the collective responsibility to implement high quality works at reasonable rates. Their suggestions about what they need and what should or should not be done are more beneficial to them in the long run than standard schemes prepared for the state as a whole or a region. Pre-determined blue prints do not meet local needs.

However, farmers quite often need the assistance of an external agency, whether an NGO, a research institution, or just an impartial but interested

group of people, to energise interaction within the community to sustain group action. When such assistance is available, WUAs can decide what they want and also set priorities, make resource allocations, and mobilise resources to fund common needs.

Organisational and Procedural Changes

In Tamil Nadu, organisational and procedural changes have been limited. At the field level, they are largely restricted changes in contracting procedures, rather than in the operations of the line agency. The few modifications to date include the following:

- As a result of a redivision of revenue districts, many river basins became interdistrict systems. To preserve the integrity of the river basins, PWD was reorganised according to the basins and by functional specialisation.
- PWD was divided into the Water Resources Organisation and the Buildings Organisation.
- To permit FOs to execute work contracts, the government has agreed to review them on a case by case basis. Some of the changes include the award of contracts to FOs, the waiver of the collection of an "earnest money deposit" and the collection of security deposits in instalments, the relaxation of the monetary limit for entrusting piece work contracts to FOs which can cost as much as two million rupees, the sanctioning of seed money to FOs to enable them to execute the works, and the assignment of fishing rights to FOs.

Irrigation Management Transfer or Turnover

No turnover of large irrigation systems has occurred in Tamil so far. However, the subject has been actively debated in the recent past and continues to date. The final decision in the matter must, of course, be taken by the government. The work with FOs has clearly shown that farmers on many systems are prepared for the transfer of management responsibility, provided the rights and obligations of both sides are understood and mutually agreed upon.

On small irrigation systems, such as tanks, a strong tradition of farmer management already exists. Many tanks are farmer managed. Whether large rehabilitated tanks can be successfully managed by farmers is presently conjecture.

On the NK Channel preparatory work leading to turnover was done under assistance from the ISPAN. Several hurdles arose while working for irrigation management transfer: the lack of full membership in the FO, the physical improvement of the system prior to turnover, and the terms of the MOU that would set the terms of the division of responsibilities between government and FO. Little can be done until these issues are resolved.

Conclusions

The process of transfer of irrigation management to the farmers is well on its way. There are differences in approaches, financial management, organisational structure, and incentive packages. These differences have arisen, in part, to meet regional and cultural difference and do not compromise the basic principles of participatory irrigation management. All of the approaches discussed above are functioning, with the exception of the World Bank's project and Pathinettupatti. The experiments initiated by the IMTI and the AED suggest a degree of success.

Chapter 3

LESSONS LEARNED

Catalysts can play a significant role in promoting participatory irrigation management in Tamil Nadu.

In Tamil Nadu, as in other states in India, government line agencies have worked directly with farmers to create Fos. The AED on large systems and the PWD in the EEC funded tank rehabilitation project are examples. The AED used the services of irrigation community organisers rather than its own staff to work with villagers. Young men and women became part of the rural communities where they worked. They began talking about irrigation matters and helped farmers establish FOs only after their credibility was established.

The donor assisted EEC project used the services of community organisers under the guidance of the CWR. The PWD has continued to work with FOs by drawing on the experience gained from tank projects. Similarly, the Salipperi experiment utilized the services of IMTI and village youth although the PWD remained in the background as a supporter. Voluntary village groups, NGOs, and farmers have successfully contributed to FOs on tanks. All these support the view that line departments of the government will do well to use the services of trained catalysts, whether individuals or organisations, in forming FOs.

Farmers in Tamil Nadu welcome the opportunity to manage irrigation systems and seem willing to cooperate with outsiders who wish to assist them.

Though disputes and suspicions divide neighbours in rural communities everywhere, farmers in Tamil Nadu are willing to cooperate in matters of irrigation, contribute money and labour, and work for more equitable water distribution. This attitude might be a carry over of the long tradition of farmer managed irrigation systems and kudimaramathu.

Farmers have time and again demonstrated the ability to come up with alternative solutions to problems and also to understand what can and cannot be done. FOs in Tamil Nadu do not have to be moulded according to precast blue prints. The interest and problem-solving skills of farmers were noted in the work on the NK Channel, Lower Bhawani and Periyar Vaigai projects, in Salipperi and the various tank schemes.

A two or three tiered FO works well for managing irrigation both on tanks and reservoir-fed canal systems.

Irrigation tanks usually have a two tiered FOs, one informal that is sluice based and other which manages the tank as a whole. Tanks that service two or more villages still have a two tiered body..

The tank management committee includes representatives from all villages in proportion to the area irrigated. Important functions as regards annual maintenance, voluntary contributions, and decisions about the date of release of water are made by the management committee. On canal systems, the sluice committee is given formal recognition as it can control an area of 60-70 hectares. A group of sluices form the second tier corresponding with a branch canal (about 2000 ha) while the apex body may represent all the water users.

The NK Channel developed a three-tiered system of management, consisting of sluice, village, and channel level organisations. The Salipperi approach operates as a three tiered system starting with the village, the channel committee representing all FOs, and a river committee as the apex body.

The multi-tiered organisations have a rational base in the nature of the system. However, these tiers do not yet have a legal basis, even though some are registered.

Registration can greatly enlarge the functional capability of FOs.

Registration gives legitimacy to the authority of the FO, with regard to settlement of disputes and enforcement of discipline. It adds transparency to financial dealings and gives the FO a legal status for a better bargaining position and access to assistance from government. Despite, these benefits, many FOs postpone getting registered because of the complicated registration process.

A maintenance trust fund for FOs can be implemented and operated.

At the initiative of the IMTI, a maintenance trust fund was created in Salipperi in 1989 through one-time matching contributions by farmers and government. The fund is not adequate to cover all operational and maintenance costs of the system, but it does indicate a willingness by farmers to shoulder some of the financial burden of system operation. Although only one case exists presently and many important details still need to be worked out, the Salipperi case does suggest that a trust fund can be created and made to work.

The active participation of women in a farmer organisation can improve irrigation management.

Women participate in FO activities, performing important functions, but they remain in the background. Where they are land owners, they do become eligible for membership but such instances are not many. The AED in the Periyar-Vaigai project become responsive to gender realities. But integrating women in irrigation management has not come on its own. Where directed efforts were made, women came forward and men helped in the efforts as in the action research project on the NK Channel. A committee of four women and one male was constituted for integrating women in the turnover process. Women took active part in meetings and village level discussions.

Over time, FOs do expand their activities beyond water management and become multipurpose.

Once FOs are able to develop the capability for water management, particularly equitable water distribution and system maintenance, they turn to issues such as procurement of farm inputs, new agricultural technology, and the marketing of produce. This expansion of the FO mandate was found in the NK Channel and the Lower Bhawani Project. Becoming multipurpose seems to be an indicator of sustainability.

Changes in the organisation and procedures of the line agencies are needed for supporting FOs.

Where OPC has occurred, line agencies have become more supportive of farmer efforts, as was the case in with tank FOs. Similarly, the commitment of the government to involving farmers in irrigation management will provide the framework under which line departments can activate the process of developing and supporting FOs.

The training of the officers of FOs and the field level personnel of the line agencies and NGOs go a long way in assisting the promotion and sustenance of FOs.

Human resource development efforts, such as study tours, workshops, and demonstrations, have been useful to upgrade the capacities of FO officers and line agencies staff.

Chapter 4

RECOMMENDATIONS AND NEXT STEPS

Recommendations

The Government of Tamil Nadu recently announced a state water policy, which, among others, gives key importance to farmer participatory in irrigation management. The government is now committed to develop and foster Fos in the interests of raising agricultural productivity and using scarce water resources more effectively.

A detailed policy framework has to be worked out for encouraging participatory irrigation management. The following recommendations drawn from the lessons learned should be considered for furthering the process:

1. Simplify and streamline the FO registration process which is presently cumbersome and time consuming. The formalities should be done through the sub-registrar's office, rather than the registrar's office where it is done now.
2. Improve the coordination of government departments and agencies, particularly PWD and AED, dealing with irrigated agriculture
3. The rights and responsibilities of the departments and their field level officers and the Fos should be clearly defined jointly by the two parties.
4. In support these roles for government and farmers, human resource development should be given priority attention.
5. While a maintenance trust fund may be a desirable way of dealing with some of O&M costs of a system, it should be considered only in the context of all revenues and costs, including the land tax, water cess, and usufructs.
6. Catalysts should be used in developing Fos for training farmers. For the foreseeable future, NGOs appear to be the best source of such personnel and resources.

7. To encourage the active participation of women in FOs, the MOA should be amended to permit any member of a household to represent it in meetings and other FO activities. In addition, women should be represented in the executive committee and apex body.

Next Steps

In the near future, the following two steps deserve top consideration:

Prepare an actionable policy framework.

The water policy of the state has to be elaborated to specify the respective responsibilities of the farmers and the government, structure and functions of Fos, administrative system for follow up, separate and overlapping areas of jurisdiction of farmers and the government and the authority or powers to perform functions entrusted to Fos.

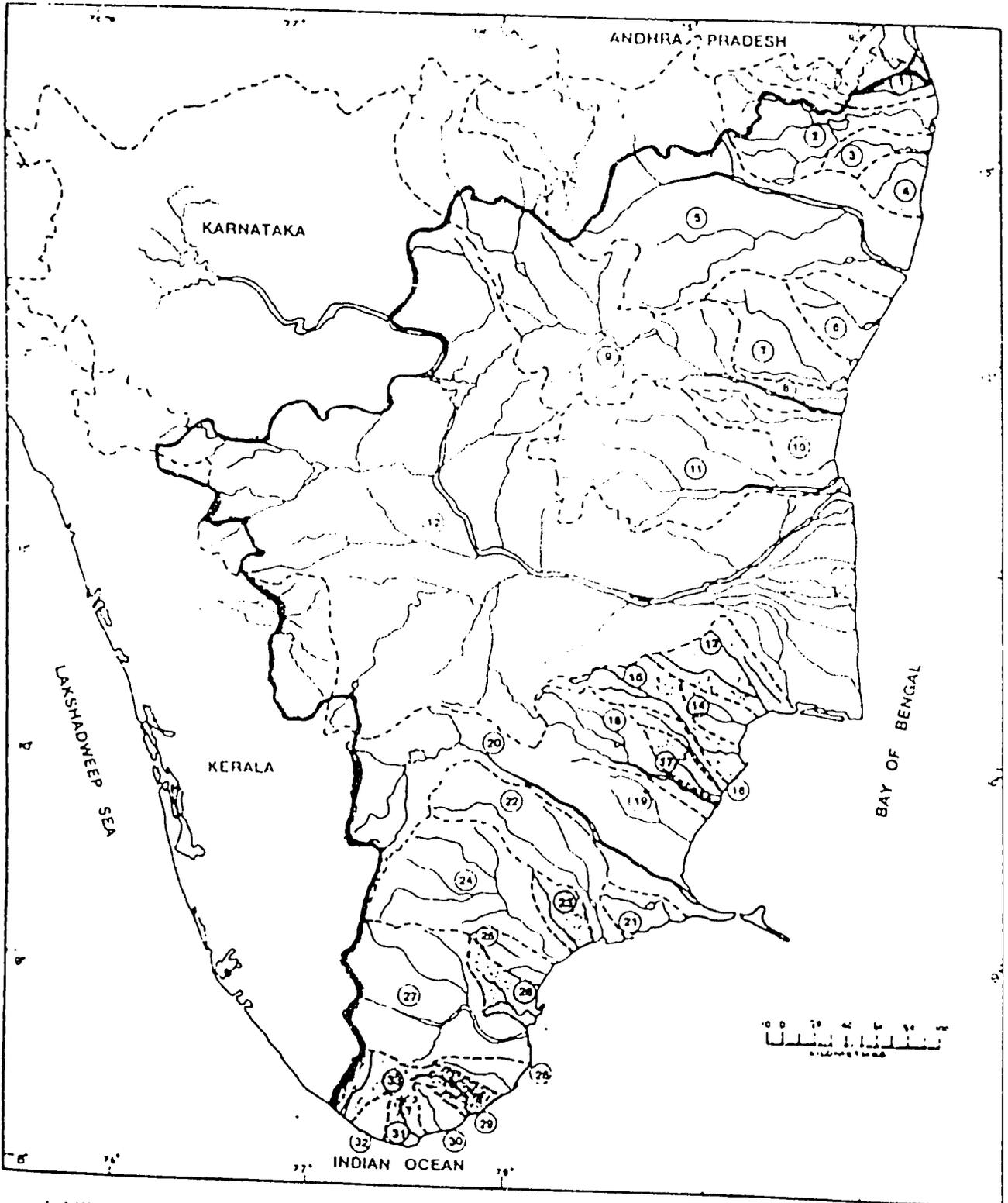
Create a fund for maintenance.

As part of the policy to promote participatory management, it is important to provide Fos a dependable and adequate source of income for maintenance and management costs. Several approaches have been tried in the state and elsewhere. A general formula acceptable to the government and the farmers can be evolved which can be modified to suit particular systems and circumstances. An important consideration is to see that funds are adequate for the purpose but do not make farmers lose the initiative so necessary to give them a sense of collective ownership of the system they manage.

ANNEX

Annex A

MAP OF RIVER BASINS IN TAMIL NADU



- | | | | | |
|---------------|---------------|---------------------|------------------|-----------------|
| 1 ANUPPALARU | 8 MALATTIARU | 15 VELLARU | 22 GUDALARU | 29 NAMBIYARU |
| 2 KOTTALARU | 9 PENNALARU | 16 KOLUVALARU | 23 VEMBARU | 30 PANDIYALARU |
| 3 COYUM | 10 GADILAM | 17 PAMBARU | 24 VAIYALARU | 31 PALAVARU |
| 4 ADAYARU | 11 VELLARU | 18 MANIMUTTARU | 25 KALJARU | 32 VALLIAR |
| 5 PALARU | 12 CAUVERY | 19 KOTTAKKALARU | 26 KUMARALAMBARU | 33 KODAIYARU |
| 6 ONGURU R. | 13 AGNIARU | 20 VAIGAI | 27 TAMBARAPALARU | 34 WEST FLOWING |
| 7 VATHIYALARU | 14 AMBIYALARU | 21 UTTARAKOILAMBARU | 28 KATAMALARU | |

Annex B

ACTS GOVERNING IRRIGATION IN TAMIL NADU

A. Irrigation Practices

1. The Madras Compulsory Labour Act 1858
2. Tamil Nadu Revenue Recovery Act, 1864
3. Tamil Nadu River Conservancy Act, 1884
4. Tamil Nadu Canals & Public Ferries Act, 1890
5. Tamil Nadu Land Encroachment Act, 1905
6. Madras Survey and Boundaries Act, 1923
7. The Periyar Irrigation Tanks (Preservation) Act, 1934
8. Tamil Nadu Irrigation Works (Repairs Improvement and Construction Act 1943)
9. The Tamil Nadu Irrigation Tanks Improvements Act 1949
10. Tamil Nadu Requisitioning and Acquisition of Immovable Property Act, 1956 as modified on 01-12-1973.
11. Tamil Nadu Panchayats Act, 1958
12. Madras Irrigation Works (Construction of field bothies) Act 1959.
13. Tamil Nadu Water Supply & Drainage Board Act as amended 1971.

B. Land Acquisition and Irrigation

14. Land Acquisition Act, 1884 as amended in 1923, 1948, 1953 and 1961.

C. Irrigation Cess

15. Tamil Nadu Irrigation Cess Act, 1865
16. Tamil Nadu Land Revenue Assessment Act 1875
17. Tamil Nadu Irrigation Cess (Amendment) Act 1914
18. Tamil Nadu Land Revenue Assessment (Amendment) Act, 1914
19. Bhavani Reservoir Irrigation Cess Act, 1933
20. Madras Irrigation Cess (Amendment) Act 1933
21. Tamil Nadu Irrigation Works (Repairs Improvement and Construction) Act 1943
22. The (Tamil Nadu) Irrigation Cess (Amendment) Act 1945
23. Mettur Canals Irrigation Cess Act 1953
24. Tamil Nadu Irrigation (Levy of Betterment Contribution Act 1955.
25. Madras Additional Assessment and Additional Water Cess Act 1963.

Annex C

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