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MAHARASHTRA

POLICY OPTIONS FOR PARTICIPATORY IRRIGATION MANAGEMENT

Farmer Organisations and
Organisational and Procedural Changes

ISPAN

IRRIGATION SUPPORT PROJECT
FOR ASIA AND THE NEAR EAST

Sponsored by the U S Agency for International Development

in collaboration with

DIRD

DIRECTORATE OF IRRIGATION RESEARCH
AND DEVELOPMENT, PUNE

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EXECUTIVE SUMMARY

Parts of Maharashtra were irrigated long before independence. Traditional systems like phad, Malgajari tank, and Kolhapur type weirs were constructed by communities without government intervention. After the independence, the state pioneered community participation through its efforts with cooperative societies for sugar and dairy industries. The state has also led others in transferring management responsibilities to users through turnover programs. As Maharashtra moves ahead into a new phase of participatory irrigation management, in support of the 1987 National Water Policy, it is appropriate to examine its progress and direction.

This report is to synthesise the experiences of the past efforts with farmer organisations, organisational and procedural changes and turnover; to analyse the success and failures and identify lessons learned from the experiences; to arrive at the various recommendations supported by these lessons; and to suggest next steps for government consideration.

Important lessons based on experiences with forming and supporting farmer organisations include the following:

- Institutionalizing farmer organisations for irrigation management can help in bring efficiency in the resource utilisation and productivity through the complementarity of efforts of government and the farmer.
- Formulation of a comprehensive implementation strategy can help to promote farmer organisations.
- An amendment in Maharashtra Irrigation Act for recognizing FOs as a legal instrument and framing rules for the governance of FO can help the formation of farmer organisations.
- Freedom of choice to FOs to register in any of the relevant acts could help in expeditious attainment of a status of a legal institution.
- An unfulfilled promise by the department to repair and update a system following a walkthrough by line staff and farmer representatives will delay and even stall the process of turnover
- The commitment and continued involvement of the line agency can help promote participatory management and develop farmer organisations.

- The freedom of crop choice in irrigation can help promote farmer organisations.
- The involvement of the farmer organisation in assessment and collection can promote better recovery of irrigation charges and create a better working relationship between farmers and the department.
- Granting authority to the farmer organisation to levy service fees over and above the irrigation rates specified by the Irrigation Department can help in providing financial viability to the FO.
- Catalysts clearly help to promote farmer organisations.
- A two-tiered FO committee at minor and distributary levels on major projects and at the chak and tank levels on minor tanks can help to improve water management.
- Foreign donors can exert influence on the government to develop farmer organisations, but they cannot sustain them.
- Infrastructural and financial support can lure farmers to develop organisations, but social, institutional and HRD support are required to sustain them.
- Granting water rights to farmers in traditional and minor irrigation systems can promote farmer organisations.

Recommendations that have emerged from the lessons learned are focused on operationalising the National Water Policy and accelerating the process of participation in the irrigation management. The experiences point out to steps towards establishing institutional framework for promoting FOs and recognising user rights. The more important recommendations made in this report are as follows:

- A cadre of catalysts should be formed from engineers and allied staff of the line departments who volunteer to take up the role. NGOs working in the field of farmer organisation need to be invited and shortlisted to take up this type of work. A procedure for involving them will need to be created to entrust them with this work without their going through the normal contract procedure.
- The Maharashtra Irrigation Act should be amended and the rules framed to recognize and involve farmer organisations in water management committees.

- The delay in the turnover of systems to farmer organisations even after they were registered affects the creditability of the government. Accordingly, the government should not commit itself to repair or improve a minor before turn-over and adopt a policy to turnover on 'as is where is' basis. For providing resources to the farmer organisation, the department should agree to provide a fixed percentage of the revenue collected which would be ploughed back into improving or repairing the infrastructure.
- Farmers should be given the freedom to choose the crops to be grown.
- Since the process of registration in the Cooperative Act is time consuming and cumbersome, farmer organisations should be able to register themselves in the Cooperative Societies Act, Indian Societies Act, or directly with the Irrigation Department through new act.
- Farmer organisations should be given the task of assessment and collection of revenues.
- A two-tiered water management committee, one at minor level and the other at distributary in major projects and at chak level and tank level in minor irrigation schemes, should be adopted as the appropriate unit for developing farmer organisations.

Participatory irrigation management in Maharashtra will require organisational and procedural changes in the line agencies, formulation of government policy, and an implementation strategy. The government should consider the following:

- constituting a coordination committee under the Chief Secretary
- creating a separate cell in water resources department with full responsibility of promoting this activity
- strengthening organisations assisting farmer organisations
- setting up an administrative committee to modify and amend the present role and responsibility of line functionaries
- entrusting this task to them so that this activity no longer remains additional to their normal work and responsibilities

- establishing an advisory committee of NGOs, FOs, retired senior officers to evaluate and advise the government from time to time and suggest actions necessary to accelerate this activity

Another important recommendation is providing a separate line item in the budget for promoting participatory management.

Among these recommended actions, some deserve immediate attention as "next steps." Many of the actions suggested are administrative. Some are financial or legal. Administrative actions should be given the first priority and form three groups:

- Formulation of policy and procedures for involving NGOs, forming a cadre of catalysts, constituting a coordination committee, creation of a cell in the secretariat, setting up an administrative committee and advisory committee. These should be taken up immediately.
- Providing a line item for participatory management in the budget and providing adequate funds. These deserve equal importance.
- Amendment of the irrigation act, giving freedom of choice to FOs for registration, freedom of crop choice, assigning the task of assessment and recovery also deserve actions which could be taken through a collective wisdom of the proposed committees concerned with it.

A midterm evaluation of the Eighth Plan is likely to commence shortly. These recommendations may be relevant for that exercise.

ACRONYMS AND TERMS

CADA	Command Area Development Authority
DIRD	Directorate of Irrigation Research and Development
DLC	Distributary Level Committee
FO	Farmer Organisation
FMIS	Farmer Managed Irrigation System
GOM	Government of Maharashtra
ha	Hectare
hp.	Horsepower
ID	Irrigation Department
ISPAN	Irrigation Support Project for the Asia and the Near East
KT	Kolhapur Type
LCU	Liaison and Coordination Unit
MMIP	Maharashtra Minor Irrigation Project
MOU	Memorandum of Understanding
MOA	Memorandum of Association
O&M	Operation and Maintenance
RMIC	Regional Minor Irrigation Cell
SAEC	Special Analysis and Evaluation Cell
TMC	Tank Management Committee
USAID	United States Agency for International Development
WALMI	Water and Land Management Institute
WUA	Water Users Association

Chapter 1

BACKGROUND

Introduction

The major part of the state of Maharashtra on the east of Sahyadri ranges sits on a plateau and is situated in the rain shadow. The water resource is scarce in the eastern part. Agricultural activity being dependent on the availability of water, there is a growing realisation of its value among the people who in the past have harnessed the water resource either through community or cooperative efforts on small scale. Since, the cooperative effort (both physical and financial) in constructing the bandhara, K T weirs, small tanks, providing distribution system, maintaining and managing them is considerable, the people have gone for cash crop like sugar cane which gives substantial economic return from agricultural produce commensurate with their efforts.

Maharashtra has been a pioneer in India in people's participation through its efforts with cooperative societies. Through this movement it has achieved development of cooperative societies for sugar and dairy industry. It has also developed as many as 3300 irrigation cooperatives societies registered under the cooperative act of which 3224 are for lift and the remaining for flow irrigation. It has turned over canal minors to local groups and allowed them the freedom to manage water use. Volumetric rate for bulk water delivered at minor head has been adopted. Irrigation Department (ID) sees it as a way of addressing efficiency, maintenance of distribution system, and recovery issues.

In earlier days, when the government took up construction of irrigation infrastructure, as a development program, it conceived the entire system as demand based. It had two concerns:

- the water resource harnessed must be fully utilized
- the farmers do not go for high water requirement sugar cane alone but also grow food crops

In order to ensure these twin requirements, the government introduced block system of irrigation where they received request for water from individual farmer for irrigation of the block. Under block system, government sanctioned water supply for a long period with the proviso that the farmers grow kharif, rabi and sugarcane in the fixed ratio. The fixed ratio, however, varied with block types. Later, as a measure of incentive the government permitted these farmers cooperative societies who opted for volumetric supply to transfer the saving from rabi season quota in hot weather season less 30 percent to account for

evaporation losses. The government also issued a number of circulars, guidelines, for formation of farmer organisation through model bye laws, agreements, procedures for registration as cooperative societies.

The U.S. Agency for International Development (USAID) through Maharashtra Minor Irrigation Project and Water Resources Management and Training Project (WRM&T) had supported between 1985-1992 the efforts to activate the participatory management of irrigation which inter alia meant management of irrigation jointly through sharing of tasks involved between line agency and farmer organisation. After these projects ended on 30 September 1992, the USAID desired to synthesize the experiences (of the action research and related efforts). and to identify the policy initiatives and strategy required to accomplish this task.

The consultants reviewed the policies of the government and interacted with various cooperative societies developed either through government efforts or by NGOs. They captured some of the key lessons learned backed by the experiences of successes and failures. These key lessons indicate why despite the innumerable instructions, circulars, guidelines, draft memorandum of understanding (MOU) and memorandum of association (MOA) only 96 water cooperatives (on minors) have been registered, 102 are in the offing on flow schemes and only four in minor surface flow irrigation schemes as against 750 cooperatives on lift schemes set up in the three districts of Sangli, Kolhapur and Satara without any specific ID efforts.

Objectives

After the USAID projects in the water sector concluded, USAID asked Irrigation Support Project for Asia and the Near East (ISPAN) to synthesise the experiences in development of farmer organisations and recommend the steps to be taken and formulate an action plan. Accordingly, the following objectives were formulated to:

- synthesise the experiences of the past efforts with FO, organisational and procedural changes (OPC) and turnover
- analyse the success and failures and bring out the lessons learned from the experiences
- arrive at the various recommendations supported by these lessons
- suggest next steps for government consideration

Background of the State

Maharashtra has a heritage of small irrigation systems. Some of them are as old as 200 years or so. After independence, construction of irrigation schemes based on the area commanded received topmost priority. The irrigation projects have been classified into three categories. The scheme with irrigation area more than 10,000 ha is termed as major project, between 2,000 ha to 10,000 ha as medium project, while the scheme covering area up to 2,000 ha is defined as minor project. The schemes covering area of 100 ha to 200 ha are under state sector and less than 100 ha are under local sector. All these schemes are owned by government. Irrigation Department has been in charge of operation and maintenance, assessment and collection of water charges of all these systems.

The scenario of state sector irrigation schemes is as under:

Table 1
Irrigation Potential and Number of Schemes

<u>Category</u>	<u>Major</u>	<u>Medium</u>	<u>Minor</u>	<u>Total</u>
Ultimate Irr.Potential (m ha)	4.1*	-	3.2	7.3
Developed Irrigation (m ha)				
Potential	1.5	0.5	0.9	2.9
Numbers of Schemes	43	153	1700	1896

*includes potential from medium schemes

Administration of Irrigation Management

The irrigation management is under the administrative control of the Irrigation Department. At the state level, the Irrigation Department has two secretaries. One looks after the construction and maintenance of the irrigation systems (excluding command areas) and the other looks after Command Area Development Authority (CADA). The CADA administrator of the rank of superintending engineer (SE) has full charge of operation, maintenance, assessment and revenue collection similar to SE in charge of non-CADA schemes. In Irrigation Department, the personnel of both CADA and non-CADA schemes belong to the common cadre of Irrigation Department. The CADA operates in selected projects where a command area development authority has been set up.

The objective of CADA is to improve agricultural productivity through better land and water management. The administrative set up of CADA in Maharashtra is different from other states except Gujarat. The line staff being a member of the common cadre, the cooperation and cohesion is better. The Irrigation Department through its CADA wing is responsible for water utilisation. The CADA has full control over operation, maintenance and cadre management within its jurisdiction. The organisational set up is given in Annex A. The CADA in its own area is making sincere efforts to promote farmer organisations but in the non-CADA area the efforts on farmer organisation are at a low ebb so far.

Irrigation Acts

After formation of Maharashtra State, Maharashtra Act No. XXXVIII of 1976 was enacted as the Maharashtra Irrigation Act 1976 for entire state after repealing the following acts on 1 January 1977:

- Bombay Irrigation Act (Bombay VII of 1879)
- Central Provinces Irrigation Act 1931 (CP III 1939)
- Central Province and Berar Regulation of Water Act 1949 (CP Berar XXXVII of 1949)
- Hyderabad Irrigation Act 1357.F and (XXIV of 1357F)
- Hyderabad Irrigation (Betterment contribution and Inclusion fees) Act 1952 (Hyderabad I of 1952)

The Maharashtra Irrigation Act 1976 chapter III empowers the canal officer to provide water to a group of beneficiaries on volumetric basis provided that:

- the holders or occupiers not less than 51 percent of the lands or not less than 51 percent of the holders or occupiers of the lands to which water is sanctioned give consent to take over on payment water on volumetric basis
- form a water committee of all such occupiers or holders for distribution of water on that canal

The act provides that the water committee shall consist of five persons, one of whom will be a sectional officer or his nominee. The functions of the water committee as provided in the act comprise assisting the canal officer regarding receiving complaints, preventing unauthorised use of water, assisting the canal

officer in discharge of his duties and to ensure that only sanctioned crops and areas are brought under irrigation. The act further provides for handing over the canal management and distribution of water to the water committee so appointed provided the land to be irrigated does not exceed 200 ha.

The above provisions of the act provide ample authority to the department to enter into an agreement with the farmer organisation. Further section 114 of the act authorises the department to frame rules for the implementation of the act which has not been done so far. The act, however, does not provide for registration of the water committee, and water rights, turn over of system, assessment and collection of irrigation charges. These functions could probably be included in the irrigation rules to be framed.

Farmer Managed Irrigation Systems

The farmers managed irrigation systems can be broadly divided into groups of traditional systems and non-traditional systems (Figure 1):

Traditional Systems

Traditional systems are those which were constructed, funded and maintained by the people at their own initiative prior to independence. Community Phad systems and Malgujari tanks belong to this category of FMIS.

Community Phad System in Nasik and Dhule Districts. Phad system of irrigation consists of dividing the entire command in a number of blocks locally called phads cultivating crops and irrigating them in a manner predetermined by the FO. The system is followed traditionally in Nasik and Dhule districts of the state on the wiers (bandharas) which were constructed more than 200 years ago. The command area of Phad Schemes varies from 8 ha. to 480 ha. There are 66 such schemes which command 5500 ha. The system is entirely managed by the farmers themselves in regard to operation and maintenance of the canal and distribution below the outlets. The maintenance of head work and sluice is also done by the farmers. These systems are termed second class irrigation works. Special provisions exist for these works in the Irrigation Act. Though extremely useful at that point of time, the system is declining because of upstream water withdrawals both by government and private users.

Malgujari Tanks in Chandrapur and Bhandara Districts. These tanks in Vidarbha area were primarily constructed by land lords (Malgujars) in the olden days for providing life-saving irrigation for paddy crops in latter half of September and October during prolonged drought periods. A committee of eight to ten farmers managed operation and maintenance of the tanks. All these tanks have since been acquired by the government and farmers' management stopped.



Figure 1 : Farmer Organisations in Irrigation in Maharashtra

Non-Traditional Irrigation Systems

Non-traditional systems mostly comprise irrigation works constructed after independence with or without the support of government.

Cooperative Societies on Lift. A number of cooperative societies are formed for lifting water for Irrigation. The water is lifted from small storage weirs (Kolhapur type weirs) constructed on small river flow. In most of these societies the water distribution is done by the societies and the irrigation charges are levied by Irrigation Department on the area basis of sanctioned crops. In few of the schemes, the society acquires water by payment on volumetric basis. Such societies are now established on all the major rivers, mainly in Kolhapur, Sangli and Satara districts. At present in Sangli and Kolhapur districts, about 750 lift irrigation societies are established irrigating about 0.2 M ha. of land. All these societies have their own management staff for water distribution. Lift irrigation societies are also formed along the periphery of reservoirs in minor tanks and Kolhapur type weirs. Most of these societies thrive on cultivation of cash crops like sugar cane and have affiliation with the sugar factories in the area.

Cooperative Societies in Major Irrigation Projects initiated by CADA. Formation of farmer societies has been initiated in command areas of minor/distributary over last five years in the major projects; where bulk water is supplied at the head of the minor on volumetric basis. Internal water distribution and management is done by the society. The present stage of the societies created through the efforts of CADA and NGOs in Maharashtra is as under:

	Major/Medium
Societies registered and in operation	46
Societies registered, MOU signed but yet to be implemented	5
Societies registered, MOU to be signed	45
Societies under proposal stage	102
	<hr/>
	198
	<hr/>

The total area covered by these societies is quite small (0.17%) when compared to the total irrigation command area to be covered. Irrigation Department through CADA (maintenance divisions) is trying to establish such societies on minors through special incentives in water rates and assistance to such societies.

Cooperative Society in Surface Flow Minor Irrigation Schemes (Non-CADA). Under the USAID assisted Maharashtra Minor Irrigation Project, 90 Minor Irrigation Schemes bringing approx. 26,500 ha. of land under irrigation were taken up for construction. One of the covenants in the project provided development of Water Users' Associations for a joint venture of participatory management. According to this covenant, Government of Maharashtra issued circular incorporating guidelines for the formation of chak committees and tank management committee during March 1991. (GOM ID Circular No. CME-1091/(122/90)-IM(R) of 21/03/1991) (Annex B). Activities of formation of farmer organisations were scheduled in two phases:

- Phase I: Development of an organisational structure, as an interim measure, till management is taken over by FO
- Phase II: Handing over the complete management of the irrigation system with the development of organisational structure of FO

The chak committees were formed in 84 out of the 90 minor irrigation schemes. In some cases, tank management committees were also formed. The members of chak committee and management committee were trained to carry out the functions and responsibilities of the chak committee and tank management committee and were given the know-how of carrying out the canal performance test. None of these chak committees/tank management committees except in five minor irrigation schemes could sustain after the withdrawal of the USAID assistance. It is significant to point out that while the ID officers working in CADA are striving to develop farmer organisation, similar effort is not visible in the non-CADA sector of the Irrigation Department so far.

Government Policies on Farmer Organisations

The participation of beneficiaries in the irrigation management has received the attention of Government of Maharashtra as early as 1947 when it resolved to set up canal advisory committees for canal system, pani panchayat committees for the jurisdiction of canal inspectors and a Bagayatdar Sangh of all the beneficiaries of the canal system. In 1951, the government brought improvements in the above resolution. In March 1988, Government of Maharashtra, accepting the National Water Policy, the secretary, CADA communicated policy of the government to all the chief engineers to encourage creation of FOs. In pursuance of the policy the government issued the guide lines vide government resolution dated 21.3.1991.

A booklet "Guide for Cooperative Irrigation Society" has been published by Irrigation Department during October 1992. It is compiled in three parts: government policy, guidelines for instituting society registration, and actions for

establishing the society. The publication enumerates guidelines to register a society for a command of minor under major and medium projects and in the case of a minor irrigation schemes, to form a tank management committee. Rights and responsibilities delegated to such cooperative irrigation societies are also given therein. To impress upon the farmers and field functionaries the benefits of establishing farmer organisations, the government also published a brochure "Ganga at Your Doorstep."

These booklets indicate the policy of Irrigation Department for involving farmer organisations in participatory management of flow irrigation systems at minor head of major and medium projects and at head regulator of minor tanks. Some of the important provisions are as follows :

- After a society is registered, there is a joint walk through by the members of the society and the irrigation officers to record the deficiencies in the system. Before the system is turned over to the society, the department commits itself to improve the system to an acceptable status by the society.
- The management subsidy of Rs. 100, Rs. 100 and Rs. 75 ha. is given to the societies for the first, second and third year respectively.
- The maintenance subsidy of Rs. 20 per ha. is provided to the society by the government.
- The societies are given water on the volumetric basis and the water fee is about 25 percent lower than the prevalent water rate in the state.
- A rebate of five percent is given to the society if the dues of Irrigation Department is paid within the specified time.
- The cooperative society is authorised to charge a rate of 130 percent of the normal rates from the non-members.
- The cooperative society is authorised to utilise water in the crop of its choice according to their needs.

Some of the important experiences in respect of the cooperative societies or even informal societies working in traditional and non-traditional schemes are brought out in the next chapter.

Chapter 2

EXPERIENCES WITH FARMER ORGANISATIONS

This chapter on experiences enumerates the factors responsible for success and failures and constraints in formation of farmers organisation with respect to development efforts, organisation and procedures, sustainability and replicability. Four types of irrigation schemes have been examined. They are community management in phad, cooperative societies on private lift schemes, cooperative societies developed by CADA, and cooperative societies on minor irrigation schemes.

The Phad Irrigation System

The phad irrigation system is being practised in parts of Nasik and Dhule districts of Maharashtra. In these schemes, bandharas (weir) are constructed across the rivers to divert the flow of the river to canals. These run-off the river schemes are managed by the community. At present, 66 such phad irrigation systems are in operation covering approximately 5500 ha. of command area in the two districts. Command area of an individual irrigation system varies from 8 ha. to 480 ha. The main feature of the phad system is that the Command area is divided into parts (blocks) known as phad served by branch channel (i.e. charies) and field channels (sarangs).

Community Management

For irrigation management under each weir (bandhara) there is a panch committee or baghayat panch committee which is the executive body of the irrigators having lands in the command. The members of Panch committee are selected by consensus once every two to four years in general meeting of all irrigators. The chairman or Sarpanch is also selected in the general meeting. The members of the panch committee are changed more frequently and there is no concept of term of appointment, but the membership is changed by common consensus. The number of committee members is also not fixed and it varies from village to village and time to time.

The panch committee has all the powers for surveillance, supervision and management of the irrigation system. The panch committee is responsible for the mobilization of resources in the form of cash and labour. The panch committee employs irrigation staff called havaldars, patkaris, jaglias. The salary of the irrigation staff is fixed from time to time and they are accountable to the

panch committee. Generally, the salaries of the irrigation staff are paid in kind and not in cash and it is related to the general production level.

Cropping Pattern

The crop pattern generally consists of sugarcane, groundnut and food crops like wheat, jowar, sorghum etc. Only one crop is grown in one phad in an irrigation season. The type of crop in the phad which is to be planted and the time of planting is decided by the panch committee. The crop rotation among the phad helps in maintaining the fertility of the soil and reducing the danger of waterlogging and salinity. Many farmers do have land holdings in more than one phad, and hence, the crop rotation affects all equally.

Observations

The phad irrigation system has survived for more than 400 years. The factors responsible for sustenance of the phad irrigation system include:

- a stable and reliable water source
- maintenance of the system by the beneficiaries themselves from their own resources
- management through committee of beneficiaries without any interference of government in the management
- clear operating rules and functional rules

Flexibility in institutional organisation, minimum or nil state interference in organisational management, well defined rights and responsibilities of the state agency, organisation and individual beneficiary, accountability of field system managers to the beneficiaries' organisation are the key factors which sustained phad system.

The phad system was useful up to a point of time when reservoirs on the rivulets were not constructed upstream and sustained flow in the rivulets were maintained. Construction of reservoirs upstream killed the initiative of the people. It was learnt that till 1975 farmers at Satna bandhara in the district of Nasik were cultivating sugar cane in two-thirds of the area and wheat or gram in the remaining one-third. In 1976, they stopped sugar cultivation as a result of construction of Panzra Dam which was completed in 1977 and due to which the water availability at Satna bandhara was badly affected.

Water for wheat and gram irrigation only was available at the bandhara till 1982. From 1982 to 1992 water was not available for irrigation. In 1990, the Irrigation Department sanctioned 100 mcft out of 570 mcft (reservoir capacity) for the bandhara at the tail-end. This quantity of water could be available as farmers at the tail areas in the command of the dam resisted the construction of the canal on the plea that they did not require irrigation from the canal. It took about 14 years (from 1976-1990) to take the decision of abandoning the construction of tail-end of the canal. During this long period of 14 years, irrigation from bandhara suffered and consequently the department could not utilize the water stored in the reservoir.

In the intervening period, the beneficiaries of the bandharas ceaselessly pressed their demand for allocation of adequate quantity of water to meet their irrigation needs. Acceding to their demand, the irrigation department released water into the river for use by the bandharas. This, however, could not help them. Realizing that the water rights of the bandharas were not given due recognition by the ID, many of farmers took advantage of the chaos and constructed numerous wells along the river (35 meters away from its bank). They commenced mining water through lift for the new areas which were never served by bandhara at any point of time.

This water piracy by new irrigators left the bandharas (for whom the water was released by the ID) high and dry. The government could not intervene to restore the right of water use of lower riparian and prevent this water piracy since the irrigation department has no authority to prevent construction of wells beyond 35 m from the river bank. The construction of Panzra Dam on River Panzra having 30 bandharas, Kelzar Dam on River Aram having 8 bandharas, Haranbari Dam on River Mosam having 21 bandharas irrigating 3594, 275 and 1500 ha resulted in the burial of these age old irrigation systems.

As an alternative, the department has now extended the option of providing water to the bandhara by linking them through the canals provided the beneficiaries form cooperative societies and enter into a MOU with the ID. Accordingly, the farmers of Satna bandhara have converted themselves into a cooperative society and signed the MOU with the ID. Thus the community management of irrigation through the panch committee of a phad system which was recognized as a second class irrigation under the irrigation act has now been converted into class I irrigation system. Since the bandhara and its canal system is owned by the cooperative society, it could not be clear how the irrigation department could take over the canal and improve it through its own funds.

Under second class irrigation system, the irrigation cess was realized by the government by increasing the land cess. In other words, the land cess was inclusive of the irrigation cess. After conversion of the panch committee into

a cooperative society, the farmers will have to pay not only the increased land cess but also the irrigation charges levied to first class irrigation systems. Thus the farmers of these bandharas have been subjected to immense inconvenience due to the construction of the dam and ignoring the water rights of the lower riparian. Construction of reservoirs guaranteeing the sustained flow and even augmenting it during needs could have further stabilized and even improved the irrigation through phad system. At some places this has been done and the result is encouraging. Where this has not been done, government could consider their right of use and construct systems to augment but not to stop the flow in the river.

Cooperative Lift Societies

Maharashtra has a long history of people's participation in irrigation management. Cooperative societies on lift in the districts of Sangli, Satara, Kolhapur and others stand as strong witnesses of the peoples initiative to harness the water resources through cooperative efforts. Many of the cooperatives have been organised through the catalytic efforts of dedicated volunteers from the local areas and sugar factories. All these clearly indicate that the people are amenable to work in groups whenever such initiatives are taken by dedicated agencies. Another experience is that farmers cooperatives are possible to be developed by any agency whether Government, non-government, or private.

Formation of the Cooperatives

More than one lift cooperative society exists in a village. Each of them has different functions and objectives. They can be classified into primary and secondary types. The primary cooperative societies are those which have constructed the Kolhapur type (KT) weir from the contribution of their members and maintain the same without any financial help from the department. Such a society enters into an agreement with the ID (Irrigation Department) to receive water on volumetric basis at the KT weir. It distributes water to individuals or secondary cooperatives, assesses the water charges and service fees, collects revenue and deposits it with the ID.

The secondary cooperatives are those, which are formed with the objective of obtaining loan from the cooperative bank for buying pumps with accessories, installation of electricity and other inputs for lifting the water from KT weir ponds. For obtaining supply of water it is dependent on primary cooperative society. Even for obtaining electrical power, it has to obtain a "No Objection" from the primary cooperative society.

There are two types of KT weirs, those constructed by cooperative societies and those constructed by the Irrigation Department. Out of 125 KT weirs in Kolhapur district, only 8 have been constructed by primary cooperative societies and the remaining 117 by the ID. In absence of the primary cooperative society in the KT weirs constructed by the ID, the secondary cooperative society obtains water from ID (KT weirs) and pays water charges directly. In most of the villages there are two or more cooperative societies whose members are common but their objectives are different. Prima facie it looks that development of different cooperative societies disintegrates the village but actually it is not so.

To a specific question regarding formation of more than one cooperative societies for lift irrigation in preference to combining all into one in a village, the members stated that they are forming more than one cooperative society because of several advantages to them. One of the advantages they brought out is that if the installed capacity of the pump exceeds 50 hp. then the transformer has to be installed by the cooperative society itself.

On the contrary the electricity board installs the transformer at its own cost if the hp. of the pump is less than 50 hp. Secondly more than one cooperative society multiplies the number of the office bearers. As a result, thereof, many beneficiaries acquire a social status by becoming an office bearer of the cooperative society. This reduces tension amongst them. Thirdly smaller cooperatives provide lesser management constraints.

A farmer in lift scheme pays to society charges Rs. 2,500 to Rs.3,000 per ha. Out of it the government receives water charges Rs.467 per ha., where KT weir has been constructed by the department and half of this rate where the KT weir has been constructed by the beneficiaries themselves.

Functions of Primary Cooperative Society

The primary function of a primary cooperative society besides construction of KT weir and its maintenance is water management. The society employs one manager and three patkaris and pays them monthly at Rs. 800-1000. The manager looks after the office management and patkaris look after the irrigation. The society also levies penalty up to 10 percent of each hp. of the pump whenever either the individual or group violates the rules and discipline of the society. One incentive which the cooperative society provides to the members is that it honours those who pay the dues of the society in advance. The society maintains the liaison with the irrigation department, holds monthly meetings and elections from time to time.

Sugar Factories as Catalyst

Sugar factory plays a catalytic role in the formation of the cooperatives. In one of the cooperative sugar factories in Kolhapur, it was found that the factory took permission for irrigation of 1500 acres from Government of Maharashtra, irrigation department. Thereafter it extended the offer to five villages to form the cooperative society for development of lift irrigation infrastructure for irrigation of their land. Ninety 90 of the capital was obtained from the Cooperative Bank, five percent was provided by sugar factory and the remaining five percent was contributed by the people as seed money. The loan agreement with the bank was for ten years but the agreement with the factory was for 15 years.

The loan was received by the factory on behalf of the cooperative society which controlled the expenditure in providing the infrastructure. The sugar factory maintains ledger of each farmer and recovers the amount of the loan in suitable instalments with the agreement of the cultivators from the sale proceeds of their produce which goes to their factory. As a result, the loan was almost repaid in a period of four years. The sugar factory also provides technical assistance in maintaining the pumps, electric motor and transmission line and the delivery pipe for which it charges the cultivator Rs. 50 per hp. per year. Even after the repayment of the loan the factory facilitates financial management of the cooperative funds.

The money remains with them and the expenditure is reimbursed through a system of imprest. The cooperative bank has been instrumental in developing such cooperative societies since it has liberally provided the loan to Rs. 15,000 per acre against Rs. 5,500 per acre few years back.

Role of Irrigation Department

Appreciating the potentiality of KT weirs constructed by cooperatives, the Irrigation Dept. took up the construction of KT weirs at government cost and by now many KT weirs are in position. In Kolhapur 90 percent of Irrigation is provided through lift systems installed by the cooperatives of water users. The primary responsibilities of the Irrigation Department are:

- construction of KT weirs
- creating storage and providing releases from upstream reservoirs according to operation plan
- assessment and collection of revenues
- maintenance of KT weirs

In most of the KT weirs even though the releases are as per volumetric sanction accorded by the Government, the assessment is done on area basis. The individual farmers thus become the direct clients of the irrigation department and the society gets absolved of the responsibility of collecting water fee payable to the department. Farmers do not confine themselves to the water use as per cropping pattern and water allocation approved by the department. They have been violating the cropping pattern for which water allocation is sanctioned because crops other than cash crops do not generate sufficient income to render the irrigated agriculture financially viable.

The department is not able to enforce water use as per sanction in absence of a primary cooperative society which acts as an intermediary for management of water, assessment of water charges on crop area basis, and treating individual farmers as its client. The department resorts to assessment at penal rate, which is three times the normal rate. Even this does not deter the farmers. The penal rate for unauthorised irrigation is not of consequence to them since they believe that the government would waive the penal charges.

Such waiver of penal charge which came in the year 1987, 1989 and 1994 confirms their belief. In Kale society (Kolhapur district), volumetric releases are accounted by a crude formula of broad crested weir without checking the value of coefficient of discharge. The discharge measured at upstream weir determines the volume of water released for the down stream weir. Conveyance, evaporation and leakages through the weir gates are not separately accounted. The society demands the measurement of water through area capacity curve to be established by the department. Since the cost of water is low compared to the other management costs, the society has not taken up this issue seriously.

In the irrigation division of Kolhapur the arrear has mounted to Rs. 170 M. The annual assessment is Rs. 27.5 M but the average receipt is only Rs. 15 to 16 million. The annual maintenance grant of the division is about Rs. 12.5 million over and above the establishment cost of Rs. 15 million. Thus the Government spends about Rs. 27.5 million every year and the annual revenue receipt is only Rs. 15 million. Even though the farmers have been benefitted considerably through irrigation of cash crops say 3 to 5 times from pre irrigation days, government has not gained much. The interest of the blocked arrear of Rs. 170 million even at the rate of ten percent alone works out to Rs. 17 million.

This calls for an alternative strategy to prevent mounting of arrears. During discussion, it was learnt that collection of irrigation revenue could be channelised through the sugar factory which receives the produce and pays for it. This has been the practice in respect of cooperative bank loan which ensures

cent percent recovery of cooperative dues. Similarly for jaggery the collection is channelised through market committee. The department may explore the possibility of imposing disconnection of electricity through the help of electricity department to realise the arrears. The department may also design an effective arrangement for the realisation of the irrigation revenue through sugar factories, market committee, primary and secondary cooperative lift societies.

Role of the Electricity Board

The electricity board provides electrical connection only after it gets 'No Objection' from irrigation department and also the primary cooperative society in relevant cases. The electrical charge is reported to be Rs. 85 per hp. per year. However, there is usual complaint regarding low voltage and deficiency of power supply. The rate fixed is irrespective of power consumption, and does not provide any incentive in economising use of power.

Factors Promoting Formation

The factors which have promoted the formation of the lift cooperatives are:

- scarcity of water
- high rate of economic return through cash crops like sugar cane
- assurance of marketing through sugar factory
- support provided to cooperatives through policy decisions of the government, including easy loan through Cooperative Bank, electrical power through electricity boards on the guaranteed rates per hp. basis, and allocation of water

People are managing the cooperative societies and irrigation mostly through their own effort. The subsidies allowed to the cooperative societies in CADA are not available to them. The cooperative societies are feeling aggrieved since the Government is applying two different standards in giving subsidies (viz. management subsidy, maintenance subsidy, freedom to use the water saved from rabi to sugar cane crop) to cooperative lift societies vis-a-vis CADA flow irrigation cooperative societies.

The fact that the installation, maintenance and operation cost of lift schemes is many times more than the flow schemes, the lift schemes deserve preference for the freedom to use water in crops of their choice. The cropping pattern approved by the Government should not be imposed on them. This type of

irrigation must have a very high economic return to justify the investments, the farmers/beneficiaries make.

The water should be sold on all the lift schemes only on the volumetric basis in preference to the area basis being practised now.

The farmers lack expertise in the modern method of agriculture, storage and marketing of their produce. They need training and they want it too. Human resource development is their primary need.

The initiative of government in constructing KT weir is laudable. This has been of great help to the farmers. The government may encourage development of primary cooperative societies and turn over to them the maintenance, management and distribution of water to the secondary cooperative societies. This can save the department the expenditure in maintenance and the perpetual conflict in assessment and collection. Such an arrangement may result in better collection of water charges and save lot of government work.

Sugar factories, providing organisational and managerial support and assistance to these cooperatives can be encouraged to multiply and expand their area of efforts.

Approximately 750 lift irrigation societies have been developed in Maharashtra. In some lift irrigation societies the assessment and recovery is made by societies themselves, while in the rest it is the department which makes assessment on crop area basis and collects revenue directly. The experience is that in the former, the recovery is almost 100 percent, but the recovery in latter is approximately 50 percent.

In Maharashtra, ID allocates separate quantity of water for kharif, rabi and hot weather crops. This is based on fixed percentage of crops decided by the government as a policy to keep a balance between the cereal and non-cereal crops, extensive and intensive irrigation. Any deviation from the approved cropping pattern empowers the department to impose penal rates against the defaulting farmers. Penalty is three times of the existing water rate.

The experience is that the farmers prefer paying penalty than following the sanctioned cropping pattern. They find that cultivation of sugar cane provides them better economic return. The result is that penalty does not deter the farmers. The other experience is that in the past, the Government after failing to realise the penal charges, waived penal charges in 1987 and 1989.

Appreciating better return to the cooperative societies, the farmers have been allowed to use water saved from irrigation less 30 percent for hot weather

irrigation by CADA. In lift cooperatives, this facility has not been provided even though the farmers lift the water from the KT weirs and bear the cost of infrastructure such as pumps, water distribution line, maintenance and repair and the management cost of the system is high. The farmers are compelled to grow sugar cane and other cash crops since the approved crops do not provide them adequate economic return.

The investment in infrastructure, its operation, maintenance, repair and management cannot be met by the cooperatives unless the lift scheme provide a better economic return. The high return motivates the farmers to form cooperatives and utilize the land and water resources which otherwise would remain unutilized. Freedom of crop choice helps farmers to organise their own cooperative societies. The policy change providing freedom of choice could be instrumental, not only in promoting the farmer organisation but also in utilisation of the scarce water resource.

The Maharashtra experience on lift societies shows that the discipline is enforced by the societies without much hassle in preference to the line agencies. Instances are many, when even penalty for the offences committed by the farmers is paid.

Cooperative Societies Developed by CADA

During 1987, guidelines were issued by the Government of India for farmers participation in irrigation management. Government of Maharashtra adopted the policy to encourage cooperative irrigation societies. Accordingly efforts for formation of the farmers cooperative societies in the command areas of minors of major irrigation schemes were initiated and the water cooperative societies formed. Water is supplied to the cooperative society at the head of minor on volumetric basis. Internal water distribution and management is done by the society. The number of societies developed so far is as under:

Table 2	
Status of Cooperative Societies	
	Major/Medium
Societies registered and in operation	46
Societies registered, MOU signed but yet to be implemented	5
Societies registered, MOU to be signed	45
Societies under proposal	102
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	198
	<hr style="width: 100%; border: 0.5px dashed black;"/>

Source: DIRD, March 1994.

The response of the farmers for formation of such societies in flow irrigation schemes so far has been very encouraging due to sincere efforts made to give a boost to this activity. Guidelines have been framed and provided to officers of CADA. A committee constituted by the chief administrator, CADA, Aurangabad has finalised the procedure for formation of the society.

It has also prepared a comprehensive report on the documentation required, difficulties likely to be encountered and suggestions/solutions for the same, model constitution and bye-laws for the society, training programmes and their syllabus and suggestions for smooth functioning of the society. Based on this report, guidelines have been prepared and given to officers of CADA. Government has taken intensive steps to promote the farmer organisations. It has met with some success but it is not enough. The task is formidable.

Non-fulfilment of Commitment

Command area development authority in Maharashtra has formed 96 cooperative societies of water users in minors of different projects. Similarly 102 cooperative societies are in the process of formation. According to memorandum of understanding (MOU) signed, the minors are to be repaired and updated to acceptable standard and then turned over to the society after the signing of memorandum of understanding. The experience, however, is that it has not been possible for development authority to keep up its commitment.

At Chanda Minor of Mula Project, the secretary of the society which has taken over the system three years back, still nourishes the grievance that the command area development authority did not fully fulfil its commitment of repairing the minor. Further, the society was not taken into confidence and no participation was sought. While carrying out the repairs in Minor No. 4 of the same canal at Karajgaon, the joint survey even though completed years back, the repairs have not been done and consequently the turnover not completed.

In Minors of Paithon Right Bank Canal of Jayakwadi Project, similar lack of repair by the department is constraining the turnover of the minors to the societies which have been formed and duly registered.

Repair of the minors is quite costly. The average cost ranges between Rs. 1,000 to Rs. 1,100 per ha. Thus for a minor of 300 ha. the cost of repair is approximately Rs. 300,000 to Rs. 330,000. The repair of the minors (1,115 ha.) of the societies formed at Ozar village on Waghad Right Bank Canal has been done at a cost of Rs. 2,200,000 (22 lakhs) and works estimated to cost additional Rs. 11 lakhs are awaiting execution. The Purna project has 13 societies in the process of formation. The estimated cost of repairs required in the minors to complete the turnover process is Rs. 26 lakhs. This amount has not been allocated by the department as yet.

The funds for repairs of such minors come from general maintenance budget which have priorities for dam, main canal, staff housing, guest houses and payment of salaries to CRTE (converted regular temporary establishment) employees engaged on maintenance and operation. The canal distributaries and minors receive the lowest priority in allocation of maintenance funds. The delay and deferment of such repairs not only constrains the turn over process but reduces the credibility of the department among the members of the society and the farmers at large.

The unavailability of funds is constraining this activity even when only 200 minors are being processed for formation of farmer organisations in one year. With an irrigation potential of about 5.75 MHa, the task ahead may be to create about 10000-15000 farmer organisations. It is, therefore, apparent that it will be very difficult for the department to fulfil the commitment it makes to the farmers to repair and update the canal. Experience of Alsund and Shirwal MI Schemes where NGOs (Probodh Sampada and Sopencom) are struggling to turnover of the system to farmers also confirms this constraint.

Another relevant experience which has come to light is that in the repairs that are done, full participation of the society is not sought. The repair works are done without associating the society with the result that the society is not satisfied either with the quantity or quality of the work. This procedure is against the spirit of joint management. Such a grievance was voiced by the secretary of Chanda Minor, Datta Cooperative Society of Mula Branch Canal.

Lack of Dependable Water Supply

While the farmers of tail areas are keen to form farmer organisations, water supply in such areas is generally erratic. It is difficult for the department to provide assurance of dependable supply to these farmer organisations. The fact, however, remains that until the head reach farmers are disciplined, government can not ensure dependable supply to tail reach. The conflict between the head and tail reach has to be resolved.

In respect of minors off-taking from distributaries, the difficulty of receiving proper supplies at their head will be felt in times to come when with age the carrying capacity of the canals upstream will deteriorate. The situation can be improved if a management committee charged with the responsibilities of equitable and timely distribution of water at the head of the minor is also simultaneously formed. This committee has to involve itself in operation and distribution. At Parbhani in Jayakwadi Project, the difficulties in availability of water are being experienced by tail-enders who have now taken initiative to organise the head-enders to ensure better discipline in water distribution, a must for survival of any farmer organisation.

Role of Government in Developing and Supporting FOs

Generally many of the line agency personnel do not have much of conviction in participatory management since they have never practised the same. Even in some of the action research projects undertaken by different institutions, they have not contributed, if not obstructed the activity. They see it as an interference in their realm of authority. They welcome and support the farmer organisations so long the farmer organisations work as their own extension agency. This is due to the fact that the function of developing FO has not been assigned as a part of their duty and responsibility. The various administrative circulars issued by superior officers do not have the force of departmental code where their duties and responsibilities have been assigned. They are not provided incentives for the additional work they do. They are guided by the weight of tradition and style of working of the department.

Other organisations and NGOs have not succeeded in creating too many farmer organisations. Further, a number of them which they have created have not sustained. Farmer organisations developed through both government and non-government efforts, need continued long term parental support, until they attain capability to sustain themselves. The development of farmer organisations is not a one time activity but a social process which takes time to take root.

The organisations promoting farmer organisations have two distinct roles to play. The first is the creation of farmer organisation and the second is its sustenance. While the first role could be performed by either government or non-government, the second can not be realised without full involvement of line agency. The example is Dutta Society in Chanda Minor of Mula Right Bank Canal. This farmer organisation was formed in 1989. Until 1992, the working was closely supervised by the NGO who withdrew thereafter. The farmer organisation is even now functioning but a sense of complacency has subsequently descended. Planning of water distribution is not done. Date and time of actual deliveries are not recorded.

There is no insistence on the submission of water applications. Briefly, rules are not observed. Of late, the FO has developed valid grievances against line agency. The society is not associated whenever a new development or repair work is taken up in the area. The grievance is that the government is not serious about people's participation. Even the water schedules notified by the department are at times altered/changed unilaterally. There is no planned policy and effort on the part of the irrigation department so far to sustain and support the institution already created through the dedicated effort of NGO. Participation of ID officers in management in many cases ends once the MOU is signed for water supply at the minor head.

There is no serious dialogue between the line agency and the farmer cooperative in bringing improvement in the water users productivity, economic return and the development of the people through the medium of farmer organisation. This is possible only if the line agency accepts not only the role of developing but also sustaining the organisation. NGOs and other agencies can create the farmer organisation but thereafter they have to be supported by the line agency. This, however, cannot be done unless either the organisational structure of line agencies and the procedure to enable them to accept this responsibility is changed.

Government Support

In some of the societies, it was noticed that even after the societies were formed, support from agriculture faculty/department was lacking with the result that the society was not able to fully utilise the allotted quantity of water. Support of agriculture department is necessary.

Building FOs is a long drawn social process and cannot be done by issuing commands. Experience is that after the system is turned over, the line agency feels that it has a very limited and reduced role towards farmer organisations. The reality is otherwise. With the completion of the turnover, the role and functions would change from administration to providing assistance and support. Farmer organisations can only sustain if they receive continued technical assistance and cooperation from the line functionaries for a couple of years until they are able to stand on their own legs.

The level of support provided to new organisations by the ID and CADA depends on the initiative of local officers. In the initial stages organisation needs, assistance for registration procedures, accounting systems, water management and development of internal structures to ensure a high level of participation which is generally not available. The National Water Policy has advocated involvement of farmers in irrigation management. It has not spelt out any mechanism for implementation of this policy. In Maharashtra, the efforts so far have been directed towards developing farmer organisations with the objective of sharing the responsibility of the government line agency in the management of irrigation.

As a result, agreements have been made with the farmer organisation, to deliver bulk water at a single point, to entrust the repairs and maintenance of the system, and also assessment and collection of the revenue to them, the tasks so far performed by the line agencies. Incentives have been given by Government of Maharashtra to farmer organisations for receiving water in bulk on volumetric basis. Subsidies to cover management expenses for the first 3 years, maintenance and repair cost below the point where water is delivered have been

given. Incentives in form of rebate for timely payment of the revenue to the department has been provided in MOU.

These incentives have sufficient potentiality of inducing the farmers to the participatory management but for their sustenance a much bigger effort is required. In Maharashtra state, despite a number of instructions, guidebooks, circulars issued by either CADA or even by the government for creation of farmer organisations, the progress has not been substantial though it is much better than other states. The model by-laws formulated are prescriptive rather than enabling.

These are based on the assumption that government control over societies is essential. It ignores the ability of the farmers to govern themselves. On the other hand experience in respect of lift cooperatives in Satara, Sangli, Kolhapur and in phad system in Dhule and Nasik districts have shown that farmers have independently organised themselves and utilised the water resources, obtained loan from the cooperative, arranged inputs through their own effort. An appropriate new policy is therefore necessary to do away with the administrative constraints which exist even today.

Providing input for strengthening and sustaining an organisation is more important than technological and management input. Organisation is born first and therefore inputs to sustain and strengthen it is the primary requirement. It has to develop capability to absorb technical input. The farmer organisation need to be strengthened to govern and avail the assistance being provided by the government through both technical and administrative bureaucracy. The development of organisation and simultaneously the change in the attitude of bureaucracy to assist and serve must be generated.

Absence of a policy which recognizes farmer organisations as an instrument for governance by the people is contributing to the slow growth of an FO. A policy pronouncement, incorporating therein that the delivery of water, delivery of input, sanction of loan and even performance of line functionaries would be channelized through FO is necessary. The existing procedures will need to be reformulated to strengthen the FOs. In absence of appropriate procedure and policy to institutionalise farmer organisations as an instrument of irrigation management, efficiency in resource utilization and productivity, the misunderstanding between government and the people will continue.

Lack of Equity

The draft MOU focuses on the rights of the government officers and the responsibilities of the farmer organisations. It does not, however, specify the

rights of farmer organisations and the responsibility of the ID. While it provides for sanctions against farmer organisation (if they fail in their responsibility) it does not provide for similar sanctions against the ID when they fail to meet their obligations to the farmer organisation.

Prescriptive MOUs

The bye-laws are more prescriptive than enabling. The bye-laws assume that government control over the society is essential. It does not rely on the ability of members to govern themselves. The bye-laws require approval of the cooperative department on membership issues, rules and regulation of the organisation, bookkeeping and audit, and changes in bye laws.

Registration

All the FOs in Maharashtra are registered under the cooperative societies act as per guidelines issued by CADA. The farmer organisations have not been provided a freedom of choice to select the appropriate act out of options available for registering themselves. The Cooperative Society Act sets direction to the farmer organisation to respond to two separate and independent departments. directly and the third department indirectly. While the first, the cooperative department exercises administrative control, the second administers the technical control and the third revenue department provides the revenue documents necessary for registration. They do not normally require loan from the cooperative banks. Therefore, it has no significant advantage in registering itself under cooperative societies act.

Registration under a cooperative societies act is not a simple and smooth affair. The first requirement is submission of an application to Deputy Registrar seeking permission for opening a bank account. The application for registration has to be submitted along with certificate from CADA/ID officers to the effect that canal water would be made available to the society. The certificate is sometimes withheld/delayed by the canal officers. This opportunity is utilized as a lever to pressurise the farmers for recovering and realising all the arrears. In Shirval minor irrigation scheme, the certificate has not been given as yet and the deputy engineer is pressing the farmers to remit/clear the outstanding dues. This is delaying the registration process.

The farmer organisations have to submit the revenue extracts of land holdings of each member of the association duly signed and certified by village revenue officer and such a document is valid for a short period. In case of delay this process has to be repeated. Generally the entire process of registration is slow and involves numerous visits to a wide range of government officers.

This completely exhausts the patience of the members of the association. Most of the societies registration have been possible due to the efforts of irrigation officers, NGOs, sugar factories who took upon themselves the tasks of pursuing and accomplishing the registration of the associations which they formed. Without their support, the registration would have been extremely difficult. However, in spite of the help of the aforesaid individual catalysts, the process of registration have taken from six months to two years.

After the registration of the society, the problem is not over. In the post registration period the involvement of the cooperative department increases. For minor changes in their bye-law, for elections, for adding new functions, they have to obtain the approval of the cooperative registrar. The cooperative department has a great deal of scope for microlevel control over society structure and functioning. The cooperative department audits their accounts annually. The societies see it more as an instrument of control over them than help. In sum, the registration under Cooperative Act becomes a project in itself and provides significant constraints due to the provisions in the act compounded with bureaucratic callousness.

The registration process provided in the guidelines of CADA is not a requirement under Maharashtra Irrigation Act for handing over the management of the system representing 51 percent of beneficiaries provided the society of beneficiaries agree to receive the supply on volumetric basis. This provision of the act fully empowers the department itself to either register the society in its own books or do away with the necessity of registration. The government circular on minor irrigation schemes has not prescribed registration of tank committees at all. Perhaps this can or can not be done until the department frames the rules as per requirement of section 114 of the Maharashtra Irrigation Act 1976.

The Societies Registration Act 1876, provides another alternative to the societies to register themselves to gain legal status. This act does neither require the land record nor the certificates. This does not permit the sharing of the profits which meets with the objective of the association. In many states, registration has been done under this act. But this option has been denied without considering the constraints. The registration under cooperative societies act does provide legal status to the societies but cumbersome procedure and provision of the Cooperative Act restricts the freedom of the farmers who find themselves sandwiched between the CADA and cooperative departments. The freedom of choice to farmer organisation to register itself in any of the relevant acts meeting the objective of the association and providing lesser constraints can help in expeditious attainment of legal status.

Conflict Resolution

Experience further suggests that the farmers can evolve a workable answer to a complicated problem through their collective efforts which eludes resolution even with the involvement of the expert. One of the surest way of satisfactory conflict resolution is to anticipate the likely conflicts and frame the rules. The experience shows that once the members agree to a particular method, the offending member agrees to the penalty, as he has been a party to the methodology of conflict resolution. Instead of resolving conflicts on a case to case basis, it is better to define early the scope and method of conflict resolution. Maharashtra experience shows that farmers, if given an opportunity and instrument, can solve the problem expeditiously without the intervention of the government.

The draft agreement between FO and ID in respect of MMIP provides the following mechanism for resolution of conflict between ID and FO:

"All disputes between WUA and GOM/ID shall be settled by a committee consisting of one nominee from ID and WUA each and a third member, who would be an Executive Engineer nominated by the concerned Superintending Engineer."

The agreement executed by the CADA with its Cooperative Society provides:

"If there is any dispute regarding provision made in this agreement between the concerned canal officer and society, then final decision will be given by the government."

None of the above provisions are equitable and capable of generating confidence among the members of the society. There are many instances when the department failed to meet its own commitment. Farmers so far have not been able to put their grievances in the absence of an adequate provision in the agreement. This is not possible unless the department redefines the clause relating to conflict resolution and concedes that the decisions of the independent body would be binding on the department. Such a step may help in generating confidence among the members of the cooperative society who suffer due to various lapses on the part of the irrigation department.

Amendment of the Maharashtra Irrigation Act

The Maharashtra Irrigation Act (Part IV, Chapter 3) does recognise water management committee selected/elected by beneficiary for supply of water on volumetric basis. Under the act (clause 60.4) committees are meant to be composed of 5 people including the local officer from the ID. The definition of water committees in particular to size and membership does not conform to

the current practice. Most farmer organisations have a board of 8-15 members and may or may not include the Canal Officer or the ID representative of the FO. There is no clear distinction between the rates charged to the water committee by the ID and the rates charged by the water committee to the individual members.

The act further requires that the prior approval of the state government should be obtained for charging water rates from the members. No such provision exists in the draft agreement, provided either by CADA or ID (MMIP Project). The functions of the Water committees also do not agree with the functions provided in the act. The act does not require the water committees to be registered while the farmer organisations being formed now have to be necessarily registered to grant them legal status. In view of these anomalies Maharashtra Irrigation Act will require modification/amendment.

The entire concept of a water committee as provided in the act is centred round providing assistance to the canal officer than to work as an independent and equal entity in the process of participatory management. Further according to section 114 of the Irrigation Act, the state government has the authority to make rules for the purpose of carrying into effect the provisions of this act and notify in the official gazette. Canal rules are not yet framed and notified to carry into effect the provisions under this act so far. The rules prior to 1976 based on old irrigation acts are inoperative as all these acts are repealed from 1976. The state government may consider to frame new rules incorporating the provisions for farmer organisation instead of continuing to refer to an act as per Bombay Canal Rule 1934 which is void.

Authority to Farmers to Levy Additional Water Fees

In the post turnover period the societies are required to incur heavy expenses in management and maintenance of the system below the turn over point to improve service to its members. Management subsidies at Rs. 100 per hectare for the first two years and Rs.75 per ha. for the third year is presently provided to the organisations who have accepted the turn over. In the fourth year of operation the society will not be entitled to any management subsidy with the result that the cost of management will have to be realised from the beneficiaries.

The other source of income to the society is the difference between volumetric water rate charged by the ID and the rates charged by the organisation. Another source of income is higher water charges levied from nonmembers (organisations are allowed to charge nonmembers up to 30 percent irrigation more than members). These do not provide a substantial income to the organisation. Similarly the interest from the share capital of the members is also

insignificant. The Dutta society which has taken over Chanda Minor Command Area (360 hectares) employs one manager and three patkaris and pays them a salary of Rs. 16,000 per year approximately. The farmers do not grudge payment of this additional water service charges since they are getting better services. Unless the cooperative societies are granted authority to charge water service fee over and above the irrigation rate, they can not sustain.

Cadre of Catalyst

Whenever and wherever farmer organisations have been formed, catalysts have contributed significantly in motivating the farmers either through individual or group contacts, playing the role of a facilitator, providing assistance to the nascent organisation, training the farmers the art and skill of participatory management or acting as a coordinator between the Government and the farmers. The experience of Maharashtra is that dedicated social workers, nongovernment organisations (NGOs), sugar factory staff, deputy engineers and junior engineers have credited themselves as successful catalysts.

The experience from the past efforts is that given the motivation required, catalyst could come not only from one discipline but from many disciplines. However, the fact remains that the NGOs, sugar factories and similar institutions are not many and they cannot take up the massive task of forming farmer organisations. The engineering cadre of irrigation department has to be geared to this task. Since all the engineers or the allied staff do not have the potential of adopting and performing the task of a catalyst, a cadre of such potential catalyst will have to be created/generated through motivation, training, incentives to those who volunteer to take up this task. Creation of a cadre of catalysts and recognition of their efforts can help in promotion of farmer organisations.

Two-tiered Farmer Organisations

Earlier in command area development projects, chak committee were formed at outlet level. There were no minor committees. The result was that water was not available in right time and right quantity at outlet head. The members saw no utility in chak committee which with the passage of time met its own death. Subsequently the farmers decided to organise committees at the minor level. The minor committees are working efficiently but experience is that supply of water at the minor head is often erratic. The operation schedule notified by department is unilaterally changed.

Fortunately, since many of minors are off-taking from middle reach of main canal, the difficulties are not very acute, but in tail-end minors, receiving adequate quantity of water is a real problem. In respect of minors off-taking

from distributaries the difficulty of receiving proper supplies at their head will be felt in times to come when with age the carrying capacity of the canals upstream will deteriorate and the experiences of chak committee may repeat at minor level.

The situation can be improved if a management committee charged with the responsibilities of equitable and timely distribution of water at the head of the distributary is also simultaneously formed. This committee has to involve itself into operation and distribution. At Parbhani in Jayakwadi Canal, the difficulties in availability of water are being experienced by tail-enders who have now taken initiative to organise the head-enders to ensure better discipline in water distribution, a must for survival of any farmer organisation.

Area and Jurisdiction of Farmer Organisation

The CADA has issued guidelines which limit the jurisdiction of cooperative to 300 to 400 ha. It has, however, met with many cases where the minors command an area of more than 400 ha. The CADA is relaxing its own guidelines and permitting such minors to form an irrigation society. The experience is that the area and jurisdiction of FO should be a hydrological unit either a minor (irrespective of area) or a distributary. A small area lesser than this could suffer from the constraint of financial viability.

Assessment and Recovery

In the flow irrigation cooperatives, recovery of water charges are substantially better than farmers in non-society areas. The recovery rates for nine societies functioning under CADA, Aurangabad for 1991-92 is on an average 62.5 percent and it was 100 percent in four societies. The Samaj Parivartan Kendra, which developed three societies in Ozar area in Nasik district have paid 100 percent of the dues. Another encouraging feature, is that irrigation charges are paid in full by the society even prior to realization of the irrigation charges and society service fee from the members before due date. In order to avail the rebate of five percent for early payment, the society pays the dues of the members from its own resources and subsequently recovers from members.

The collection of revenue is sometimes complicated by disputes over interpretation of rights and responsibilities. Where dispute exists, withholding payments of subsidies and charges is the obvious sources of leverage for both the ID and the societies. The societies, however, suffer from practical options to enforce payment by members. Society has no specific authority to collect water charges or to impose sanction on defaulters, which the ID has. In spite of these constraints, the society is able to enforce better collection by applying

social pressure on the individual farmers. The society offers itself as an effective tool to the department for collection of revenue.

In matters of assessment too, if the society does the assessment or it is done by involving the society, the chances of dispute and difference arising out in the assessment minimises. The experience is that involvement of farmer organisations in the assessment and collection promotes congenial atmosphere between the department and farmers and this helps in better percentage of recovery.

Minor Irrigation Schemes

The irrigation potential of Maharashtra through Surface Minor Irrigation Schemes is 1.2 million hectares. A large number of them have been constructed by the government. However, operational efficiency of these schemes has not been very satisfactory. USAID provided a project support for construction of 90 minor irrigation schemes in Maharashtra state. Seized with operational inefficiencies of the minor irrigation schemes constructed in the past, the USAID provided a number of covenants through four bench marks for ensuring the efficient execution and operation of the scheme. Each bench mark was provided with a definite objective. Involvement of farmers was included in the bench mark II and IV. Benchmark I was related to project formulation and Benchmark III to construction.

The Benchmarks II and IV provided for:

Benchmark II: The initiation of the farmer organisation and communication of the details of the system to make the farmers aware of the irrigation activities and acceptance of the farmers in the chak layout.

Benchmark IV: After the completion of construction of the scheme, testing of the entire system through an operation test, formation of Chak committees in at least 50 percent of command area to achieve this benchmark.

A liaison and coordination unit (LCU) of interdisciplinary experts was also set up by USAID to motivate and train the farmers and the line functionaries and to certify that the system had achieved the benchmark as provided in the project. On the initiative of LCU, performance test was conducted with the participation of both O&M engineers and farmers to confirm and convince them that the constructed distribution system was fully capable of carrying the discharge as per design. Similarly operation test was also performed to convince

them that water reaches each farm gate in designed quantity and at designed level. These tests generated confidence in them regarding the capability of the system.

The LCU further helped them in preparing pre and post irrigation plans, rotational water scheduling, motivation of farmers in development of these organisations and input of agriculture experts.

It is reported that the benchmark IV was obtained in 84 out of 90 schemes. This inter alia meant that the schemes were fully completed, their performance was tested and chak committees were formed and the involvement of farmers in water management was initiated.

The covenant required a plan in form and substance describing organisation, authorities and responsibilities of water users' committee at the outlet level and a schedule for activation of such committee in the project areas. According to the covenant GOM (ID) issued a circular incorporating guidelines for the formation of chak committees and tank management committees during March 1991. The activities of formation of water users organisations were scheduled in two phases:

Phase I: initiating development of organisational structure, as an interim measure, till management is taken over by FOs

Phase II: handing over the complete management of the irrigation system after the development of organisation to the FO

As a result, in five of the 90 minor irrigation schemes, informal tank management committees were formed and participation of these committees in irrigation management was achieved for two to three irrigation seasons. The Government of Maharashtra also set up one regional minor irrigation cell (RMIC) in each region to assist field officers in achieving these benchmarks and to carry the follow on activities for development and sustenance of FO. The RMIC was also obligated the task of monitoring the activities and initiate corrective steps. In spite of the above efforts out of 84 schemes completed, only five schemes have farmer organisations at tank level duly registered as cooperative societies and the irrigation management has been handed over to them. These societies were formed, registered and sustained due to the efforts of the dedicated officers who were committed to the philosophy of the participatory management. In the remaining schemes activities of involvement of farmer organisation in irrigation management completely slowed down. In only a few of them, farmers chak committees exist. The monitoring effort of regional minor irrigation cell is almost nonexistent.

Lack of Commitment

In spite of a very clear directive issued by the government to initiate development of organisational structure and hereafter hand over the complete irrigation system to the beneficiaries, the system could not be operationalized because only a few line functionaries who believed in this culture made sincere attempts to organise the farmers to develop tank management committee and register them as co-operative societies. Further, the prime mover behind the participatory management in MI tank project was expatriate agency. With the withdrawal of this support in 1992, the incentive and compulsions of the department which were tagged to covenants related to reimbursement of claims were withdrawn simultaneously. This resulted in change of priority given to this activity. The work which was important was relegated to the category of 'Additional' after withdrawal of expatriate's support. Consequently, the involvement of the line agency decreased and gradually the good work done was lost. The need on the contrary was for a policy directive to ensure that the activity received even greater support, and the momentum and commitment built in line functionaries was not lost.

Building FOs at the grass root levels is not a technical matter. Rather it is a long drawn social process which cannot be achieved by issuing commands. Whenever such commands are given, they have to be carefully monitored and pursued. Repeated interactions with the farmers are needed through discussion with individuals and groups for removing doubts or apprehensions about the need for taking over management. Farmers have to be shaken of their "let it be" attitude which has developed over years of helplessness in dealing with problems of irrigation.

Procedural Constraints

The procedural constraints were many and they accounted for the stunted growth of FOs. Firstly, the task of development of farmers organisation was not specifically entrusted to the line agency.

Secondly, there was no directive in the guidelines issued by the government to register them as a cooperative society. The latter was a prior condition for the TMC acquiring legal status for entering into a contract with the irrigation department.

Thirdly, immediately after the performance test, the system was not handed over to tank management committees since they were not formed. The delay in forming these committees provided time for deterioration of the canal system with the result that farmers lost interest in taking over the deteriorated systems.

Fourthly, the farmers were reluctant to take over irrigation management since they did not have the confidence that they could manage the system. They had neither the experience nor the training for the task. Therefore, there was need for close interaction between farmers and the officials during the transition period, so that both could have learnt to adjust to the new procedures and acquire new skills.

Fifthly, the covenant provided for the formation of only 50 percent of chak committee on half of the command of a-tank. The formation of the TMC did not receive the priority it deserved.

Sixthly only the formation of chak committee which was insisted upon is not sufficient. Formation of TMC prior to canal testing and commencement of canal irrigation is also essential for turnover over of the system. Chak committee cannot sustain unless a TMC is formed.

Seventhly, a freedom of choice of crops which gives confidence to the farmers and generates a feeling of ownership of water, a very important aspect in influencing the decisions of farmers to organize themselves was not given.

Lastly, the package of incentives given by the ID lured the farmers to develop FOs but was not adequate to attract the farmers towards forming FOs but was not attractive enough to sustain their interest. Incentives like freedom of choice for crop and assured and dependable supply of water would have far outweighed the financial package of incentives provided to farmer.

Financial Constraints

Besides lack of commitment and procedural constraints, there were financial constraints too. The repairs of the distribution system to bring it to an acceptable standard before turning over the system to farmers organisation could not be ensured. This issue remained unresolved and discouraged turnover to the very end.

Government Institutions Assisting Farmer Organisations

The following organisations are involved in promoting the farmer organisations, coordinating the efforts and providing training to the farmers.

Directorate of Irrigation Research and Development

This directorate was created with the primary objective of carrying out irrigation research and development and planning the execution of drainage schemes in

the command area. Even now this directorate is looking after this work through its five divisions stationed at different locations. In 1991, the Government of Maharashtra declared this directorate as a coordinating office for the entire state for the activity - development of farmer organisations.

As a coordinating unit the directorate coordinates the activities leading to the formation of a FO. In this capacity the directorate monitors the progress and prepares monthly monitoring report and presents it to the meeting of the chief engineers in the secretariat. It coordinates the activities of NGOs and initiates farmers training programme at WALMI.

The directorate also organises workshops and discussions both at state and local level and discharges its responsibility of coordination. It is on account of its initiative in keeping liaison with cooperative department that the procedure for registering the farmer organisations under cooperative societies act was streamlined and simplified. This has been a major achievement of this directorate.

Though all the superintending engineers in the state were informed by the Government about the role of DIRD, it was found during visit to Kolhapur and Sangli district that the irrigation officers are not aware of the assistance they could have got from DIRD through concerned Superintending Engineers.

The DIRD has been given this responsibility in addition to its own work load of irrigation research and development. The task, therefore, is additional. In this view it has its own limitations in increasing liaison with field officers, farmers and NGOs. This is predominantly visible in non-CADA schemes. Nevertheless, the creation of coordinating unit and assigning the task to this directorate has been a very good step in the right direction. What is needed is strengthening of the effort in view of the massive task ahead.

The directorate, however, does not plan the efforts required for promoting FO. It does not set targets. Specific programmes are not developed and organisational activity is not initiated. The directorate has its own limitations. It is headed by an officer of the superintending engineer rank. In order to coordinate the activities being performed by the different chief engineers and to develop a program of formation of FO to efficiently monitor the progress, to identify the constraints and to initiate remedial steps, it may be desirable to have such a cell headed by a joint secretary in the secretariat. The joint secretary being a very senior officer could be the think tank for this activity. This directorate could perform functions of field unit and assist the joint secretary in the activity of the farmer organisation in the secretariat.

Special Analysis Evaluation Cell

This cell was created in the year 1985, for the USAID assisted Maharashtra Minor Irrigation Project. The functions of this cell were monitoring, formulating the reimbursement claims, special studies, pilot studies, field verification of bench marks II and IV and development of computer programme and training to farmers. The cell was performing its monitoring activities by compilation of the progress of the individual schemes under construction. The physical and financial programmes and progress were prepared by the Regional Minor Irrigation Cell (RMIC) which assisted the SAEC in compiling the progress.

The cell had taken eight pilot projects, for data collection and processing, diagnostic analysis, evolving computer model for water management, setting of sill level, sizing of reservoir, analysis of rotational water supply and documentation of farmers participation. The cell further stipulated study of cropping pattern, development of ground water, conjunctive use of canal and ground water, closed pipe distribution system, water demand scheduling, women's participation in pilot projects, training of agriculture and ID officers, farmers functionaries and compilation of hydrological and climatological data.

After the closure of USAID Maharashtra Minor Irrigation Project it is continuing its liaison with Regional Minor Irrigation Cell but the data received is not attractive. The irrigation utilisation which had gone up to 70 percent after initial commissioning of the minor irrigation schemes has now reduced to 25-30 percent. In spite of this cell making many proposals to follow on the recommendations made by the evaluation team of USAID, no action could be initiated for want of approval. In short, the experience and expertise developed under USAID project through various studies and pilot projects could not be fully utilised.

Farmer organisation could sustain in only five of the 85 schemes and in them also the technological input developed could not be brought into practice. This cell is working independent of the DIRD and there is not much of coordination between them. The follow-on activity after the closure of USAID project could have resulted in better utilisation and return. The creation of such a cell was a significant step taken by the government. Its utility was more prominent in the post USAID period to sustain the farmer organisation through providing assistance in organisation building, technological input, training and developing linkages with the line agencies for expeditious repair and promoting turnover in the minor irrigation sector.

The cell could have adopted the role of a catalyst and performed the functions similar to a NGO. Like DIRD this organisation could have been assigned the task of promoting and coordinating the activity of farmer organisations

exclusively in minor irrigation sector. This cell is still alive but its activity has been turned over to major World Bank project ignoring the need of minor irrigation sector.

Regional Minor Irrigation Cell

In order to expedite the pace of construction and attainment of benchmarks, (laid down by USAID) to qualify for reimbursement of claims, each regional chief engineer was provided an additional division named as Regional Minor Irrigation Cell. This division having been attached to the office of the Chief Engineer was working under its direct control. The division was monitoring the progress and identifying the constraints in attainment of benchmarks. Such constraints were brought to the notice of the chief engineers who took immediate steps for their removal.

The division was also associating itself in development of farmer organisations and performance testing of the canal systems besides preparing reimbursement claims which were ultimately compiled by a Special Analysis Evaluation Cell. Thus this division was a link between the SAEC and regional chief engineers. In view of the tasks assigned, the commitment of this division was limited to obtaining the reimbursement of claims from USAID.

The works done by it either in assisting the development of farmer organisations or testing the performance of the system was limited to this task. The mandate for this division should have been efficient and expeditious construction, development of farmer organisations, and assisting in the capability building of farmer organisations. Through the assistance of Special Analysis Evaluation Cell, Water and Land Management Institute, the Indian Institute of Education, Pune RMIC could have motivated not only the farmers but also the line functionaries. Such a division could have worked as an eye and ear of the regional chief engineer and provided him the necessary feedback and sought his intervention to accomplish the above tasks.

After the withdrawal of donor support, the association of this division has almost been withdrawn from the minor irrigation schemes which has been assigned the new task of quality control of major and medium projects under the charge of the regional chief engineers. It is significant to mention that RMIC has still a big role to play in updating the system, creating farmer organisations and turning over the system to them the task which was assigned by the government, but has been left unfinished. In result, the utilization from minor irrigation schemes is gradually deteriorating.

Water and Land Management Institute

Water and Land Management Institute at Aurangabad, created by Government of Maharashtra through the World Bank is primarily meant for providing training to the line functionaries looking after the irrigation management. WALMI has performed an excellent role in motivating and training the officers engaged in irrigation management. It has a very competent faculty and it has established its own status in the country in this field.

Training of farmers, however, was not a part of the programme of WALMI. Its main mandate was to train the trainers and not the farmers. However, with the passage of time, the institute has since taken up the task of providing training and demonstration to the farmers. It is now providing regular training to the important functionaries of the cooperative societies. WALMI arranges field training and demonstration also. The farmers of Samaj Parivartan Kendra to whom training and demonstration was provided in the field were very much appreciative of the extent and quality of the training.

However, there are many farmers who still are awaiting the opportunity to get such training. The linkage required between the farmers cooperatives and WALMI is still wanting. The RMIC, SAEC and DIRD could provide the linkage and draw up programme for regular training in advance in association with the farmers. These organisations could help in identifying farmers and providing necessary support to ensure that the training runs according to the schedule prepared by them. A strong linkage between WALMI, SAEC, DIRD and RMIC can accelerate and provide impetus to the activity of development of farmer organisations through training. Bringing all these organisations under one umbrella would foster better linkage between themselves.

Post-Turnover Experiences

Restructuring irrigation management through intervention of farmers organisation required two distinct phases to be attended to. The first phase involved the process and the problem in bringing about the establishment of MOU between the formal farmers organisation and ID leading to turn over or management transfer. In the second phase, the sustenance of the farmers organisation and improvement in the relations with ID and its rules and relation with other government departments and the FO is important. So far attention has been given essentially to the first phase of the programme i.e. creation of farmers organisation. In Maharashtra, a large number of organisations were created and given managerial responsibility continue to function but many others are in dormant condition. The experience of both these categories of farmers organisations provide lessons to look at the factors that influence

sustainability and the future action and directions that will be required, mostly on the part of the government, to see that the FOs achieve success.

In the projects where turnover has taken place in the last ten years or so, the following constraints have been experienced :

- Weakness in the present law accounts for very slow progress in the turn over. There is no advantage in organising FO except where commercial crops are predominant. There is also no advantage or incentive in organising FO in an environment where misuse of water and non performance of managerial responsibilities are not penalized. This weakness requires that Maharashtra Irrigation Act and the rules made therein provide the motivation for not only organising but making a success of recognised farmers organisation.
- There is a perceptible reduction in the level of interaction between the ID and the FO after the MOU is signed and turn over takes place. A new culture of management in which turnover facilitates a change in roles between the ID functionaries and the FO is yet to emerge. After implementation of turnover the ID will have less and less of authority and more and more of responsibility to support the FO for success of their management responsibility. ID will have to introduce and implement newer technologies and support the FO to improve water management efficiency.
- The FOs have the feeling that they are taken as an extension agency of the ID. The gradual building up of relationship of mutual support with the changes in the administrative procedures and behavioral pattern of functionaries will take time to stabilise. To that end, administrative constraints as experienced by the FOs after turnover have to be monitored and removed.
- The membership of irrigation cooperative societies starts at a minimum of 51%. The membership can increase only if the irrigation department's continued support is seen to be there by the farmers who have not become the members of the FO. It is necessary since the danger from the non-members to create problems in management exists. The FO has therefore to muster the support from its members and ID to resolve problems with the non-members. Further the implementation of MOU can also bring in conflicts with local functionaries of ID. They have to be resolved in a manner that ID is seen as supportive of sustainability of FO. Therefore, the wider concept of conflict resolution would require the working in partnership of the ID functionaries and the FO.

- In the post turnover period the FO will require to establish linkages not only with ID but agriculture department, banking agencies, research organisations and marketing bodies. The establishment of these linkages can be facilitated only with the support of ID and CADA. The management of these constraints will provide strength to the policy of the turnover by the government.

Experience shows that government has taken certain steps but may have to take many more for strengthening the impulses for sustainability. Some of the steps that require to be underlined are as follows :

- The HRD and farmers training which the government is already providing is becoming the responsibility of WALMI. The training needs have to be properly evaluated and adequate infrastructure created. Similarly the FOs will require technical guidance in desilting or resectioning of the channels, repair of the structure and management of the outlets. These involve competence building of the FO and they can be performed well only with the ID support.
- In following the cooperative structure, the FOs may be tempted to add too many functions too soon which might appear to be conducive for raising the economic growth of FO. A closer interaction between ID & FO should facilitate a gradual expansion of activities commensurate with the capability of the FO, requirement of the members and the benefits that members can get out of them.
- The building of the operation infrastructure within the jurisdiction of the FO, so that water equity, sense of involvement of all members, avoidance of wastage of water and optimum efficiencies for available water is achieved, will require that the organisation functions with full cooperation of its members, who themselves monitor the performance constructively in joint meetings with ID after the implementation of the MOU. ID will have a substantial contribution to make since organisational and managerial efficiencies will be dependent on technical expertise from ID.
- Registration has been delayed sometimes because of lack of timely updating of land records. This is the function of the revenue administration. Since FO will have to maintain record of irrigation of individual plots which in turn will require monitoring of the title on a continuing basis, the ID, FO, and the revenue department will have to establish a mechanism whereby the FO is recognised as contributing to this process and becomes integral to the maintenance and updating of land records within its charge.

- Financial viability of the FO is very important for its sustainability. This viability is well established for the FOs where commercial crop is predominant. The intention is that FO culture should emerge in the areas with food crops and even monocrop cultivation. For this a mechanism to improve the financial viability by joint efforts of FO and the government department will be required. The ID and CADA cannot continue getting revenue unless they work together to improve returns for the water use to pay for the water charges.

The step by step approach will require involvement of FO in operation and management of irrigation even when turnover has not taken place and FOs are in an informal stage of formation. In this stage, the FO could be entrusted some responsibility even in repair and maintenance either through the supervision or even getting the work done by them. This will help motivation. The next step would be turnover when formalisation of the turnover will be accomplished through signing of MOU and taking over the system after verification of the efficient functioning of the system. This stage will involve not only the turning over of the physical system but also the necessary documents such as plan, longitudinal section, capacity and command statements and drawings of the structures. The last and final stage would be the post turnover stage which is a very critical stage. The line agency would be required to assist the FO to the extent desired by it in building capability to run the organisation and generation of resources. This assistance will be critical for the sustainability. The line agency will have to assess their training need and arrange such trainings in appropriate institutions of the government.

Chapter 3

LESSONS LEARNED

Institutionalizing farmer organisations for irrigation management can help in bringing efficiency in the resource utilisation and productivity through the complementarity of efforts of government and the farmer.

If the farmer organisation is to be an instrument of irrigation management, resource utilization and productivity, then the first task would be to create an organisation of farmers. Thereafter will follow the inputs to sustain it. The farmer organisation will require to be institutionalised and strengthened to govern and avail the assistance provided by the government through both technical and administrative bureaucracy. In Chanda Minor (Dutta society), Ozar cooperative societies, the resource utilization and productivity has substantially improved through institutions of farmer organisation.

This can be possible only if a change in the attitude of bureaucracy to assist and serve such an organisation is generated. The policy which recognizes farmer organisation as an instrument for governance by the people could contribute to the growth of farmer organisations. A policy pronouncement incorporating therein that the delivery of water, delivery of input and even performance of line functionary would be channelised through farmer organisations could help in bringing efficiency in the resource utilization, productivity and galvanising the complementary efforts of government and the farmer.

Formulation of a comprehensive implementation strategy can help to promote farmer organisations.

After the pronouncement of National Water Policy in 1987, CADA has taken some positive steps for developing farmer organisations but the steps taken are short of strategy required for promoting farmer organisations. The lack of an adequate implementation strategy which requires deployment of dedicated officers and staff to carry out this work, allocation of adequate financial resources for this task, formulating procedures for involving NGOs, appraisal of the effort needed during post turn over period are constraints in promoting farmer organisations.

The absence of strategic planning regarding the area of operation, monitoring and evaluation agency independent of the line agency have stunted the growth of farmer organisations. There has been absence of a common platform for free exchange of views, an open invitation to all those committed to the philosophy

of the participatory management to join hands with the government. Formulation of an implementation strategy can help in promoting farmer organisations.

An amendment in Maharashtra Irrigation Act for recognizing FOs as a legal instrument and framing rules for the governance of FO can help the formation of farmer organisations.

The Maharashtra Irrigation Act under part 6, chapter 3 recognizes formation of a water management committee selected/elected by beneficiary for supply of water on volumetric basis. The provision of this act is at variance with the provisions in the draft MOU approved by the Command Area Development Authority. The government recognizes water committee of 51 percent of the landholders and tenants. It does not, however, consider the registration mandatory. The functions and powers of such water committee do not agree with the functions and powers of the FO provided under draft MOU. The provisions under the act are centred round providing assistance to the canal officers than to work as an independent equal identity in the process of participatory management.

Under section 114 of the Maharashtra Irrigation Act, the state government has the authority to make rules (for the purpose of carrying into the effect the provisions of this act) and notify them in the official gazette which has not been done. The contradicting provisions in the act and the draft MOU issued by the CADA have created a bottleneck in the development of farmer organisations. Amendment in Maharashtra Irrigation Act for recognizing FO as a legal instrument and frame rules for governance of FO can help in formation of FO.

Freedom of choice to FOs to register in any of the relevant acts could help in expeditious attainment of a status of a legal institution.

The procedure of registration is cumbersome, complex and delays registration up to two years. The Maharashtra irrigation act does not provide compulsory registration of water committee which also is an organisation of farmers. The government circulars in respect of minor irrigation schemes also do not provide for registration of tank committee. The guidelines issued by CADA (command area development authority) however, provides for compulsory registration of farmer organisations under Cooperative Societies act.

The experience is that the registration under cooperative societies act does provide legal status to the societies. The cumbersome procedure delays the registration of the farmer organisation and the provisions of the cooperative act

throttles their freedom. The farmer organisation finds itself sandwiched between the CADA and cooperative departments. The lesson is that freedom of choice to WUA to register itself in any of the relevant acts, meeting the objective of the association and providing lesser constraints can help in expeditious attainment of legal status.

An unfulfilled commitment by the department to repair and update a system following a walkthrough by line staff and farmer representatives will delay and even stall the process of turnover.

Once the society is registered, the Irrigation Department is committed to repair the minors and turn it over to the society within a short time. This is rarely achieved because repair takes longer time. Further the delay is due to the constraints of funds, since maintenance budget is inadequate. As a result, many societies even though registered three years back have not commenced functioning since ID could not meet its repair commitments and consequently handover the system to them.

Having made the commitment and promoted the formation of farmer organisations, the line agency functionaries, such as deputy engineers, fail to fulfil their commitment of improving the system after carrying the repairs as mutually agreed to after joint walk through. Such unfulfilled commitments which dampen their morale are responsible for stalling the process of turnover.

The commitment and continued involvement of the line agency can help promote participatory management and develop of farmer organisations.

Creation of a farmer organisation is not a one time activity. This is a social process which takes time to take root. Farmer organisations need continued long term support until they attain capability to sustain themselves. Such organisations can be created either by government or nongovernment agency but the continued support for sustenance can be provided by the line agency only. In absence of continued support, the newly created FOs suffer from infant mortality.

Therefore, if farmer organisations are to be formed and sustained then the line agency must commit itself and accept role of developing and sustaining them. The FO at Parunde MI scheme is sustaining due to the commitment of the deputy engineer, who inspite of various constraints is providing the assistance needed by the society within the realm of his authority and capability even after the turnover.

The freedom of crop choice in irrigation can help promote farmer organisations.

Lift irrigation schemes involve high investment in infrastructure, operation, maintenance and management and are difficult to be installed without a community effort. A cooperative effort is therefore necessary. Restricted crop choice has proved to be a deterrent and compelled the farmers to violate the direction of the Irrigation Department.

In private lift cooperatives of farmers organised either round the KT weirs or the periphery of the reservoir, even penal rates which are three times the normal rates could not deter their resolve to cultivating cash crops in violation of approved crops and water allocation therefore. The ID could not succeed in realising penal rates which have been frequently waived by the government.

The reasons are obvious. The high operative and management cost has compelled the farmers to violate the directions of the ID deliberately with full knowledge of the consequence. They are convinced that only cash crops could render the irrigated agriculture financially viable. In spite of these penal actions, the high return from cash crops motivates the farmers to form cooperatives and utilize the land and water resources which otherwise would have remained unutilized. Freedom of crop choice can further help farmers to organise and sustain their organisation.

The involvement of the farmer organisation in assessment and collection can promote better recovery of irrigation charges and create a better working relationship between farmers and the department.

In some of the lift irrigation societies the assessment and recovery are made by societies themselves, while in the rest it is the department which makes assessment on crop area basis and collects revenue directly. The experience is that in the former, the recovery is almost 100 percent, but the recovery in latter is approximately 50 percent.

Similarly, in the flow irrigation cooperatives, recovery of water charges are substantially higher than farmers in non-society areas. The society is able to achieve better collection by applying social pressure on the individual farmers. The society offers itself as an effective tool to department for collection of revenue.

In matters of assessment too, if the society does the assessment or it is done by involving the society, the chances of dispute and difference arising out in the assessment minimise.

Granting authority to the farmer organisation to levy service fees over and above the irrigation rates specified by the Irrigation Department can help in providing financial viability to the FO.

In the post turnover period the societies are required to incur heavy expenses in management and maintenance of the system below the turn over point to improve service to its members. Presently the Irrigation Department and the CADA are not providing the required service and this is a grey area which needs assistance.

The Dutta society which has been turned over to Chanda Minor command area (360 hectares) employs one manager and three patkaris and pays them a salary of Rs. 16,000 per year approximately.

The management cost on salary alone of Dutta Society in Chanda Minor works out to Rs. 160 per ha. Similar is the experience in lift cooperatives. The farmers do not grudge payment of this additional water service charges since they are getting better services. Unless the farmer organisations are granted authority to charge water service fee over and above the irrigation rate, they can not sustain.

Granting authority to farmer organisations to levy water service fee over and above the irrigation rates can help in providing financial viability and consequent sustenance to farmer organisations.

Catalysts clearly help to promote farmer organisations.

Whenever and wherever the farmer organisation has been formed catalysts have contributed significantly in motivating the farmers either through individual or group contacts, playing the role of a facilitator, providing assistance to the nascent organisation, training the farmers the art and skill of participatory management or acting as a coordinator between the government and the farmers. Behind every farmer organisation is hidden the dedicated selfless and untiring efforts of one or more catalysts.

The experience of Maharashtra is that dedicated social workers, nongovernment organisations (NGOs), sugar factory staff, deputy engineers and junior engineers have credited themselves as successful catalysts. The past efforts have also shown that given the required motivation, catalyst could come not only from one discipline but from many disciplines. However, the fact remains that the NGOs, sugar factories and similar institutions are not many and they cannot take up the massive task of forming farmer organisations.

Therefore, the irrigation department cadre has to be geared to this task and their efforts given due recognition and appreciation. Since all the engineers or the allied staff do not have the potential of adopting and performing the task of a catalyst, a cadre of such potential catalyst will have to be created/generated through motivation, training, incentives to those who volunteer to take up this task. Creation of a cadre of catalysts and recognition of their efforts can help in promotion of farmer organisation.

A two-tiered FO committee at minor and distributary levels on major projects and at the chak and tank levels on minor tanks can help to improve water management.

The Government of Maharashtra (GOM) guidelines in respect of minor irrigation schemes provide formation of two committees, one at tank level and the other at chak level. In the five schemes where farmer organisations have survived are those where tank management committee (TMC) and chak committees were formed. The availability of water at outlet was ensured through involvement of tank management committee, whose primary responsibility was to ensure that water from main system is made available at the outlet head as per approved plan of irrigation. The chak committee thereafter took over the task of distribution of water upon itself.

In respect of minors off-taking from distributaries the difficulty of receiving proper supplies at their head will be felt in times to come when with age the carrying capacity of the canals upstream will deteriorate and the experiences of chak committee will repeat at minor level. Inadequacy of water supply is being experienced even now in some of the tail end minors. The situation can be improved if a management committee at the distributary level charged with the responsibilities of equitable and timely distribution of water at the head of the minor is also simultaneously formed. This committee has to involve itself into operation and distribution. The lesson is that formation of a two tier committee of which the higher one is formally registered can help in improving management.

Foreign donors can exert influence on the government to develop farmer organisations, but they cannot sustain them.

In the Maharashtra Minor Irrigation Project, USAID through covenants II & IV required Government of Maharashtra to involve the farmers in participatory management through forming farmer organisations, such as chak committees and tank management committees. Consequently Government of Maharashtra

geared its line agency which organised the farmers in 84 out of 90 schemes in a short period of two years.

The prime mover behind development of farmer organisations was the donor's financial support and its covenants. With the withdrawal of donor support, after the completion of the assistance the compulsions on the department ceased. The priority and attitude of line agencies also simultaneously changed overnight. The tasks which were considered important and assigned priority became additional. The good work done was lost.

The organisation survived in only five out of 85 cases. The Government of Maharashtra could not continue its support either due to lack of its commitment, lack of implementation policy, lack of funds; lack of an appropriate infrastructure to continue the ongoing activity. Donors thus promote formation of farmer organisations but cannot sustain them without the full and complete involvement and commitment of government.

Infrastructural and financial support can lure farmers to develop organisations, but social, institutional and HRD support are required to sustain them.

Financial support and subsidies for infrastructural improvement of the canal system extended either through government or donor support has often lured the farmers to develop farmer organisations. The lesson is that the farmer organisation created through donor's support, cannot be sustained without the departments commitment to provide social, infrastructural and HRD support.

The experience is that the enthusiasm of such farmer organisations do not last after withdrawal of the financial support, and in result the organisations do not sustain. More than the financial support, the farmers need support for generating cohesion and skill among the farmers for strengthening social ties, accommodating and appreciating each others concern and running the organisation harmoniously. Farmers also need recognition of their institution, a legal status, and a forum through which they can attain redressal of their grievances and obtain technical and financial assistance.

Capability building of organisations through continued human resource development (HRD) support is their other important need to enthuse in them the confidence to accept the new responsibility and challenges of running the organisation efficiently. While financial support for infrastructural improvement is one time effort to lure the farmers to organise, social, HRD and institutional support sustains them. Without the latter the organisation can not last long.

Granting water rights to farmers in traditional and minor irrigation system can promote farmer organisations

The experience of the phad system is that the farmer organisations have shown symptoms of continued decay. Lesser availability of water at bandhara due to construction of reservoirs upstream ignoring the rights of the lower riparian water users has been the principal contributing factor. The government has not recognized the water rights of owners of traditional and minor irrigation systems. Wherever the government has augmented the water resources to the phad or minor irrigation system the farmer organisations have sustained. Grant of water rights to farmers can help in promoting not only the formation of farmer organisation but even construction of minor irrigation schemes through their participation.

Chapter 4

RECOMMENDATIONS

Policy Issues

1. The traditional irrigation system, the lift cooperative societies, the donors (USAID), Maharashtra Minor Irrigation scheme followed by efforts of CADA have generated valuable experiences bringing out various lessons. From these lessons have emerged a number of recommendations which suggest the actions to be taken to accelerate the pace of participatory management. The recommendations have been broadly classified under two categories. Both the categories are equally important. One category of recommendations will tend to strengthen the other. The recommendations have been drafted to promote the implementation of National Water Policy as well as state water policy. The two categories of recommendations are policy issues for promotion of farmer organisations and policy issues for organisational and procedural changes.

CADA in pursuance of National Water Policy has taken the initiative of forming farmers co-operative societies. Such an initiative is not visible in non-CADA area. A similar policy action would greatly help the formation of farmer organisations in non CADA irrigation works also. **It is recommended that government may take a policy decision to turn over irrigation management to the institution of farmers within a specified period and stop providing irrigation to individual farmers thereafter.**

2. The government has not been able to provide adequate funds for O&M expenses and keep up to the commitment of bringing the minor up to an acceptable standard before turnover expeditiously. Even where it has carried out the improvements (fully or partially) there has been considerable delay in carrying out the repairs and the farmers have often raised grievances against the quality of work. In view of these difficulties **it is recommended that the government should consider to turnover the system on an 'as is where is' basis.**
3. For helping the farmer organisation, the government has the following options:
 - to provide a portion of the O&M funds from its own resources to FO. The remaining portion to be arranged by the beneficiaries either from their own resources or as loan from Cooperative Bank.

- to allocate larger chunk of available O&M fund to only those minors which have their own farmer organisations.
- to allow the farmer organisations to retain an agreed percentage of the revenue collected and plough this fund for improving the infrastructure.

Out of the above three alternatives, it is recommended that the government may allow the farmer organisations to retain a fixed percentage of revenue collected and to plough this fund in improving/repairing the infrastructure according to priority of the farmer organisations.

4. The Government of Maharashtra allocates separate quantity of water for kharif, rabi and hot weather crops. Any deviation from the approved cropping pattern empowers the department to take penal actions against the defaulting farmers. This provision is limited to the areas where water is sanctioned on crop area basis. On the contrary, where the farmers obtain water on volumetric basis they have a freedom of crop choice. In lift irrigation schemes which requires a lot of financial input in lifting the water and management of its distribution, the farmers have not much of alternative but to grow cash crops. It is recommended that the farmer organisations practising lift irrigation should be given the freedom of crop choice.
5. The registration under the cooperative societies act is not a simple and smooth affair and consumes a lot of energy and effort. There has been cases of delay upto two years. The insistence of the department on registering the farmers organisations under the Cooperative Societies Act could be done with as the Maharashtra Irrigation Act fully empowers the department to enter into an agreement with the farmer organisations. The possibility of registering the farmer organisation in the Irrigation Department should be explored. It is recommended that, the farmer organisation be provided freedom of choice to register themselves either under Cooperative Societies Act, or Indian Society Act, or through the Irrigation Department itself.
6. For farmers organisations which do not receive water on volumetric basis, the assessment and recovery are made by the ID staff. On the contrary, the farmer organisations which receive water on volumetric basis the assessment and recovery on behalf of the department are made by farmer organisations. This provides a disparity. Since the assessment and recovery through farmer organisations avoid dispute and ensure better

percentage of recovery, it is recommended that the task of assessment and collection of revenue be entrusted to the farmer organisations only.

7. A two-tier water management committee one at minor level and another at distributary (major projects) or chak level and tank level (MI tanks) helps in water management. The tank management committee or the distributary level committee ensures that the water from the main system is made available at the minor or outlet head as per approved plan of irrigation. The minor committee or the outlet committee looks into the allocation of water among the beneficiaries. In absence of a committee at the tank level or distributary level, the supply of water at minor or outlet head becomes erratic ultimately damaging the sustainability of the organisation. It is recommended that a hydrological unit either a minor or a distributary (irrespective of area) should be considered for developing farmer organisations and a two-tier water management committee one at the minor level and other at distributary level (major and medium projects), chak level and tank level (minor projects) should be formed. The DLC and the tank management committee should have the formal recognition. A smaller area lesser than a minor should not be taken up for development of farmer organisations since such an organisation would suffer from financial viability.

Organisational and Procedural Changes

1. In order to implement a National Water Policy or state government's own policy it will be necessary to provide due recognition to the activity of management transfer to farmer organisations or turnover. It is recommended that the government should provide a separate line item in the budget making allocations of funds to promote the activities relating to development of farmer organisations and turnover.
2. It is recommended that the government set up a high power committee under the chairmanship of the chief secretary with secretaries of Water Resources, Rural Development Department, Cooperative Department and Finance Department as members to facilitate the sectoral linkages required for promoting the activities of farmer organisations, providing directions for administrative decisions and removing the difficulties constraining the promotion of this activity.
3. It is recommended that government create a separate cell headed by a joint secretary in the Water Resource Department to plan, implement and monitor this activity. This cell will help in resolving the constraints in

development of farmer organisations, amending the guidelines and procedural changes.

4. **It is recommended that the government may consider setting up an advisory committee** consisting of representatives of cooperative societies, NGOs, retired senior officers and representatives of progressive farmers (known to have interest in promoting this activity) to advise the government on measures required to promote this activity. The members of the Advisory Committee will have the authority to visit the farmer organisations to evaluate the performance and identify the constraints.
5. The past lesson is that targets by numbers has proved disastrous. Many farmer organisations created in the past have suffered from infantile mortality. **It is recommended that the success of farmer organisation be measured through actual turn over of the system to registered farmer organisations and their sustainability should be evaluated from time to time through designed, performance indicators.**
6. Presently developing cooperative societies is not the primary role of CADA. The line functionaries are performing this work in addition to their primary role. If farmers cooperative is to be a vehicle and instrument of participatory management, then the time and effort required to accomplish this task will have to be taken note of. Simultaneously change in the jurisdiction, functions, culture will be inescapable. **It is recommended that an administrative committee be formed to approve the necessary changes.**
7. For raising the capability of FO, it is recommended that:
 - the line agency continues to provide the assistance for three to five years
 - the deputy engineers are made squarely responsible for sustenance of the system and capability building of the FO
 - the efforts on human resource development be enhanced.
8. **It is recommended that the performance of line functionaries in developing and sustaining farmer organisations be evaluated in their annual assessment report.**
9. **It is recommended that the performance of deputy engineers, junior engineers, canal inspectors be monitored through the information**

procured from each individual officer and the society president through a monitoring unit say Regional Minor Irrigation Cell (RMIC).

10. It is recommended that the functionaries of the line agencies involved in forming farmers cooperative society should not be transferred until they have accomplished the task assigned.
11. The clause in draft MOU prescribed by CADA and also for minor irrigation tanks relating to conflict resolution is not based on equity and does not instill confidence in farmer organisations. It is recommended that the relevant clause of MOU is amended as under:

"All disputes between WUA and GOM/ID shall be settled by a committee consisting of one nominee from ID and cooperative society or WUA each and a third member acceptable to both the parties who will act as an umpire. The decision of this committee will be binding on both the parties."
12. The concept of water committee as provided in Maharashtra Act is centered round providing assistance to the canal officers than to work as an independent equal partner in the process of participatory management. The provisions need government consideration. It is recommended that the government may consider amendment of relevant clauses in Maharashtra Irrigation Act to recognise water management committee selected/elected by beneficiary for supply of water on volumetric basis as equal partners.
13. It is recommended that irrigation rules for promoting the activities of farmer organisations and providing them an opportunity to work as an autonomous institution and equal partners in the participatory management be framed and approved as early as possible and registering farmer organisations under the Irrigation Act itself and granting them a legal status be also incorporated therein.
14. The Government of Maharashtra has authorized the farmer organisations to realise from non-members up to 30 percent more irrigation charges than members. This does not provide a substantial income to the society. The management cost alone which the farmer organisations have been spending is over Rs. 100 per ha. The farmers are not grudging payment of additional water service charges to their organisation since they are getting better services. It is necessary that the government suitably amends the provision of the act to grant authority to farmer organisations to levy water service charges over and above the irrigation

rates specified by the Irrigation Department from time to time to help in financial viability and consequent sustenance of the cooperative society. **It is recommended that the farmer organisations be permitted to charge water service fee over and above the irrigation rate for the financial sustenance.**

15. Catalyst have played a significant role in motivation of farmers and helping them in developing farmer organisations. In Maharashtra dedicated social workers, nongovernmental organisations (NGOs), sugar factory staff, deputy engineers and junior engineers have credited themselves as successful catalysts. Behind every farmer organisations is hidden a dedicated selfless and untiring efforts of one or more catalyst and without them the development of farmer organisations would have been extremely difficult. It is, therefore, necessary that a cadre of catalyst be created in the irrigation department. Since all the engineers or the allied staff do not possess the potential of adopting and performing the task of the catalyst. **It is recommended that a cadre of potential catalyst be generated through motivation, training, and incentives to those who volunteer to take up this work.** In order to initiate this action, it is necessary that a list of such officers and staff who willingly volunteer themselves to take up the role of a catalyst be processed and necessary back-up support to technical staff be provided.
16. **It is recommended that the process of registration of NGOs working in the field of developing farmer organisations be framed and approved.** The NGOs found suitable and competent to take up this type of work be shortlisted. The procedure for involving them be streamlined without asking them to go through the rigour of normal contract procedure.
17. **It is recommended that the industries like oil mills, cotton mills, sugar factories dependent on agriculture be invited to form a catalyst group to promote farmer organisations and rules and procedures to enlist their support and motivate them to this task be framed.**

Chapter 5

NEXT STEPS

The bureaucracy in democracy has its own constraints in initiating actions on all the recommendations simultaneously. Some of the actions need involvement and concurrence of other departments like cooperative, finance and agriculture. Therefore, the actions to be taken can be long-term and short-term. The long-term actions, which involve legal changes and also financial involvement could wait. The short-term actions which relate to administrative and procedural actions can be initiated by the department almost immediately.

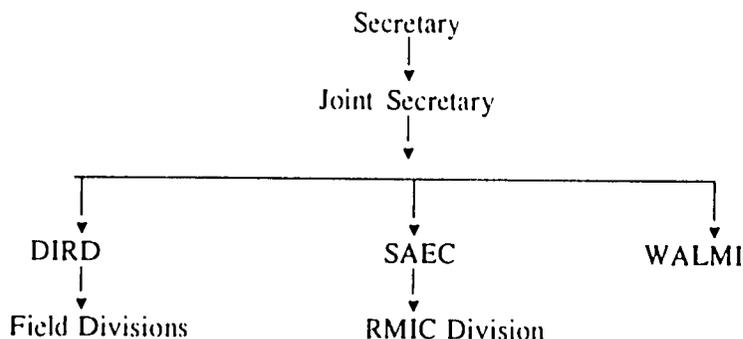
The department's decision to involve the beneficiaries in irrigation management and provide the package of incentives has to be formulated into a state water management policy and duly notified as a policy decision of the government. The government should give a wide publicity to the policy of the Govt along with the package of incentives, the rights, roles and responsibilities of the farmer organisation, the implementation strategy and implementation methodology both for the farmers and the government agency. Such a publicity should be given through press, handbills and farmers meeting. Through this publicity open invitation to farmers, NGOs, social scientists and voluntary organizations to join hands with the government in developing farmer organisations should be extended.

Government should set up a coordination committee under the chairmanship of the chief secretary with the secretaries of water resources, cooperative, rural development, finance department and others as its members to coordinate the program, to develop sectoral linkages required for promoting the activities of farmer organisation, and providing directions for administrative decisions for removing the difficulties constraining the promotion of this activity. The committee functions could be to:

- approve the policy issues necessary to proceed further with the programme of participatory management
- coordinate and facilitate the sectoral linkages between the different departments to remove the constraints stumbling the progress of participatory management;
- provide administrative directions for changes in the package of procedures of government consistent with the status and autonomy of farmers

- review the progress and set targets for turnover of the systems
- approve introduction of legal and organisational changes

The government should create a special cell headed by the joint secretary in water resource department to plan implement and monitor this activity. The cell should process the recommendations made in this report. The proposed cell will boost up participatory management and will be headed by a joint secretary in water resources department. It will have two field units one (DIRD) for major and medium irrigation and the other (SAEC) for minor irrigation working under its direct control. The RMIC will work exclusively under the control of SAEC and the field divisions of DIRD will continue to work as follows:



The cell will plan the strategy of development of farmer organisations in consultation with the chief engineers at the secretariat level and monitor the same in the bi-monthly meetings of all the chief engineers. The progress of this activity of creating farmer organisations and turnover of the systems to them could be reviewed under the following heads:

- development of farmers cooperatives
- registration
- turnover
- HRD efforts, evaluation
- post-turnover activities to be performed by line agencies
- withdrawal of support to the FO depending upon the capability of the farmers

Other functions of the cell could be to:

- work as a secretariat of the coordination committee headed by the chief secretary

- assist the secretary, Irrigation Department, in promoting participatory management
- plan, monitor and review the progress of formation, registration and turnover of the irrigation systems to FO for participatory management
- process the changes in package of procedures
- process the legal changes constraining the progress of FO
- process the registration of NGO and develop procedures for their enlistment
- plan, coordinate, monitor and review progress of human resource development of farmers and line agency through demonstration, study tour, workshops, and seminars
- prepare a list of ID personnel who volunteer themselves to this activity, shortlist them, and arrange their deployment after motivating them through training and other backup support
- assess the need of FOs in post turnover period and formulate actions required to sustain them
- process the constitution of advisory committee and arrange quarterly meeting
- any other matter related to participatory management

For creating a cadre of catalyst in the department and to initiate the process of registration of NGOs suitable and competent, to take up this work, the chief engineers may ask their subordinates to volunteer themselves to promote the activity of farmer organisations provided they are committed to this. Such officers and staff should submit their biodata alongwith their willingness to work as catalyst. The volunteers should be shortlisted and the list forwarded to joint secretary for further action.

The jurisdiction of deputy engineers, junior engineers and allied staff who volunteer to take up formation and sustenance of farmer organisations needs to be redefined. Other administrative actions which need to be considered are:

- the jurisdiction of the deputy engineers and junior engineers should be reduced substantially to provide them adequate time to concentrate on this new task.
- the work culture of field functionaries should be drastically changed from administrative to service.

- modifying the existing procedures, the resources available with the department will need to be formally communicated to the farmer organisation and its utilization plan finalized with the concurrence of the FO. The role of the line agency should be limited to providing assistance instead of making decisions.
- the quality of physical work should be jointly supervised and certified before payment to the work agency.
- the operation plan should have the concurrence of the society.
- all major decisions regarding operation and maintenance should be taken by the farmer organisation. The line agency should assist them in generating right decision.

A policy directive to transfer the responsibility of assessment and collection of irrigation revenue to the farmer organisations should be issued.

The government should amend the MOU for providing subsidies, freedom of choice of crop to all the societies, whether they are lift irrigation societies, cooperative societies of command area development, or phads.

Guidelines together with orders for the turnover of the minor systems to the farmer organisations on 'as is where is' basis should be issued. While turning over the minor system to the farmers, the government may provide a portion of O&M funds from its own resources. Alternatively, the government should help the farmer organisations to obtain loan from the Cooperative Bank. Simultaneously, the government may amend the MOU authorizing farmer organisations to retain a percentage of revenue collected. However, before issuing these instructions, the government may discuss this issue with the NGOs and farmers representatives and line agency.

Actions to provide funds for creation of FO as a separate line item in the budget may have to be initiated.

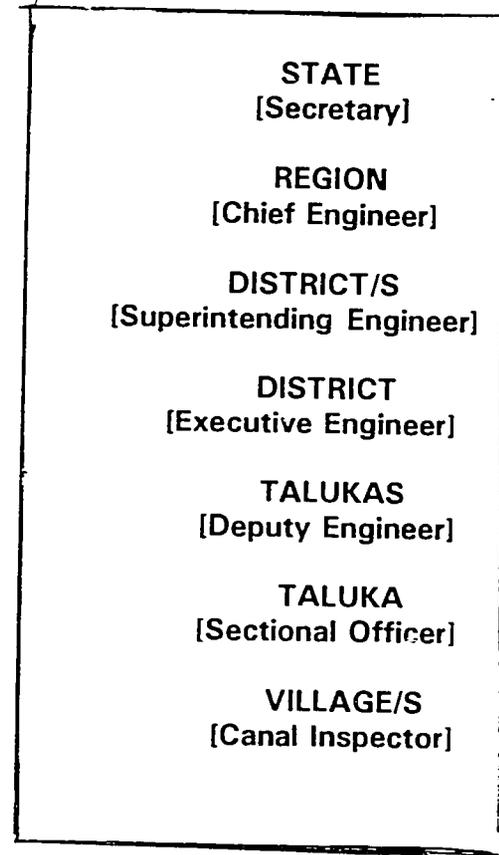
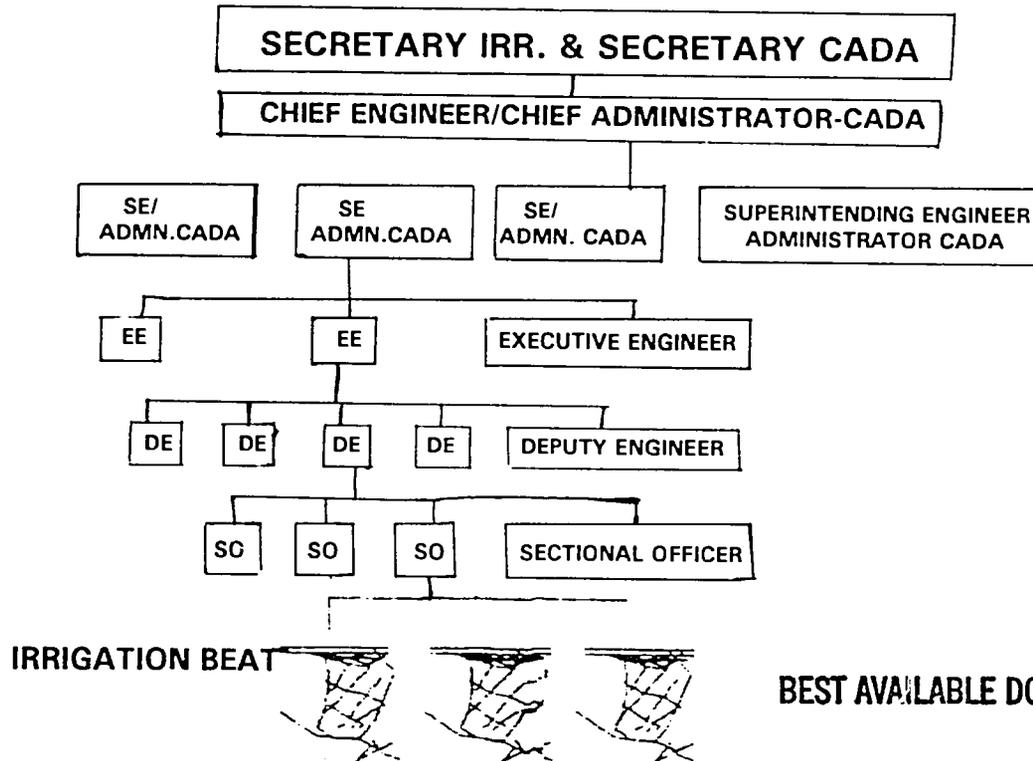
An advisory committee with NGOs, representatives of farmer organisations, retired government servants could be set up to advise the government from time to time for promoting the activity of FO and ultimate turnover of the system for participatory management.

The recommendations would need amendments in the Maharashtra Act to enable the government to turnover the irrigation system to the beneficiaries. The government should set up a committee to draft the suggested amendments in the Maharashtra Act incorporating the right of the government to turnover the system to farmer organisations or even to stop providing irrigation to individual farmers.

This committee should also be authorised to frame irrigation rules for promoting the activities of farmer organisations and providing them an opportunity to work as an autonomous institution and equal partners in the participatory management. The irrigation rules should be amended to provide for the registration of NGOs and the farmer organisations by the Irrigation Department.

ANNEXES

ID ORGANISATION FOR A STATE
FOR
MANAGEMENT OF IRRIGATION SCHEMES



BEST AVAILABLE DOCUMENT

Annex B

Forming Tank Management Committee/Outlet Committees on Minor Irrigation Projects in Maharashtra

GOVERNMENT OF MAHARASHTRA

Irrigation Department

Government Circular No. CME 1091/(122/90)-IM(R)

Mantralaya, Bombay 400 032

Dated the 21st March 1991

- Read:
- i) Public Works Department Government Resolution No. 3647/36-II, dated 30/5/1947
 - ii) Public Works Department Government Resolution No. 3647/36-II, dated 17/5/1951
 - iii) Irrigation and Power Department No. CME 2968/110319 - I (4), dated 21/9/1968.
 - iv) Irrigation and Power Department No. CME 1080/6332 (1619)-IMG-3 dated 9/1/1981.
 - v) Irrigation and Power Department No. CME 1080/14368 (1653)-IMG-3 dated 19/1/1981.
 - vi) Irrigation Department No. CME 1081/(1902) - Management-3 dated 17/3/1982.
 - vii) Irrigation Department No. CME 1081/(1902) - Management-3 dated 7/1/1983.
 - viii) Irrigation Department No. CME 1088/(88/88) -I(R) dated 16/11/1988.
 - ix) Irrigation Department No. CME 1090/(122/90) - IM (R) dated 1/11/1990.

Preamble

Maharashtra Minor Irrigation Project has been undertaken by the Irrigation Department of Government of Maharashtra with the assistance from USAID. Guidelines in respect of formation of outlet Committees and Water Management through water users associations as already been issued vide above reference. The question of issuing such guidelines in entire minor irrigation sector was also under consideration of Government for some time.

2. Government in Irrigation Department issued instruction from time to time regarding formation of Canal Advisory Committees/Water Panchayat Committees vide -

- i) PWD GR No. 3647/36-II dated 30/5/47
- ii) PWD GR No. 3647/36-II dated 17/5/51
- iii) I & PD No. CME 2968/110319-I(4), dt. 21/9/68
- iv) I & PD No. CME 1080/14368(1653)IMG-3, dt. 9/1/81
- v) I & PD No. CME 1080/(14368)(1653) IMG-3, dt. 19/6/81
- vi) ID No. CME 1081/(1902)Management-3, dt. 17/3/82
- vii) ID No. CME 1081/(1902)Management-3, dt. 7/1/83
- viii) ID No. CME 1088/(88/88)Management-3, dt. 16/11/88
- ix) ID No. CME 1090/(122/90)-IM((R), dt. 1/11/90

3. Government in Irrigation Department has further circulated the draft rules for outlet committees for comments vide letter No. CDA 1083/1574/1137/ CADA (I & Agri) dt. 28/3/85.
4. Government has also circulated vide letter No. IDB/630/IR dt. 26/7/88 a copy of draft agreement proposed to be entered into by Government with the WU Associations for taking over the irrigation management of a particular of minor/distributary receiving water on volumetric basis. The revised draft agreement copy of minor irrigation schemes is enclosed herewith. The Government of Maharashtra have recently issued the circular mentioning the guidelines for water users' organisation on 90 new minor irrigation schemes and 12 existing minor irrigation schemes of Maharashtra Minor Irrigation Project undertaken by the Irrigation Department of Government of Maharashtra with the assessment of USAID vide circular No. CME 1090/ (122/90)-IM(R) dt. 1.11.1990.

After taking into consideration all the studies done so far and the practices laid down hereinbefore, Government has now resolved that participatory management approach will be intensified for obtaining optimum benefits from all the minor irrigation projects. For this purpose all the beneficiaries under respective minor irrigation schemes will be actively involved in decision making process of canal water releases and scheduling, optimum water utilisation, operation, maintenance and management of irrigation system through the formation of outlet committees (OC), at individual outlet level and water users' association (WUA) at the minor irrigation scheme level for ultimately taking over the irrigation management and operation and maintenance of irrigation system. The above objectives cannot be achieved overnight. A systematic progress has to be involved for the formation of outlet committees and to form the association (WUA) to ultimately take over the entire irrigation management from Government of Maharashtra/Irrigation Department and utilizing of water on volumetric basis.

To achieve the above objectives, guidelines as per enclosures are notified for the formation of effective Water Users Organisation, in a phased manner for all the new minor irrigation schemes in the State.

- | | | |
|----------|---|--|
| Phase I | : | Initiate development of an organisational structure, as an interim measure, until the management is taken over by the WUA, and |
| Phase II | : | Handing over the complete management of the irrigation system with the development of organisational structure of WUA. |

These guidelines are, however, being notified for general guidance only. The rules of business are to be framed by the respective Water Users Organisations/Associations as per their convenience/local practices but within the broad guidelines notified herein.

By order and in the name of the Governor of Maharashtra,

N.D. Vadnere
Deputy Secretary to the Government of Maharashtra.

Copy to:

General Administration Department, Mantralaya, Bombay-4000032.
Finance Department, Mantralaya, Bombay - 400 032.
Planning Department, Mantralaya, Bombay - 400 032.
Agriculture & Animal Husbandry, Dairy Development and Fisheries Department, Mantralaya, Bombay - 400 032.
Revenue and Forests Department, Mantralaya, Bombay - 400 032.
USAID, New Delhi.
Accountant General I (Accounts & Entitlement), Maharashtra, Bombay.
Accountant General II (Accountants & Entitlement), Maharashtra, Bombay.
Accountant General II (Audit), Maharashtra, Bombay.
Secretary (Irrigation), Irrigation Department, Mantralaya, Bombay.
All Chief Engineer & Joint Secretary, Irrigation Department, Mantralaya, Bombay.
All Divisional Commissioners.
All Regional Chief Engineers.
Chief Administrator, Command Area Department
All Collectors.
All Chief Executive Officer, Zila Parishad
All Technical Officer, Irrigation Department, Mantralaya, Bombay 400 032.
External Aid Projects/CADA Desks.
IR Irrigation Management (Planning) Desk.
Irrigation Management (Revenue) Desk.

Accompaniment to Government Circular, Irrigation Department No. CME-1090(122/90)-IM(R), dated 21/3/1991.

Guiding Principles for Formation of Water Users' Association.

ANNEXURE - 'A'

Outlet Committees (OCS).

1. Objectives: To carryout irrigation management within the chak/outlet command.
2. Formation of Membership:

Outlet committee will be a committee representing all the irrigation under a chak. Five irrigators will be elected every two years from all the irrigators to work as members of outlet committee, who will in turn elect one Chairman from themselves.

For getting elected as member of the outlet committee, the irrigator must not be a defaulter. One irrigator can contest for only one outlet committee even though he may possess land in more than one outlet within the command of same MIS.

Every beneficiary in the outlet command of the MI scheme shall have right to become the member of the OC in order to derive the full irrigation benefits provided he is not a defaulter but he will cease to remain as a member of the OC if he sells his land in the command.

3. Business year, Jurisdiction and Tenure.
Business year for the outlet committee will be from July 1 to June 30. The elections for outlet committee shall take place not later than second fortnight of June. The jurisdiction of an outlet committee will be the command area under the outlet and its tenure will be up to two years maximum (Depending upon the agro climatic zone, the period may be modified in individual cases).
4. Functions of the Committee.
 - i) To frame the rules and procedures for proper functioning of the outlet committee.

- ii) To give concurrence to the proposed planning/layout of Water Course and Field Channels (FCs) after suggesting the modifications if necessary, and to assist the department in the execution of or undertake these works.
- iii) To take over from the department and maintain/repair the distribution system below outlet.
- iv) To maintain the records pertaining to irrigation, total water received in each rotation including duration, areas under each crop grown, chak maps etc. for that outlet.
- v) To collect all water applications and to submit them along with the information regarding scheduling of water releases to the ID/Management Committee.
- vi) To assist in following/implementing the irrigation schedule of the outlet and ensuring the completion of rotation in assigned time.
- vii) To prevent unauthorised use of water, waste of water and to report the cases of default to the ID/Management Committee.
- viii) To monitor the inflow from the chak outlet and in case the design flow is not received, the fact to be brought to the notice of the ID/Management Committee for immediate rectification of the fault.
- ix) To liaison with ID/Management Committee on matters of irrigation schedule, water releases, unauthorised use of water etc.
- x) To assist the ID/MC in collection of water charges from the irrigators promptly.
- xi) To resolve all disputes regarding water use, distribution, conveyance, etc. and seek ID/MC assistance if required to resolve the dispute.

ANNEXURE 'B'

MODEL STRUCTURE FOR WATER USERS ASSOCIATION

(Phase I)

1. Tank Management Committee (TMC).

a) Objective:

Irrigation management of the MIS till such time that Water Users Association is formed.

b) Formation and Membership:

The Tank Management Committee will consist of:

- i) Five members, elected from group of eligible irrigators, out of which 2 each will be from Tail and Middle outlets and one from the Head outlet. The classification of outlets as tail, middle and head will be done by concerned EE well in advance.
- ii) The concerned Section Officer (JE) will be an ex-officio member of TMC. He will participate in the committee proceedings but will not have voting right.
- iii) All the eligible irrigators in the command of MIS will have the right to vote to elect the members of the Tank Management Committee. EE or his nominee shall convene a meeting of all the eligible irrigators with a notice of not less than 15 days, mentioning the date, time and place thereof for holding the elections of candidates for TMC. The election shall be made by majority of votes. The election officer incharge of conducting the election shall notify the results of such election on the same day and communicate the same to concerned officers/agencies.
- iv) The tenure of each member will be for a period of 2 years or until WUA is formed. The Section Officer shall ensure that the office bearers i.e., Chairman and Secretary are elected by the elected members of TMC within 7 days of holding the General Body Election.

c) **Business Year and Jurisdiction:**

The business year of the Tank Management Committee will be from July 1 of each year. The elections for members of Tank Management Committee will be held not later than second fortnight of April each year (Depending upon the agro climatic zone, the period may be modified in individual case). The activities of Tank Management Committee will extend over the entire command served by the MI Tank.

d) **Functions of Tank Management Committee:**

The functions will be as follows:

- i) To decide all the matters pertaining to release of water from the tank, the rotation period, Irrigation Scheduling (Pali-Patruk) discharge to be released in different minors, etc. as far as its jurisdiction is concerned. The Tank Management Committee shall collect the water applications from outlet committees/irrigators and present them to canal inspection officer, after duly completing them.
- ii) To decide the crop pattern for each season for the command of MI scheme, their respective areas taking into consideration the advice from ID and AD on the likely availability of water, crop water requirement of different crops, date of planting and harvesting etc.
- iii) To frames the rules in relation to performing the various functions of the Tank Management Committee.
- iv) To allocate water outletwise in every season, and to ensure no unauthorised use of water and to prevent the waste of water.
- v) To coordinate the working and operation of outlet committees and to keep liaison with them.
- vi) To assist ID in holding panchnamas etc, in accordance with the rules against those who commit such offenses as are mentioned in (iv) above.

- vii) To settle mutually the complaints arising in connection with the (i) , (ii), (iii), (iv), (v) above and to communicate in writing their disposal together with the complaints, acceptance of such disposal, to concerned Government Officers.
- e) Tank Advisory Committee and linkage of Irrigation Department with Tank Management Committee:

The Irrigation Department Officers shall provide all possible assistance for smooth functioning of the TMCs and nurture them till they are able to form Water Users Association (WUA). For this purpose a Tank Advisory Committee (TAC) consisting of TMC, SDO (ID), SMD (AD) and AU representative shall be formed which shall meet at least quarterly or if required by TMC earlier too. The TAC shall provide required information and advice/assistance to TMC for optimum irrigation management.

Illustrative Role of ID Officers:

- i) SDO to notify the classification of outlets as tail, middle and head prior to the first irrigation water release.
- ii) The SDO shall notify the list of eligible irrigators of the MIS not later than 15 days prior to issuance of notice for holding election.
- iii) SDO to convene meetings of all eligible irrigators for electing members of TMC per Section 1b(iii).
- iv) JE shall establish good working relationship with irrigators and motivate them to form outlet committees.
- v) The concerned Section Officer (JE) shall work as ex-officio member of the Tank Management Committee and shall attend all the meetings of Tank Management Committee but shall not have voting right in the meetings of the Tank Management Committee.
- vi) IF in the opinion of the Sectional Officer, the decision of the water management committee is likely to cause injustice to any of the irrigator or is against the laid down policy of Government, then Committee will seek decision from the Executive Engineer concerned. The decision of the Executive Engineer in such cases shall be final.

ANNEXURE 'C'

GUIDING PRINCIPLES OF WATER USERS ASSOCIATION (WUA) (Phase II)

1. Formation of WUA.

The WUA can be formed for a particular MI tank when a majority of the irrigators resolve to associate themselves to form WUA for improved irrigation management. However, the ID shall agree to deliver water on volumetric basis only when occupiers of not less than 51% of the lands or not less than 51% of the holders or the occupiers of the lands from that particular MI scheme or its minor canal show their consent to take water on payment on volumetric basis. Any eligible irrigator can become a member of WUA. All the members of the WUA General body, will elect a Management Committee from themselves to manage the affairs of the WUA.

If there are more than one village in the command of a MI scheme, then separate water users organisations (WUO) can be formed for each village which will then constitute a single WUA at the MIS level to deal with all the matters of the particular MIS with ID, AD and all other allied Government of Maharashtra departments/Institutions. However, care will have to be taken to see that formation of such separate WUOs is practicable from the point of view of distribution of water among the different WUOs. No WUO will be formed if the area served by the WUO is less than 20% of the total command or 100 ha, whichever is smaller.

2. Objectives:

The main objectives of the WUA/WUO shall be as follows:

- i) To receive the allocated quantity of water at the measuring device and to arrange its distribution among members for irrigation purposes and to make payment thereof.
- ii) To ensure equity in allocation and distribution of water.
- iii) To facilitate dissemination, among the members, the information/ latest technology to be provided by GOM/AD regarding the proper and suitable cropping pattern that can be adopted and their requirement of water, seeds, fertilizers and all other necessary inputs.

- iv) To carryout day to day maintenance and repairs of the entire distribution system including all water courses/field channels under the jurisdiction of the WUA/WUO.
- v) To resolve complaints, if any, regarding internal distribution of water, to impose penalties for unauthorised use of water if any.

3. Business year and Jurisdiction:

The business year of the WUA will be from July 1 of each year. The election for the vacant posts of members of Management Committee shall be held not later than the second fortnight of June each year.

The jurisdiction of the WUA will extend over the entire command area served by MI tank.

4. Management Committee (MC):

The number of members of the Management Committee of the WUA will depend on the total number of outlet committee (say 1/3) to 1/5). The minimum number of the members of Management Committee being five and maximum limited to seven. The Chairman of Outlet Committees shall not be eligible to contest for the Management Committee of the WUA/WUO. A member will cease to be a member of management committee for two years if he losses his status as bonafide irrigator.

The members of the MC will elect, by majority vote as soon as the election of members are over, one Chairman and Secretary themselves. The tenure of Chairman Secretary of the MC will be for two years. The tenure of each member of the Management Committee will also be two years. About half of themselves shall retire in rotation each year. Elections will be held each year for the purpose of filling such vacancies. In the first year of formation of this WUA about half the number of members in the order of percentage of votes secured (votes secured/total number of votes polled) will be appointed for two years and the rest for one year.

5. Functions of the Management Committee (MC):

- i) To decide all the policy matters of the WUA from time to time and to frame rules to perform all functions of the Management Committee.
- ii) To enter into an agreement with GOM/Irrigation Department, for securing irrigation water on volumetric basis.

- iii) To decide the crop pattern for each season for the command of the MI scheme and their respective areas taking into consideration the likely availability of water, crop water requirement of different crops, dates of planning and harvesting etc.
- iv) To decide the period of irrigation to be allotted to each outlet, the rotation period and the discharges to be let in the distributing system.
- v) To allocate water outletwise in every season.
- vi) To maintain the entire distribution system in good working condition.
- vii) To keep liaison with the outlet committees and with any other committees/groups/individuals for meeting the objections.
- viii) To decide the service charge, over and above the water rates fixed by GOM/ID to be charged from members/non-members of the society and also to share the profit amongst members.
- ix) To frame rules of business of the WUA for carrying out all the executive functions as and when required.
- x) To perform any or all functions in furtherance to the objective of the WUA.
- xi) To receive grants from GOM, ID for the maintenance and special repairs of the distribution system and execute such works also.

Accompaniment to Government Circular, Irrigation Department No. CME 1090 (122/90)-IM(R), dated 21/3/1991.

ANNEXURE 'D'

BROAD PRINCIPLES TO BE INCORPORATED IN THE AGREEMENT BETWEEN IRRIGATION DEPARTMENT AND WATER USERS ASSOCIATIONS

- i) The right to utilize all the water in M.I. Tank (excluding bonafide reservation for non-irrigation use from time to time.
- ii) The WUA shall receive water for irrigation purposes only on volumetric basis as per the schedule prepared by WUA.
- iii) The WUA will distribute the water among members and non members.
- iv) The WUA will decide the cropping pattern for adoption in the command.
- v) The WUA will pay the charges for water to Government at prescribed volumetric rates by the prescribed dates. The WUA shall charge the water rates as prescribed by GOM/ID in addition, may also collect service charges (to be determined by WUA over and above the water rates from the members/non members.
- vi) The WUA shall maintain the entire distribution system. The WUA will get annual grants for this purpose from Government at the rates prescribed by GOM/ID from time to time. (to be spelled out clearly in the Agreement).
- vii) The GOM/ID shall maintain the MI tank, head sluice and measuring devices, meteorological laboratory etc. in good condition and shall provide all relevant information on meteorological data and water availability, etc. to WUA.
- viii) GOM/ID shall release water for irrigation as per schedule prepared by WUA.
- (ix) GOM/ID shall provide additional grants for all special repairs of distribution system including structures to WUA.

- x) All disputes if any between WUA and GOM/ID shall be settled by a committee consisting of one nominee from ID and WUA each and third member who would be an Executive Engineer (other than the concerned EE) nominated by the concerned superintending engineer. The decision of the committee shall be binding on ID and WUA.
- xi) GOM/ID shall provide necessary technical advice whenever required by WUA free of cost and shall also provide services of technical personnel when desired by WUA on cost sharing basis.
- vii) GOM/ID shall provide at cost, all scarce materials and T&P to WUA for repairs as and when needed.
- xiii) At least 50% of the beneficiaries in the command should receive water.
- xiv) If there are indication of water level rising to within 3 m from ground in any chak, such chaks may be excluded from supply of irrigation water.

Annex C

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