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ORGANIZING WATER USERS: AN OVERVIEW OF EFFORTS IN INDIA

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CONTENTS

Acronyms iii

1. Introduction 1

2. Development of Approaches to Joint Management in Irrigation 5

   2.1 *Panchayat*-level Initiatives and State Policies 5
   2.2 Command Area Development Authorities and Participatory Management 6
   2.3 State-level Governmental Support for Participatory Management 7
   2.4 Participatory Management of Large Irrigation Systems 8
   2.5 USAID Support for Participatory Management 9

3. Approaches and Methodologies to Train and Foster Water User Groups, Liaisons, and Organizers 11

4. Training of Organizers and Extension Workers 15

5. Conclusions: The Development of a Comprehensive Approach 19

Appendices

1. The Farmer Organization Development Program of the USAID-sponsored Hill Areas Land and Water Development Project: A Pilot Program for Farmer-Managed Irrigation—March 1991–June 1992 23
2. Farmer Organization Development in a Medium Irrigation Project—Concepts and Guidelines 31
3. Status of FO/OPC Efforts by States 39
4. Summary of FO/OPC Efforts by States 41
5. Bibliography 45

Acronyms

CADA	Command Area Development Authority
CASAD	Centre for Applied Systems Analysis in Development
EEC	European Economic Community
GOI	Government of India
HALWDP	Hill Areas Land and Water Development Project
IAAP	Irrigation Assessment and Action Program
IIMI	International Irrigation Management Institute
ISARD	Institute for Studies on Agriculture and Rural Development
ISPAN	Irrigation Support Project for Asia and the Near East
IVD	interactive video disk
MYRDA	Mysore Rural Development Association
NGO	nongovernmental organization
STI	state training institute
TOT	training of trainers
USAID	U.S. Agency for International Development (overseas mission)
WALMI	Water and Land Management Institute
WRM&T	Water Resources Management & Training Project

Chapter 1

Introduction

India's national water policy states:

> Efforts should be made to involve farmers progressively in various aspects of management of irrigation systems, particularly in water distribution and collection of water rates... Without the active involvement of beneficiaries in irrigation water management, the objectives of irrigation projects could not be realized and even if they are realized, they cannot be sustained in the long run.[1]

Existing water user groups cover less than one percent of the total irrigated area,[2] but merely expanding their number will not of itself bring about the desired participation of farmers in irrigation management.

M.S. Reddy of the Central Water Commission of the Ministry of Water Resources has identified one of the major deficiencies in irrigation management in India today—the lack of adequate linkage and communication between farmers and the government:

> Criticism is often voiced that the existing structure of the Irrigation Department in the states is not consistent with the end objective of increased productivity of irrigated agriculture. It does not envisage functional specialization or motivate the efficient use of water from the source to the farm. There is minimal contact with farmers. The reach beyond the government outlets is seemingly no man's land in respect of responsibility. It is excluded from the purview of the Irrigation Department nor is any other agency fully in charge of it. The farmers are not in full control of the reach to enable collective community organization.[3]

The need for change in the rules and regulations to foster joint responsibility is made more urgent by the increased number of systems and the increased demand for irrigation, coupled with the fact that water charges assessed at present are not enough to cover annual operating costs. Government is forced to make up the difference, but limitations on new funding frequently deny adequate support for the operation and maintenance of

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[1] The Government of India, Ministry of Water Resources - CAD Division, *Farmers Participation in Irrigation Management*, R.S. Pathak, New Delhi, 1991.

[2] Central Water Commission, *An Approach to Organizational and Procedural Changes in the Irrigation Sector*, New Delhi, 1992, page 48, footnote 21.

[3] Ibid. page V.

systems already in place. User participation will be essential simply to keep these systems functioning, but it will also

- relieve government of some of the burden of management (e.g., rule enforcement and the solving of water disputes)
- improve system performance through increased cooperation among farmers
- improve micro-network system maintenance
- make water distribution more equitable.

There are several traditional systems where farmers successfully operate and maintain irrigation facilities built by local communities.[4] However, this overview confines itself to India's experience with formal attempts to increase the farmers' role in irrigation, either by turning over government-built or rehabilitated systems to them or bringing about changes in organization and procedures to foster the development of effective water user groups and stronger links between such groups and the government.[5]

Wide variations in the types and sizes of irrigation systems, economic conditions, and the ecological milieu require that discussion of user groups, as noted in the Central Water Commission Report, "should look at decentralization and turnover in the context of key characteristics and ingredients of successful trials without attempting to suggest a universal, modular solution."

This overview assesses the progress in user group development and suggests what might be done to integrate these groups into the formal organizational structure of irrigation departments. It focuses on:

- nongovernmental organizations (NGOs), projects, and local and state governments that have established and/or fostered water user groups as a means of systematically increasing farmer participation in irrigation management
- projects, and local and state governments that have established formal linkage between water user groups and irrigation departments as a means of increasing farmer participation in irrigation management

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[4] Ibid., page 53, lists several examples of quite elaborate traditional systems, notably: the Cauvery delta irrigation system, where 1,505 A class channels and 19,000 kilometers of branch canals were kept clean and functional through "peoples' maintenance"; the Tambraparani irrigation system, which involved farmers fully in the management of the system and has several associations which have functioned for 120 years; and the Phad system of Maharashtra, which has functioned for over 200 years.

[5] Ibid. page 45.

- procedures and regulations of projects, state governments, or other agencies that strengthen those linkages.

Chapter 2

Development of Approaches to Joint Management in Irrigation

2.1 *Panchayat*-level Initiatives and State Policies

Formal government support for water user group development is still largely confined to experiments in placing responsibility for certain canal operations in the hands of the *panchayats*.

These attempts at participatory management should be distinguished from the traditional systems of irrigation organization, which operate at the same local level and therefore share many of the same management methods. Where they differ is that the traditional systems have no formal linkages to the government at higher levels, and, having usually been in operation long before the national government showed any interest in local irrigation, are in fact a way for communities to keep the government out. Thus, although many of these traditional systems are successful, they are of little value as models for joint management.

Local government participation in system operations is limited. In West Bengal, the state government has handed over many tubewells to the panchayats, which in turn have turned these over to water user groups for management. In Tamil Nadu, the state rural development department has a proposal to amend its rules and recognize village irrigation committees (set up under the tank modernization program) as one of the technical committees under the panchayat. The Government of India has drafted legislation to give more water management power to panchayats. No one has proposed giving local governments responsibility for the operation of larger systems. These limited attempts at organizing water user groups at the panchayat level conform to the experience in other countries.

The West Bengal experiment has shown that even with the best intentions local governments generally have difficulty in taking on irrigation management responsibility. They have little surplus money for the purpose, and many residing within the panchayat may have little or no stake in the irrigation system because they are not engaged in agriculture or have no land within the command area. Raising funds from these people is unlikely. Experience has shown that success and sustainability in participatory management can be achieved by depending only on those with a stake in the system.

Further experience from the Irrigation Management project and the Mahakali Irrigation project in Nepal has shown that only when the organization is based on the hydrographic

between them and the government. Since the CADAs themselves have little power to deliver the government share of any joint activity, their ability to act as an effective liaison is questionable.

2.3 State-level Governmental Support for Participatory Management

Several state governments are now supporting the development of water user associations, some giving them formal and even legal recognition. These states are also permitting joint management of tubewells, minor flow, and lift irrigation schemes.

- In Uttar Pradesh, 28,000 tubewells installed by the irrigation department, with World Bank and Netherlands assistance, have been turned over, free of cost, to farmers. While the irrigation department is responsible for pump and pipe maintenance and for paying the operator, a management committee of farmers decides the sequence of turns within each loop and records the names of farmers and the times when they receive water, as the basis for water fees. In February 1992, the state government issued an order for the total privatization of 100 of these tubewells.

- In West Bengal, the Comprehensive Area Development Corporation provides assistance in determining the location/size of tubewells and supply of inputs. Farmer groups install pump sets and sell the water at cheaper rates than other sources.

- In Himachal Pradesh, water user groups have been launched on a pilot basis in 24 selected minor lift and flow type schemes and successfully established in 120 other schemes. Progress in forming these groups has been made in 750 schemes where rehabilitation work is being completed. Government agents and user groups have designated roles in such activities as walks through, joint agreements, people's participation in system corrections through labor and cash contributions, and system testing before turnover. The demonstrated success of this shared responsibility has led the state government to register water user groups in all 879 USAID-sponsored schemes under the Societies Act of 1860. The government has also agreed to entrust some responsibility for operation and maintenance to water user groups and is considering an amendment in water laws to promote co-management.

The Uttar Pradesh and West Bengal initiatives in turning over tubewells to the farmers have received widespread publicity, and the Uttar Pradesh experiment is being copied, with some modification, in Nepal's Bhairawa-Lumbini project sponsored by the World

Bank.[7] The work in Himachal Pradesh is less well known but has changed the state government's approach to irrigation management.

A less "operations-oriented" system established in Tamil Nadu in 1985, while not involving actual joint management, has opened up communications between farmers and the government. Under the Irrigation Assessment and Action Program (IAAP), irrigation department staff and farmers meet "to discuss and exchange views every week on present water availability and the coming week's program."[8]

The success of participatory management in these programs is partly attributable to the size of the irrigation systems, made up of either tubewells, minor flow, or lift schemes. The number of farmers involved is small enough for the formation of organizations that are simple and manageable. The irrigation departments retain responsibility for the technical elements of the systems (the pumps and intakes, for example), leaving the less complicated (but still costly and socially difficult) elements of post-holding tank system maintenance, and regulation and allocation of water to the water user groups. The key is the clear defineation of responsibilities, and as long as each party carries out its allotted task, the arrangement will continue to work.

2.4 Participatory Management of Large Irrigation Systems

There are few modern examples of participatory management in larger irrigation systems, although traditional schemes such as the Cauvery delta and Tambraparani systems show that this mode of operation has worked in the past. While nobody proposes to immediately turn over complex schemes to joint management without much further thought, these examples are evidence that farmer participation in the operation of more than tank, tubewell, or lift schemes can be successful.

Two participatory models for large irrigation systems are in use today:

- The warabandi model, followed for more than a century in Punjab, Hariana, western Rajasthan, and western Uttar Pradesh, is essentially a supply driven model, with rationing if necessary, under which farmers receive water in rotation and maintain the field channels below the outlet. They have no part in managing the system, since the allocation of water and in extreme cases even the selection of crops are largely in the hands of the system operators.

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[7] The Bhairawa-Lumbini project differs from the U.P. model in attempting to gradually increase the responsibility of the water user groups for the maintenance of pumps and pipe systems, payment of the operator, and the cost of electricity.

[8] Op. cit. page 30.

- A joint management arrangement, instituted by the CADA in Kerala, features a management committee of representatives of the water user associations, the irrigation and agriculture departments, and the local government.

In the end, the test of participatory management in India will be how well it succeeds in the larger systems in the larger states.

2.5 USAID Support for Participatory Management

Over the last few years, USAID has helped the GOI and several state governments to improve irrigation and has encouraged the transfer of management to farmers. It has also supported a program of action research in several states through the WALMIs. USAID assistance has flowed through three projects:

- Maharashtra Minor Irrigation Project, which focused on tank renovation or construction in 90 minor irrigation schemes. By August 1992, when the project ended, 85 schemes had been completed and water user associations were "in development." Emphasizing increased local management responsibility, a liaison and coordination unit (consultants) first organized *chak* committees to achieve project benchmarks and then helped these committees to establish a role in the joint management of the schemes. By the end of the project, many training programs for farmers and government officers and a model for joint management had been developed. For lack of time, changes in state laws to permit joint management had not been made, but these changes were being considered.

- Madhya Pradesh Minor Irrigation Project, which was meant to be similar to the project in Maharashtra but did not get as far. Little progress was made in changing state laws to accommodate joint management.

- Hill Areas Land and Water Development Project (HALWDP) in Himachal Pradesh, which organized farmers in 24 pilot schemes after the construction of small systems had begun. Subsequently, activities continued first in 120 additional schemes and then in 750 others. HALWDP worked with the government to change state laws to support joint management of these and other schemes. The project set out to increase farmer participation in irrigation management, and its water user groups are considered to be effective and sustainable. It is described in more detail in Appendix 1.

Rather than designing and setting up model organizations for farmers, USAID has concentrated on improving the institutional climate in which these organizations are formed, and on training technicians and farmers to carry out their parts in jointly managed systems.

Chapter 3

Approaches and Methodologies to Train and Foster Water User Groups, Liaisons, and Organizers

Creating successful water user associations requires an understanding of the social and economic constraints on farmers in a community and of the best ways to establish communication between farmers and technical personnel. The training and sensitization of all participants is essential. To this end, it has been found useful to enlist the services of community organizers, social scientists, rural development professionals, trainers, and extension officers to support irrigation departments at least in the initial phases of social analysis, planning, and development of formal systems of interaction, and in the initial training of farmer leaders and government staff.

Such "software" specialists can be drawn from the WALMIs, universities, and NGOs, and the ranks of the educated unemployed, following the recommendation of the national water policy to seek "the assistance of voluntary agencies in educating the farmers in efficient water use and water management."[9] Formal systems of interaction that bring farmers and government staff closer together are beneficial in making irrigation systems more productive.

Two approaches to the development of formal systems of interaction have been tried in several states:

- **Use of Independent Organizers and NGOs to Form Water User Associations**

  Educated young people or retired extension workers, readily available in the Indian labor market, can be hired and trained by NGOs, CADAs, or other local authorities as independent or contract organizers for water user associations. Governments or donor agencies are needed to provide financial support, to train the organizers, government officers, and farmer leaders, and to maintain the organizers until the associations are self-sustaining and communication between the farmers and the local irrigation authority has been firmly established. The examples below show how such funding and effort have proved cost-effective:

  Bihar. In the Paligang distributary of the Sone canal, two village associations engaged unemployed local persons as organizers at one rupee per acre. They were trained by the WALMI, which after two years has recognized the need to hire

[9] Central Water Commission, op. cit. page 48.

them and has persuaded the state government to appoint them as part of its turnover effort.

Tamil Nadu. Fifty unemployed engineers, hired temporarily and trained in organizing, were able to form 800 water user associations in a CADA program. Recently, the state government has changed its policy and decided to employ young men and women from several disciplines as organizers.

Maharashtra. The Centre for Applied Systems Analysis in Development (CASAD) pioneered the use of water user associations in the Mula project. Probodh Sampada organized motivational training for water users in the USAID Minor Irrigation project.

Karnataka. The Mysore Rural Development Association (MYRDA) is promoting community participation and environmental development. The Institute for Studies on Agriculture and Rural Development (ISARD) has formed one association in the Malaprabha project at Arekurahatti and another in the Tungabhadra project at Dhadesugur. Under the World Bank-funded Upper Krishna project, NGOs are being deployed for organizing water user cooperative societies.

Gujarat. The Aga Khan Rural Support Service has started a number of water user associations in lift schemes in a tribal area and has collaborated with the WALMI. The Sri Vivekananda Research and Training Institute has promoted locally managed water harvesting systems.

- **Use of Government Institutions to Promote Water User Associations**

Some examples of the use of government institutions to promote water user associations are:

Tamil Nadu. The Center for Water Resources, Anna University, Madras pioneered water user association management in a tank rehabilitation/ modernization project with European Economic Community (EEC) funding and support from the International Irrigation Management Institute (IIMI) and the Ford Foundation. A university sociologist carried out a preliminary social analysis of the community and supported the organization of the farmers served by four tanks. The state public works department has given these water user associations contracts for tank modernization, in one case in the amount of Rs. 2 million, and has also agreed to employ 20 social scientists (paid by the Ford Foundation) as organizers and process documenters in the EEC tank modernization program.

Tamil Nadu. The Madras Institute of Development has undertaken studies of local institutions for water management.

Karnataka. WALMI dharwad is training the staffs of the irrigation department and the CADAs to organize user associations. A study of organizational and procedural changes to increase farmer participation in irrigation management in the Upper Krishna project has been completed, and some changes are now being carried out on a pilot basis in distributary 4 of the Hunasgi branch canal.

Andhra Pradesh. The Administrative Staff College, Hyderabad, has pioneered work in water user association organization in the Sriram Sagar project.

Bihar. The A. N. Sinha Institute for Social Studies, Patna, has provided the conceptualization and field stimulus for farmer organizations in the WALMI action research program on the Sone canal.

Chapter 4

Training of Organizers and Extension Workers

Agencies in several states have begun or are starting irrigation training programs:

- Gujarat. The WALMI uses role playing to train organizers and extension workers, finding this technique more effective than classroom lectures.
- Bihar. The WALMI has hired a specialist in behavioral psychology from a local institute to train organizers. The trainees are divided into groups of 5 or 6 and asked to identify the roles and responsibilities they would assume in organizing water user associations. Experienced engineers discuss the technical aspects of irrigation and the state irrigation act. Social scientists explain the principles of group dynamics. Then the trainees describe the methods and logistics of carrying out their tasks. The social and behavioral scientists help them in the actual role playing. As part of the training, the trainees identify their own targets and methods and determine schedules for monthly meetings with each other and with the WALMI faculty.
- Kerala. State level training of trainers (TOT) is preparing organizers to form water user associations. Detailed information on the nature of this training is not available.
- Uttar Pradesh and Kerala. Branches of the state training institutes (STIs) are being set up to train farmers. Detailed information on training, plans, and schedules is not available.
- Karnataka. The CADAs are training farmers. The WALMI is training the trainers and subject matter specialists.
- Himachal Pradesh. A training program in irrigation management and organization development was established under the USAID-sponsored HALWDP, based on the model presented earlier. A coordinated training program was developed for association organizers, the staffs of the irrigation and agriculture departments, and farmer representatives. Curricula were designed for irrigation management, water user group organization, and irrigated agriculture extension, and training was conducted through the agriculture department. Details of HALWDP and Himachal Pradesh government training can be found in Appendix 1.

The USAID-supported Water Resources Management and Training Project (WRM&T) has prepared field training materials that await translation into local languages, Also in hand are modules for social responsibilities and water user associations in each state. WRM&T is completing an interactive video disk (IVD) for basic training of junior engineers and others who must work with farmers. It will be available through the WALMIs when it is ready.

Experience in five programs outside India has shown the value of sound community development, which must be undertaken as a full-time activity by technical staff. Good community development organizations have three levels of action: coordination level, supervisory level, and implementation level.

- At the coordination level, an experienced trainer/group organizer with broad social science experience analyzes the characteristics of the community and directs the program towards the achievement of its goals. This includes some supervisory training.
- At the supervisory level, experienced field organizers guide the daily activities of implementors and collect and analyze their reports.
- At the implementation level, a trained staff drawn from high school and college graduates and retired extension agents works with farmers, extension agents, and lower-level irrigation field hands. Village extension officers have also been used for this task.

The successful training of implementors must be conducted at three stages:

- Basic training in community organization explains the concept and purpose of community organization and teaches organizational skills through lectures, role playing, and discussion. It should have a strong field component—preferably with on-the-job training—that gives beginning organizers supervised experience in handling actual field situations.
- Ongoing field supervision during the first year and sometimes longer provides guidance and builds confidence in facing difficult field situations involving community leaders or more senior irrigation staff. The most difficult situations can be handled by the coordinator.
- Refresher training is provided at retreats, where periodic performance reviews can be made and implementors can learn by sharing one another's experiences.

The training of community leaders and technical personnel should follow immediately after the staff at the implementation level is in place. This can be given by the coordinator or his staff or by local training institutions, such as the WALMIs, extension

centers, or universities, and ensures that each group is ready to carry out its assigned tasks.

Chapter 5

Conclusions: The Development of a Comprehensive Approach

The ideal way to increase participatory management and improve linkage between farmers and the government is to adopt a statewide approach to the development of water user group associations, simultaneously making policy, organizational, and procedural changes, and carrying out training and regulatory reform as a single integrated package. Individual projects, government departments, the WALMIs, state training institutions, universities, and NGOs have all had some experience in water user association development, but none of them can independently develop formal systems of interaction.

The national water policy urges greater farmer participation in the management of irrigation systems for reasons of equity as well as efficiency, but this cannot be achieved until a decision is made to move from a pilot phase to wider-reaching programs. Several steps are needed for this.

- First, each state must decide how farmers are to be involved in irrigation management. This will depend on the types of irrigation, socioeconomic conditions, and political factors in the state.
- Second, each state must decide which agency will be responsible for developing and implementing comprehensive programs.
- Third, a specific committee in that agency must be given authority to carry out or assign the task of preliminary social analysis, develop a plan and a timetable for starting water user associations, outline a training program for coordinators, supervisors, implementors, farmers, and system staff, and draw up a staffing policy.
- Fourth, the program design and timetable must be flexible enough to accommodate modifications as circumstance require.

Appendix 1 presents the elements of a comprehensive farmer organization development program in Himachal Pradesh. Because of numerous small projects, the mountainous terrain, and difficulties in communication and travel, the program was started in a few pilot areas in two districts. The department of agriculture was given responsibility for the task and village extension officers were used as community organizers. As experience grew and more officers were trained, the program was extended first to 12 more project

areas and then to those that remained. Farmer leaders and irrigation officials were trained and regulatory reform was carried out as needed. Community organizers kept in constant touch with the government through coordination meetings with the secretaries of irrigation and agriculture. The director of agriculture was briefed several times each week and took an active role in program development. Local politicians came forward to support the program once they realized that irrigation conditions were improving markedly in their constituencies.

The Himachal Pradesh experiment demonstrates that a program assigned to one agency, implemented gradually, and modified by experience can rapidly increase farmer participation in irrigation on a statewide basis.

The assignment of responsibility to the department of agriculture grew out of negative experiences in other countries. Many irrigation department professionals feel that community organization is outside their scope of work and competence, and that they should not be asked to take part in water user group development. They also discover that community organization is a full-time activity, not something an engineer can do in his spare time.

If the irrigation department is made responsible for organizing farmers, its professionals face a dilemma. As organizers they are caught between their obligation to the farmers and their loyalty to the department that pays their salary. Giving the department responsibility also exacerbates the rivalry often present between the irrigation and agriculture departments in many countries.

Despite all these negative implications, however, the agriculture department seems to be the best choice in most areas, since farmer organization activities lead naturally into irrigated agricultural extension activities as the user groups become stronger, communications with the irrigation department improve, and the need for organizational support ceases. This appears to be a most satisfactory solution. Nevertheless, each state must consider local conditions and devise its own plan. There is no single modular solution that applies universally.

Program coordination requires the services of experienced social scientists and community organizers, who are hired either directly by projects, or by arrangements between the government and NGOs or educational institutions. Although NGOs have successfully run pilot programs, they are hampered by limited funding and small staffs and would be ill-equipped to run statewide programs. However, they have played a significant role in Indonesia and other countries in training community organizers, farmer leaders, and government staff. The WALMIs and other state training institutions can also contribute in training government workers.

Once a program enters the implementation phase, the government should assume complete responsibility for ensuring that communication is established and that its officers carry out their part of the agreements. This is necessary to strengthen the confidence of farmers and encourage their continuing participation in joint activities. Temporary arrangements, such as the short-term assignment of employees, will most assuredly be detrimental.

There is evidence that irrigation systems managed by the farmers themselves or jointly with the government are more cost-effective than those managed by the government alone. In systems that have attained almost complete farmer organization (e.g., Mahakali and some of the systems in Himachal Pradesh), savings in operation and maintenance have more than offset the cost of organizational development staff.

However, much of the experience in farmer-managed and jointly managed irrigation systems comes from minor schemes of less than 2,000 hectares. There is little experience from major schemes (more than 10,000 hectares) or medium schemes (from 2,000-10,000 hectares), and there is a point to the argument that the evidence adduced has little relevance to these larger enterprises.

Appendix 2 describes the organization of user groups in a medium irrigation scheme. The type of institutional linkage required to bind together lower-level organizations here is essentially the same as for major and minor schemes, the only difference being that larger schemes have more layers of the hierarchy to contend with.

Higher-level system organization is time consuming and labor intensive. task. Experience in Nepal has shown that a newly built medium irrigation system (15,000 hectares) can take a staff of 20 as long as three years to organize farmers to participate in joint management. Older systems may take even longer as inefficient ways are changed. On the other hand, three years includes the time for program development, and with experience the process could be greatly speeded up.[10]

Finally, joint management in irrigation requires that water user associations be given official recognition and legal status. The first steps towards this have been taken by the following states:

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[10] In spite of intensive labor input, farmer participation in irrigation management can be extremely cost-effective. In Nepal, within the first year of the program, farmers had been induced to clean all canals below the secondary branch level. The savings to the irrigation department (approximately Nepalese Rupees 30,000 per tertiary) more than made up for the cost of the organizing effort; and the farmers are ready to take over many other operation and maintenance tasks. So far results have been so successful that it has been possible to grant farmer organization participants a reduction of 25 percent to 50 percent in their water cess under a national law.

- Kerala, Tamil Nadu and Himachal Pradesh have registered water user associations under the Societies Act over the Cooperatives Act.
- Gujarat has drafted a new irrigation act that recognizes only those water user associations registered with the irrigation department for the allocation of canal water.
- Kerala's new irrigation act permits the irrigation department to recognize and work with water user associations through the CADAs. At present, 2,000 associations are registered under the Societies Act.
- Bihar is considering amending the state irrigation act to enable water user associations to be registered directly with the irrigation department.
- Himachal Pradesh has ordered all farmer organizations under the HALWDP to be registered under the Societies Act of 1860. The responsibilities of the irrigation department and farmer organizations for maintenance of irrigation schemes are being codified. Amendments to the irrigation act to include recognition of farmer organizations and their role in irrigation management are under consideration.

Farmers need water and are often willing to contribute labor and other resources to ensure a continuous supply. It is easier to win their cooperation when they feel they have a stake in the system. Participatory management and regulatory changes that recognize user associations are the means of reinforcing this sense of ownership.

Appendix 1

The Farmer Organization Development Program of the USAID-sponsored Hill Areas Land and Water Development Project: A Pilot Program for Farmer-managed Irrigation March 1991–June 1992

1. The Problem

The Hill Areas Land and Water Development Project (HALWDP) in Himachal Pradesh begun in 1984 was intended to run for seven years. It was extended for an additional year until October 1992.

The three departments responsible for project implementation were irrigation & public health (IPH), agriculture (AD), and rural development (RD) through IPH. Together, they have constructed or improved 879 small irrigation systems in 10 districts, and with the horticulture department have produced an integrated program of systems development, institutional development, extension, and training, which has taken the first steps towards transforming the economy of Himachal Pradesh into an irrigated agricultural economy.

The irrigation systems constructed are tank irrigation schemes (TIS), flow irrigation schemes (FIS), and lift irrigation schemes (LIS). In the valley areas, tubewells have also been dug.

When the farmer organization development program (FODP) began, the farmers, who had been excluded from planning and decision making in the early stages of the project, showed no inclination to get involved. Low voltage and frequent breakdowns of motors that rendered the systems inoperable during peak hours of water requirement had made farmers skeptical and reluctant to grow high-value crops such as offseason vegetables. The poor performance of many of the subprojects, especially lift irrigation schemes, was unlikely to induce them to take responsibility for the operation and maintenance of equipment that could prove a financial and technical burden.

Most of the systems were incomplete when the FODP began. The network of field channels was inadequate, leaving irrigation needs unmet. Systems built by the IPH were considered to be the property of the government and users felt no responsibility for them. This was not the case with the smaller and simpler tank and flow systems, which the agriculture department built and immediately handed over to the farmers, who quickly established themselves in the schemes. In many cases, unfortunatly, their inadequate

management skills meant that they were unable to take full advantage of even these small and simple schemes.

Before the FODP, there was no formal communication between farmers and implementing agencies and little communication among farmers themselves. Conflicts arose as they routinely obstructed irrigation flows to each other's fields, and those who were victimized had no recourse. When needed, repairs were made on the basis of the good relationships that each farmer had been able to establish with government staff. Farmers were largely unaware of what the project was supposed to deliver and of their role in it.

Thus, there was a wide gap between the potential and the utilization of the schemes that the FODP set out to narrow by teaching management and communications skills to both farmers and government staff, establishing training programs in training and extension geared to irrigated agricultural extension and water management, and providing a method for joint problem solving.

The main purposes of the program were:

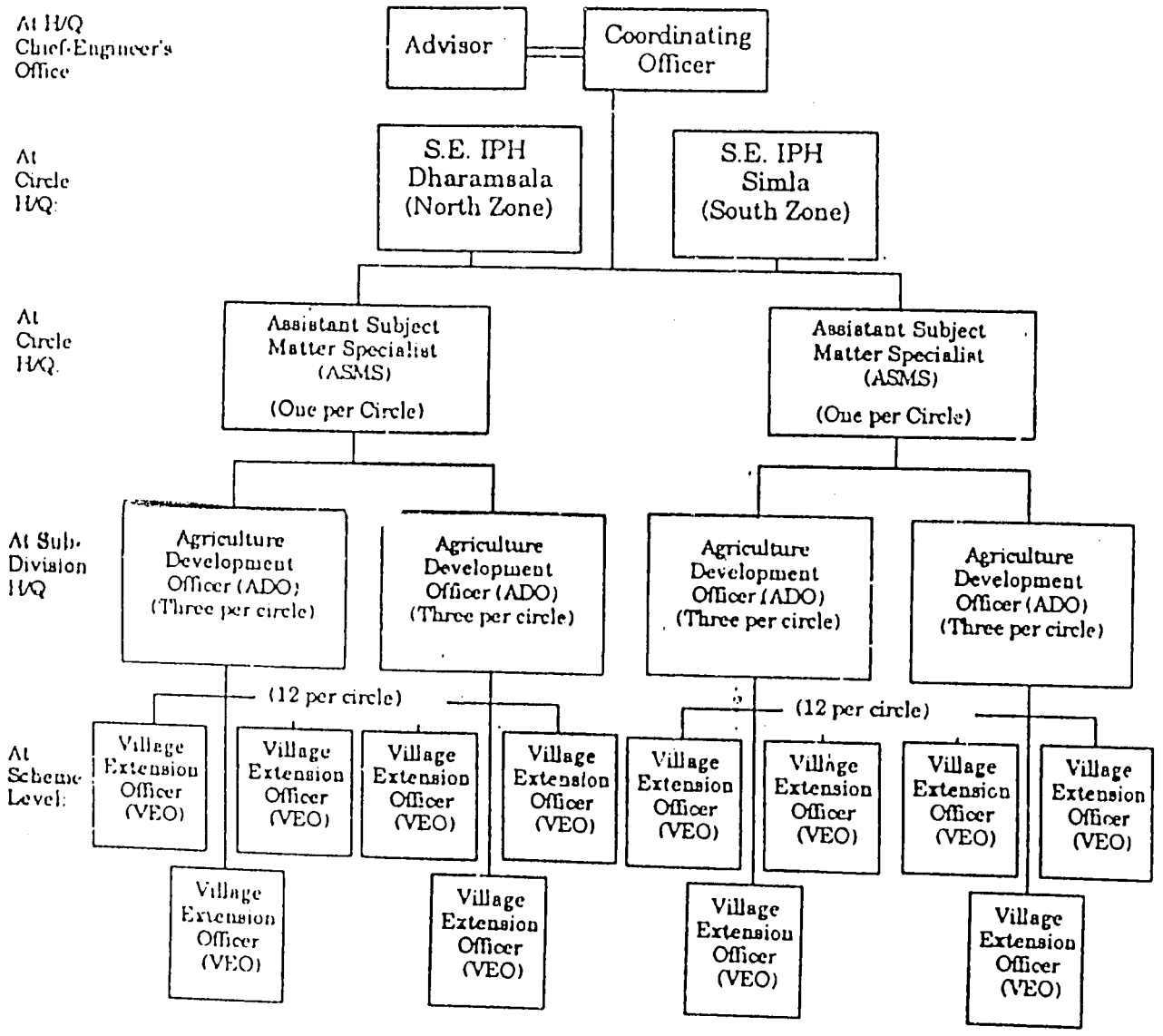
- To develop farmer organizations first in pilot areas, then in the project area as a whole, and finally as part of the state irrigation system, through phased activities designed to strengthen farmers' confidence in their own institutions and enable them to effectively participate in the management of irrigation subprojects.
- To provide a means of communication among farmers themselves and between farmer organizations and the government.
- To provide facilitators at the field level as conduits for this communication until more regular channels became established.

2. Organization of the FODP

The FODP was entrusted to an independent unit established in March 1991 and staffed by agriculture department personnel at three levels: a coordination level, a supervisory level, and an implementation level. The unit was a temporary one, meant to prove the value of a pilot program, and consisted of a coordinating officer (CO), two subject matter specialists (SMSs), six assistant development officers (ADOs), and 24 village extension officers (VEOs). The unit structure is shown in Figure 1.

Twenty-four schemes were selected for the pilot program. One VEO was posted to each scheme to work as a facilitator at the field level. Each ADO supervised four VEOs, and each SMS supervised three ADOs and was responsible for the twelve VEOs under them. The CO oversaw all activities and was responsible for planning the program. A long-term advisor and two short-term consultants under a contract with Sheladia Associates Inc. provided the CO with technical assistance in training and planning.

Figure 1. Farmer Organization Development Cell
HALWDP-USAID



Coordinating Officer (C.O.)	1
Asst. Subject Matter Specialist (ASMS)	2
Agriculture Development Officer (ADO)	6
Village Extension Officer (VEO)	24
Staffing total	33

3. Historical Overview of the FODP

In projects such as the Mahakali project or the Irrigation Line of Credit projects in Nepal, farmer organization generally has been divided into two categories:

- new projects (where farmer participation and an integrated approach are followed from the project's identification until turnover)
- remedial projects (where projects have been completed with little, if any, farmer participation in either selection or design)

The FODP got off to a late start when all the subprojects available for organization were more than half complete, and the short period left before the original PACD (September 1991) meant that no new projects could be started. The program, therefore, had to be carried out as if it were dealing with remedial projects, with no chance to experiment with the methodology for new projects.

The 24 model schemes were selected from two neighboring districts of Himachal Pradesh (12 in the north zone district of Kangra and 12 in the south zone district of Shimla) to limit the area covered by the small pilot staff. The original program encompassed 68 villages and about 4,056 households.

A mixture of subprojects implemented by IPH, AD, and RD was selected proportional to their frequency in the overall project. RD projects were selected even though RD did not play an active role in HALWDP, leaving its projects to IPH to implement. Eight of the selected schemes, therefore, were AD schemes, 16 were IPH.

A mixture of flow, tank, and lift irrigation schemes was also selected proportional to their frequency in the overall project. Seven of the schemes were lift irrigation schemes (LIS), four were tank irrigation schemes (TIS), and the remainder were flow irrigation systems. Of these 11 were existing systems where rehabilitation and *chak* development were being carried out, and the rest were new systems being developed to the chak level.

This variety gave the FODP staff the experience of working with all types of subprojects represented in the project and in the state.

4. Implementation of the Farmer Organization Development Program

The most difficult initial hurdle was the selection of the staff. In Nepal, the problem was solved by hiring contract employees and paying them with project funds. Here it was decided that the staff would come from regular and daily wage employees of the agriculture department. A PIL was issued to cover the cost of this program to the government. A full-time consultant engaged originally was later dropped as redundant when it was found that the staff could cope without one.

A procedure tailored to a remedial post-construction participatory approach was adapted from one developed in Nepal, and a summary in Hindi and English was circulated for discussion by the new FODP staff. Implementing agencies were informed about the program, its objectives, and their role, through two workshops, one at Shimla (for the south zone) and the other at Palampur (for the north zone), as well as through innumerable meetings held with project leaders and senior government officials.

An initial training program was held for FODP staff, followed by diagnostic training that assessed weak points in staff understanding and performance and provided immediate correction. This diagnostic training was given by two consultants who had worked in farmer organization development in World Bank projects in Nepal.

Once trained, the VEOs began to contact farmers in their homes, spreading general information about FODP and the project and, in turn, familiarizing themselves with the farmers' problems and opinions. About 3,000 of the 4,056 households were reached.

When the farmers were ready, meetings were held in each of the schemes to discuss irrigation problems and their possible solutions. Here some informal leaders opposed the idea of farmer organizations and others present said they did not know how to organize. The VEOs and ADOs, helped by their supervisors, went to work on these problems and began organizing farmers from the chak or village levels, depending upon the size and location of the scheme. Committees known as *Krishak Vikas Sangh* (KVS) were formed. As these groups evolved some larger central committees were formed, multitiered committees being merely the product of subproject size and complexity. Fourteen farmer organizations had one tier while eleven were complex enough to need two.

The problems faced by the farmers were identified through individual contacts, group meetings, and a process known as the "walk through"—a tour of the scheme by the staff of the implementing agency (IPH or AD), the KVS executive body and any interested organization members, and the FODP staff. The project was also served by a team of USAID consultants for subproject inspection and advice.

The problems identified during the walk through were assigned to the farmers or the staff for solutions, depending on their nature. The implementing agency was asked to come up with a design for its part in the solution, get it approved, and prepare cost estimates for the work to be done.

These estimates were then shown to the KVS to demonstrate that their concerns were being addressed and to induce them to share the costs. This was done not because the project needed a contribution from them but as an indication that the farmers were ready to buy into the arrangement. Such financial participation would also be relevant at a later stage of FODP development, when changes in the water law and the legal status given to user groups could lead to farmer control of most systems. Sharing costs would also

mean that farmers interested in seeing their money well spent would insist on quality construction of the subprojects.

Almost invariably the KVSs agreed to contribute unskilled labor, and in a few instances to pay a share of the cost of construction in cash. A written agreement between the farmers and the implementing agency spelled out what each party was expected to do. The KVS was assisted in applying for government assistance when necessary. The farmers' contribution in cash and/or kind varied from 2 percent at FIS Chirnamti to 34.8 percent at LIS Panesh Kanda. The average contribution was 11.5 percent.

Almost all farmers at first were reluctant to make any contribution. However, the KVS leadership assisted by the FODP devised various methods to overcome this resistance and mobilize the necessary resources.

To ensure the full participation of the KVS during construction and also improve communication with the implementing agency, a preconstruction meeting was devised. In cases where no official showed up at the meeting or the implementing agency started construction without such a meeting, the farmers did not fulfill their commitments. On the other hand, the KVS did fulfill its commitments whenever a preconstruction meeting brought both parties together to set timings and ensure that work on the separate tasks was properly coordinated. Eventually all work was completed and all 24 model schemes were certified.

The first few demonstrations of successful interaction proved that the farmer organization program could go forward. With this evidence but unaware of the great deal of preparatory work required to ensure successful organizations, the government ordered them formed in the remainder of the 879 USAID schemes. By September 1992, this had almost been accomplished and each of these organizations had been registered under the Societies Registration Act of 1860 to give them legal standing. But many of them still lack trained leadership and any idea of how to proceed, so that they continue to exist in name only.

To correct this deficiency in some measure, officers in these newly formed organizations were enrolled in programs to familiarize them with the nature and purpose of the KVS at the Mashobra and Sundarnagar training centers with support from the LCU consultants. Training continues to be given by the department of agriculture now that USAID funding has ended.

The original idea of familiarization training was to instruct two or three officers in each KVS, even though this would mean not all would be covered. This was later changed to have one person in each registered organization properly trained. Further training would be provided by enabling members of the newly formed KVSs to visit older KVSs and learn from their experience. This farmer-to-farmer approach was considered the most

effective way to use what still remains a highly limited training pool for farmer organization in Himachal Pradesh. The government agreed to use loan funds for this training when grant funds were no longer available after June 30, 1992.

In addition, a group of VEOs from each participating district were being trained to staff 10 model organizations in each of the 10 participating districts of the project.

Under the current program, the deputy directors of agriculture and the SMSs of the northern and southern zones have been trained in farmer organization development methodologies, with the support of the LCU consultants and the coordinator of the FODP, and in applying a package of practices tailored for irrigated agriculture in the agro-climatic zone of each VEO. This special package was derived from the agricultural planning activities described in an earlier report. These SMSs are to train the VEOs and ADOs in selected "additional model schemes" in their districts in farmer organization development and irrigated agricultural extension.

Between July 1 and September 30, engineers, agriculture staff, and farmers were asked to assist in diagnosing and correcting some unsolved problems, especially on uninspected IPH-certified schemes. This was an opportunity to further familiarize government officers with participatory methods they would continue to use as a normal part of their work after PACD.

5. Operation and Maintenance System Development

The FODP coordinator, the advisor, and an LCU consultant developed a system for dividing maintenance responsibilities among the farmers, the private sector, and the IPH.

- First-level repairs would be those simple enough for the farmers themselves to undertake. Here the primary skills would be technical.
- Second-level repairs would be more complex and would require the KVS to hire local craftsmen. Here the primary skills would be the resource mobilization skills of the KVS (e.g., convincing a farmer on outlet #1 that he should assume part of the cost of repairs to outlet #7 below his holdings).
- Third-level repairs would cover major equipment such as intakes, pumps, motors, and rising mains, which would be the responsibility of the IPH. Second-level repairs that constantly recurred would be assumed to be necessary because of faulty design or upkeep and would be treated as third-level repairs after a given number of recurrences. Here the primary skills would be the development of communications procedures and confidence building.

A committee comprising AD and IPH officers, the advisor, and an LCU consultant:

- Determined whether the draft guidelines required any modification to suit the needs and/or operating procedures of IPH and had them translated into Hindi
- Selected four model schemes in Shimla (LIS Panesh Kanda, FIS Parala, FIS Shikrori, and TIS Mulbari), one non-model scheme in Bilaspur (FIS Auhar), and one non-model scheme in Hamirpur (LIS Hathol) to test the methodology in various systems, and, if successful, to train farmers and IPH staff to implement the procedures agreed upon.

The committee submitted its findings and recommendations to the chief minister of the state.

6. Water Law Development

With the change in government policy in favor of self-help and private management and a growing emphasis on the privatization of small irrigation systems, the concept of transferring at least part of the responsibility for the operation and maintenance of such schemes to farmer organizations is rapidly gaining ground in Himachal Pradesh. The walk through, joint agreement, people's participation in system corrections through labor and cash contributions, and system testing before turnover are now widely accepted. The order of the secretary of IPH to register organizations in all schemes under the Societies Act of 1860 has given official sanction to this approach. The government has agreed that registration under the act should be looked upon as a temporary measure, a first step on the road to an effective water law that will permit systems to be handed over to farmers.

The lack of such a law and of a clear water policy in the state continues to be an impediment to the development of irrigation. Any legal revision should cover system ownership or at least establish adequate usufructuary rights for irrigation organizations, while clarifying the rights and duties of both farmers and the IPH in system management.

Progress towards new legislation is being made. A legal expert provided by the HALWDP completed research and submitted recommendatoins to the government, which had hoped to prepare a new law in time for the March 1992 session of the state legislature. This date passed and meanwhile a local advocate was hired to draft the actual legislation, which was revised and made available for circulation in July 1992. After approval it was ready for submission to the next session of the legislature, if that is deemed practical by the government.

Appendix 2

Farmer Organization Development in a Medium Irrigation Project

Concepts and Guidelines

Background

Cooperation among water users, first at the tertiary but eventually at higher levels, is one of the conditions for the viability of medium and large irrigation projects. It reduces government outlays on operation and maintenance, and mobilizes resources equitably for the improved performance of such systems. The objective of farmer participation in irrigation management, therefore, is to strengthen the capacity of farmers to manage water allocation and maintain systems up to the secondary level.

Water users groups are an effective way of encouraging farmer participation. The successful experience of the Rinconda/Buhi-Lalo Irrigation project in the Philippines provides a useful model. The strategy for organizing farmers has been to use a team of association organizers (AOs) to encourage farmers to explore their problems and devise their own solutions. AOs act as catalysts in decision-making and resource mobilization and in increasing group cohesion among farmers. These are the skills farmers need to handle irrigation system operation and maintenance on their own.

Field Staffing Requirements

A field level AO and a supervisory AO (SAO) are recommended for a medium project (about 10,000 hectares). In addition, there should be a coordinator to analyze the local situation, plan the program, train or supervise others in training program participants (his own staff, farmer leaders, and technical staff), and supervise the implementation of the program.

An AO should be 25 to 30 years old and in good physical condition to adapt to living conditions in the field, and should be at least a secondary school graduate[1] with writing and reporting skills, independence, initiative, and a sense of responsibility.

AO candidates in the Philippines and Nepal have expected higher salaries, which could only be met by hiring them on contract and often paying them more than their government-hired supervisors. Still, the Philippine experience shows that AOs have about a two-year job expectancy before burning out in the field, and hiring them on contract seemed prudent.

First one then two supervisory AOs (SAOs) were recruited from the ranks of experienced AOs. In addition to their supervisory duties, the SAOs prepared reports based on information from AO-level process documentation for presentation to project management and other interested parties.

The coordinator, at the highest level, was responsible for setting the direction of the program and training and supervising the SAOs and AOs. The coordinator regularly met with his staff and with the project manager, the executive engineer, and the agricultural development officer to review and help solve major problems. With the support of the project manager, the coordinator was the bridge between project management and the farmers.

Training in Support of the Task: The Three-Step System

There were three types of training under the project:

- Initial comprehensive training, made up of lectures and discussions, relied heavily on outside instructors, who often were not experienced in community organization.
- Refresher training reviewed skills either forgotten or imperfectly learned, and since many elements of the project had a cyclical nature (with many steps having to be repeated in new areas as the organization activities proceeded), specific skills could be sharpened as the worker re-entered each step of the cycle. Refresher training often involved visits to other projects and to farmer-managed irrigation schemes so that AOs could see others' solutions to their problems.

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[1] There has always been a debate between those who prefer AOs to be high school graduates from local communities, who are perceived by local farmers to be like their own sons and daughters and likely to remain and work with the community, and those who prefer them to have more advanced degrees and better writing and speaking skills. There is something to be said for both points of view.

- Monthly meetings for AOs enabled them to discuss their work and problems and get answers from the technical staff, while providing the project with a method for ongoing monitoring.

Project Coverage and the Program Areas

Twenty AOs were hired to cover the project command area. The phasing of construction and rehabilitation made it possible to hire and train a smaller number of AOs and rotate them to different parts of the area as needed.

Farmer organizations were set up according to the hydrological boundaries of the system, not the political boundaries.

The primary canal in the project is broken up into service blocks, each served by a secondary canal. Each service block is 300-500 hectares, divided into smaller areas of about 30-50 hectares served by a single tertiary. Each tertiary command area could be served by one water user group (WUG), which means there are 10 WUGs per 500 hectare block. Each AO could be given charge of five WUGs, or 250 hectares.

The project divided neatly into four areas, each with its own program requirements and development cycle.

- **Area I (Stage I, Blocks 1 & 2)** operated at the project start under a project-controlled, gated system. All main works down to the tertiary were maintained by the project, all infield works by the farmers. Since the gatemen were subject to pressure, the system was not equitable. Some gatemen were less skilled than others or were not available when needed by the farmers. Tailend farmers complained of not receiving water even though the supply was abundant.

  The project plan was to convert the distribution system to one in line with the current policy of the World Bank, designed to provide the rotational supplies described in Area II. There were also approximately 200 illegal pipes cut into the canal walls by farmers, either to irrigate areas too high to be part of the command area, or to provide a privately controlled supply. Farmers sometimes dam tertiaries to irrigate the higher ground through ponding. This practice causes silting above the dam and scouring below. Although some of these dry areas could be legitimately irrigated by the project, diversions clearly damage the system.

  Most of these problems were corrected by participatory management. Farmers now handle maintenance through the tertiary level and are organizing to handle some secondary-level maintenance. There are no illegal dams or pipes because

the farmers themselves patrol the system. The conversion of the system is not yet complete.

- **Area II (Stage I, Blocks 3 & 4)** was redesigned to provide a rotational water supply. The whole flow in the tertiary is supplied to one outlet at a time, each tertiary supplying seven outlets. All tertiary canals in a block are supplied at the same time through simple orifice structures controlled by fixed crest weirs, eliminating the need for gates. The only gates are at the head of the block and at the field outlet, greatly simplifying the operation of the system. Variations in water application are made by varying the times of operation. Farmers are responsible for distribution of water to individual outlets.

  These "rotational blocks" placed certain limitations on the size and structure of water user groups at the tertiary and outlet levels. These limitations needed to be carefully understood before the training and deployment of AOs began.

  Many of the problems of Area I (illegal pipes, etc.) were also found in Area II but were corrected by participatory management. As in Area I, farmers handle maintenance through the tertiary level and are now organizing to handle some secondary-level maintenance. Water distribution below the primary level is handled entirely by farmer groups.

- **Area III (a small extension area)** is a portion of Stage II that abuts Block 4 of Stage 1 and lies between it and the proposed extension to the main canal leading to the main portion of Stage II.

  Farmers of the extension were the first to be involved in essential system design (ESD), a strategy for designing all of Stage II. ESD grew out of the fact that there are several possible alternatives in tertiary design. Choosing the optimum one is usually a compromise among conflicting requirements such as social homogeneity, homogeneity of soil type, topographical features, existing road development, farmer land boundaries, and the location of turn-out from the secondary.

  Involving the farmer in this design was a basic element of Stage II, with the AO acting as a catalyst. Interviews in the completed areas of Stage I indicated, however, that farmers were less concerned with the design of tertiaries than of channels that lead from the tertiaries. These channels are more prone to dispute and troublesome land loss, and farmers felt that their design needed mediation and support from the project. Given the limitations on the placement of tertiaries in the Stage II area, ESD turned out to be a more important joint activity than work on tertiary design.

Although there are limits to accommodating farmers' wishes, their organizations should still have a say in the design of facilities. This can be achieved by incorporating specific farmer organizing activities into the project design and construction process. Irrigation development should be viewed in terms of building both the physical and the social infrastructures within a system.

In the extension, the two have been coordinated. Since farmers were expected to participate in the design of tertiary structures in all Stage II construction, AOs would work with them to ensure that they were organized into water user groups. Farmers would be trained to participate in the rotation, and in operation and maintenance of canals before the system was complete. In this way, the canal system and the farmer organizations would come into existence simultaneously. As work on this extension was placed ahead of work on the main part of Stage II, it provided an opportunity to test a pilot program for participatory design to be used in the tertiaries of the main Stage II blocks.

Construction in the extension is still underway.

- **Area IV** is the main command area of Stage II. It is being built in four blocks, one at a time. This allows the project to deploy AOs from other areas as their program cycles are completed. The AOs in Area IV have the advantage of prior experience in other blocks, and of refresher training in the system developed for Area III.

Higher-Level Organizations

Once work in tertiary and outlet organization, farmer assisted tertiary alignment, water charge re-districting, and farmer and AO training had been completed, the creation of higher-level water user associations got underway. These are the secondary level or rotation group level assemblies and the apex systemwide coordination committee that are to provide farmer input into the joint management of the system. The addition of these higher-level organizations brings together the simpler farmer groups developed for minor irrigation to help manage medium and larger schemes.

The assemblies and the apex committee were organized in three phases:

- Organization Design and Farmer Approval

  The farmers had to be given a major role in the formation of these higher-level organizations and in the selection of their members if they were expected to support them.

The AOs called a meeting of tertiary association chairmen in each of the "secondary groups," at which one of their members was selected to be their representative at a design committee meeting to be held several days later at project headquarters. There were thus fourteen secondary group representatives plus the coordinator and a senior project official at the headquarters meeting.

At this meeting, the proposed structure of a systemwide WUA coordination committee and a secondary-level assembly of representatives was presented and the floor was opened for modifications, additions, or alternative proposals. What emerged by the end of the meeting was an approved structure for future organizations at both the system and secondary levels (Figure 1), which took into account the addition and coordination of membership from secondaries in Stage II as these came on line.

- Ratification and Elections

  The representatives presented the approved organization structure to meetings of their secondary-level units at which the coordinator, the SAO, and the AOs concerned also helped to answer questions from the assembled tertiary chairmen. These chairmen were then asked to ratify the design and select representatives for the secondary groups. These representatives met later to elect a chairman, officers, and members of the coordination committee.

- Inauguration and Training

  After the elections, meetings of all organizations were called and the coordinator and a senior project official were invited to attend each of these inaugural sessions. Training sessions followed and are still being conducted for both system-level and secondary-level leadership by the coordinator and his staff. Topics covered were the purpose of the organizations, communications techniques, information on the structure and functions of project, etc. Trips to other schemes were arranged so that higher-level farmer leadership could see how farmers were managing them.

Such apex and secondary-level organizations were intended to improve the quality of farmer input into the system and to bring the project visibly closer to the participatory management ideal established in the original project design. Such organizations would also simplify communications between the project and the farmers and transfer many of the responsibilities now assigned to project staff to the farmers themselves, where in fact they belong.

The organizations are now beginning to assume the following roles:

Apex Organization

1. Advise on and monitor the water rotation system according to a jointly established plan.
2. Coordinate the activities of all lower-level organizations.
3. Settle water disputes that cannot be settled by lower-level organizations.
4. Identify and prioritize maintenance and repair needs in cooperation with project technical staff.
5. Audit the financial records of lower-level organizations.
6. Help formulate water user association working procedures to improve the efficiency of system resources.
7. Assist in the recording, collection, and reimbursement of water charges according to the regulations of the project and the government.

Secondary-level Associations

1. Identify and prioritize the operation and maintenance needs of tertiary groups within the organization's area.
2. Settle water disputes that cannot be settled by lower-level organizations.
3. Ensure that farmers within the group are aware of the water rotation plan and are ready to abide by it.
4. Control cattle within the group area.
5. Coordinate activities of tertiary-level organizations within the group area.
6. Act as a source of information for the apex organization and pass on communications to lower-level groups through assembly membership.
7. Help coordinate farmer participation and field staff activities in group's area.

Appendix 3: Status of FO/OPC Efforts by States

STATES	FO ORGD.	FO REGD.	WARA-BANDI	JT. MGMT.	TURN OVER	JT. PLNG/ CONSTM	ENVIRON	POLICY CHANGES	OTHERS
1. Andhra Pradesh	E	N	N	N	N	N	N	D	1,2
2. Bihar	E	N	N	N	N	N	N	D	3
3. Gujarat	E	N	N	N	N	N	E	D	3
4. Kerala	C	N	N	N	N	N	N	D	N
5. Tamil Nadu	E	N	N	E	N	N	N	D	C,2
6. Maharashtra	Y (USAID Project)	N	Y (USAID Project)	M	N	Y	N	Y (USAID Project)	2
7. Uttar Pradesh	N	N	Y	N	N	N	N	D	N
8. Rajasthan	E	N	E	N	N	N	N	D	N
9. Orissa	E	N	N	N	N	N	N	N	N
10. Karnataka	E (CADA)	Y	Y	N	N	N	N	D	1
11. Madhya Pradesh	E	N	N	N	N	N	N	N	4,2
12. Himachal Pradesh	Y (USAID Project)	Y (USAID Project)	Y (USAID Project)	Y (USAID Project)	Partly	Y (USAID Project)	Y	P	N

NOTE:
1. Panchayati Raj Institution/Zila Parishad
2. Cooperative Society (Multipurpose/others)
3. Voluntary organization
4. Community organizers

E = Experimental stage
N = None
D = Discussion stage
C = Catalyzed the formation
Y = Yes
M = Minimal government involvement
P = Planned

		2.	WALMI has combined with Aga Khan Rural Support Program (program of a voluntary agency) and sponsored a farmer managed watershed development.
4.	Kerala	1.	CADA has catalyzed formation of 2,000 FOs.
		2.	Government intention is to create user organizations in all ten CADA irrigation systems.
5.	Tamil Nadu	1.	Active experimentation relating to farmer organization in underway by Anna University and IMTI/Trichy.
		2.	Efforts to transfer tank management to farmers initiated.
		3.	Larger number of tanks are being managed by farmer societies; PWD has only nominal control of these.
		4.	Agricultural Department has catalyzed 1400 primary FOs (under CADA).
6.	Maharashtra	1.	Government desirous of involving farmers in the management of irrigation tanks; farmers started participating in irrigation management of tanks.
		2.	Government has evolved a policy on water user associations.
		3.	60 cooperatives formed under CADA
		4.	USAID-funded M.M.I. Project has renovated/constructed about 80 tanks, local tank committees have been established, and a procedure to turn over tanks to farmers has been initiated.
		5.	Government has issued a circular incorporating guidelines for

			formation of outlet committees and water user associations.
		6.	In Pune, Sangli, and Satara districts registered societies of farmers are managing private lift irrigation schemes.
7.	Uttar Pradesh	1.	Government has decided to experimentally turn over 100 tubewells to farmers.
8.	Rajasthan	1.	Some experiments to organize farmers taken up under action research program.
		2.	State government currently considering the turnover of schemes to farmers for management.
9.	Orissa	Details not yet received.	
10.	Karnataka	1.	75 WUCS have been formed.
		2.	WALMI is rendering training and technical assistance to CADAs in formation and development of WUCS besides conducting action research and OPC studies.
		3.	NGOs have been deployed for organizing societies.
11.	Madhya Pradesh	1.	Action research program to motivate and involve farmers to form farmer organizations for efficient management of the system is underway.
		2.	In Jhabua and Jabalpur districts lift irrigation cooperative societies are working efficiently.
		3.	USAID-funded MPMI project initiated some innovative ways of turning over management to farmers; some community organizers were appointed.

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45