IIMI'S INITIATIVES ON PARTICIPATORY IRRIGATION MANAGEMENT IN PAKISTAN

A Briefing Note Prepared by
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INTRODUCTION

In Pakistan, both donor agencies, as well as government policy authorities, are actively considering major institutional changes to achieve performance improvements in the country’s irrigated agriculture sector. Serious attention is being given to commercializing irrigated agriculture and encouraging water users’ involvement in managing the country’s irrigation systems. These policy initiatives are based on Pakistan’s considerable experience in planning and implementation of irrigation development projects and some attempts at Establishing water users associations at the watercourse level.

However, in Pakistan, as elsewhere among developing countries, not much research has been done on the actual impact of attempted institutional changes on the efficiency, as well as on the equity, in water resources management. More importantly, very little research has been done on the processes that were used in these attempts so that future interventions could be planned for more effective results. With this background, IIMI has responded to recent initiatives by national authorities and the donors regarding participatory irrigation management in Pakistan.

In developing interventions on social organization, IIMI brings the experience it has gained in other countries such as Sri Lanka, Nepal, Philippines and Nigeria, and also the knowledge distilled from others’ experiences in countries such as Mexico and Colombia. However, the emphasis of IIMI’s approach to establishing pilot projects on participatory irrigation management in Pakistan has been to learn more about the processes involved in establishing
effective social organization for managing irrigation systems. IIMI expects that the intensive process documentation that accompanies this effort would benefit the country's policy initiatives in this area. Apart from this emphasis on "learning how to establish effective water users organizations", IIMI also plans to study the impact of pilot projects in terms of their contribution to performance improvement in the irrigated agriculture sector.

This note is meant to provide some information regarding IIMI's recent social organization initiatives and a few proposed activities which are under consideration by the government of Pakistan and the donors.

ON-GOING ACTIVITIES

1. **Three Pilot Projects on Distributary Level Water Users Organizations in the Fordwah Easter Sadiqia Area of the Punjab Province (Financial Support from the Royal Netherlands Government)**

This activity is a part of IIMI's study project, "Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan", which was approved on 19 May 1995, but for funding purposes became effective on 1 October 1994. Under this activity, IIMI is associated with three pilot distributary commands in which participatory irrigation management will be attempted.

(i) As the first site for this pilot trial, IIMI selected Distributary No. 4-R in the Hakra Branch canal system within the Fordwah Eastern Sadiqia (South) - FES(S) irrigation system. One of the reasons for selecting this site is the fact that a number of national research institutes and agencies are working in the same area under the World Bank-funded FES(S) Irrigation and Drainage Project.
 Prior to starting work in Hakra 4-R Distributary, IIMI undertook a rapid appraisal of the present organizational status in the Hakra 6-R Distributary command area, which was one of Punjab's several sub-projects under the Command Water Management Project (CWMP). The main purpose of this exercise was to train the team of field staff selected for social organization work, and to gain some understanding on the CWMP interventions on forming water users associations. With the background knowledge gained through this work, IIMI intends to use Hakra 6-R Distributary as a second pilot project site for participatory irrigation management. The effort, however, will be with an emphasis on encouraging the operating agencies to take the initiative in organizing water users, and will be launched after reaching some degree of maturity in the interventions at Hakra 4-R Distributary.

 The third is the Sirajwah Distributary pilot effort in the (World Bank-funded) Fordwah Eastern Sadiqia (South) Irrigation and Drainage Project, Punjab, for which IIMI gives only advisory assistance to the Punjab's On-Farm Water Management Directorate (OFWMD). The "Integrated Irrigated Agriculture Management" component of the FES(S) Project is executed by the OFWMD of Punjab, and as part of this component, the OFWMD is to introduce participatory irrigation management in two pilot distributary commands. For this purpose, OFWMD selected Bhukan and Sirajwah distributaries. The Bhukan distributary has only 8 watercourses, whereas the Sirajwah distributary is typically a large sub-system with over 100 watercourses. IIMI has provided an advisory service to the OFWMD in its planning effort for these pilot trials, but intends to be closely associated with the implementation of this work at the Sirajwah site.

Annex-1 to this note gives an extract of the Plan of Operations for this activity, which contains some details of the work done so far and the actions planned.
2. **Three Pilot Projects on Farmer-Managed Irrigated Agriculture at the Distributary/Minor Level in the LBOD Project Area of the Sindh Province (Financial Support from the Swiss Development Cooperation and the World Bank IDA)**

With effect from 1 July 1995, IIMI started an activity in collaboration with the Department of Agricultural Engineering and Water Management of the Government of Sindh to launch three pilot projects on water users organizations. The major objectives of these pilot projects are: (1) to test the viability of farmers' managing parts of the irrigation systems so that more efficient and equitable allocation of water can be achieved; and (2) to make recommendations on future extensions from the results of the pilot projects. Three distributaries/minors are to be selected in the LBOD Project area, one in each of the three districts of Nawabshah, Sanghar and Mirpurkhas.

The field approach involves the placing of social organizers in selected communities to interact and slowly catalyze the farmers to identify their own problems, solutions, leaders, organization, financing, budgeting, and management. For each distributary/minor command area, a Water Users Organization Team will be deployed, consisting of one Supervisory Social Organizer, two Social Organizers and two Field Research Assistants. The Field Research Assistants (new Engineering graduates) will provide the necessary technical support to the Social Organizers (MAs in Sociology).

The necessary field staff (3 SSOs, 6 SOs and 6 FRAs) have been recruited and given a training in the AKRSP training center in Gilgit. The professional and office staff have also been recruited, and the Senior Irrigation Sociologist who will lead IIMI's team at Hyderabad and in the field has started work. After an initial rapid appraisal of about nine distributaries, which will start on 8 October 1995, a decision will be taken in collaboration with Irrigation and OFWM departments in Sindh to select the three pilot distributaries/minors.
PROPOSED ACTIVITIES

1. An Action Research Program on Social Organization for Improved System Management and Sustainable Irrigated Agriculture in Pakistan's Small Dam Irrigation Systems (Proposal to ODA, UK)

IIMI's National Consultative Committee in Pakistan had strongly recommended that some experimentation of users' involvement in management should first be carried out in the country's small dams, before major policy decisions are taken towards the transfer of management responsibility of large irrigation systems to water users. The opportunity for a proposal for this work came when the Overseas Development Agency, UK, announced its holdback facility for collaborative studies. The proposal under consideration by ODA is an activity to be undertaken in collaboration with the Water Resources Research Institute (WRRI) of Pakistan's National Agricultural Research Centre (NARC) in Islamabad.

The action research program will address the following three inter-related problems: (1) the problems of system management under small dams in Pakistan, which have resulted from a lack of post-construction attention by the provincial agencies, and the related need for active water users organizations to take over the management responsibility; (2) the weakness of the present government-dominated approaches in management transfers to the water users; and (3) the lack of information on impact evaluations related to such management transfers.

The proposed action research will initially explore the usefulness of generating a local interest and demand for taking over the management responsibility for these medium-scale irrigation systems, preferably deploying the services of selected local youth trained as social organizers for this purpose. For the pilot trials, three suitable small dams will be selected in consultation with the Irrigation Department and WRRI.
2. Pilot Project on Social Organization for Crop-Based Irrigation in the Chashma Right Bank Canal (CRBC) Area of the NWFP Province (Proposal to WAPDA and ADB)

This proposal is designed as a follow up of IIMI's initial study on crop-based irrigation operations in the CRBC Stage I, to field test some of the study's main recommendations with the help of operating agencies. The experience gained during the earlier study, which was conducted in two selected distributaries (Distributary No. 3 and Distributary No. 4) in Stage I, suggests that while those responsible for operating different portions of the system have come to appreciate most of the issues related to flexible irrigation operations in the context of CRBC, there is still a long way to go in institutionalizing this learning process into daily operations.

As the geographical and managerial scope of the project enlarges, it requires continued interest in understanding all the water related constraints of a fully developed CRBC system in order to achieve the project's design objectives. The main purpose of IIMI's proposed activities in a second phase is to attempt a consolidation of this process, essentially in collaboration with the water users and all the implementing agencies associated with the CRBC irrigation system.

Expectations for a substantial change from present patterns of behavior within the limited project period was grossly overestimated in the previous study design. A dedicated effort in social organization, persistent over an adequate period of time, seems essential to overcome this constraint. The proposal for a Phase II activity involving the establishment of water users organizations in the two distributaries for improved joint management relationships is under consideration by the NWFP Government and the Asian Development Bank.
3. **IIM-IIFPRI Collaborative Research on Institutional Framework for Improved Sustainability and Productivity of Irrigated Agriculture in Pakistan (Proposal to the World Bank)**

This activity has been proposed to the World Bank as part of the research to be undertaken under Pakistan's National Drainage Transition Program. The proposed research is basically to explore the appropriateness and feasibility of alternative institutional arrangements to improve the sustainability and productivity of irrigated agriculture in Pakistan, by identifying the physical and social parameters which affect the functioning of key institutions involved in irrigation and drainage management, and the impact of those institutions on the performance of irrigated agriculture.

The proposed research will coincide with the current interest in institutional experimentation and reform in Pakistan. The study will be jointly undertaken by the International Irrigation Management Institute (IIMI), the International Food Research Policy Institute (IIFPRI) and national collaborators. The proposed national collaborators will include staff of government agencies [On-Farm Water Management Directorate, Irrigation Departments, and WAPDA Watercourse Monitoring and Evaluation Directorate (WMED)] and some research organizations [Punjab Economics Research Institute (PERI), and University of Agriculture, Faisalabad (UAF)]. The study will be an integral part of IIMI's overall research program and will build on IIMI's project titled *Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan* (components on Water user's Association and Water Allocation within Watercourses), IIMI's on-going research on Water Markets in Pakistan, IIFPRI's study of Groundwater Markets in Pakistan, and a review of international experiences on Water Users Organizations.
A. OBJECTIVES

Overall Objectives of the Institutional Development Component

The general objective of the Institutional Development component of the project is to enhance the existing institutional capacity, while maximizing the role of farmers in irrigation management, for adopting improved management strategies aimed at both reducing environmental problems, as well as increasing agricultural production. The objective implies that the major thrust of this component is on the development of institutional options for irrigation management strategies that involve a greater participation by the water users. Considering that the organization of water users will have to be aided by measures to provide the necessary institutional support for water users organizations, including farmer-agency and inter-agency coordination required for service delivery functions, the Institutional Development Component of the project has been divided into three sub-components, namely, "Water Users Organizations", "Institutional Support for Water Users Organizations" and "Coordinated Irrigation and Agriculture Services".

As for the rationale for these sub-components, a brief explanation seems to be in order. In Pakistan, water delivery and agriculture extension have long been considered as state-managed services, and consequently, the roles of state agencies for these functions are well established with entrenched interests and demarcated responsibilities of respective groups. In such a context, institutional changes that require a redistribution of power and authority cannot be effectively introduced unless the agency personnel recognize the need for such changes and actively participate in the change process. This essential institutional adaptation also includes the need to make the enabling legal framework closely relevant to new structures such as WUOs.
Characteristically, the division of responsibility and authority between irrigation and agriculture services in Pakistan runs through the whole institutional structure, from field level agency staff to federal level government ministries. In between at the provincial level, the major responsibility for the irrigated agriculture sector rests with Provincial Irrigation Departments (PIDs) and Provincial Agriculture Departments (PADs). Organized groups of individuals operating at the farm level, who demand and receive these services, would greatly benefit from a more coordinated mechanism of delivering the two sets of services. The project seeks to explore possibilities of ensuring coordinated irrigated agriculture services so that improved technologies and management practices for maximum water use efficiency can be optimally utilized.

Specific Objectives

The specific objectives of the Institutional Development Component have been formulated in terms of the three sub-components:

(a) **Sub-Component on Water Users Organizations (WUOs)**

*Develop feasible irrigation management strategies regarding water users associations that will alleviate trends in soil salinity and groundwater quality that threaten the sustainability of irrigated agriculture in Pakistan;*

(b) **Sub-Component on Institutional Support for WUOs**

*Create institutional support for water users associations at the both the watercourse and distributary, along with strengthening the interactions with between farmers and government agencies; and*

(c) **Sub-Component on Coordinated Irrigation and Agriculture Services**

*Explore institutional arrangements for coordinated services by the provincial agriculture and irrigation services.*
B. ACTIVITY PLAN

Scope of Research Activities

While the whole project represents a combined set of research and action research activities, its Institutional Development Component is basically focused on action research for collaborating with operating agencies to experiment with new institutional strategies. This emphasis can be seen in the project document's reference to the intention of "learning how to organize farmers ...".

Obviously, this approach implies a focused research perspective of assessing whether the effort in organizing farmers (and other related institutional support activities) would be accomplished in the "right way", leaving the impact evaluation of whether "It is the right thing to do under the given conditions" as a secondary effort. This emphasis and the distinction made in the research perspectives is inherent in conducting pilot projects. However, the Plan of Operations includes an opportunity towards the end of the project period to evaluate short-term effects of the pilot project, which can be used to cover both these aspects to the extent it will be possible at that stage.

Activities Derived from Objectives

Three main specific objectives for the three sub-components and related key activities, placed in a time frame, are given in Table B-1 to Table B-3.

These Tables contain all the activities from the project's inception up to the end of the project period, 31 December 1998. The sets of activities closely follow the process developed for pilot project implementation (see the description of Activity a.7 and Figure 1).

The activity schedule given below shows a time lag of two years between the start of the first sub-component and that of the other two sub-components. Initial field investigations and evaluations of community characteristics during the first two years would try to clarify, what institutional adaptations are necessary to support the establishment of water users organizations and subsequently to stabilize them in the existing institutional framework. Accordingly, during the latter part of the project, activities will be undertaken to assist in the implementation of appropriate changes that will try to enhance institutional coordination.
<table>
<thead>
<tr>
<th>Objective a: Develop feasible management strategies regarding water users organizations that will alleviate trends in soil salinity and groundwater quality that threaten the sustainability of irrigated agriculture</th>
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</thead>
<tbody>
<tr>
<td><strong>ACTIVITIES</strong></td>
</tr>
<tr>
<td><strong>1994</strong></td>
</tr>
<tr>
<td><strong>1.</strong> Select social organization field team</td>
</tr>
<tr>
<td><strong>2.</strong> Conduct preliminary investigation in project area using the opportunity to train the field team.</td>
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<tr>
<td><strong>3.</strong> Conduct planning meetings and negotiate institutional arrangements for pilot program</td>
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<tr>
<td><strong>4.</strong> Identify persons for Field Implementation Committees</td>
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<td><strong>5.</strong> Arrange for consultancy inputs</td>
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<tr>
<td><strong>6.</strong> Develop criteria for selection of pilot project</td>
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### Table B-2: Institutional Development Component - Activities for Sub-Component b

**Objective b: Create institutional support for WUOs at both watercourse and distributory level along with strengthening of the interactions between farmers and government agencies.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>1. Consult key agency staff on the potential for empowering water user organizations</td>
</tr>
<tr>
<td>1995</td>
<td>2. Involve selected agency staff in training programs and consultation meetings with farmers</td>
</tr>
<tr>
<td>1996</td>
<td>3. Establish canal committee in pilot area for more formal farmer-agency interactions</td>
</tr>
<tr>
<td>1996</td>
<td>4. Study existing legal framework for water users organizations</td>
</tr>
<tr>
<td>1996</td>
<td>5. Assist OFWMD to re-establish WUAs in 6-R Distributary</td>
</tr>
<tr>
<td>1996</td>
<td>6. Assist OFWMD and PID on social organization in Bhukan and Sirajawah distributaries in FES area</td>
</tr>
<tr>
<td>1997</td>
<td>7. Promote the formation of Institutional Development Units within PID and PAD</td>
</tr>
<tr>
<td>1997</td>
<td>8. Assist OFWMD and PID to establish WUOs in 6-R Distributary</td>
</tr>
<tr>
<td>1997</td>
<td>9. Try out pre-seasonal planning meetings in pilot areas</td>
</tr>
<tr>
<td>1997</td>
<td>10. Involve agencies in developing plan of action for O&amp;M in pilot areas</td>
</tr>
<tr>
<td>1997</td>
<td>11. Negotiate with agencies on Joint Management Agreements with farmers</td>
</tr>
<tr>
<td>1998</td>
<td>12. Involve agencies in implementing plan of action on O&amp;M in pilot areas</td>
</tr>
<tr>
<td>1998</td>
<td>13. Prepare final report on institutional support for WUOs</td>
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<tr>
<td>1998</td>
<td>14. Assist PID and PAD to formulate proposal for future action</td>
</tr>
</tbody>
</table>

### Table B-3: Institutional Development Component - Activities for Sub-Component c

**Objective c: Explore institutional arrangements for coordinated irrigation services by PIDs and PADs**

<table>
<thead>
<tr>
<th>Year</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>1. Arrange for 4 national consultants to conduct case studies of PIDs and PADs in Punjab and Sindh</td>
</tr>
<tr>
<td>1995</td>
<td>2. Undertake systematic analysis of structure and functions of PIDs and PADs (Punjab and Sindh)</td>
</tr>
<tr>
<td>1996</td>
<td>3. Study the functioning of the Canal Committee in pilot area</td>
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<tr>
<td>1996</td>
<td>4. Study the implications of existing legal framework on coordinated services by PID &amp; PAD</td>
</tr>
<tr>
<td>1996</td>
<td>5. Establish working group with PID &amp; PAD to study what changes are possible in the institutional framework</td>
</tr>
<tr>
<td>1997</td>
<td>6. Prepare report on future role of PIDs and PADs</td>
</tr>
<tr>
<td>1997</td>
<td>7. Conduct workshop to discuss the findings and to formulate workable recommendations</td>
</tr>
</tbody>
</table>
C. PROGRESS OF WORK (Up to 31 July 1995)

New Field Team at Haroonabad (Activity a.1)

In anticipation of this action research program to be funded by the Royal Netherlands Government, and considering its emphasis on institutional development, IIMI decided to start some preliminary field investigations regarding social aspects of irrigation development interventions. This work was done through a new field station established in February 1994, at Haroonabad in the Fordwah Eastern Sadiqia (South) area. The field team consisted of a Senior Field Research Engineer as team leader and 3 field assistants.

Preliminary Field Work on 6-R Distributary (Activity a.2)

This work is closely related to one of the first few activities proposed in the Project Document, which is to develop the process for establishing effective water users organizations taking into account lessons learned from past experiences. For this work, IIMI selected the 6-R Distributary of the Hakra Branch off the Eastern Sadiqia Canal, in which Water Users Associations had been formed earlier under the Command Water Management Program (CWMP) by the On Farm Water Management Directorate of the Government of Punjab.

The specific objectives of this preliminary activity were:

1) to identify the main factors that influence (facilitate or inhibit) the formation of effective WUAs, with special reference to the experiences of Command Water Management Project (CWMP) interventions by the government;
2) to explore the extent of prevailing organized behavior in the area and its character;
3) to try out some elements of rapid rural appraisal techniques;
4) to train the Field Team in these techniques and in interactions with farmers; and
5) to extract from this experience some lessons for future interventions in promoting the establishment of effective water users organizations.

The study sample consisted of 16 watercourses, 4 from each quarter of the main 6-R Distributary having 113 watercourses. For data collection, a modified PRA methodology was used, involving key
informants. Tentative results emerging from a preliminary analysis of data collected from 8 completed sample watercourses were presented at a workshop to the senior staff of OFWM Directorate. The workshop was held on 13 October 1994, at the OFWM Training Institute at Niaz Baig in Lahore under the chairmanship of Mr. Mushtaq Gill, the Director General of Agriculture (Water Management), Punjab.

Analysis of data from the 8 watercourses revealed that while WUAs had been formed in all of the 8 watercourses on the initiative of OFWM field staff, all 8 WUAs had become defunct after the completion of watercourse improvement work. Of them, 6 WUAs had not held any formal meeting ever, and only 2 had maintained their register and recorded minutes of the meetings. A majority of farmers interviewed supported the idea of reviving these WUAs. Farmers perceive that the failure of these WUAs was due to their short-term objectives, which were limited to watercourse improvement. Given a more long-term purpose for organized groups, they would not only make better use of the initial intervention period, but also would grow stronger to gain sustainability.

Members of this field team were given a special training through frequent instructions on such matters as conducting farmer interviews, collecting data from key informants, process documentation and preliminary data analysis. Two members from this field team (Waheed uz Zaman and Abdul Hamid) participated in a three-day workshop organized by the Netherlands-funded PATA project at Saidu Sharif. This workshop was to discuss the PATA project’s experiences on social organization in the context of the country’s growing awareness on participatory approaches for irrigation management, and provided a good opportunity for IIMI’s study team members to gain some insights into PATA experiences for organizing farmers in small schemes and to discuss their own experiences in the related preparatory work they were engaged in within a large irrigation system.

Field work of this study team continued up to March 1995, and was followed by preliminary data analysis by the field-team leader. Three reports are under preparation, evaluating the government intervention in social organization, social behavior in a farmer managed warabandi system, and commenting on the methodology of using key informants for this type of work.

**Initial Planning Meetings (Activity a.3)**

The preliminary results of this work and the decisions at the workshop, paved the way for two planning meetings with key officials of the OFWM Directorate. In a joint field visit to the study area, OFWMD and IIMI decided to explore the possibility of reviving the WUAs in the 6-R/IIakra Distributary watercourses once the present study activity was completed. As a contribution from the OFWMD for this effort, a
special team of field officers was to be transferred to the Haroonabad area. This decision was to be
effected after the Research Plan was finalized based on the agreed research objectives. Two overseas
consultants, Dr. Prachanda Pradhan of Nepal and Mr. Sena Ganewatte of Sri Lanka were commissioned
for two weeks in January 1995. The consultants accompanied by the IIMI team visited the Chief
Engineer, Superintending Engineer and Executive Engineer of the Irrigation Department, concerned with
the project area, and also the Department's senior staff based in Lahore. They also visited the OFWM
Directorate and the Watercourse Monitoring and Evaluation Directorate, as well as the field facilities and
a sample of farmers.

Field Implementation committees (Activity a.4)

The presence of IIMI's field team in the project area helped to establish close relationships with the
agencies' field staff. The visiting senior staff from IIMI, Lahore, also had useful field discussions with a
number of agency officials at different levels, and these interactions were able to identify some persons
who could form the proposed Field Implementation Committee consisting of IIMI, agency and farmer
representatives, which will monitor the Project's field activities.

Developing the Process (Activity a.7)

The Consultants' report, discussions in planning meetings, literature reviews and the valuable inputs from
Professor Gaylord Skogerboe and other IIMI staff at the in-house workshop held on 24 April 1995
contributed to the development of a process for organization of water users in the selected areas. Dr.
Randolph Barker, Interim DG of IIMI, and Dr. Jan Anvry, a visiting Professor from the University of
California, Berkeley also attended the workshop. One of the issues added to the process through the
interventions of the visitors in this discussion was the work that should relate to an evaluation of future
impact of this intervention. The workshop emphasized the need to have fairly good information on a set
of selected indicators, both as baseline data at the beginning, and later as impact data.

Both consultants' report and the workshop discussions highlighted the mistakes by the OFWM and
CWMP approaches. The main characteristic of the process adopted by these interventions was the
assertive role played by the field level agency staff. The sub-engineer in the field team played a
significant role and his main technically biased objective of lining the watercourse tended to dominate
the process of organizing water users. It was a relatively quick intervention to select a few influential
farmers to be the office bearers of the WUA and treat others as "ordinary farmers" who had to oblige by
complying with "WUA decisions". Both official coercion, as well as official appeals came from either the agency personnel or from the WUA office bearers. Any democratization element was non-existent in the process, and the leadership of one or two persons was sufficient to mobilize the support that was necessary from the limited activity of watercourse improvement. A tendency to recognize only the group of office bearers (or the Executive Committee), as the WUA for the watercourse was a common feature. Recent farmer interviews confirmed this practice as the farmers showed a habit of identifying the WUA of a watercourse only with this group of office bearers. This practice has been used for over two decades of watercourse improvement work, and any discussion with farmers about water users organizations is inevitably associated with an expectation of some physical improvement work.

To deviate from this established practice and the "image" it had gained over the years, it was considered necessary to:

(a) focus on the distributary or the minor as the unit of analysis and interventions so that both agency staff as well as farmers immediately think of more substantial and long lasting involvement for the farmers than the temporary work of watercourse improvement;

(b) have an initial phase of activity to establish collaborative arrangements with both agencies (Irrigation and On-Farm Water Management), to identify what functions of system operation and maintenance and what related authority could be transferred to a water users organization.

Site Selection (Activity a.8)

The decision to select sites for pilot efforts from the Fordwah Eastern Sadiqia (FES) area is based on the fact that other IIMI study sites are located in this area and that a number of national research institutes and agencies working on the World Bank funded Fordwah Eastern Sadiqia (South) - Irrigation and Drainage Project in the same area.

The following criteria formed the basis for selecting a site for IIMI's main pilot project on water users organizations:

1. Working in a distributary within the World Bank funded FES(S) project area can help IIMI to associate this work closely with two pilot distributaries selected by the OFWM Directorate for similar work under the FES(S) Project;
(2) Preferably, the selected distributary should not be too small or not very large so that the pilot effort will be with average physical and socio-economic conditions;

(3) Selecting a distributary where IIMI or any other agency or research institute had not intervened recently will provide a more receptive farmer group;

(4) The distributary should preferably have farmers of a mixed background -- a mixture of local people, old and recent settlers;

(5) A distributary having a number of hydraulic structures would help the water user groups to monitor the discharges in terms of space and time;

(6) A distributary in which watercourses had not been completely improved under the OFWM program, would allow the water users to see the need for physical improvement as an incentive for getting organized as WUAs at the watercourse level; and

(7) A distributary having a sizable minor would allow two secondary systems to be used for pilot experimentation within the same distributary command area.

These criteria led to the selection of 4R Distributary off Hakra Branch in the Fordwah Eastern Sadiqia (FES) canal system as the main pilot site. The presence of a sizeable minor in this distributary provides an opportunity to try two pilot projects on water users organizations at the distributary/minor level.

In addition to the pilots efforts at 4-R Distributary, the project envisages IIMI's technical assistance interactions with the OFWM Directorate of Punjab for conducting social organization activities in two other distributaries in the same area (Bhukan and Sirajwah distributaries in FES system). These two distributaries were selected by the OFWM Directorate under the research component of the World Bank supported FES(S) Project. IIMI will collaborate with both the OFWMD as well as PID by providing advisory services in their efforts to organize farmers at the distributary level.

Further, IIMI also expects to include the 6-R Distributary as part of its pilot efforts, but only after reaching some maturity in 4-R Distributary experience. The activity is planned to be started in the latter part of 1996 under sub-component IIb. Since most of the watercourses and a major part of the distributary itself have already been improved and lined under the CWMP, a significant effort at 6-R Distributary will be to encourage the agencies and water users to take their own initiative and re-establish the WUAs at the
watercourse level. They will then be federated into WUFs for identifiable sub-units of the distributary. This approach in the 6-R distributary, characterized by a greater agency and farmer initiative and an initial organizational effort at the tertiary level, will contrast with the methodology planned to be used in 4-R Distributary, in which the initiative is by IIMI and the water users are to be organized almost simultaneously for both the distributary and watercourse level management functions. Hopefully, this arrangement to adapt two different approaches in two sites will also offer an opportunity to see the advantages and disadvantages of the two different approaches. Also, it will help in mobilizing the interest of agencies and farmers to consider replicating the results of pilot projects.

Base-Line Survey (Activity a.9)

A baseline survey was started on 4-R Distributary in July 1995, as a prelude to the action research effort. The broad purpose of the survey was to have reliable field information for assessing the community characteristics in the area. In addition, the survey will cover the physical characteristics of the irrigation system.

The specific objectives of the base-line survey are:

1. To collect information about the socio-economic conditions of the water users on Distributary 4-R Hakra;

2. To examine the existing conditions of irrigation practices, water management (e.g., equity, reliability and variability of water supply), water transactions, cropping pattern and cropping intensity; and

3. To investigate the existing conditions of the physical system in the selected distributary and its watercourses.

This background information will also be used for planning the intervention, as well as for answering some of basic research questions that are raised at this stage. Surveys of this nature also would serve another important purpose of identifying and prescribing necessary development measures.

Data for the socio-economic survey has been collected from 14 randomly selected watercourses through a combination of a structured questionnaire and in-depth field investigations involving both face-to-face interviews and field observations. For evaluation of equity and variability of water supply, physical
measurement of the water discharge/flow of the watercourses and the distributary will be conducted at different sites. To know the actual water supply, data about water discharge/flow will also be collected at the head of other distributaries off-taking from the main canal. This will help to avoid any doubt that improvement in water equity/variability in the distributary undertaken for this pilot study is not being done at the cost of reduced water supply to other distributaries. The survey has been repeated for 3 randomly selected watercourses in the 3-R Distributary, which will serve as a control for some aspects of the survey during subsequent evaluations. The 3-R Distributary was selected on the basis of its similarity with the 4-R Distributary. Data entry for the socio-economic survey, and the flow measurement program for evaluation of physical factors will be carried out during August and September 1995, and data analysis will be completed by December 1995.

D. AUXILIARY ACTIVITIES

Related to the objectives of this project component, a number of supplementary items of work has been conducted in 1994 and 1995, and will be continued in the coming years. Though not specifically mentioned in the Project Document, IIMI sought to use whatever opportunity that came its way to participate in meetings, discussions, workshops and seminars linked with the subject of institutional development for Pakistan's irrigated agriculture sector.

- IIMI's Director (Pakistan) and Senior Management Specialist were participants (and contributors of a paper, "Research Inputs for an Action Program on Participatory Irrigation Management in Pakistan") at the EDI sponsored workshop held in Islamabad during 2-6 October 1994 to discuss the country's options for participatory irrigation management. IIMI representatives, including the Associate Expert (Social Science) from the Netherlands will also attend the follow up meeting in Islamabad, scheduled for October 1995.

- Senior Management Specialist was invited to present a paper on strategies for participatory irrigation management at the Third Annual South Asian NGO Summit held in Kathmandu during 21-23 February 1995.

- IIMI's Director (Pakistan) and Senior Management Specialist are members of the High Level National Commission on Sustainable Irrigated Agriculture appointed by the Prime Minister. Two briefing papers were submitted.
IIMI’s Senior Management Specialist, Sociologist, OWFMD seconded Irrigation Agronomist, and
the Associate Expert (Social Science) are participating in a series of preparation group meetings
(16 May 1995 in Islamabad, 1 June, 9 July, 29 July and 6 August, 1995 in Lahore, and 16-17
August 1995 in Saidu Sharif) organized by the PATA Project for a national seminar on
participatory irrigation management to be held in November 1995.

IIMI was requested to participate in the NRAP/IWASRI program design discussions. The Senior
Management Specialist and Sociologist attended the workshop held in Lahore on 4 May 1995
and contributed to the preparation of a new strategy for drainage research by NRAP/IWASRI.

IIMI’s Director (Pakistan) and Senior Management Specialist visited the two pilot projects on
water users organization in NWFP implemented by the consultants attached to the Federal Water
Management Cell in Islamabad.

E. HUMAN RESOURCES PLAN

IIMI’s research team for this component consists of the following:

International Staff

Mr. D. J. Bandaragoda, Senior Management Specialist
Ms. Christine de Klein, Associate Expert Social Organization
Professor Gaylord V. Skogerboe, Water Management Specialist and Director, IIMI Pakistan (guidance
on process development and O&M training)
Dr. Douglas Vermillion, Participatory Irrigation Management Specialist (IIMI Headquarters) for guidance
on relevant research issues

National Staff

Dr. Muhammad Asghar Cheema, Sociologist
Mr. Zafar Iqbal Mirza, Irrigation Agronomist, seconded from PAD
Mr. Waheed uz Zaman, Senior Field Research Engineer
Mr. Mahmood ul Hassan, Field Research Social Scientist
Mr. Abdul Hamid, Senior Field Assistant
Mr. Muhammad Ishaque, Field Assistant and Mr. Khalid Mahmood, Field Assistant
Six survey data enumerators joined this team for a period of one month during July/August 1995, to conduct the baseline survey.

Two international consultants (Mr. Piyasena Ganewatte, FMIS Expert, from Sri Lanka, and Dr. Prachanda Pradhan, Institutional Expert, from Nepal provide advisory services through short-term consultancies during the project period.

F. OUTPUT PLAN

The project plan contains the following items as the immediate project outputs to be generated during the project period:

(1) Workshop to present tentative results of the preliminary investigations carried out in 6-R Distributary CWMP (October 1994).

(2) Paper for presentation at EDI seminar in Islamabad (October 1994).


(4) Workshop on the workplan for water users organizations sub-component and the proposed process (April 1995)

(5) Report on preliminary investigations conducted in 6-R Distributary and two related research papers (December 1995).

(6) Preliminary Report on Baseline Survey conducted in 4-R Distributary (December 1995).

(7) Final Report on Baseline Survey conducted in 4-R Distributary (February 1996).

(8) Report for the National Conference on initial project-related results and recommendations, to discuss contributions from the Institutional Development component (September 1996).

(9) Proposal for legal framework for the functions of Water Users Organizations in Pakistan (December 1996).

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(10) Workshop and report on the future role of provincial irrigation and agriculture departments in Pakistan (November 1997).


G. COLLABORATION

IIMI enthusiastically seeks to collaborate with agencies and groups working in the area of social organization in Pakistan. Collaboration is obtained from the Aga Khan Rural Support Program (AKRSP) in Gilgit and the PATA project in Swat valley for training the field staff. The project closely collaborates with the OFVWM Directorate, which has not only arranged for one of its senior staff members to be attached to the IIMI Team, but has also pledged to provide additional field personnel at its Haroonabad field station to undertake joint field work in the selected distributary commands. IIMI expects the PID to respond to its request for a formal acknowledgement of the Department's cooperation and participation in the pilot projects. Associated with IIMI Pakistan's initiative on social organization through these pilot projects, a joint IIMI-IFPRI proposal has been presented to the World Bank for a study to be incorporated into Pakistan's National Drainage Program, to undertake more generic research on institutional change in Pakistan. From November 1995 up to April 1996, a team from the Wageningen Agricultural University, The Netherlands will join IIMI to carry out a study based on RAAKS (Rapid Appraisal of Agricultural Knowledge Systems) - Methodology. This participatory action-research approach is helpful in analyzing the institutional context of the irrigation sector and its constraints and possibilities for improving irrigation management practices. One of the RAAKS team members will closely cooperate with IIMI's Institutional Development Team.

H. RESEARCH FELLOWSHIPS

Closely related to collaboration with local partners, an element of professional development has been built into the project content. The following fellowships will be associated with the three sub-components:

Water Users Organizations: 4 Local postgraduate students for a period of 3 years;

Institutional Support to WUOs: 1 local postgraduate student from Punjab for 2.5 years;

Coordinated Services: 1 local postgraduate student from Sindh for 2.5 years;

1 local postgraduate student from Punjab for 2.5 years; 1 local postgraduate student from Sindh for 2.5 years.

These fellowships arrangements are scheduled to start from January 1996.
I. CONSTRAINTS

This plan of operations will not be realistic if it does not recognize the important collaborative role that the operating agencies have to play in institutional development activities. Institutional development is essentially a collaborative process. All the three sub-components in this area need the unstinted cooperation of respective collaborating partners for the activities to be successfully implemented. A special effort is needed to develop these collaborative relationships, both through the stage of planning as well as in implementation.
PROPOSED PROCESS FOR CREATING SUSTAINABLE WATER USERS ORGANIZATIONS IN PAKISTAN

Collaborative Arrangements Among Agencies

Establish Field Committee

Assess Community Characteristics

Formulation of Water Users Organizations

Develop a Plan of Action

Agreement on Joint Management Responsibilities

Implement Plan of Action

Monitoring, Evaluation and Feedback Program

Turnover to Farmer-Managed Irrigation Subsystem
Phase I: COLLABORATIVE ARRANGEMENTS AMONG AGENCIES

**PID**
- Discuss Potential Collaboration for WUOs Program

**IIMI**
- Prepare Proposed Pilot Program for Water Users Organizations
  - Select and Recruit Field Staff
  - Preliminary Field Investigation
  - Begin Process Documentation
  - Negotiate Institutional Arrangements for a Pilot Program on Establishing Water Users Organizations (WUOs)
  - Establish WUOs Field Implementation Review Committee with Representatives from Participating Organizations
  - Develop Criteria for Selecting Pilot Sites
  - Select Pilot Sites
  - Begin Program Implementation at Selected Pilot Sites

**PAD (OFWM)**
- Discuss Potential Collaboration for WUOs Program
- Develop Training Program for Field Teams Including Social Organizers
  - Conduct Training for Field Staff
Phase II: INITIAL ORGANIZATION

Role of Farmers

- Identify Contact Farmers
- Assistance to Farmers by Contact Farmers

Chorono logically Organizational Activities

- Initial Contact with Water users by Organizational Resource Persons and Contact Farmers
- Assess Community Characteristics
- Visits to farmer-Managed Irrigation Systems (FMISs)
- Begin Formation of Water Users Organizations

Role of IIMI and Agencies

- Identify Organizational Resource Persons
- Assistance to Farmers by Organizational Resource Persons
- IIMI Continues Process Documentation
- Mobilize SOs
- IIMI Conducts Baseline Survey
- Provide Transportation
- Advise on Organizational Levels, Structures By-Laws and Rules
- Provide Training on Organizational Agreements and Conduct of Meetings

Sub-processes:

- Discussion Among Farmers About Joint Management Organizational Structures and Operating Practices (Share System)
- Discussion of Potential Organizational Boundaries
- Decisions on Organizational Boundaries
- Discussions of Organizational Levels, Structures, By-Laws and Rules
- Decisions on Organizational Agreements

- Election of Officers by Farmers
- Send Officers for Training
- Leadership Training
- Provide Trainers
Phase III: JOINT MANAGEMENT AGREEMENT

Role of Farmers

- Farmers Leaders Participate in M&O "Walk-Through" Surveys and Developing a Plan of Action
- Meeting of Farmers to Discuss Proposed Plan of Action
- Negotiations by Leaders of Water Users Organizations
- Consensus by Farmers to a Plan of Action

Chronological Organizational Activities

- Develop a Plan of Action
  1. Essential Structural Maintenance (ESM)
  2. Conduct Operations Control Maintenance Survey
  3. Develop ESM Plan
  4. Operations
  5. Conduct Hydraulic Survey
  6. Develop Discharge Ratings
  7. Measure Channel Losses
  8. Develop Operations Plan
  10. Deferred Maintenance
    a. Conduct Diagnostic "Walk-Through" Maintenance Survey
    b. Prioritize Deferred Maintenance Needs (PDMN)
    c. Develop "Catch-up" Maintenance Plan

Role of IMI and Agencies

- IMI Continues Process Documentation
- Provide Trainers
- All Pilot Project Field Staff Participate in Training, Including M&O "Walk-Through" Surveys and Developing a Plan of Action
- Commitment of Resources
- Negotiations by Agencies Field Staff

Agreement on Joint Management Responsibilities

1. Responsibilities
   a. Farmers
   b. Agencies
2. Implementation Schedule
   a. ESM
   b. Operations
   c. ME&F
   d. PDMN
   e. Resources
     a. Labor
     b. Kind
     c. Cash/Budget
     d. Equipment
     e. Materials

Select Farmers for Training
- Financial Management Training
- System Management Training
- Provide Training
Phase IV: JOINT MANAGEMENT IMPLEMENTATION

Role of Farmers

- Provide inputs as agreed upon
  1. Labor
  2. Kind
  3. Cash

Role of IIMI and Agencies

- IMI continues process documentation

Chronological Organizational Activities

- Implement the Plan of Action
  1. Implement ESM
  2. Implement Water Delivery Schedules to Each Water Users Organization (WUO) According to Share System

- Monitor Daily Discharge Rates at Essential Flow Control Structures

- Additional Monitoring Data as Requested by WUOs or as Needed for Process Documentation

- Provide inputs as agreed upon
  1. Budget
  2. Personnel
  3. Equipment
  4. Materials

- Review Daily Discharge Rates by Leaders of Water Users Organizations

- Implementation of the Monitoring, Evaluation and Feedback (ME&F) Program

- Revised Operations Plan

- Review of ME&F Program and Suggestions for Improvement

- Revise Monitoring, Evaluation and Feedback (ME&F) Program

- Prepare Revised ME&F Program

- Adoption of Lessons Learned from Process Documentation

- Participation by Leaders of Water Users Organizations

- Seasonal "Walk-Through" Operations Survey

- Prepare Seasonal Hydraulic Performance Report

- Review Hydraulic Performance Report

- Seasonal Hydraulic Performance Report

- Participation by Field Staff

- Review of Operations Plan and Suggestions for Improvement

- Revise Operations Plan

- Revise ME&F Program

- Turnover to Farmer-Managed Irrigation Subsystem

- Process Documentation for Replication at other Sites

- Synthesis from Process Documentation

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