

# INSTITUTIONAL STRENGTHENING ACTIVITIES IN PAKISTAN'S PROGRAM: CONCEPTS, METHODS AND RESULTS LEADING TO A MEDIUM TERM STRATEGY

by

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## 1. INTRODUCTION

This paper is in response to a request from this year's IPR organizers to present a statement on the institutional strengthening activities of IIMI's program in Pakistan. In preparing this paper, the author has considered the main features of program development in Pakistan from its inception in 1986 to date, along with many views expressed in various project documents and research reports related to institutional strengthening and its linkage with research, as well as the recommendations of the External Review Report in this regard. These have been considered in the light of the understanding that the author has endeavored to gain regarding the institutional aspects of Pakistan's irrigated agriculture through a focused attention during the past five years. Although the paper has benefited from suggestions of all the members of IIMI's professional staff in Pakistan, it retains the author's own perceptions on the main issues, and for this reason, any errors of interpretation are owned by the author alone.

The paper first deals with the Concepts. Starting with a brief reference to the value base for this presentation, it proceeds to clarify the definitions of some often-used terms relevant to the subjects under review, while outlining the concepts of institutional strengthening that appear to have been used in program development.

The paper then proceeds to place the main features of IIMI's research activities in Pakistan in the light of their linkage with institutional strengthening objectives. This is followed by an attempt to synthesize the methods that have been used, and are planned to be used, in institutional strengthening efforts; with reference to some preliminary results achieved. The results at this stage are not conclusive and will only indicate the prospects and possible constraints related to future achievements in this regard.

Finally, in the conclusions, the paper recapitulates the main issues and outlines the basis for a medium-term strategy for institutional strengthening activities in Pakistan, which needs to be developed and finalized soon in terms of the External Review Report recommendations.

**The paper basically supports an emphasis on institutional strengthening, which is well integrated with a strong applied/adaptive research component within IIMI's overall program of activities.**

## 2. CONCEPTS

### 2.1. Value Base

A recent review of twenty-one UK-supported research projects on renewable natural resources (Edwards and Farrington, 1993) focused on the "uptake" and "impact" of research. Their conclusions implied that the uptake by end users of research, and its final impact, were essentially the intended targets of the research process (see Figure 1). The uptake by the intermediate users was also recognized. The reviewers found "weaknesses in several aspects of the downstream spectrum of activities between researchers and intended users". They identified a need to "re-define the currently accepted mandates of researchers to allow them to move 'downstream'" for reaching the end users more effectively.

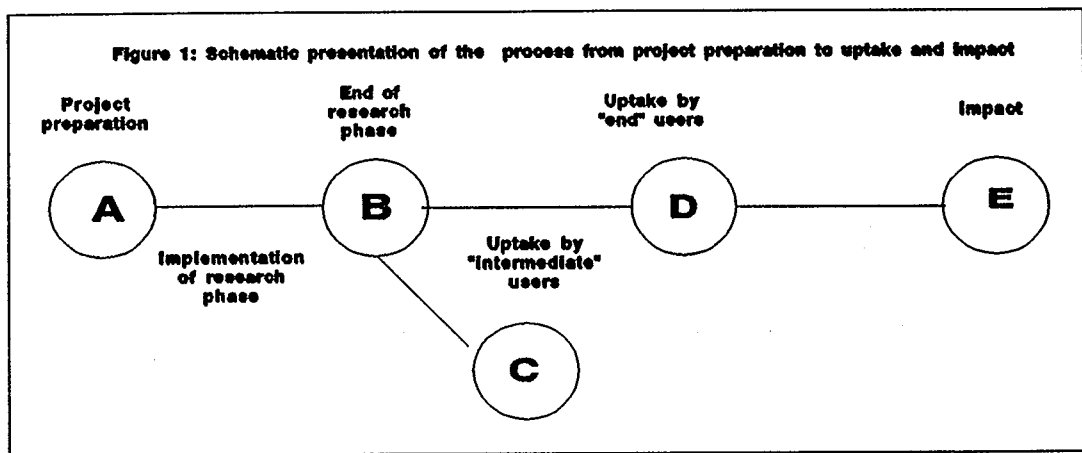
**This overall view that there should be a closer integration between research and development activities is fully endorsed here, and in fact, forms the basis for this presentation.**

The objectives of uptake and impact are generally inherent in any research activity. In the realization of these objectives, however, the researchers can play, either a passive role, or an active role, depending on their mission. For example, a chemist researching on a drug may not be interested in actively pursuing the application of his research results, whereas, a doctor's primary objective in carrying out investigations on a patient's condition is to use these results in treating the patient. A medical researcher working for a pharmaceutical company may have a choice, in leaving the research results in the hands of the users, or in pursuing them further with the uptake by the users.

For IIMI, there seems to be no choice. IIMI has to play an active role, as IIMI's mission is basically development-oriented. The mission statement, though couched in careful language, extends to the point of ensuring improved performance of irrigated agriculture in developing countries. IIMI's strategy, therefore, should necessarily include measures to promote the uptake of its research by the end users, so that there will be some tangible impact arising from its efforts.

For this essentially collaborative approach towards facilitating an effective uptaking process, IIMI has to explore whether existing institutions need to be strengthened for the purpose. Thus, in IIMI's strategy, institutional strengthening activities become an essential companion to its research activities. IIMI's governance documents have highlighted institutional strengthening as the set of activities that contribute to two of the three goals of IIMI: 1) strengthening national research capacity in irrigation management; and 2) supporting the introduction of improved management and policy-making.

**In summary, the paper rests on a value base, which is already embodied in IIMI's policy statement that says, "the ultimate beneficiaries of IIMI's products and services are the rural poor (farmers, tenants, landless people, and hired and migrant labor) in developing countries" (IIMI, 1989:8).**



**Key Questions at A:**

1. were objectives, inputs, methods specified in a clear, time-bound fashion?
2. (for research types where this is feasible): how far were objectives specified in terms of intended outputs?
3. were intended users and their requirements adequately specified?
4. at project preparation, were forward provisions for M&E defined?
5. how far was anticipated impact on intended clients specified?
6. what project preparation techniques were used (e.g. project frameworks)?
7. How was it proposed to promote/disseminate the outputs of research?

**Key Questions at B:**

1. were the objectives of the research met? If not, why not?
  2. were they met in accordance with the specifications in A re. timing, budget and, where relevant, type of research outputs? If not, why not?
- "Why no" in B1 and B2 will ask:
- a. was the quality of research below the standards specified in A1?
  - b. in retrospect, were objectives, inputs etc under A mis-specified?
  - c. did M&E highlight any problems emerging in (a) and (b)?
  - d. did project management respond to the findings of M&E?

**Key Questions at C:**

1. were outputs taken up by intended users? If not, why not?
  2. were outputs taken up by any other than intended users? If so, why?
  3. were any other objectives (e.g. institutional development in Idcs) met?
- "Why not" in C1 will ask:
- a. had intended users (and their requirements) adequately been specified in project preparation?
  - b. had outputs deviated from original expectations in type, quality, performance cost ..?
  - c. had external circumstances affecting this project changed in unanticipated ways?

**Key Questions at D:**

1. were outputs taken up by intended end-users? If not, why not? Don't know, explain why don't know?
  2. were outputs taken up by any other than intended end-users? If so, why?
- "Why not" in D1 will ask:
- a. had intended users (and their requirements) adequately been specified in project preparation?
  - b. had outputs deviated from original expectations in type, quality, performance, cost ..?
  - c. had financial B:C ratios for uptake differed from those anticipated?
  - d. in spite of ostensibly favorable B:C ratios, had outputs presented other problems in terms of riskiness, investment and skill levels required, "fit" into farming systems, fit into social conditions etc?
  - e. had external factors affecting the project changed in unanticipated ways?
  - f. had dissemination mechanisms been weaker than anticipated? Do outputs place more demands on them than expected?

**Key Questions at E:**

1. what evidence is there of impact on intended users?
2. what evidence is there of impact on those other than intended users?
3. if no evidence, is that because of no impact, or because no effort was made to assess the impact?
4. if evidence of impact exists, does it show the anticipated size, time profile, and distribution (between individuals, genders, social groups)? Explain any deviations from anticipated.
5. did any other impacts occur e.g. on the environment, on idc institutional development?

Source: Edward and Farrington (1993)

## 2.2. Definitions

### 2.2.1. Institutions

The word "institutions" in popular usage usually refers only to "organizations". This narrow interpretation reflects the fact that, often, the actions aimed at institutional improvement have been limited to creating new organizations or adding new wings to existing organizations. This presentation adopts a wider interpretation of the word "institutions".

"Institutions" relate to both rules and roles. The rules guide the behavior of individuals and groups in the performance of their respective work roles. Structured work roles guided by a specific set of rules are the "organizations", which in fact, form only a sub-set of "institutions". Apart from organizations, there are other institutions that represent various patterns of behavior based on both formal and informal rules. For example, the legal system and the judiciary are institutions. The tradition of warabandi is an institution. So is the caste system, or the land tenure system.

Basically, institutions are intended to help the individuals and groups to manage the physical systems in an orderly manner according to pre-determined objectives. Yet, the institutions have a dual facility, to both constrain, as well as liberate, human action. The Irrigation Department, a Water Users Association, or the warabandi system, all have this dual responsibility, such as that of helping the individuals to get their share of water on the one hand, as well as preventing the misappropriation of water on the other. For institutions to be effective, both these functions have to be performed equally well.

### 2.2.2 Institutional Strengthening

Just as much as the word "institutions" is often misinterpreted, or narrowly interpreted, the attempts to convey the meaning of some institutional improvement are also lost in a jungle of semantics. In a recent Inter Office Memo, Charles Abernethy refers to this confusion so persistent in our thinking when he finds that "our new draft strategy document, pages 37-39, has a heading 'Institution Building' and puts within that 'Institutional Development', and 'Capacity Strengthening' as well as 'Training', and it also distinguishes 'strengthening national institutions' from 'strengthening national research institutions'".

This lack of clarity in terminology pervades many documents, and often leads to different emphases. For the purpose of this presentation, "institution building", "institutional development", and "institutional strengthening" are considered as terms that

can be used interchangeably to mean the various improvements to existing institutional arrangements. The improvements may arise from research focused on institutions, or as a part of a strategy to apply the results of overall performance-oriented research, or from a combination of both.

Arturo Israel (1987) prefers to use the term "institutional development", which he defines as "the process of improving the ability of institutions to make effective use of the human and financial resources available". While recognizing many different ways in which this process has been defined, he makes the noteworthy point that "no matter which label is used, the main objective is to make effective use of a country's resources". Keeping this main objective in view, the term "institutional strengthening" is preferred in this instance as it is the term used in the definition of IIMI's goals and activities.

In this perspective, institutional strengthening means more than capacity building in organizations. It is not mere staff training. Put in more elegant terms, institutional strengthening goes beyond human resources development or any other form of resource-base enhancement in organizations; it includes efforts related to the improvement of rules, such as the legal framework and the procedural codes, or the policy-implementation relationships, a whole gamut of things that form a societal responsiveness to change, which are aimed at changes in the value system, finally leading to increased credibility and greater recognition of these organizations.

### 2.2.3. *Strategic, Applied and Adaptive Research*

To place the concept of intended users in the perspective of a research and development process, it is useful to refer to the distinctions between *strategic*, *applied* and *adaptive* research.

According to IIMI's interpretation given in a note prepared for the Board, strategic research is viewed as mission-oriented basic research aimed at generating "new knowledge, principles or understandings that are required to develop better water management practices and institutional/organizational restructuring processes". The emphasis is that this new knowledge is what can be used in generating technologies.

Research aimed at generating technologies is applied research, which in IIMI's case, refers to widely applicable water management practices or institutional/organizational approaches, tested and evaluated under a range of conditions.

Adaptive research is aimed at adjusting technologies to a specific set of environmental (agro-ecological, as well as socio-economic) conditions, to develop new or improved water management practices, or institutional/organizational processes.

#### 2.2.4. Intended End Users and Intermediate Users

The intended end users of IIMI's research are usually the farmers, as well as the government policy makers and agencies. In some instances, the NGOs may also be in this category. They become end users only when they apply research outputs (technologies) directly in their irrigation management activities, without any modification. (By this definitional implication, if IIMI were to focus only on strategic research, then, IIMI's results cannot be used by the end users directly).

The intermediate users are usually the other research groups, NGOs, or agency staff, who further modify the research results for developing widely applicable technologies (applied research), or for applying the knowledge or technology to specific field conditions (adaptive research). In either case, original research results are modified further before some recommendations are developed and passed on to the end users. The intermediate users may also include the research groups who further refine original research results to generate knowledge (strategic research).

In either case, it is important that the users are identified in the research design itself (see explanatory notes in Figure 1). With this early identification, the process of research can be monitored to provide the maximum benefit for the intended users, rather than carry out the motions of research for the sake of doing research.

#### 2.3. IIMI's Current Priorities

**The effectiveness of any management system is inseparable from that of its institutional framework. Thus, it is imperative that IIMI, whose mission is intimately concerned with improved management, gives a very high priority to institutional strengthening activities. Associated with this is another priority to consider the type of research that will best support the institutional strengthening efforts at the present stage of development of both IIMI and its relationships with the host countries.**

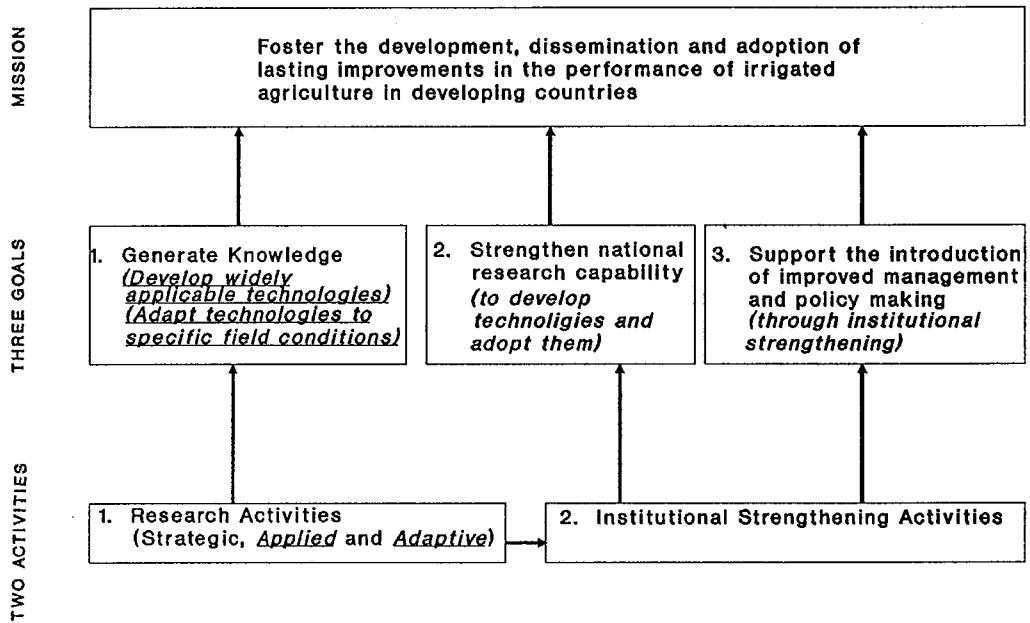
IIMI's declared mission and goals, and the activities chosen to achieve them, seem to assume that IIMI should preferably concentrate on strategic research while applied/adaptive research is left to be accomplished by the national agricultural research systems (NARS). Through institutional strengthening activities, IIMI would facilitate this work by strengthening the capacity of NARS and supporting the uptake of research by the users. However, this approach is likely to be inadequate because in many countries there are no NARS dedicated to the field of irrigation management improvement.

One important issue, then, is the extent to which IIMI can afford to work at the level of strategic research under these circumstances. Considering IIMI's commitment with the development objectives of the end users, IIMI's priorities have to be clearly in

applied and adaptive research. The commitment requires IIMI to ensure the uptake and impact, which can be achieved more easily only if IIMI concentrates on developing technologies for managing irrigated agriculture and adapting them to suit the given environmental conditions. Strategic research to generate knowledge can be through an extension of these efforts.

Figure 2 represents the present priorities super-imposed on the declared pattern of mission, goals and activities.

**Figure - 2 IIMI'S MISSION, GOALS AND ACTIVITIES**



Note: The content in Italics within parentheses has been added to indicate the present priorities.

Another related issue is whether IIMI should completely rely on exclusive interactions with national irrigation-related research institutes and agencies and ignore the farmers, who are recognized as the ultimate beneficiaries of IIMI's outputs, but not as IIMI's clients (IIMI, 1989). With IIMI's increasing involvement in research and development related to social organization for irrigated agriculture, it is apparent that IIMI will have many opportunities to interact with irrigation communities directly. Preferably, this can be done in activities designed to be carried out in a collaborative mode. In any case, unless IIMI develops some appropriate strategies to effectively interact with the end users, including the farmers or their organized groups, IIMI's impact is likely to be an illusory goal. Under the present institutional conditions in these countries, it is illogical to expect a quick impact without a special effort to achieve it.



In many developing countries, and particularly in Pakistan, the diffusion and uptake of farming systems technology has not been as difficult as the introduction of management technology related to irrigated agriculture. The transfer of green revolution technologies occurred fairly quickly. The use of farm equipment, improved seed varieties, fertilizer and other inputs has had rapid acceptance. An excellent example of fast technology diffusion in Pakistan is the advent of groundwater development. The technology has rapidly moved ahead with such a sudden outburst of private sector interest that privately secured water now meets over 40% of the Punjab Province's overall consumption needs. If there have been any constraints against all these changes, then they are invariably due to problems of distribution and lack of clear policy, which are both primarily institutional in nature.

Thus, while the farmers have responded well to the market changes by adopting most of the technologies made available to them, the institutional response to market changes has been conspicuously slow and lacking. For instance, it has been very difficult for agency staff to accept the modern water distribution methods aimed at being more responsive to crop requirements than to the convenience of the distributing agency. Information handling both within offices, as well as between agency staff and farmers, continues to be carried out in very unproductive ways. Agency-farmer relationships are still dictated by traditional social values that represent the old feudal systems rather than modern democratic methods. All in all, resistance to change has been greater and more deep-rooted among the officials than among the so called "illiterate" farmers.

The main reason in this discrepancy can be traced to an absence of a catalytic process in institutional development. The research and extension package in agriculture production is seen to be far superior to what has ever been attempted in improving the management and institutional conditions. Evidently, the promotional effort associated with this package came mainly from the market itself, the suppliers of inputs and the buyers of farm produce, who had a vested interest in such promotional activity. This catalyst was not present in the context of management and institutional improvement. Under these conditions, given IIMI's mission to foster improved management of irrigated agriculture in Pakistan, IIMI's current priority should be to play that catalytic role.

### 3. IIMI'S PROGRAM IN PAKISTAN

#### 3.1 Program Composition

For several years, an intensive field research program in Pakistan had focused on a number of issues related to irrigation performance and environment. The research had considered irrigation constraints, canal performance, groundwater development, waterlogging and salinity, water delivery methods and related institutional issues. A recent document on IIMI Achievements and Impacts (1986-1993) found IIMI's experience in Pakistan mostly to be illustrating the complexity of collaborative research. Pakistan did not have even a single item among fifty-five projects, which the document listed as IIMI's collaborative research activities with institutional strengthening components.

The 1990 External Review report attempted to identify the emphases of the six main research projects in Pakistan in terms of four categories of research (basic research aimed at creating new knowledge was separated from problem oriented strategic research). Table 1 shows the distribution.

TABLE-1 DISTRIBUTION OF SIX PROJECTS OF PAKISTAN'S PRE-1990 PROGRAM INTO DIFFERENT ACTIVITIES

RESEARCH PROJECT	RESEARCH				APPLICATION OF RESEARCH FINDINGS	TRAINING
	BASIC	STRATEGIC	APPLIED	ADAPTIVE		
1. Irrigation Constraints to Crop Production.	-	10%	30%	25%	10%	25%
2. Impact of Lining of Secondary Channels and Rehabilitation Strategies	50%	-	-	50%	-	-
3. Conjunctive Management of Surface and Groundwater	75%	-	-	25%	-	-
4. Distributary Performance: Variability and Equity in Secondary Canals	40%	-	30%	10%	20%	-
5. Managing Irrigation Systems to Minimize Waterlogging and Salinity Problems	-	5%	30%	40%	25%	-
6. Irrigation Efficiencies in Farmer-Managed Irrigation Systems in Hunza	75%	25%	-	-	-	-
All Projects	40%	6.7%	15%	25%	9.2%	4.2%

Source: Annex IV of External Review Report, Jan 1990, IIMI.

With the exceptions of items 1 and 5 in Table 1, Pakistan's pre-1990 program as a whole was emphasizing on basic and strategic research, which together accounted for 46.7% of the program. Item 1 had some training component and also attempted to implement some of its research recommendations concerning late irrigation for wheat, and therefore its inclusion in the applied/adaptive emphasis is justifiable. However, the validity of identifying item 5, the initial phase of the "Waterlogging and Salinity Project", with an emphasis on adaptive research is rather questionable, as the output of this initial phase of the project appears to be mostly of strategic value.

The five-year Waterlogging and Salinity project gained momentum as it proceeded, and gradually changed its character from its early strategic posture to become more and more responsive to the management needs of Pakistan's environmentally affected irrigated agriculture. When it really matured into an applied/adaptive research emphasis, the project period was over. One of its components initiated in 1993 (and continued up to mid-1994) to study the tertiary-level water distribution method of warabandi, had an emphasis on strategic and applied research. The DSS component in Fordwah canal area is still continuing with support from the Performance study. Considering all the activities conducted under the Waterlogging and Salinity project, it can be given credit for its considerable effort in paving the way for a more impact-oriented program in Pakistan.

In July 1991, the study on Crop-Based Irrigation Operations (CBIO) in the North West Frontier Province (NWFP) was started as a typical applied/adaptive research effort. The research proposal, which emerged out of an unusually rigorous consultation process (see Sec. 4.1.2), was to identify a new management approach to suit the increased water supply conditions in two specific irrigation systems in the NWFP, pilot-test it and develop guidelines for its wider application. The adaptation process did not take place as planned, and the project could not achieve all of its objectives as anticipated. The main reason for this failure to achieve project objectives was the absence of a planned institutional strengthening component in the project design. Consequently, a persistent misconception that the project intended to replace the existing water distribution institutions with an entirely radical demand-based system remained unchanged until towards the very end of the three-year project period.

In June 1991, the last stages of a typical institutional strengthening activity were entrusted to IIMI. It was to provide technical assistance to a number of local research groups carrying out the research component of the Irrigation Systems Management project (ISM/R). Although IIMI's direct participation in

partly completed research activities was limited, as they were mostly technical in nature, IIMI gained an opportunity to closely interact with some of Pakistan's most known institutes engaged in irrigation-related research. It also provided IIMI an opportunity to experience an effort in building national research capacity. The experience as a whole, though of short duration, would augur well for more productive collaborative relationships in the future.

Funding constraints during 1993/94 caused a sharp decline in the scope of research activities in 1994. After the completion of the studies on CBIO in the NWFP and warabandi in the Punjab by July 1993, field work was restricted to two field stations (Hasilpur and Haroonabad) in the command area of Fordwah and Eastern Sadiqia canals in the Punjab. Here, two CAPs and some residual work of the officially terminated Dutch-funded Waterlogging and Salinity project continued with a sharply reduced field staff. The Decision Support Systems (DSS) for canal operations in the Irrigation Management Information System (IMIS) program, water markets and other economic issues of agricultural production, and preliminary investigations on social organization in a government-sponsored Command Water Management Project (CWMP) area, were the activities that formed the 1994 program. A categorization of these projects, similar to what the External Review reported for the pre-1990 program, is attempted in Table 2 below.

TABLE-2 IIMI'S 1994 PROGRAM IN PAKISTAN

RESEARCH PROJECT	RESEARCH			SUPPORT FOR APPLICATION OF RESEARCH FINDINGS	TRAINING
	STRATEGIC	APPLIED	ADAPTIVE		
1. IMIS Program		50%	20%	20%	10%
2. Water Markets Study	80%	20%			
3. Study of CWMP in 6R Distributary of Hakra Branch		20%	50%	30%	
4. Warabandi Study	40%	60%			
5. Crop-Based Irrigation Operations Study	20%	40%	30%	30%	
All Projects	28%	38%	20%	12%	2%

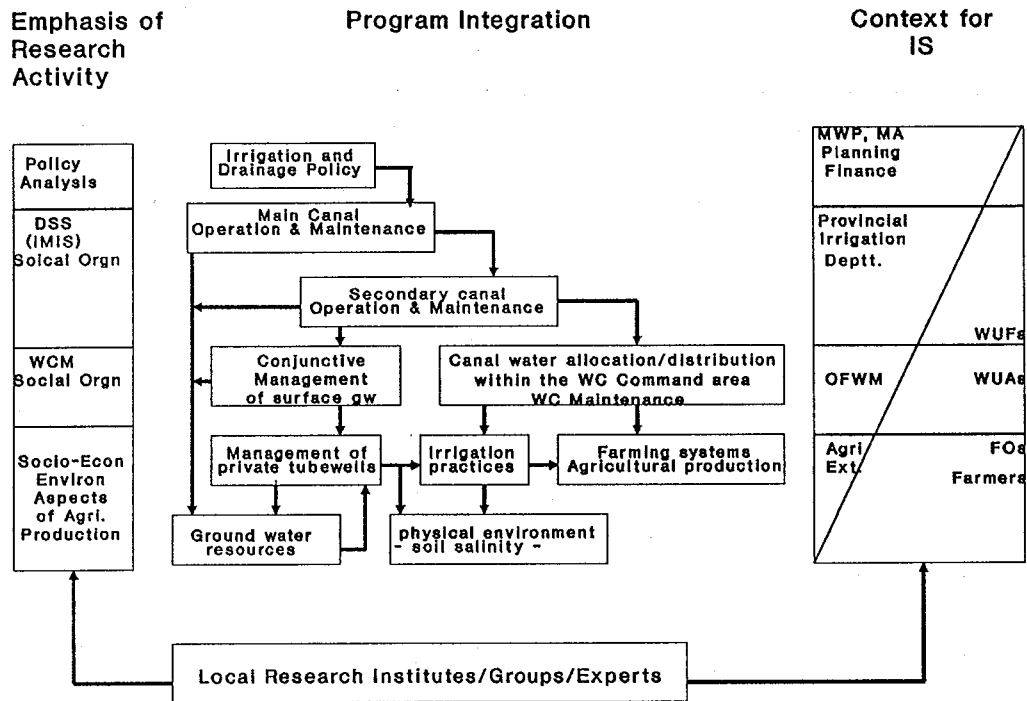
(Percentages are as assessed by the Author)

When some work on salinity management and groundwater was added to this 1994 program, it became a well-integrated program of work. Figure 3 depicts the integration that is attempted. This concentrated program content includes mostly applied and adaptive research activities and several institutional strengthening activities, which will be outlined further in Section 4 below.

The IMIS-DSS project in the Fordwah Branch has the typical features of both applied and adaptive research. The IMIS package is based on a generic and conceptual framework, defined and pilot-tested by IIMI in Sri Lanka (Riviere, 1993). Developing it further as a technology that is widely applicable in larger canal systems, such as in Pakistan, is typical applied research, whereas supplementing it with site-specific modules and adjusting the technology to suit the specific conditions in the Fordwah is typical adaptive research. For both efforts, the collection of intimate field data and the model testing were effected in close collaboration with the Punjab Irrigation Department (PID). Consultation with senior staff and training of participating staff were naturally a pre-requisite for such collaboration. As will be mentioned in Section 4 below, the initial collaborative relationships at the field level led the IMIS project naturally into further institutional strengthening efforts in the PID. This project is a good example of the potential that is inherent in an applied/adaptive research activity for integration with institutional strengthening activities.

PTO FIGURE 3

Figure 3 - Components of IIMI Program in Pakistan



### 3.2. Changes in Program Emphasis

The emphasis on field research during IIMI's formative years in Pakistan provided an opportunity for IIMI to gain some insight into the complex working of the country's massive irrigation system. It was time well spent. The documentation already developed on the management of irrigated agriculture and its conditions represents the realities seen in the field, which contrast sharply with the projected image of some aspects of irrigation in Pakistan.

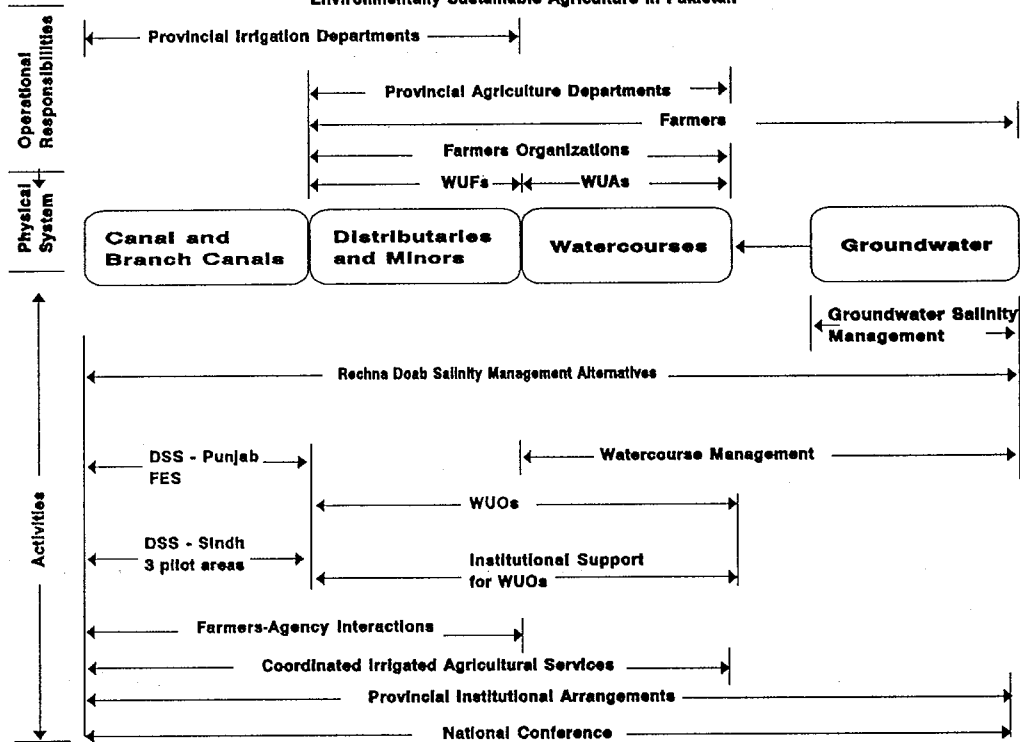
IIMI's current package of activities in Pakistan are founded on this knowledge, but are now more tilted towards an applied/adaptive research approach and related institutional development objectives. Table 2 shows this orientation clearly.

Although the program is now geared towards a more pronounced development-oriented effort in the years to come, a greater budgetary freedom in IIMI could have made it much more comprehensive. An internal note, "IIMI's Program in Pakistan: Looking to the Future", included three "New Proposals" to study irrigation management in watercourse commands, conjunctive management of surface and groundwater, and institutional initiatives for improved irrigation management, all to be conducted as action research in collaboration with the users. However, none of these items materialized as planned, for lack of funds that could be freely disbursed on IIMI's own priority basis.

The present program in Pakistan has been able to incorporate some aspects of the originally planned items (and some new ideas), but only to the extent they could be fitted into the donor's bilateral agreements with the country, and associated interests and priorities. Thus, the proper integration between the country program activities and IIMI's overall research programs, as recommended by the 1994 External Review Report (Sec. 3.4.2.2), is not achievable without some financial flexibility to plan and implement work outside the restricted donor-determined projects.

Notwithstanding this drawback, the Phase II Dutch-funded project, "Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan", has provided a major change of emphasis in IIMI's program in Pakistan. Unlike many previous research efforts, this project includes a priority area in social organization at the watercourse and distributary levels. Opportunity exists here to conduct applied/adaptive research in technical, environmental, economic and social issues related to irrigated agriculture, and to integrate these activities with an essential component of institutional strengthening activities. A high degree of collaboration is envisaged in implementing this integrated program. The involvement of local research groups, panels of national and international experts, local agency staff on secondment will be rather new features of this project. Figure 4 (prepared by Gaylord Skogerboe for the project document) gives the framework of this tightly-knit project lay-out.

Figure 4: Framework for the Project, "Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan"



#### 4. METHODS AND RESULTS

The methodology chosen for the institutional strengthening activities in Pakistan's program can be described as having four progressive steps applicable to each activity:

1. Consultation - information sharing between IIMI and its advisors, partners, clients, beneficiaries, and evaluators to identify problems and develop solutions;



2. Collaboration- cooperation with government agencies, research institutes, NGOs, and expert groups in jointly carrying out activities for identifying problems and developing solutions;
3. Correction - promoting corrective action within existing institutional arrangements, based on agreed solutions to identified institutional constraints, and in consultation and collaboration with concerned individuals, groups and authorities; and
4. Consolidation- assisting in the internalization of institutional improvements effected through consultation, collaboration and corrective measures.

Apart from a few instances of induced changes in terms of institutional strengthening activities, the program in Pakistan has proceeded through only the first two steps in the interventions attempted so far. Some details of this work (outlined below along with descriptions of the terms used) will clarify further what the steps mean, and will also indicate the potential for embarking on the next two steps.

#### **4.1. Consultation**

The key to institutional strengthening is the consultative process whereby the researcher, the change agent and the policy maker enter into a plane of mutual understanding regarding what needs to be changed. The methods employed include both formal and informal approaches, and a combination of both is considered most effective. In Pakistan's hierarchical society, a preference towards formalism can be observed in the existing institutional framework. For more stable collaborative relationships, therefore, consultation through formal mechanisms is seen to be a more productive method. A number of informal arrangements for detailed micro-level discussions can enhance the process. Some of these formal and informal mechanisms used in Pakistan's program so far are outlined below.

##### **4.1.1 Consultative Committee (CC)**

Most of IIMI's country operations have established national consultative committees with which IIMI can have interactions on programmatic and policy matters. The CC in Pakistan has a special characteristic in that it has the stamp

of some official recognition. The Memorandum of Agreement (MOA) between IIMI and Government of Pakistan signed on 28 September 1986, does not specifically refer to the constitution of any consultative committee, but states that: **"selections (of topics of research and appropriate locations for study) will be done in consultation with the appropriate agencies of the host country in which research is to be conducted"** [Clause 7.3 (ix)]. However, when the CC of IIMI-Pakistan was proposed it was constituted by the Federal Minister for Food, Agriculture and Cooperatives, under a Gazette Notification dated July 22, 1987 specifying the membership and the terms of reference, which included the following main items:

- \* Identification of research activities, which are consistent with national priorities;
- \* Commenting on research, professional development, and information exchange programs proposed by IIMI;
- \* Seeking the active support of appropriate agencies that will collaborate with IIMI;
- \* Providing guidance to national policy-makers on the basis of significant findings of IIMI; and
- \* Promoting communication of information on irrigation management among relevant agencies and people within the country.

Despite the official authority embodied in the CC, the size of the group and the level of its members in the official hierarchy have both contributed to its failure to obtain the intended results. Most of the members tended to consider the CC exclusively as an approving authority, and in that "officer mentality" they have been slow to promote a genuine consultative process, or to adopt IIMI as

a useful element in the country's own institutional framework for irrigated agriculture. In view of this attitudinal feature, it appears that IIMI itself has not been very eager to use the platform of the CC for its program-based consultations. Some of the above-mentioned objectives, therefore, have been sought through other mechanisms.

#### 4.1.2 Government's Planning Process

Pakistan has adopted a rigorous planning process for various development projects and programs. The Federal Government Planning Commission plays a pivotal role in bringing about a planning discipline in the

public sector by requiring the Departments and Ministries to follow a specific project planning process. The Provincial Planning and Development Departments play a similar role for the provinces. For major projects, five specific PC forms and instructions are to be followed: PC-I for construction or any other developmental activity, **PC-II for investigation**, PC-III for quarterly progress reports, PC-IV for completion reports, and PC-V for monitoring of benefits.

The process starts with the preparation of a concept paper by the sponsoring Department. Once the concept clearance is given by the appropriate committee (several committees have been set up for different levels of investment), a PC-II is prepared by the Department detailing the investigation requirements and workplans, which has to be similarly approved.

IIMI can use (and has used) this process to have meaningful consultation with important government authorities through deliberations on its specific research proposals. However, the "project" fixation associated with this process has to be taken into account to avoid being led into rather fragmented and discrete interventions, which most of these PC documents seek to accomplish.

#### PC II Process for CBIO Study

For the CBIO study, the donor preferred to go through this process to ensure the government involvement in the study. A PC-II document was prepared by IIMI in consultation with the IWASRI, the research arm of the Ministry of Water and Power. Since a PC document has to be presented by a government executing agency, IWASRI played that role for this PC-II. The consultation process was fairly long; the proposal presented in early May 1990 was approved by the Ministry of Water and Power Departmental Development Working Party (DDWP) on 21 August 1990. Despite the delay, this formal approval and approved proposal document often become very useful in subsequent interactions with the government.

#### PC-I Provisions of the F&ES Project

An alternative to IIMI's getting involved in a separate PC II process is the mechanism used later in the World Bank supported Fordwah & Eastern Sadiqia Irrigation and Drainage (F&ES) Project. In this instance, the Bank's appraisal documents and the government's PC I document provided the basis for IIMI's participation. IIMI's consultations were based on this framework, which eventually resulted in a proposal for intended activities and workplans.

## Strengthening of LBOD Stage I Project

Yet another alternative mechanism of providing official recognition for consultative processes is the specific provision in the government's PC-I itself for IIMI's participation. This is being pursued in the Left Bank Outfall Drain (LBOD) project in Sindh. IIMI's assistance is sought specially for social organization and related training activities. IIMI needs to enter into an agreement with the executing agency or its consultants, and later start collaborative activities as agreed upon during consultation.

### **4.1.3 Formal Project Committees**

#### NWFP's Study Advisory Committee for CBIO Study

The Crop-Based Irrigation Operations study in the North West Frontier Province was initiated with the establishment of a Study Advisory Committee (SAC). The SAC was chaired by the Additional Chief Secretary of the Province, and included as members, the Secretaries of Ministries in charge of Planning, Irrigation and Agriculture, and the Province's most senior officer representing the Water and Power Development Authority. Consultations that started at the beginning of the project, and at the highest level of authority, helped the research project to get off the ground without any difficulty. The subject matter was of high controversy and the study objectives for a shift from supply-oriented operations were disputed by many among the operating staff, but the consultation processes helped the study to be completed, though not with full achievement of all its objectives. While some collaborating partners are complacent over the study results, and some are even relieved that the project is over, the SAC continues to pursue the study findings and the continued involvement of IIMI in the process. In this case, the controversially novel nature of the study purpose has been a hindrance to the satisfactory completion of the consultation step, thereby delaying the process of effective collaboration in terms of institutional development objectives. The SAC's persistent efforts are likely to generate some strategies of its own to remedy this situation.

#### UTG for F&ES Project

The PC I and the World Bank's appraisal documents provided for a special coordination group, the Umbrella Technical Group (UTG), through which IIMI's technical assistance to the project's research component was to be channelled. The UTG, consisting of senior officials representing all the participating agencies/institutes, met a number of times to discuss the coordination issues on the various research plans and the preparation of an integrated research program and assist in the research implementation. The

UTG's Terms of Reference were processed and approved by both WAPDA, the executing agency of the project, as well as the World Bank. This arrangement formalized a process in which IIMI could effectively play its TA role to the satisfaction of the donor and all the partners.

#### Proposed Provincial Steering Committee for WUA Formation

Recently a seminar was held to present the preliminary results of the research on social organization conducted at the CWMP area in 6R Distributary off Hakra Branch in the Punjab. The seminar was held at the OFWM Training Institute at Niazbeg, attended by the Director General of Agriculture (Water Management) of Punjab and his senior officials. This was IIMI's first attempt to conduct research on OFWM programs and present the results to the OFWM staff. The results were well received, and one of the institutional mechanisms considered for further future interventions in social organization is the establishment of a Provincial Steering Committee to coordinate the collaborative activities on social organization in the project, "Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan". The Committee will include representatives from both Irrigation and Agriculture Departments in the Province.

#### **4.1.4 Initial Consultation Efforts For Confidence Building**

Apart from the deliberations in the yearly meetings of the national Consultative Committee for IIMI and other above-mentioned formal mechanisms, regular consultation takes place, both formally and informally, with key persons of the local research community as well as those in policy and implementation levels of government agencies. The initial stages of the program in Pakistan saw consultation being useful primarily for facilitating research activities. The project on waterlogging and salinity used a number of consultation meetings and seminars to establish a rapport with the concerned groups and an appreciation among them on the research design and the workplans. This initial effort later helped to build the needed, more formalized consultation processes.

#### **4.1.5 Research Seminars**

The two Retreats organized by IIMI in 1988 and 1991 started a tradition of formal consultation between IIMI staff, senior agency staff and policy makers. The details of the 1991 Retreat have already been reported to the IPR (Kijne and Levine, 1991; Rao and Abeywickrema, 1992). The consultation experience of

the 1991 Retreat produced two immediate results, which were to be very useful in subsequent consultation efforts:

- 1) IIMI's data and analyses were generally accepted as reliable; and
- 2) There was preliminary agreement to pursue the implementation of some management interventions.

Some of the other formalized mechanisms for consultation that followed the Retreat are briefly mentioned below.

#### **4.1.6 Planning and Working Groups**

One of the most effective ways of using consultation for collaborative work is to establish Working Groups for specific functions or components of the work program. Their proximity to the actual work environment and their persistent and regular involvement in consultation efforts are essential to make these Working Groups productive. Similarly, Planning Groups at the policy level can be effective if they function regularly. Both these methods are useful when they take a semi-formal stance.

To initiate the management interventions in the PID, the Retreat itself discussed the usefulness of establishing some mechanism for further consultation. Pursuing this agreement, IIMI helped to establish a Working Group and a Planning Group for IIMI's studies related to canal operations in the Punjab.

##### PID Working Group and Planning Group for IMIS

A workshop was held on 26 March 1994, jointly organized by the Punjab Irrigation Department and IIMI to discuss the computer-based decision support tools for operation and maintenance of irrigation systems and the results of the pilot activities carried out in the Fordwah Branch Canal. During the discussions in this workshop, it was decided to establish a Working Group to help complete the pilot activity successfully. The Group was to consist of PID officials in the area and the IIMI staff directly involved in the study, and was to be chaired by the Chief Engineer Bahawalpur Zone. The Working Group has been active since then.

This was followed by a decision to establish a Planning Group at the Secretariat level to discuss the relevant policy-related issues arising from deliberations of the Working Group. The Planning Group is chaired by the Senior Consultant to the Secretary Irrigation.

The Secretary later issued an official "Order" specifying the membership of the two groups.

#### LBOD Institutional Initiatives Planning group

In terms of consultation processes provided in the PC I, and consequent collaboration links, the proposed project on the LBOD Stage I has devised a special "LBOD Institutional Initiatives Planning Group", which IIMI has to help in setting up and later work with. The group will focus specially on policy dialogues between the research groups and policy making officials.

#### **4.1.7 Training and Extension**

Consultation as a methodological step towards institutional strengthening has to necessarily refer to the traditionally known "outreach" methods of training and extension. They can play an important role in collaborative programs. Of the two interrelated methods, training would be the preferred strategy of a program, which has an emphasis on research for generating knowledge. Even in training, the focus would be the efforts aimed at dissemination of research results rather than human resources development. To a large extent, IIMI's program in Pakistan so far appears to have followed this line. Although the program has provided considerable opportunities for professional development, they have not been associated with institutional development objectives. Some details are given below.

#### Seminars and Workshops

In addition to the Retreats mentioned in Section 4.1.5 above, IIMI conducted, and participated in, a number of seminars and workshops to discuss research results and related policy issues. The two research workshops of the CBIO project and the concluding seminar of the ISM/R activity, and a number of workshops to discuss research results of the Waterlogging and Salinity with the operating agencies were specially productive as consultation efforts.

However, IIMI has not fully utilized this method so far to conduct any national level workshop on any of the main research topics handled by IIMI in Pakistan.

#### Training Courses

Also, IIMI has so far not included in its priorities any efforts to conduct on its own, or even in collaboration with others, the traditional type of organized training courses in Pakistan. More recently, IIMI has conducted some training for agency staff on subjects such as calibration of structures, GIS methods, use

of research equipment and use of computer facilities. The demand for it is increasing. The main reason for this strategy of not pursuing with organized training is attributable to the priority attached to field research during the initial stages, and the limitations of resources, but the effect of this can be seen in the slow pace in the emergence of a real institutional interest or awareness on IIMI's work in Pakistan.

The document on Achievements and Impacts (1984-1993) refers to 51 individuals from several countries, who were incorporated into IIMI's various research programs worldwide. Of this number, 15 fellowships were with the Pakistan program during this period. However, not more than one of them was directly linked to a participating agency, or a distinct institutional strengthening activity.

IIMI's new program envisages a greater involvement not only in training, but also in some extension work associated with it, which has normally been set aside as a responsibility outside IIMI's purview. However, a combination of both types of interventions seems necessary, particularly in areas of social organization and farmers' irrigation practices.

#### Information and Technology Transfer to Farmers

During the past several years, IIMI's field teams working in Pakistan have confronted an increasing demand by the farmers for technical information. This growing demand is linked with the widening gap in responsiveness to market changes between the farmers and the officials providing support services (already mentioned in section 2.3 above). So far IIMI has tried to stay away from this mounting pressure. However, a shift towards adaptive research and institutional strengthening activities cannot be complete without a strategy to meet this demand in some way or the other. Particularly in social organization attempts, IIMI cannot ignore the farmers' cooperation, which will be substantially enhanced with IIMI being able to improve its credibility as a genuine deliverer of some useful service.

Usually, the farmers' demand is linked with problem solving technical recommendations. The strength of IIMI's collaboration with local partners (the respective experts in various technical fields) will be tested by the success of how IIMI could meet this field situation.



## "Meet the Farmer" Field Days

Preferably in collaboration with the concerned government agencies and research groups, IIMI's active involvement in meeting the farmers for an exchange of technical information is one idea that has met the consensus of most of IIMI field staff working in Pakistan. A regular Field Day is being planned to be held in each of IIMI's project areas, as a mechanism to promote direct interactions with (and among) the farmers. Sharing of field and related technical information through a local language "research bulletin" will supplement this direct interaction process. The effort in both these measures will be mostly to promote long-term activities by collaborating partners.

### **4.2 Collaboration**

IIMI documents frequently refer to "collaborative research". This reference relates to one of the inherent features of the IIMI program, the fact that IIMI's activities have to be mostly conducted in "living laboratories" of irrigation systems consisting of agencies, agency staff, other organizations, their members, farmers, and farmers' fields. Collaboration becomes necessary to obtain easy access to these systems. The use of the term "collaboration" in this paper only partly relates to this concept. Here, it is also linked with "correction", the next step in the institutional strengthening strategy. Once the problems are identified and the solutions are developed through collaborative efforts, a stronger collaboration becomes necessary to effect the corrective measures; invariably, this collaboration should be with those concerned with the institutions to be strengthened.

#### **4.2.1 Formal Mechanisms**

The methodology so far adopted for collaboration is to use the preliminary consultations as a preparation for mutual understanding, usually followed by formal agreements and cooperative working arrangements with selected agencies and institutes in Pakistan. This practice has been started fairly early in the program. By 1991, about ten such memoranda of understanding or agreements had been entered into for a number of purposes, such as data collection, data analysis, research design, and professional development (Kijne and Levine, 1991). Not all of them were able to produce the intended results, but on the average, the MOUs have helped to formalize stable collaborative relationships between IIMI and its working partners.

Based on these formal agreements, IIMI has embarked on some very effective collaboration with several agencies for data collection and analysis (e.g. the Directorate of Land Reclamation on soil samples, Watercourse Monitoring and Evaluation Directorate of WAPDA).

However, the formal collaborative relationships often have a tendency to become mere financial or contractual arrangements, thus negating the real meaning of collaboration. In this sense, informal arrangements have proved to be more meaningful and sustainable as collaborative efforts. Collaboration does not end in signing an MOU and assigning a task to the collaborator, but needs to be pursued as a continuing relationship built on a common goal.

#### **4.2.2 Institutional Interest for Collaboration**

For collaboration to be effective, it essentially needs to be a meeting of minds and a confluence of interests. The interest within the whole organization and backed by its rules system, unhindered by any individual dissent or any procedural snag, is more likely to support genuine collaboration than the (vested) interest of a few selected individuals in the organization. The latter approach is not without merit when a project needs some contact persons in a collaborating organization to develop real collaborative relationships, but IIMI should not rely entirely on such individual gestures for its long-term success in collaboration, particularly for projects linked with institutional strengthening objectives. In Pakistan, IIMI is yet to achieve institutional cooperation in a real sense, although years of effort has now surfaced a potential, which seems encouraging.

#### **4.2.3 Content of Collaboration**

The scope of collaboration in the context of institutional strengthening activities can easily be seen. Here, to mention collaboration of two types is in order. One is the collaboration between IIMI and a local research group, working together to diagnose the problems, find solutions and apply them in a third institutional set-up that is to be strengthened. In this case, both IIMI and the collaborating partner should have the same objectives and work along together as partners with similar motivational bases. The other type is the collaboration between IIMI and the organization in which institutional development is attempted. This perhaps is similar to a doctor-patient relationship in which common objectives become the driving force. A constant interaction process forms the core content in both.

Essentially, the collaboration should lead to some corrective measures and their consolidation. Together, the two steps would make a useful change in the quality of the organizational behavior and the value system of the organization, which would be the target of the institutional strengthening intervention. The scope and character of this final change determines the success of the collaboration eventually, in either type referred to above.

If IIMI starts working with the OFWM Directorate for establishing effective water users associations, the resultant interaction processes can be illustrative of both types of collaboration. Interestingly, an effective triangular collaborative relationship of this nature may strengthen all three institutions.

In reviewing IIMI's research program, Gil Levine (1993) referred to four types of collaboration that IIMI may obtain from its partners: tolerance, cooperation, partial partnership and full partnership. In institutional strengthening activities, it is essentially the full partnership type of collaboration that IIMI needs to develop.

## **5. CONCLUSIONS: TOWARDS A MEDIUM-TERM STRATEGY FOR INSTITUTIONAL STRENGTHENING ACTIVITIES IN PAKISTAN'S PROGRAM**

The character of Pakistan's irrigated agriculture institutions is slowly changing. There is evidence to this effect in environments where IIMI has been working for the past five to six years. In the Punjab, the main institutional constraints to irrigation performance are officially acknowledged, and an interest is emerging to find workable solutions for reducing these constraints. In the NWFP study areas, the farmers show cooperative behavior at the watercourse level, and the officials are gradually changing their attitude towards identified problems and underlying issues. Generally, the inter-agency cooperation in the traditionally worrisome irrigated agriculture sector has shown a clearly visible improvement. The policy environment has been the most responsive to suggestions for change. The climate is now becoming conducive to increased institutional development interventions.

In the present stage of development of IIMI's programmatic relationship with Pakistan, it is reasonable to believe that IIMI's future credibility will largely depend on its ability to see some impact of its work. Conceptually, institutional strengthening activities are required to reinforce the uptake and impact of research. Particularly under present institutional conditions in Pakistan, without such efforts, information and technologies generated through research activities are not likely to reach the intended users.

IIMI's experience in Pakistan shows that the path to institutional strengthening is through applied and adaptive research. Therefore, the realization of impact cannot be expected unless the research effort is directed

towards developing locally applicable improved management practices and institutional processes, and it is combined with appropriate institutional strengthening efforts.

Management and institutional research, and institutional strengthening activities have to go hand in hand, each reinforcing the other. In Pakistan, IIMI's current program is well poised in its design and content for such an approach. However, to ensure that the program can be really productive in achieving its intended objectives, it has to secure some flexibility in terms of its resource base so that firm commitments can be planned and made on medium-term collaborative arrangements.

The 1994 External Review Report (Sec. 4.6) echoed a need that had consistently been expressed in several IIMI program planning and IPR meetings. The Report suggested that explicit strategies for institutional strengthening be formulated for each country program, based on discussions with national collaborators. The strategy is to include an implementation plan and a corresponding set of criteria and suitable mile-stones for assessing progress.

Prudently, the number of short-term goals should be limited in view of the present program constraints, but a time table for achievement of these goals will be developed. The strategy is expected to be finalized by March 1995, allowing time for consultation with local partners, and for arriving at firm commitments.

The main institutional strengthening goals will be in the area of social organization for irrigated agriculture, and in introducing appropriate DSS techniques. These efforts will be associated mainly with three research projects: 1) Managing Irrigation for Environmentally Sustainable Agriculture in Pakistan, 2) Fordwah Eastern Sadiqia Irrigation and Drainage Project, and 3) Strengthening of the LBOD Stage I Project.

The foregoing sections of this paper outlining the concepts, methods and results of the currently developing program of activities in Pakistan cover the necessary background, and serve as a basis for IIMI's strategy for institutional strengthening in Pakistan.

**Along with what has been mentioned under Concepts in Section 2, the following are recommended as some guiding principles to be considered in developing an institutional strengthening strategy :**

- 1) Recognize that there is some "latent capacity" in the existing institutional framework, and that it is possible to get reasonably good results from restructuring and reorientation;**

- 2) Consider the creation of new organizational units, or the introduction of radical institutional innovations, only when modifications to existing institutions cannot fully cater to the identified needs;
- 3) Initiate the process with an internally supported needs assessment in each institutional set-up chosen for the institutional strengthening program, ensuring that the process comprehensively covers the organization as well as its underlying rules system;
- 4) Link institutional strengthening activities (wherever they are considered necessary) as an essential component of applied and adaptive research activities, which are preferably conducted in a collaborative mode; and
- 5) Note that a prerequisite for a successful institutional strengthening effort is the adequate policy support, without which even the least controversial institutional change will not gain root easily and a radical change will be simply impossible.

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