

A Methodology to Assess the Organizing Process of Irrigation Management Transfer

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INTRODUCTION

THIS PAPER EXAMINES the validity and utility of a comprehensive action-research methodology for assessing participatory organizing processes of irrigation management transfer. This methodology has been tested in the Philippines by the International Irrigation Management Institute (IIMI), jointly with the National Irrigation Administration (NIA) of the Philippines and some collaborating universities. It includes three components: Process Documentation Research (PDR), followed by validation workshops and a sample survey coupled with statistical analysis to validate the findings of PDR².

The paper is organized in four parts: the rest of the introductory part will be devoted to outline the physical setting and the evolutionary process of Irrigation Management Transfer in the Philippines. Next, the paper will introduce the research methodology and evaluate its utility. Part three of the paper will briefly examine the results with special emphasis on the lessons learned. The final part of the paper presents the summary and some conclusions.

Irrigation in the Philippines

In the Philippines, like in many other parts in Asia, investments in irrigation were considered crucial to development. Consequently, a remarkable growth in irrigated area has been evident in the recent past: it has increased from about 0.5m ha in 1964 to about 1.5m ha at present. This increase in area combined with high yielding crop varieties and application of fertilizer and other inputs have helped tremendously in increasing the country's grain production--for example, rice, the major staple reported a threefold growth in output during the reference period. The country has two major types of irrigation systems: *nationals*, which are owned by the government but, operated and maintained jointly by the farmers and the National Irrigation Administration (NIA), and generally serve over 1,000 ha; and *communals*, which are owned, operated and maintained by the farmers and generally serve less than 1,000 ha

Irrigation Management Transfer

Several stages can be identified in the *evolution* of IMT, in the Philippines. Prior to the government's intervention, there existed indigenous irrigation societies that constructed and managed their own irrigation systems. The Irrigation Act of 1912 can be regarded as a notable step in Government intervention. This act had authorized the Irrigation Division of the Bureau of Public Works to manage the new irrigation systems it had built. Moreover, it provided for the regulation of rights to public waters, including water used in national, communal and private irrigation schemes. The Act also formalized the concept of Irrigators' Association (IA), as a legal body authorized to manage *communals*, with powers to elect officials and to compel members to contribute to the costs of system management in proportion to the benefits derived. In 1963 a corporate agency, namely the National Irrigation Administration, was established with the mandate of development of irrigation systems and to provide timely, adequate and reliable delivery of irrigation services. NIA was confronted with the problem of inadequate funding to support and sustain efficient operation. The situation was aggravated due to farmers' hesitance to pay irrigation service fees, destruction of irrigation facilities in some cases and government withdrawal of subsidy to NIA. Additionally, this has posed a challenge to NIA's survival as a viable corporation.

In response to this challenge, in the 1970s, NIA launched its Institutional Development Programme or the Participatory Approach which was aimed at the formation, development and sustenance of functional, cohesive and viable Irrigator's Associations which are capable of managing irrigation.

In the communals, the agency constructs irrigation systems with active participation of beneficiaries and, upon completion, the systems are turned over to the associations, subject to a cost-recovery arrangement. Farmers

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participate in all stages of communal irrigation development, that is, from project identification, feasibility studies, construction, etc., up to the O&M of the completed systems. This process has helped in developing the capacity of the irrigators' associations in efficient system management and in instilling the feeling of system ownership among the farmers.

With the successful experience in the communals, the agency applied the participatory management strategy in large-scale National Systems as well. Upon the acquisition of a legal status, the IA can enter into a contract with the agency. There are three types of contracts governing the *NIA-IA partnership*. Type I contract entitles IA to undertake canal maintenance while type II contract entitles the association to collect service fees and retained a portion according to NIA-IA incentive schedule. Type III contract stipulates that the IA amortizes the cost of construction. Such type of contract can be executed either on partial or full turnover of system management. Once the system-wide federation of IAs is established turnover of the total system will take place.

In the development of irrigators' associations, NIA used several strategies with different types of change agents. At first, it hired the services of a specialized non-governmental organization. Later, however, NIA used its own organizers of different types: the irrigation community organizer, the irrigation organization worker (IOW), and the institutional development officer. In 1983, the agency started using farmers as organizers on a pilot basis in one national irrigation system. In 1988, with the USAID-assisted Accelerated Agricultural Production Program (AAPP) and World Bank-assisted Irrigation Operation Support Program, NIA expanded nationwide the use of farmers as organizers. This became known as the Farmers Irrigation Organization Program (FIOP). At present, the FIOP is being used as a strategy to organize irrigators' associations (IAs) in national irrigation systems throughout the country. The organizing process of FIOP is illustrated in Figure 1.

NIA wanted to systematically study FIOP's implementation to ensure that the program is proceeding satisfactorily. Although regular monitoring of program achievements is done, NIA also wanted regular reports of implementation issues and constraints so the agency decided to start a program of action research to study the process of FIOP implementation. In order to achieve this objective, IIMI in collaboration with local universities and NIA field offices developed and managed an action-research project. This was funded by USAID.

TESTING A PACKAGE OF METHODOLOGIES TO EXAMINE THE FIOP ORGANIZING PROCESS³

Action Research and Process Documentation

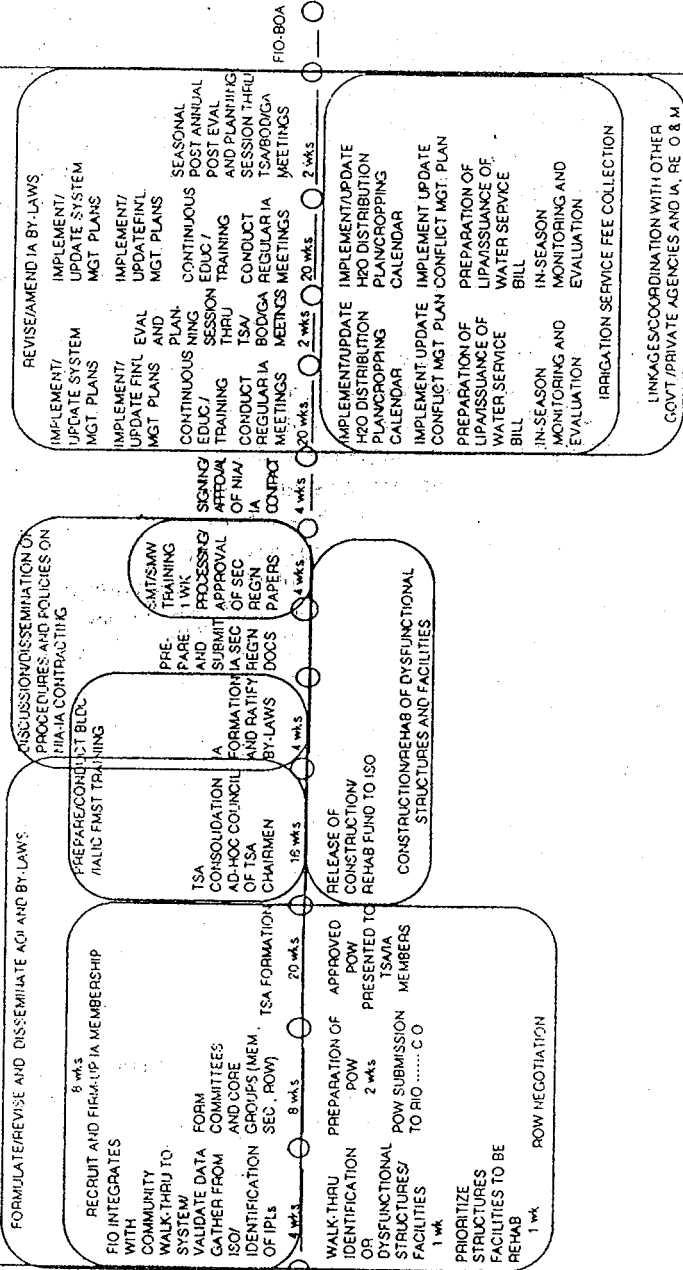
Research is a process of systematic observation, data collection and analysis that leads to verifiable and comprehensive understanding about situations or events such as: how do farmers manage irrigation? or why do farmers refuse to pay irrigation service fees. Research looks for patterns and relationships. Action research is a special type of research, dedicated to "learning through action." One explicitly accepts that there is a lack of knowledge about certain implementation issues and this is where research proves very valuable. The researcher joins with farmers and agency staff implementing a program and closely monitors and refines the program as implementation continues.

Action research in irrigation, therefore, should develop better ways of managing systems; not simply studying and understanding irrigation systems. The special characteristic of action research is that the researcher works closely with the program staff and provides regular feedback so that mid-course adjustments can be made in the program.

Process documentation is a form of action research that IIMI, NIA and collaborating universities used during the first year of the implementation of the Farmer Irrigators Organization Program. It involves many of the methods employed by participant observation, although process documentation and participant observation may have different objectives. Filipino researchers pioneered process documentation research in the 1970s while studying farmers' participation in NIA irrigation systems (Illo and Volante, 1984; Jopillo, 1985; Laitos, 1989; de los Reyes, 1989; Veneracion, 1989). Process documentation provides a systematic recording of field level activities, interactions, and concerns of farmers and agency personnel implementing an irrigation development program. It is a means for understanding the process of field activities so that implementation can be improved. It is not a traditional monitoring device for measuring a project's progress. Process documentation may even be unnecessary in a project when most development tasks are finished and new field level techniques and guidelines are being institutionalized. It is a tool to develop a systematic view of field experiences.

³As a component of its research program, IIMI designed and managed a process documentation research activity (PDR) in three selected national irrigation systems in the three regions covered by the Accelerated Agricultural Production Program. The process documentation research was carried out by: a) Ateneo de Naga University; b) Central Philippine University; and c) Xavier University from July 1989 to July 1990. The methodology of the PDR was adapted from the considerable experience of the Institute of Philippine Culture (IPC) in this area of research. The IPC also provided the initial technical assistance and training.

CONDUCT REVIEW AND PLANNING SESSIONS, NIA-IA DIALOGUES, MEETINGS AND REFLECTION SESSIONS



CONDUCT COORDINATION MEETINGS

- ACRONYMS/ABBREVIATIONS
- AOI - ARTICLES OF INCORPORATION
- BLDC - BASIC LEADERSHIP DEVELOPMENT COURSE
- BOA - BOARD OF ADVISER
- BOD - BOARD OF DIRECTOR
- CO - CENTRAL OFFICE
- FMST - FINANCIAL MANAGEMENT SYSTEM TRAINING
- FIO - FARMER IRRIGATORS' ORGANIZER
- FIOF - FARMER IRRIGATORS' ORGANIZATION PROG.
- GA - GENERAL ASSEMBLY
- H2O - WATER
- IA - IRRIGATORS' ASSOCIATION
- IALIC - IRRIGATORS' ASSOCIATION LEADERSHIP INSTALLATION COURSE
- IPL - IDENTIFIED POTENTIAL LEADER
- ISO - IRRIGATION SYSTEM OFFICE
- LIPA - LIST OF IRRIGATED AND PLANTED AREA
- O&M - OPERATION AND MAINTENANCE PROGRAM OF WORK
- RIO - REGIONAL IRRIGATION OFFICE
- ROW - RIGHT OF WAY
- SEC - SECURITY & EXCHANGE COMMISSION
- SMW/SMT - SYSTEM MGT. WORKSHOP/TRAINING
- TSA - TURNOUT SERVICE AREA

PREPARED BY IIMI FOR THE NATIONAL IRRIGATION ADMINISTRATION

Process documentation, therefore, was not developed as an end in itself. It was developed as a tool, a social science method, to help organizations learn from their own experiences.

NIA also used process documentation to address certain deficiencies in traditional development planning. Usually, a planning document controls project implementation since it assumes that the implementing agency knows how to employ a new strategy. Irrigation management in the real world, however, faces uncertainty, changing economic and political environments, and unpredictable costs. Where knowledge is severely limited, traditional development planning calls for behaving as if knowledge were nearly perfect. Development planners using a "learning process," however, candidly admit that their knowledge is imperfect and instead focus on a process by which programs and organizations are developed concurrently (Korten, 1980). Practitioners of the learning process realize they don't know everything in advance, but they must learn and adjust as the development program evolves.

Process documentation uses many participant observation tactics and strategies as a tool for providing village-level implementation data to the implementors. It provides a "window" for implementors to view objectively field-level experiences and processes. It is also able to answer frequently asked questions, such as, the following: What types of activities and tasks were undertaken? How were they carried out? What issues and problems emerged from these activities? What were the constraints and how were they managed?

Process documenters first need to be fully trained in participant observation methods. They are then required to reside in the community within the service area of the irrigation system and obtain data through observation and questions. They attend and observe project-specific activities and village irrigation activities. They also use interviews to clarify, refine, and check the accuracy of their observations. However, they must remain passive observers and should refrain from intervening in the irrigation activities of either the farmers or agency personnel. In this regard, they are different from participant observers, who might actually participate in irrigation activities.

A field diary should help the investigator understand the irrigation systems's physical and social setting. It should describe who, what, why, where, when, and how. Who refers to the people or system being studied. What concerns the information gathered. Why, where, when, and how provide important details about the observation. Diary content may be organized into two categories: observations and impressions. Observations can be made of situations and human actions, including actions between farmers, between farmers and government agencies, and between different government agencies. Observations can also focus on the process documentation itself. The subjective impressions of the documenter make up the second category in a field diary.

Process documentation findings should also be reported regularly to program implementors for learning and potential quick program adjustment. The results of the process documentation are best prepared on a monthly basis and regularly reported to the project implementors. Copies of the monthly draft reports should first be shown to agency field personnel for their review and comments.

Advantages of Process Documentation Research

- Process documentation can provide implementors detailed information on those new processes by focusing on the "how" and "why" of the development project. It, therefore, has a specific utilitarian value for implementors. If properly conducted, it provides a detailed description of how an Irrigation Management Transfer program has been implemented.
- A process documenter can gain a deep, complete, and detailed understanding of an irrigation system.
- Process documentation puts the researcher and the implementors in close touch with the irrigation system and increases the understanding of irrigation activities. Because the field data are so closely tied to the observations, the internal validity (are we measuring what we really want to measure?) of process documentation can be very high.
- With other analytical techniques, the social setting of an irrigation system may not be understood sufficiently to make conclusions about people's actions.
- The documenter can check the accuracy of people's statements.
- The researcher can discover important implementation issues and variables that weren't known in the beginning of the project.
- The documenter gets the opportunity to know people so that he or she can freely discuss sensitive issues with them.

Disadvantages or Difficulties of Process Documentation

- The external validity (ability to generalize to other systems) of PDR may not be adequate since there is no random sampling, the "sample" is small and the observations within the system can be biased.
- It is probable that the process documenter affects the irrigation system simply by living in it and observing it. There is no way he could possibly know if the people in the system would act differently if he or she was not present.
- The relationship between the process documenter and the project staff can lead to misunderstandings. It is, therefore, all the more essential that process documentation must never be used to evaluate staff performance and no sanctions should be invoked due to process documentation reports.
- Process documentation can easily become too unsystematic -- composed only of the documenter's impressions and anecdotes. The biases each researcher takes into the field can influence interpretations of the observed data.
- The process documenters may have a tendency to collect too much data.
- Without comprehensive and extensive training, it could be difficult to employ an observer as process documenters.
- Process documentation can be time- and energy-consuming, and very expensive. It takes time and patience.
- Simply "doing" process documentation will not necessarily help farmers or an irrigation agency, especially if they are not receptive to the study.

Validation Process

Process Documentation Research (PDR) is a qualitative research method. As discussed above, however, Process Documentation Research, has its limitations. In the FIOP, the number of process documentation sites was very small--only four sites in three selected irrigation systems--whereas FIOP covered more than 50 systems nationwide. It is therefore difficult to generalize PDR findings. In order to overcome these limitations, a *validation process* was formulated. The methodologies included: 1) series of validation workshops in the three process documentation regions involving a cross-section of FIOP participants from PDR, non-PDR and non-FIOP systems; 2) questionnaire survey involving non-process documentation regions; and 3) review of available records.

Validation Workshops

Since Accelerated Agricultural Production Program (AAPP) irrigation research activities were confined to three regions, first there was a need to check whether the findings in the three selected systems were similar to the experiences in systems not covered by the research in the three regions. Hence, a series of validation workshops were conducted in the three regions covered by the AAPP where the 12 monthly reports were consolidated and presented for validation.

The objectives of the validation workshops were: (1) to find out whether the PDR findings are applicable to non-PDR areas; (2) to know the status of the FIOP implementation on both PDR and non-PDR areas and systems; (3) to identify issues and problems, strong as well as weak aspects of the FIOP emerging from PDR and non-PDR areas and systems; and (4) to come up with plans for improvements in PDR and non-PDR areas. Besides the objectives, the workshops also provided the opportunity for the farmer organizers and NIA field staff to interact with senior officials of the NIA Central Office.

A minimum of two participants from a cross-section of IA members, Farmer Irrigators' Organizers (FIOs), Turnout Service Area Leaders (TSAL), Institutional Development Officers (IDOs), Farmer Irrigators' Organizing Supervisors (FIOS) and Irrigation Superintendents (IS) were selected from systems in both PDR and non-PDR areas. NIA regional as well as Central Office staff and those concerned in the regional universities undertaking the Process

Documentation Research were also invited. After the series of validation workshops were conducted, IIMI and NIA decided to conduct a questionnaire survey to further validate the PDR as well as the validation workshop findings. This was deemed necessary since the FIOP was a nation-wide activity covering 12 regions.

Validation Questionnaire Survey

It is difficult to conduct validation workshops on a nationwide basis because it is costly and time consuming. Moreover, despite the merits of the workshop method of validation, it has some weaknesses as well. For example, lower level officials of NIA may not feel free to critically evaluate the role of higher level officials in a workshop situation.

Because of these, and especially since it has been determined to cover a wider area, it was decided that a questionnaire survey should be conducted. And in order to optimize the use of available resources, the survey was conducted in a random sample of five non-AAPP regions. And from the five regions, five systems were randomly selected. Systematic sampling was done to select target groups or respondents from the selected systems.

The sequence of activities and the validation process is illustrated in Figure 2.

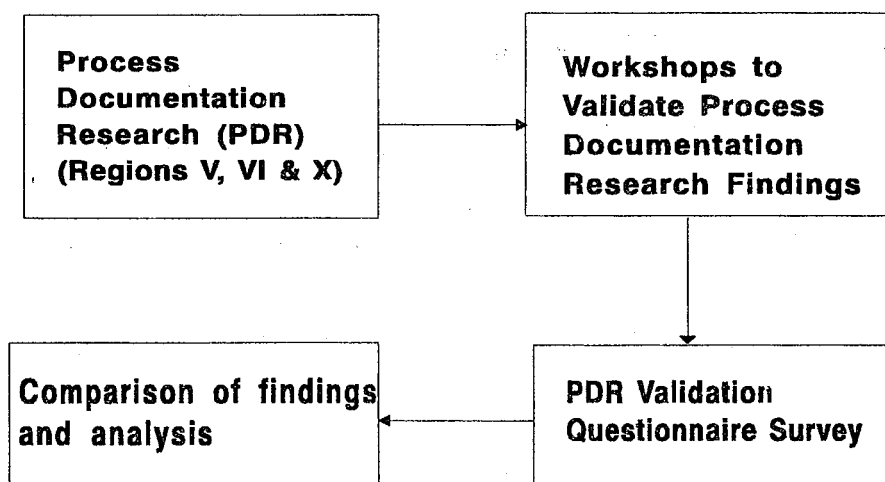


Figure 2. Process Documentation Research and the Validation Process

Different questionnaires were prepared for different categories of process actors or participants such as the IA members, Turnout Service Area Leaders, IA Leaders, Farmer Irrigators' Organizers, Institutional Development Officers, Farmer Irrigators' Organizing Supervisors (FIOs), the Irrigation Superintendents and the Regional Institutional Development Division staff.

SYNTHESIS OF FINDINGS AND LESSONS

Selected Findings

In the identification and selection of organizers, some of the criteria set by the National Irrigation Administration (NIA) were not followed in certain irrigation systems. These criteria are as follows: 1) applicant must be literate; 2) must belong to the middle class and 3) must be residing within his area of assignment. During the pre-deployment training of organizers, a few of them were absentees and sent proxies. Over 50% of respondents thought that the time allocated for the selection of FIOs was inadequate. It was found out that the average area covered by FIO is 175 ha with an average of three turnout service areas (TSAs) per FIO.

TSA Organization

- It was revealed that during the core group and committee formation, attendance was moderate with an average of 46.5% of the total membership per irrigators' association (IA).

IA Organization and Registration

- In the IA organization and registration, inadequate attendance, lack of farmers' knowledge in drafting the By-laws and Articles of Incorporation and insufficient time given to accomplish the drafting and revision of the said documents were evident (70% of respondents).
- Most of the irrigation associations (about 80%) covered by the study reported delayed registration. However, the associations were involved in service fee collection and maintenance activities even without the O & M contract with NIA.
- Maintenance activities were undertaken by the farmers in many areas (80%) even without O & M contracts. This was through voluntary group work.
- From all three sources of research findings, it was found out that throughout the implementation of various activities in the FIOP organizing process, several postponements of meetings were reported and this caused undue delays in organizing activities, e.g., core group and committee formation, formation of groups at Turnout level, etc.

Lessons

- Due to inadequate time for the recruitment process, some of the selected FIOs lack some important qualifications for a good organizer such as capability of conducting a meeting and preparing reports. Moreover, the farmers in the respective target areas should be consulted in the process of FIO selection. This should be done in a more systematic manner.
- The content of the training should include more hands-on experience and trainers need to spend more time with the trainees for better absorption. More emphasis on experimental learning techniques is strongly recommended.
- The substance of the program was laying the foundation for an irrigators' association through farmers' involvement. The basic unit of the association was the turnout service area which served as the center for the organizing activities.
- Farmers should understand what the program is all about, otherwise, they would be discouraged to cooperate and commit themselves to the FIOP. Ground working activities should not stop with the formalization of the irrigators' associations. It must be done continuously.
- There is a need to consult the farmers regarding the scheduling of meetings. The farmers attributed the cause of poor attendance to lack of proper coordination. To be able to conduct regular meetings at Turnout level, the following are recommended:

- Consult members on the schedule of meetings and in deciding on the agenda. The purpose and item discussed at meetings should be of interest to the members. Hence, involve a mechanism to obtain feedback from farmers between meetings;
 - Conduct meetings in smaller clusters, rather than in large groups, to make farmers feel closer and important to the program activities;
 - Meetings should be conducted on strategic locations, considering that most of the dwelling units were scattered far and wide in the turnout service areas;
 - The farmers should be informed more fully on the details of the association.
- To be able to deal with farmers' reactions, the organizers need to have enough knowledge of the FIOP to support or interact effectively with farmers. In this way, they could articulate fully and present themselves as credible organizers.
 - In general, through the assistance of NIA personnel, organizers and leaders were inclined to do their tasks effectively. On the other hand, some NIA field personnel in the other areas had the lesser degree of involvement, causing slow progress of IA organizing activities. Also, an open communication line between the farmers and NIA personnel minimize conflicts, particularly during critical periods (such as water shortage).
 - The majority of irrigation system offices surveyed seemed to be providing such an environment for IA development, for example, training is being given to farmers on techniques related to management of irrigation systems.
 - The farmers register their association with the Securities and Exchange Commission so that it could have a legal personality. Subsequently the IA enter into a contract with NIA, under either a Type I, II or III. The IA registration took quite a long time, thus, affecting other IA activities. There should be a clear and concise registration process. The easiest and fastest way of sending and following-up on the registration process should have been identified.
 - The program does not deal only with the institutional aspect of the irrigators association but also with operating and maintaining the irrigation system. The FIOP provided a forum for the farmers to help mitigate their negative reactions towards NIA. With the farmers organization, a communication line was shortened, resulting in a more effective exchange of ideas.
 - Farmers' participation is encouraged through incentive mechanisms (particularly during good/increased status of ISF collection), efficient water delivery and strong organizational development.
 - Farmers, especially the leaders, should be given more training in the technical aspects of the system operation- its maintenance and effective irrigation practices.
 - The common constraint experienced by projects such as the Accelerated Agricultural Production Project-Farmer Irrigator's Organization program was the fact that it is subjected to delays in the bureaucracy.

SUMMARY AND CONCLUSION

Three research methodologies, namely: 1) Process documentation research; 2) validation workshops; and 3) validation questionnaire surveys were used to examine the organizing process and management of the Farmer Irrigators' Organization Program (FIOP) being implemented by the National Irrigation Administration nationwide. These methodologies have their own limitations. *It is even evident from the analysis of findings that the three are complementary to each other.*

The FIOP review commenced with the Process Documentation Research, PDR, which is a form of participant observation. The trained researchers, while living in selected study sites, recorded the process after observing the behavior of "actors" involved: farmers, farmer leaders, Farmer Irrigators' Organizers (FIOs), FIO supervisor and other NIA staff at different levels. The PDR with its review mechanisms of monthly reports at irrigation systems, regional

and central office levels, used a strong feedback and action research mode. Moreover, like a "video tape" it disclosed an in-depth process of FIOP in a continuous fashion. However, due to the very small sample size, IIMI researchers and the agency were not quite certain as to what extent the PDR findings would be applicable to the vast areas covered by the FIOP outside the PDR sites. Hence, the researchers designed a validation process to address the validity of PDR findings in areas not covered by PDR, and based on this validation, to explore to what extent one could generalize recommendations. This was important since FIOP cover all the regions of the country and the NIA was looking for a review covering all the areas.

Consequently, three validation workshops were conducted in the three regions involving representatives from PDR and non-PDR irrigation systems. Finally, questionnaire surveys were carried out in five other regions. In contrast to the PDR, which focused on observing human behavior, the workshops and questionnaire surveys depended on perceptions of the respondents. However, the area covered and the number of respondents were much higher than those of the PDR. *Despite this fact it was found that most of the findings from the different methodologies were more or less the same. The Validation questionnaire survey was useful in quantifying the findings of PDR, country-wide.*

Based on the results of the three research methods employed, it can be concluded that the methods are complementary to each other. The PDR has been conducted over a period of one year and provided an in depth understanding of the FIOP process on site. The PDR proved to be beneficial as a mechanism for obtaining continuous feedback. The NIA, university researchers and IIMI worked as a team in reviewing PDR findings at monthly meetings held at the regional level. Prior to these meetings, the "issues" contained in the reports were discussed with NIA officials at the irrigation system level.

The workshops and the questionnaire survey, on the other hand, were useful in "validating" and quantifying the PDR findings based on statistical analyses. Because of the large sample size and the area covered, the analyst could get a better picture of the FIOP country-wide. The issues validated through workshops and questionnaire surveys originated from the PDR. Thus, the validation process was "guided" by the PDR results and was confined to the key issues which emerged from the PDR activity. Hence, the validation was a quick process.

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