

Farmer-to-farmer Training as a Way of Assistance to the Farmers on the Improvement of Irrigation Systems

Introduction

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In Nepal, for centuries, farmers have been developing their natural resources, especially land and water, for irrigated agriculture. They have formed into groups, however formal or informal, to manage irrigated agriculture. Both cooperation and conflict have governed irrigation practices. The development of irrigation systems, their organization, management, and reproduction has thus resulted from an interplay between state and local actions.

Research on farmer managed irrigation systems (FMIS) show a range of organizational and management capabilities of the farmer groups. While some are very well managed, there are others that have not been able to fully utilize the resources at their disposal (WECS/IIMI, 1990).

Many FMIS in Nepal reveal locally adapted indigenous knowledge and practices regarding various irrigation management activities such as water acquisition, water allocation, water distribution, resource mobilization and conflict management. Many patterns of interactions and

institutional arrangements have been shaped by state-locality interactions and negotiations, certain institutional arrangements, organizational processes, and certain technologies are still retained and remain as indigenous for the purposes of the management of the natural resource, i.e., the irrigation water (K.C. and Pradhan, 1992).

These processes and arrangements have either been passed on to farmers from generations ago or else have been innovated during the evolution of the irrigation systems. However, a distinct difference between this system of farmer practices and knowledge and the more "scientific-rational" body of knowledge and practices exist. It is because of this that attempts are sometimes unknowingly or "forcefully" imposed upon local technology and irrigation systems for "improvement." A distinct hierarchy between knowledge systems is thus created and "planned" interventions on training and educating the farmers (because they have been considered "backward" people who rely on "crude, primitive" technology not conducive for general eco-

conomic growth) are undertaken. The practices undertaken by the farmers and the use of indigenous technology is seldom assessed on the basis of their appropriateness or seen within the context of the opportunities and constraints faced by the farmers.

Several researchers of irrigation organizations and institutions have studied both farmer and agency managed irrigation systems throughout the world and have found that farmers are capable, in fact at times more capable than the irrigation bureaucracy itself, of managing their irrigation systems and fulfilling the objectives of the irrigation organizations (Coward, 1980; Maass and Anderson, 1978; and Uphoff, 1986).

The farmer-to-farmer training in Nepal has been considered an appropriate and cost-effective local institutional development strategy. The findings and lessons learned from several such training programs and exchanges have helped in fine-tuning this training methodology as well as the utility of the training in irrigation development. Through analyzing the process and outcomes of several training programs, many issues become important. These are: 1) the rationale for such training, banking on indigenous and local knowledge, 2) the requirements for a successful training, 3) additional topics such as financial management, contractor evaluations, and self-assessment of irrigation management, identified in the training, as useful topics for local management to be trained in, and the institutional development of the farmer trainers, and 4) the need for participatory training needs assessment of the participants prior to the training or visit exchanges.

This paper will 1) elaborate on the context and rationale for farmer exchanges, given the findings of research on FMIS, 2) describe various approaches recommended and used for the training process to indicate the requirements necessary for a successful training which would include the need for participatory training needs assessment of the farmer participants, 3) provide examples of the utility and effectiveness of

the training, 4) suggest additional topics for farmer training, and 5) conclude with observations on future directions in this process.

THE CASE FOR FARMER TO FARMER EXCHANGES

Research on FMIS and other management types under varying environments has shown irrigation to be a socio-technical process: physical and organizational improvement must go together for a system to achieve its production potential and its socio-economic objectives. Pradhan and Yoder (1989) report that this type of research has also identified management techniques and organizing principles which can be adopted by farmer-managed systems and farmer organizations in agency-managed systems. They rightly point out that finding an effective means to transfer techniques and innovations learned in one system to another remains a problem. The variations between irrigation systems and their respective environments intensify this problem of transferring techniques and innovations.

In recognition of the wealth of knowledge and expertise of the farmers in effective farmer managed irrigation systems, researchers felt that information exchange and training of farmers by farmers may be an alternative to a top-down approach. These farmer-to-farmer exchanges or extensions have had relative success elsewhere in the world.

In several places in Nepal, farmer-to-farmer exchanges have proven to be very useful in strengthening water users' organizations.² Farmers can relate to one another since they share more or less the same experiences. Seeing other farmers who are like them perform and manage irrigation activities well has become a stimulus to others to get organized and control their own resources. Thus they shape their own destiny by not being dependent on others.

Visits and dialogues with irrigators from some of the other well-managed irrigation systems serve as eye-openers to farmers. Furthermore,

farmers are more willing to listen to suggestions made by fellow irrigators who live by the consequences of these suggestions. The farmer trainers have had experiences in carrying out what they recommend. Since suggestions are experience-based they are more likely to be adopted. Thus, farmer-to-farmer training not only shows the possibilities for the formation of strong irrigation/water users' groups but also exposes the farmer trainees to the nature and role of the internal structures and dynamics of irrigation organizations.

Basically, this approach of farmer-to-farmer training as Pradhan and Yoder (1989) note is a horizontal relationship using farmers as trainers. It assumes that communication between peer groups of farmers is a better mode of communication and information exchange than lectures by outsiders who themselves do not have a stake in irrigation. A further assumption they point out is that knowledge has a higher probability of acceptance when there is on-site observation at the same time that practices, rules, roles, and conflict management procedures are being explained.

THE PROCESS

Pradhan and Yoder (1989) note that two modes of farmer-to-farmer training have been used. The most frequently used has been to select a group of farmers (trainees) from a system where it is clear that management improvements could be made, and take them on a tour of systems that are well managed. The well-managed system farmers become the trainers. The other method has been to hire knowledgeable farmers as resource personnel or consultants from well managed systems to visit poorly managed irrigation systems and suggest solutions to problems faced by those systems. Both these approaches can be combined however. Pradhan and Yoder (1989) identify six important steps to the farmer-to-farmer training under the first mode: 1) training site selection and needs assessment, 2) training facilitator, 3) trainee selection, 4) training tour, 5) farmer interaction, 6)

follow-up to the exchange visit.

Depending on the needs of the trainees of the poorly managed systems, the study systems have to be identified. A facilitator, well versed in the diversity of organizational and institutional arrangements, and knowledgeable about the systems to be visited, should be chosen. The facilitator accompanies the trainees and facilitates the interaction between the farmers from the different irrigation systems. The authors note that the participant trainee farmers should possess leadership ability and their peers must have faith in them. They must be from the farming community, be dedicated to the improvement of their irrigation system, and have good communication skills.

The training tour should include both the physical and agricultural systems of the irrigation system. Farmer interaction during the system walk through, during the inspection of the physical and agricultural systems and other meetings should be planned. A follow up to the exchange visit, to communicate to others who did not go on the tour, should be organized with the presence of the facilitator to help communicate the detailed information and observation made during the tour.

The Irrigation Management Project (IMP) of the Department of Irrigation funded by USAID proposes a five step process based on its experience on such farmer-to-farmer training programs (peer training) (Neupane, 1992). The steps proposed are: 1) Learning needs identification to determine the knowledge, skill, or behavioral change required of the participants, 2) curriculum development to select and document the problem solving processes of similar organizations, 3) preparation of resource persons to effectively communicate the related problem solving processes to the participants, 4) training methodology to include system walk-through and classroom discussion to expose the overall features of the system to the participants and to create and initiate interaction among the farmer trainers and participants about the irrigation

system's features and the process of managing them, and 5) post-training application in the organization of the poorly managed system to initiate changes by introducing the problem solving procedures learned from the training (Neupane, 1992).

TRAINING OUTCOMES

Neupane (1992) points out some of the impacts from the peer training undertaken by IMP: 1) the water users organization (WUO) from Malebagar Farmers Managed Irrigation schemes started canal maintenance works after they were taken to the Pithuwa System, 2) the WUO of Chabdi Barahi Irrigation Scheme started maintaining the main canal after it was taught by the WUO of the Malebagar FMIS, 3) in Sirsia-Dudhaura Irrigation system (SDIS) farmers cleaned all field channels and were organized into a large Water Users Association as a preliminary result of peer training, 4) canal desilting works of Rs. 270,000 were initiated and the need for a WUA constitution was realized when the WUA members from Handetar Irrigation System were taken to the Argeli irrigation system in Palpa, and 5) farmers from Chandra Nahar irrigation system were taken to SDIS and Pithuwa where they learned about organizational activities and the importance of being organized. As a result of this training a WUA was formed in Chandra Nahar Irrigation Project.

Similarly, Pradhan and Yoder (1989) provide examples of such training and impacts in Nepal. They point out that, for example, management of the Gadkhar system markedly improved after the training. In this case, they state "... the previous committee was dissolved in August 1982 and reconstituted under the chairmanship of the newly-elected pradhan-panch. The new water users' committee became more effective than its predecessor in establishing a basis of water distribution equity. Incidence of water theft declined and the committee was able to prohibit pre-monsoon rice cultivation to avoid inequity and conflict due to scarcity of irrigation water. Instead, they encouraged farmers

to grow maize, the alternative crop requiring less water (1989)."

In the case of Solma irrigation project in east Nepal, the most important achievement after the tour was a change in attitude--households who were previously unwilling to participate now helped with maintenance work. In the irrigation systems along Indrawati River Basin, the farmers from these systems identified many weaknesses in their own systems and were confident that many of the principles they had learned were applicable to their own systems. The trainees were able to convince farmers from other systems to make management changes like establishing new operating rules, improved canal maintenance, meetings with minutes, and written records. Several other management activities like planning water allocation, resource mobilization, installation of proportioning structure were being discussed by the various organizations. Such thinking and discussions were necessary as prerequisites to collective action and getting organized.

The following section focuses on IIMI's recent experience in farmer-to-farmer training for participatory management in a larger agency managed irrigation system in the plains of Nepal.

THE CONTEXT OF BANGANGA IRRIGATION SYSTEM³

IIMI was involved in institutional strengthening and participatory management in the Banganga Irrigation System (BIS) in the terai region. In this system, IIMI in collaboration with the project staff also sponsored a farmer-to-farmer training.

Even after the Command Area Development Project (CADP) and the formation of 134 Water Users Group (WUGs), both the agency and WUGs were not interacting with each other regarding irrigation activities and were also unprepared to do so. The farmers related to the research staff that since the system had been classified as a project with external funding, they

felt that it was the duty of the government to provide operation and maintenance funds as well as to manage it. The farmers were completely dependent on the agency to provide for all the expenses.

Thus it was important to create an environment for interaction between the agency and the farmers, as well as among the farmers themselves. Both the farmers and the agency staff had to be exposed and oriented to the range of possibilities of water users' participation, control, and management of irrigation systems. The farmer-to-farmer training was conceived as one possible approach to bring about participatory management in Banganga Irrigation System.

Objectives of the Training in Banganga

The purpose of the training was to expose farmers to the roles and responsibilities of individual farmers and water user groups, and the need for an organization of water user groups. These WUGs were to formulate policies and procedures for relating to the DIO staff and for enabling governance of their own management responsibilities.

The training was proposed to facilitate the transfer of experience from farmers in well-managed irrigation system to those in poorly managed systems like Banganga through site visits, discussions, and exchange of ideas.

The training in Banganga was necessary since several differences between the BIS officials and farmers regarding water management problems and issues had been identified. There was occasional disagreement between officials and farmers regarding the water distribution schedule. CADP farmer organizations were ineffective for water management activities. The farmers noted that they did not think they owned the system since, to date, government financing and project planning had been predominant. There was poor communication and coordination between the farmers and the irrigation staff.

Due to these reasons, there was no farmer participation in the O&M activities of the system and farmers had begun to lose faith in the system. Thus, the District Irrigation Office(DIO)/BIS and IIMI collaboratively arranged for the farmers and some irrigation staff to visit some better-managed irrigation systems. The farmers from these systems were to be the trainers and IIMI field staff the training facilitator.

The training program in Banganga was to motivate the farmers to form or restructure WUGs, mobilize resources to clean the main farm ditch and other farm ditches, and undertake proper water distribution within their respective areas.

The Training Sites and Participants

Two irrigation systems were identified for visits to be made by the Banganga system management staff and farmers. These were the Chattis Mauja Irrigation System at Butwal and the Pithuwa Irrigation System. The trainers were the farmers and functionaries of these two systems, and the trainees were the delegation from Banganga.

Including system management staff as trainees helped promote farmers' understanding of the capacities, potential, and problems regarding farmer management and control. It was also seen as a means of facilitating interaction between the trainee farmers and the BIS staff.

Chattis Mauja is a farmer-managed irrigation system, and Pithuwa irrigation system was constructed by the government but is being managed by the farmers themselves. Both these systems were to provide information regarding the possibilities of farmers' capacity in taking over the irrigation system's management activities.

The selection of twelve farmer trainees was done during general assembly meetings of the various groups of farmers within the irrigation system. These general assemblies were convened under the guidance of the BIS system manager

and IIMI staff. The staff informed the farmers of the purpose of the visit and requested them to choose their representatives for the training. One field-man was selected for the training by the BIS office. The BIS system manager and IIMI field staff also accompanied the participants. IIMI field staff acted as facilitators.

The system manager as well as a field-man were included to provide exposure to irrigation staff members regarding the capacity and potential of the farmers. Such joint field visits facilitated interaction between the agency staff and farmer representatives from both the head end and tail end.

The Training Itself

The training consisted of a one-day classroom orientation regarding the purpose of the training, discussions on irrigation management activities, and visual presentations of better-managed irrigation systems in Nepal. It also consisted of site visits and dialogue with irrigation functionaries.⁴

Farmer Views on the Training: Lessons Learned

The participants felt that the farmer-to-farmer training was an eye-opener and thought it beneficial. The farmers expressed in their reports that they had learned several key lessons from the field visit. Chief among them were:

1. Ownership of the system should be internalized by the farmers. This had great impact on the efficacy of the farmer organizations and also on local resource mobilization. Only if the farmers felt that the system was theirs, could they contribute towards its sustainability.
2. Farmer organization was a useful institutional arrangement for facilitating communication between farmers and government officials as well as among farmers themselves within the system.

3. An effective organization made it possible for acquisition of external assistance for improving system management and maintenance.
4. The organization made reduction of water conflicts and more equitable distribution of water possible.
5. Organization facilitates increased participation of irrigators in resource mobilization.
6. Sanctions in the form of punishment and fines disciplined farmers to comply with the rules and regulations of the organization.
7. Organization helped increase land value and land productivity through assured and adequate supply of water.
8. Large-scale irrigation systems can be managed and controlled by farmers themselves. Through the field visit, water users' organizations became credible not only to the visiting farmers but also to the visiting agency officials.
9. Rights in the form of water shares were tied up with obligations such as management responsibilities and resource contribution.
10. There was a role for government assistance even after the system was being managed by the irrigators themselves.

Problems Encountered during the Training Program

Short field visits are limited in providing the total picture of large and complex irrigation systems like Chhattis Mauja. Farmers from different systems had difficulty understanding each other because of language differences. Questions were understood, but during lengthy explanations, some had a hard time comprehending all the details being discussed. Chhattis Mauja, primarily a farmer-managed irrigation system, did not have similar experiences dealing with public in-

tervention whereby a more capital-intensive technology was developed for the irrigation system. Nevertheless, the focus of the exchange was orientation to collective action and strong organization which Chattis Mauja definitely possessed.

Findings

The visiting farmers expressed to their hosts and trainers that the visit and discussions were very useful. They could relate better to Pithuwa since it was a government-constructed irrigation system like Banganga. The visiting farmers assured their Pithuwa hosts that upon returning to Banganga, they would start reorganizing their WUGs and begin mobilizing the necessary labor for cleaning the canal.⁵

CONCLUSIONS

This paper tried to briefly describe the process of the farmer-to-farmer training and its experiences in different irrigation systems in Nepal. An argument can be made regarding its comparative advantage over alternative approaches towards institutional development of water users groups using association organizers, community organizers, or irrigation organizers in that these organizers are temporary and difficult for irrigation bureaucracies to sustain through budget allocations. The organizers see their job as a stepping stone to gain experience and move on to other work. The farmer trainers have been accepted by fellow trainees who share similar livelihood strategies and therefore are sympathetic and understanding of irrigation dynamics at the field level and deal with it daily. In comparison to consulting firms and NGOs that are not grassroots based, these farmer trainers or experts are cost-effective and result-oriented.

The Special Public Works Project of the International Labor Organization has used such farmer experts or consultants for training the farmers from their project area. Separately, the Asian Development Bank has used farmer experts as evaluators of irrigation projects in the

hills where it has been the main lending agency. As an outcome of a national workshop on the role of NGOs in irrigation development and management held in September of 1992 in Kathmandu, an ad hoc committee was created to establish a network of NGOs for irrigation development. One of the specific mandates of this network is to promote and facilitate the establishment of member-based, rural community based NGOs, out of existing water users groups, that can provide the training and research necessary for fellow water users elsewhere in poorly managed irrigation systems. Through this process, with the assistance of intermediary NGOs for organizational development, book keeping, financial administration, proposal development, report writing, and liaison work with donors, researchers, and government agencies, a mechanism can be set for empowering these member-based groups to provide field based information, policy analysis, training, and partnership necessary for mutually beneficial irrigation development.

This can be achieved if due recognition and respect of farmers' role and contributions are acknowledged; limitations, capabilities, and aspirations of the farmers must be taken into account. There should be appreciation for time-tested technologies, appropriate indigenous knowledge and skills used by the farmers. The creation of newer positive partnerships must be promoted incorporating such skills and knowledge jointly with the farmers in project planning and implementation.

The currently practiced farmer-to-farmer training and exchange visits can be strengthened for local governance by exposing farmers to organizations that have had a history of interactions with the irrigation bureaucracy during project implementation rather than mere exposures to well-managed farmer irrigation systems. Often the training topics and issues are identified by outsiders facilitating the training. An overview of such farmer training programs indicates the real need for participatory training needs assessment (PTNA). In such an assessment, the train-

ing needs are: 1) to be identified jointly with the trainee participants; 2) to be cross checked and verified by the participants in a group and separately; 3) to be ranked according to training need priorities and only the more crucial ones addressed. One of the trainers should be a facilitator to enlist the training needs from the participants themselves. Often in a group discussion the more powerful or loud people tend to dominate. Various techniques espoused within the Participatory Rural Appraisal method may be applicable to get a community listing of training needs. The PTNA thus will assist in the identification of the specific requirements of the training and the topics and issues to be explored during the training.

Given the changing relationships of the government and the farming community, this training has much potential for local management of irrigation systems by the irrigators themselves in the future where many agency systems will be jointly managed or turned over to the irriga-

tors. Such newer scenarios and challenges in the institutional development of farmers and irrigators would warrant farmer-to-farmer training programs to include newer topics such as financial management, contractor/contract evaluations, confederation of irrigation organizations within watersheds or on a regional/national basis, managing irrigation support services, self-assessment of irrigation management, and donor-NGO-agency relations. Several of these topics have been suggested as training needs during the farmer-to-farmer training programs.

In sum, this paper undertook a general and broad overview of farmer to farmer training as practiced in Nepal, its potential, and recommended future directions that might equip farmer irrigation organizations to undertake collective actions and be self-governing, and at the same time, be able to deal with agencies, donors, and NGOs effectively.

Notes

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- ² Examples of these will be given later on.
- ³ The assistance of Mr. Durga K.C. as facilitator and researcher in providing background materials for this section is gratefully acknowledged. Parts of this section have appeared before in the Institutional Development Report, Final Report, Vol. II, submitted to the Department of Irrigation and USAID to Nepal, ARD office by the International Irrigation Management Institute, August, 1992.
- ⁴ The details of this training is presented in Annex A of Vol II of the Final Report on Institutional Development, IIMI, 1992.
- ⁵ This was in fact what they did.

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