

Farmer-to-Farmer Training

This note describes a method tested by the authors to extend successful irrigation management practices. The method consisted of supervised visits by government officials and farmers from planned and newly established irrigation systems to farmer-managed systems observed to have effective management.

While conducting research on irrigation systems in the hills of western Nepal in 1983, the authors arranged for several delegations of government officials and farmers to visit the systems being researched and discuss the management arrangements used by the host farmers. The encounters reported here were ad hoc, and the impact of the information exchange has not been systematically evaluated. However, they have demonstrated the potential for developing effective, low-cost extension methods. We know others have also been experimenting with farmer-to-farmer and farmer-to-agency exchange and would like to initiate discussion and share experiences on this topic. Is it a method that merits more systematic development and testing?

Researchers have been studying farmer-managed irrigation systems (FMIS) in many environments. One reason for conducting such research is to learn management techniques and organizing principles which can be adapted for use by other farmer-managed systems and by farmer organizations in agency-managed systems. Though management techniques and principles can be learned from farmer-managed systems, the task of effective transfer to farmers and agency staff in other systems remains. Farmers usually do not have access to research reports, and such reports are often not in the farmers' language. The most common means for transferring the principles learned through studies is to make reports available to

the irrigation agency. It is the agency's responsibility to implement the findings. This has not proven to be very successful. Well-organized and managed systems represent a valuable training resource. Farmers with experience in such systems can be used as trainers or consultants to transfer their experience and knowledge to farmers and agency staff in other irrigation systems.

Systems Visited - The Training Resource

Two communities with well-managed irrigation systems are Argali and Chherlung, located about a two-hour walk apart. Each is only a 3-4 hour walk from a major road making them easily accessible (in the context of Nepal). Argali has four irrigation systems with command areas of 10 to 95 hectares and Chherlung, two of 35 and 17 hectares. Our research found all six to be effectively managed with sophisticated organizations and technologies. Farmers in these systems practice extremely intensive agriculture, cultivating three crops per year--monsoon rice, winter wheat, and pre-monsoon maize. Monsoon rains cause floods that damage the diversion structures and landslides that block canals, necessitating the mobilization of a large amount of labor each year to maintain the systems.

The organizations are able to mobilize labor and cash for the maintenance and are able to enforce fines on their members who are absent from work. Water is allocated either in proportion to area irrigated (Argali) or by purchased shares (Chherlung), and the property rights are well-defined. Through the use of proportioning weirs and rotational distribution, water is distributed very closely in accordance with the pattern

of water allocation with no measurable head-tail discrepancy. Nearly all the farmers of these systems were able to explain the structure of their organization and its management procedures. Members take pride in their organization and are quite willing to explain how it operates.

Andhikhola Farmers - The First Delegation

The first delegation was from Galyang, home of the Andhikhola Project. This is a combination irrigation and hydroelectric project being implemented by an NGO, the United Mission to Nepal. At the time of the visit, the irrigation project was in the planning and organizing stage. The delegation consisted of seven farmers who were members of the management committee and a project engineer. They used this visit to explore the options and consequences of different methods of water allocation in order to determine what would best fit their needs. They were particularly interested in the Chherlung systems where water is allocated by purchased shares allowing for transactions of water rights separate from land transfers. Eventually they adopted a similar concept in planning their system.

In addition to getting information about methods of water allocation and viewing first hand the impact of the water allocation method on the expansion of the irrigation systems, there was an exchange of information about the effort required to keep a system operating. It was useful for farmers from an area where many do not have land with irrigation facilities to observe the continued cost and effort needed to operate and maintain an irrigation system.

After their visit to Chherlung, the management committee of the Andhikhola irrigation project requested that

two of the officers of one of the Chherlung systems visit their project and talk with a larger group of farmers about how they managed their system, in particular how they bought and sold shares in the system. The Andhikhola system is still in the construction phase, so it is hard to know what impact the interaction with the farmers of Argali and Chherlung will have on the actual management of that system.

Garkar Delegations

Two delegations of about 20 men each--one of farmers and the other, officials--came from the Garkar irrigation system in Nuwakot District north of Kathmandu. This system was constructed by the Department of Irrigation, Hydrology, and Meteorology (DIHM) in 1979 under a World Bank-financed integrated rural development project. It was managed by a DIHM overseer and a management committee consisting of farmers, some of whom were local and district officials.

Because farmers at the head end of the system took more than their allotment of water, the system was unable to irrigate all of the planned command area. For example, one of the committee members, who was a district official, with land at the head of the system would regularly break the canal bund and take water when it was not his turn. The organization was unable to control this unauthorized water use.

The delegations walked from Tansen to Argali, arriving late afternoon. They stayed two nights in Argali, and all were able to stay in a village "hotel" run by a woman who was able to produce a tasty meal within a short time after the group had arrived. After an early morning visit to a famous temple near Argali, the visitors spent most of the day talking with members of several of the

irrigation organizations and walking through the systems. A majority of the time was spent in discussion with some of the 160 members of the largest system. They met in the traditional meeting place under several large Pipal trees at the head of the command area. One of the more articulate members of the organization began by presenting the history of the system, the structure of the organization, and how it is managed. Each meeting soon turned into a lively discussion.

The researchers observed the meetings and occasionally interjected a question to direct the discussion onto an important management concept. For instance, the question was asked what would happen if the Pradhan Panch (local official) were caught stealing water and refused to admit it. A member of an Argali system gave an animated response, "It would not matter whether it was the Pradhan Panch or the Prime Minister. We would tie him up and dunk him in the canal until he confessed and pledged to stop stealing water."

On the second morning, the delegations walked to Chherlung, arriving in time for lunch. A meeting was held in the afternoon with participation by members of both Chherlung irrigation systems. The farmers had written several pages on the history and operation of their systems. Much of the discussion focussed on the principle of water allocation through purchased shares. A member of one delegation was an irrigation department official. He forcefully opposed the concept of selling water rights. He especially objected to the fact that when the one organization had received a small grant to improve their system enabling it to supply more water, farmers with shares in the system were able to sell their excess water. These farmers, who now had more water than they needed, since a share represented a

proportion of the total supply and not a fixed discharge, were able to sell shares to farmers who previously had no access to irrigation.

What the irrigation official could not appreciate was the fact that this method of water allocation provided a mechanism for expanding the area that was irrigated and the number of people who benefitted as the system was improved. This is in contrast to many situations where an intervention to improve an irrigation system results in no expansion of the area irrigated, and the original farmers reap all the benefits of the improvement. The discussion was quite intense for awhile, and only cooled down after the Chairman of the Nuwakot District Panchayat said that the official should not be critical of these farmers who had obviously invested so much of their own effort into constructing and maintaining their irrigation system.

The visitors were amazed at the accomplishments of the host farmers in constructing and maintaining technically difficult irrigation systems. They were especially impressed, when on the way back to Tansen they walked along the seven-kilometer main canal which in some places is carved out of rock cliffs. "We could never construct a canal like this," was a comment heard from several of them. Fortunately for them, they did not need to construct their system, but only needed to learn to manage it more effectively.

Several important impressions that were transferred to the Garkar farmers related to the power that an organization can have in disciplining members and the need to develop rules and sanctions that are fair so that they are supported by all members. In addition it was useful for them to see the magnitude of resource mobilization accomplished by the farmers in Argali and Chherlung to operate and maintain their systems. It gave them an

appreciation for what they could do for themselves instead of complaining about poor maintenance and management of the system by the agency which had constructed the system for them.

Management of the Garkar system has improved markedly. The area irrigated has increased considerably. However, without a systematic study of the system, it is not possible to determine the impact that the visit to Argali and Chherlung has had on the farmer organization.

Request for More Examples

This method of farmer-farmer extension is currently being tried in Nepal by irrigation agencies in several new projects for improving irrigation management. It appears to be a promising extension strategy, but the experience in Nepal is limited. Do other networkers have examples of similar efforts that could contribute to improving this method? Has the impact of this type of extension been evaluated? We would welcome correspondence with readers who have experimented with farmer-to-farmer extension or who are interested in trying it.

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