

Issues and Options of Irrigations Management Transfer in the Nepalese Context

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INTRODUCTION

FOR CENTURIES, FARMERS of Nepal have been developing the land and water resources of the country for irrigated agriculture. While some of the farmer managed irrigation systems are performing effectively some state owned irrigation systems have not fully been effective to meet the basic needs of Nepal's growing population. Promotion of irrigated agriculture has been a prime concern of the government. However the government did not take an important role in irrigation development until recently. The bureaucracy for irrigation development was established only in 1950, and its thinking has dominated irrigation development since that time. The first five year plan (1956-1960) did not even recognize the existence or contribution of Farmer Managed Irrigation Systems (FMIS). Though the role of FMIS is extremely important in Nepal's agricultural economy, it was only in 1981 that the government acknowledged this and began to consider ways to enhance and expand farmer managed irrigation systems, which is also reflected as government priority in the Eighth Five Year Plan.

Three forms of irrigation management can be found in Nepal. The first is non-user (Public agency) controlled and managed, the second is user (farmer) controlled and managed and the third may be classified either as user controlled or non user controlled depending upon the proportion of authority exercised by agency or group of farmers. There are about 1700 and over 15,000 farmer managed irrigation systems in the Terai and hills respectively. Thirty three per cent of the total irrigable area in the country is presently under agency management and 67 per cent under farmer management. Total irrigated area in Nepal is 1,091,000 ha.

PRESENT SITUATION

A. Policy of the Government of Nepal

1. Programs are prepared for the formation and strengthening of the users' Associations in the irrigation projects which are to be turned over. These projects are presently operated by the government. Rehabilitation and improvement works shall be carried out on the basis of users' association consent and participation on the condition that the operation and maintenance works are to be carried out by the users' Association itself.
2. In case the Users' Association is not calling to participate in the implementation of the programs in the projects identified by His Majesty's government for turning over to the Users' Association, His Majesty's Government shall stop the maintenance and operation works of such projects.
3. The full ownership of turned over irrigation systems and the related structures shall be under the water users' associations, registered by the government. All responsibilities relating to the maintenance and operation of irrigation systems shall lie on water users' associations after the turnover of such irrigation system.
4. While turning over the irrigation system, the related government agency may conclude necessary agreement with the Water Users' Association for the proper development and utilization of irrigation facilitated and related structures.
5. Under the program, 5% of the cost for the renovation or improvement to be borne by the users for all types of tube well under surface irrigation and ground water irrigation and the remaining 95% to be borne by the government.
6. In general, projects larger than 500 ha in the hills and 2000 ha in Terai which can't be turned over to the water user's Associations for their operation, maintenance and management shall be jointly carried out by

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the concerning irrigation office and water users' Association. In such projects, direct benefit shall be achieved at the performance level with predetermined and clear objectives of management.

7. For enforcing the joint management system the project area shall be divided into blocks or various parts on the basis of quantity of water supplied and topographical features which influence the canals of the irrigation system.
8. At the beginning the irrigation office concerned shall have the responsibility to construct the upper parts of those division or parts of the irrigation system which have to be operated by the water users' association so that transfer of the management of the system to the water users' association can be completed gradually.
9. Under this program, 10% of the cost for rehabilitation and 7% of the cost for new construction are to be borne by the users. Farmers shall have to construct the canals by themselves covering on irrigated area of less than 25 ha in Terai region.
10. Irrigation systems operated by the use of any technology where the irrigated area of less than 25 ha in the Terai and 10 ha in the hilly region, developed or to be developed separately, shall be defined as an irrigation system under private management.

B. Existing Situation

The government has made the policy according to their need. In the department of irrigation there is one division, "Irrigation management division", to provide training to the farmers in the field of irrigation management. Since the last decade the government is trying to transfer the irrigation management to the farmers but still the government is facing a number of problems and constraints towards transfer of management.

C. Issues and Problems

The Government of Nepal has not made clear policy to work with the farmers from the beginning of design and construction work of canal systems. The engineers who are involved in construction works are not keenly interested to involve the farmers in design and construction works of canal systems. Only a few canal systems are made by the involvement of the farmers. The canal systems are usually designed according to the needs of the engineers and the department rather than to the needs of the farmers. Most of the constructions by the engineers and the irrigation department are contractor oriented. Engineers feel easy to work with contractors rather than with the farmers. The farmers are not willing to take over the irrigation systems because these are not made according to their needs and requirements and as such there is no farmers contribution. Due to the above reasons the efforts of the government in trying to hand over the irrigation management is likely to face with many problems and end up with failure. To convince the farmers, they are providing training and farmers tours on irrigation management transfer but still the government has not succeeded.

SUGGESTED APPROACHES/SOLUTIONS

- A. Not all the canal systems in Nepal are not worth transferring. Farmers who receive these projects have limited knowledge of the irrigation system, its technical features and government policies and procedures. Hence, only efficient and durable physical systems with applicable and acceptable management skill should be transferred. Preferably, the physical systems should meet the following standards before turnover.
 1. Diversion systems: Should be durable, simple to operate, diversion efficient and easy to approach.
 2. Canal Net Works:
 - a. Adequate for water delivery and distribution and canal density not less than 50m/ha
 - b. The conveyance efficiency should not be less than 80%

- c. Canal grades, sections, capacity, velocity, more or less perfect to designed condition
- d. The distribution efficiency and application efficiency should not be less than 80% and 70% respectively.

3. Canal Structures:

- a. Efficient head regulators with maximum water control mechanism
- b. Adequate water control structures for defined level of water control
- c. Performance efficiency of water level control structures and delivery structures should be more than 90%

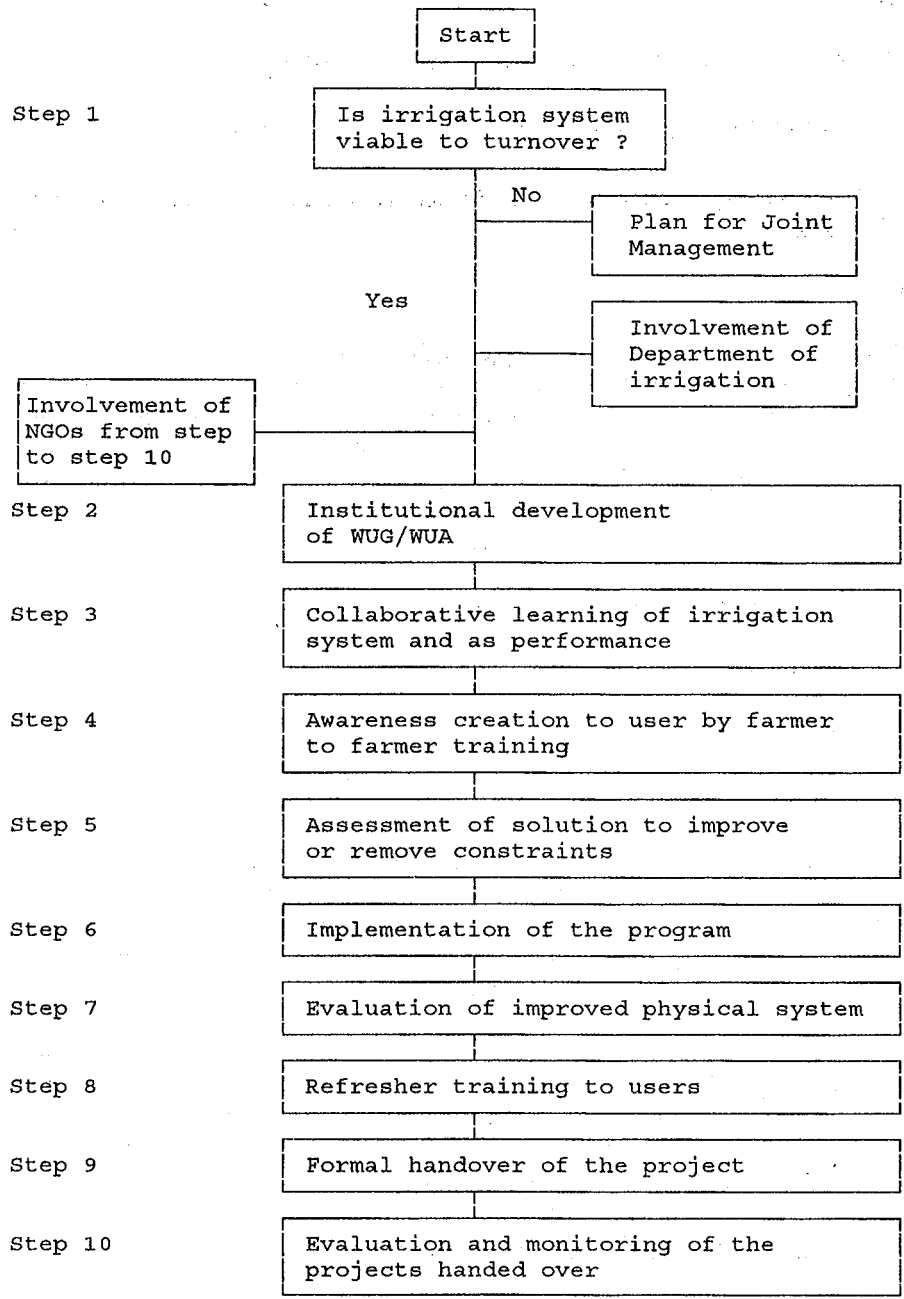
4. Institutional Aspects:

From the beginning the water users' group should be involved in design and construction work. There should be some percentage of cash or labor contribution from the users' group. The users need certain level of managerial capability so that irrigation system can be operated and maintained to pre-defined standards. The management skill and knowledge are imparted through collaborative learning and frequent training. For this, users must be oriented and trained on

- a. Canal operation and maintenance procedures
- b. Conflict management procedure
- c. Administration and financial management
- d. Matching water demand and supply
- e. Supervision and controlling works

- B. The government of Nepal should entrust the construction and management works up to 50 ha in the hilly area and 100 ha in the Terai area to the irrigation based Non-Governmental Organizations (NGOs). Government should play the role of facilitator and NGOs the role of promoters. As the government has limited staff and cannot look after the management of large and medium irrigation systems properly, the management of such irrigation systems should be given to the NGOs.
- C. There are many irrigation based NGOs in Nepal. These NGOs can play a vital role in irrigation management transfer. Centre for Rural Technology (CRT) is one of the active irrigation based NGOs in Nepal. It has conducted training on Institutionalization of Irrigation Based NGOs in 1992 with the collaboration and support from IIMI Nepal and Agricultural Development Bank Nepal. It has also worked on the rehabilitation of 120 user Managed Irrigation Systems with the help of GTZ program in 1993. Recently in 1994 it has completed the preparation of a directory of Farmer Managed Irrigation systems of eleven districts of Nepal and Irrigation based local NGOs and international NGOs with the collaboration of IIMI Nepal.
- D. Most of the NGOs with irrigation as focus activity in Nepal have concentrated their works in rural area. They have direct contacts with the farmers enabling such NGOs to understand the farmers' requirements. The irrigation systems where the NGOs are involved with farmers from the beginning of design and construction works can easily be handed over to the farmers. In order to facilitate the management transfer, effectively, following steps are proposed to be considered.

For Completed Irrigation Project



CONCLUSIONS

- A. Irrigation based NGOs should be given the role of mediator between government agency and farmers in transferring the irrigation management. Design, construction and supervision work of small irrigation systems upto 100 ha in the Terai and 50 ha in the mountain region should be handed over to the NGOs and WUOs.
- B. There should be active involvement of large, medium and small irrigation systems. Government agency should always play the role of facilitator.
- C. In the construction of large and medium irrigation systems there should be reasonable cash or labor contributions from water users.
- D. The physical system should be durable, efficient and should contain simple structures according to the requirements of the farmers.
- E. The water users' groups should be well trained in the field of irrigation management and operation and maintenance of the canal systems.
- F. Learning and sharing between/among the farmers involved in the irrigation development and management be emphasized and encouraged as well as frequent interaction between farmers and NGO based social scientists, management experts, engineers so as to build NGO and farmers capability and confidence in developing sustainable irrigation systems. Efforts and action be planned to develop some water users' associations as training groups to train farmers for management transfer.

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