

Study on Rehabilitation and Management Transfer Phase I: Identification of Current Processes

Krishna Chandra Prasad

GOAL OF THE STUDY-SERIES

The goal of the study-series on rehabilitation is to identify the rehabilitation and modernization processes that lead to successful management transfer. This initial study at phase-I is a review of stated processes of irrigation system rehabilitation that are in place in Nepal for management transfer. Further studies will document the actual field practices and evaluate the process based on the evaluation of impacts of the management transfer process at individual systems.

OBJECTIVE

The main objective of this initial study was to document arrangements for rehabilitation in different irrigation systems in Nepal where management is transferred to farmers through a joint management or turnover program.

SCOPE OF WORK

This initial study has mainly considered processes of rehabilitation carried out by:

- Irrigation Management Transfer Project (IMTP)
- DOI-funded O&M projects like Kankai Irrigation System (KIS)
- Bhairahawa Lumbini Ground Water Project (BLGWP)
- Marchwar Lift Irrigation Project (MLIP)
- Sunsari Morang Irrigation Project (SMIP)
- Handetar Irrigation System (HIS), and
- Irrigation Line of Credit (ILC).

The study has focused on the following aspects:

- * Needs assessment procedures
- * WUA and DOI's roles in planning and implementation
- * Arrangements for cost sharing
- * Contracting mechanisms, in particular to WUA
- * Quality control procedures

APPROACH AND METHODOLOGY

The approach and methodology of the study had the focus on stated and envisioned processes and strategies for undertaking rehabilitation works in relation to management transfer programs. Major sources of data involved: (a) Literature and secondary sources, (b) Field visits, and © Semi-structured questionnaire.

Overview of Project/Program Formulation Bases

Project/ Program	Envisaged Extent of Management Transfer	Scope of Rehabilitation/ Modernization Works	Rationale for Rehabilitation/ Modernization Works	Ground for Project /Program Formulation	Users' share of cost
IMTP	Full turnover in 4 sub-projects and partial in 7 sub-projects	<ul style="list-style-type: none"> - Emergency maintenance and repair - Essential structural maintenance - Catch-up maintenance - Scheme improvements - Scheme calibration and flow measuring facilities - Service roads and farm-to-market roads 	<ul style="list-style-type: none"> - Restore equitable and reliable water supply - Improve timely, equitable, and reliable water supply - Drainage and flood protection - Improve canal service and farm-to market road networks - Environmental support 	<ul style="list-style-type: none"> - Irrigation Policy - Agency's assessment 	About 26% of the total construction cost plus the land
KIS	Partial turnover, gradually	<ul style="list-style-type: none"> - As demanded by farmers 	<ul style="list-style-type: none"> - Improve physical status of the irrigation scheme - Effective use of O&M budget - Incentive or leverage for turnover 	<ul style="list-style-type: none"> - Irrigation Policy - Farmers' demand 	About 12% of the total construction cost plus the land

Project/ Program	Envisaged Extent of Management Transfer	Scope of Rehabilitation/ Modernization Works	Rationale for Rehabilitation/ Modernization Works	Ground for Project /Program Formulation	Users' share of cost
BLGWP	Full turnover of all the developed tube wells including the pump house	<ul style="list-style-type: none"> - Distribution network improvement inclusive of lining and repair of UPVC pipes - Repair of water controlling and regulating structures - Relocation of turnouts at appropriate places - Upgrading of drainage system - Construction of accessory structures, e.g., foot bridge 	<ul style="list-style-type: none"> - Improve efficiency and serviceability - Incentive or leverage for turnover 	<ul style="list-style-type: none"> - Irrigation Policy - Farmers' demand 	About 5% of total construction cost related to strengthenin g activities
MLIP	All the irrigation infrastructure except the pump station	<ul style="list-style-type: none"> - Upgrading of inspection and service roads - Drainage improvement works - Relocation of inefficient outlets - Repair of water controlling and regulating structures - Strengthening and lining of canal sections - Adjustments in tertiary canal alignments 	<ul style="list-style-type: none"> - Correctional measures - Improve physical status of the irrigation and drainage scheme - Reduce burdens of maintenance to farmers after management transfer 	<ul style="list-style-type: none"> - Previous agreement with UNCDF - Irrigation Policy - Farmers' demand 	<ul style="list-style-type: none"> - Labor for on-farm level works - 10% deducted off WUG contract amount
HIS	Full turnover	<ul style="list-style-type: none"> - Regular maintenance works - Essential structural improvement works covering repair of headwork, canal reshaping, repair of water controlling structures, etc. 	<ul style="list-style-type: none"> - Upgrade the system's physical status suited to PJM leading to full turnover - Maximize farmer participation in system maintenance activities 	<ul style="list-style-type: none"> - Experiment the participatory irrigation management process 	<ul style="list-style-type: none"> - not based on any fixed percentage - as mutually agreed, based on work type

Comparative Summary of Approaches Adopted in Different Cases

Phase	Cases		DMTP	KIS	BLOWP	MLIP	HIS
Planning	Need identification		By SMC on walk-through	Joint walk-through following farmers' demand	Joint walk-through following farmers' demand	Joint walk-through	Joint walk-through
	Prioritization		Joint decision	Joint decision	By agency	By agency	Joint decision
	Measures for checking ambitious demands		Conditional tie-ups Cost sharing	Cost sharing Availability of budget	Joint decision making Cost sharing	Decided by the agency	Jointly decided
	Design works		By agency	By agency	By agency	By agency	By agency
	Scheduling		As per jointly prepared AP	As per jointly prepared AP	As jointly decided during agreement	Jointly	Jointly
Implementation	Contract award to	Prof. Contractor	Processed by agency and SMC	By agency	By agency	By agency	By agency
		WUA	Relatively easier works are awarded to WUA	Relatively easier works are awarded to WUA	No works are contracted to WUG	Relatively easier works are awarded to WUG	Relatively easier works are awarded to WUA
	Construction Supervision		By SMC	By CMC	By a joint supervision committee	By agency and agency appointed consultant	By agency assisted by WUA
	Quality Control		By SMC, Project Director, and Quality Control Advisor	By agency and agency appointed Quality Control Advisor	- By agency for works to be done by agency - By WUG for works to be done by WUG - The joint supervision committee	By agency appointed consultant	By agency assisted by WUA
Payments	Contractor's Work		By agency upon SMC's recommendation	By agency upon CMC's recommendation and system in charge's approval	By agency	By agency on consultant's recommendation	By agency
	WUA's Work		- By WUA for the works to be done by WUA side - By agency for the works awarded to WUA, on recommendation of SMC	- By WUA for the works to be done by WUA side on recommendation of CMC - By agency for the works awarded to WUA, on recommendation of CMC	By WUG	By agency on consultant's recommendation	- Voluntarily contributed by beneficiaries for the works to be done by WUA side - By agency for the works awarded to WUA
Commissioning			Jointly	In presence of CMC, WUA president, and system in charge	Jointly	Jointly	No concept of commissioning
Management Transfer			Immediately after correcting the observed defects	After a fortnight from completion of correctional works	In one year	Partial management transfer immediately after completion of fine tuning works and full turnover in three-year duration	Immediately after completion of agreed upon ESI works and some relevant training programs

Key Differences in Adopted Approaches

Activities	IMTP	KIS	BLGWP	MLIP	SMIP	HIS	ILC
Need identification by joint walk through	Yes	Yes	Yes	Yes	No	Yes	Yes
Joint prioritization of identified works	Yes	Yes	No	No	No	Yes	No
Measures for controlling ambitious demands	Yes	Yes	Yes	No	No	No	Yes
Design works in consultation with WUA	No	No	No	No	No	No	No
Construction scheduling in consultation with WUA	Yes	Yes	Yes	Yes	No	Yes	Yes
Contracting to WUA	Yes	Yes	No	Yes	No	Yes	Yes
Loans or mobilization advances to WUA	No	No	No	Yes	No	Yes	Yes
Joint construction supervision	Yes	Yes	Yes	No	No	Yes	Yes
Joint quality control	Yes	No	Yes	No	No	Yes	Yes
Joint commissioning	Yes	Yes	Yes	Yes	No	No	Yes

- Similarities**
- All the cases have a rehabilitation component
 - Rehabilitation is done before the management transfer in all cases
 - All of them involve the formation of local beneficiaries' organization
 - All of them have some form of cost sharing arrangements

- Differences**
- Cases of BLGWP, ILC, SMIP, and also KIS have the approach of a "package program" which is based on a mutual agreement that requires the beneficiaries to do some jobs and the agency to do some. After completion of the agreed upon works, the management responsibilities are transferred over to respective beneficiaries.
 - Cases of MLIP and HIS have followed a form of "experimental" approach in which some adjustments and modifications have been made in the due course of sub project implementation.

- IMTP has adopted a "phased and conditional" approach which is tied with some conditions and mile stones of the institutional development activities before its different categories of supports could be extended to its sub projects.

Notably, these are the variations or differences in the approach itself. As observed during the field observations, farmers were raising many concerns about the way these programs are or were actually implemented. Also, some conflicts were noted between the planned approach and the actual implementation. For instance, MLIP farmers were pointing out to the scheme rehabilitation/modernization works that have forced them to accept the proportional water distribution in the canal network. Further, some of the turnouts were not placed at appropriate locations and needed correctional measures. Also, quality of some construction works was not found satisfactory to the beneficiaries. Similarly, some farmers of BLGWP expressed their annoyance to the placement of turnouts and location of the tube wells. Farmers of other project sites too, such as IMTP, KIS, HIS, etc. have many issues to share including matters related to quality of works, design, the construction cost, contractual processes including contracting to beneficiaries, farmers' cost sharing, etc. As a result, farmers in some sub projects are found reluctant to eagerly take over the irrigation management responsibilities, specially the O&M. However, the agency people take this situation as the farmers' tendency to hang onto the government somehow. So, in the course of actual implementation of such programs at the field level, one could expect further deviations from the planned ones.

Further studies are suggested to be undertaken focusing on the actual implementation process of such programs and the results thereof. In order to understand the process of scheme rehabilitation/modernization in relation to management transfer in a better way, the following hypotheses are suggested to be tested during subsequent studies related to actual implementation process of the management transfer programs in the field and lastly, the impacts on performance of the turned over, partially or fully, irrigation schemes.

- | | |
|-----------------|---|
| Hypothesis I: | The method of phasing and conditioning the rehabilitation/modernization support to some development mile stones of local irrigation organization facilitates in building up the management capability of the organization |
| Hypothesis II: | Contracting the construction works to beneficiaries makes the local irrigation organization more effective |
| Hypothesis III: | An effective local irrigation organization aids the process of management transfer |

- Hypothesis IV: Beneficiaries' participation in design considerations leads to a successful management transfer
- Hypothesis V: Quality of construction works to beneficiaries' satisfaction leads to a successful management transfer
- Hypothesis VI: Management transfer to an effective beneficiaries' organization results in better performance of the partially or fully turned over irrigation schemes

First three hypotheses are recommended to be tested during the second phase of the study focusing on the actual implementation process of the management transfer programs in the field whereas, the remaining three hypotheses should be tested during the third phase of the study that focuses on the performance assessment of management transfer programs.

Summary

The Department of Irrigation in Nepal is actively engaged in carrying out the government policy of joint management and turnover both through its own resources and with assistance of donor funding. These programs of management transfer and turnover are relatively new. The policy emphasizing such directions was enforced just about five years ago, in 1992. Accordingly, there has been a variation in process within the broad framework of management transfer. Also, such programs in Nepal typically involve varying degrees of rehabilitation or modernization. There are many reasons to perform rehabilitation or modernization in these systems, but the major reason is to bring the irrigation system to a condition that facilitates its management by Water Users' Associations.

The arrangements for rehabilitation and the way in which rehabilitation is done are thought to be major factors of the success or failure of the management transfer process. At the same time, not many studies have made in-depth investigation into scheme rehabilitation/modernization efforts aimed at partial or full management transfer in Nepal's context. Thus, with the view to have a better understanding of the rehabilitation process in relation to management transfer, this study-series has focused on Management Transfer Processes and Performance. The ultimate goal of this study series is to identify rehabilitation and modernization processes that lead to successful management transfer. In that context, this initial study at phase-I reviews the stated processes of irrigation system rehabilitation that are in place in Nepal for management transfer and it documents arrangements for rehabilitation therein. Further studies would document the actual field practices and evaluate the process based on the evaluation of impacts of the management transfer process at individual systems.

Both surface and ground water irrigation schemes have been covered by this study and the findings show that the Department of Irrigation has incorporated the approach of participatory irrigation development and management in almost all of its projects/programs that also emphasize the transfer of irrigation management responsibilities over to organized beneficiary farmers, partially or fully. Accordingly, the idea of management transfer in government-managed irrigation schemes has also been given due consideration while undertaking various irrigation development and management tasks in various irrigation schemes that include scheme strengthening works, development of beneficiaries organizations, joint management activities in the areas of water management, canal operation and maintenance, etc. In all such activities, farmers are increasingly encouraged to take a bigger role. The notion also prevails while extending various kinds of supports to the farmer-managed or farmer-initiated irrigation schemes and farmers are encouraged to take active roles in overall irrigation development, and upon development, in operation and maintenance of the irrigation scheme.

According to the Irrigation Policy, irrigation schemes smaller than 500 ha in hills and 2,000 ha in *Terai* are to be fully turned over to organized beneficiaries. However, a detailed plan and schedule for materializing the above goal are yet to be worked out. The policy also encourages gradual management transfer in larger schemes. In larger schemes, such efforts of gradual management transfer are generally undertaken in the form of participatory joint management activities, specially in operation and maintenance activities of the irrigation scheme, by which the agency and the beneficiary farmers share irrigation management responsibilities. With the experience, beneficiary farmers are encouraged to assume greater responsibility in irrigation management tasks.

Further, all projects/programs have been guided by the policy to implement scheme strengthening efforts - in form of rehabilitation/modernization works - with farmer participation at each stage of planning, implementation, etc. However, the degree of envisaged farmer participation varies from case to case. Similarly, roles and responsibilities of beneficiary farmers and the agency, while undertaking scheme rehabilitation/modernization activities, also differ. Nevertheless, the aim of involving beneficiary farmers at all stages of work is invariably addressed in all these projects/programs.

In majority of cases, some external donors support programs related to schemes' strengthening works and management transfer. The Kankai irrigation scheme has been the first to take initiative on such efforts with its limited budget. Though the provided budget in Kankai is generally meant for undertaking regular operation and maintenance of the irrigation scheme, it has made use of the available budget to get some management transfer objectives fulfilled as well.

Scope of works generally taken up in the form of rehabilitation/modernization works covers from repair of headwork and flood damages to development of water courses, from

construction of new water controlling and regulating structures to construction of farm-to-market and canal service roads. Basically, no uniform criteria exist that could provide a tool for ascertaining various types of works under different categories of scheme strengthening works.

The agency's supports in schemes' strengthening works or in some form of rehabilitation/modernization component including command area development activities have often been used as an incentive for beneficiaries to motivate them toward assuming greater management responsibilities. Nevertheless, such works also have objectives of improving effectiveness and serviceability of irrigation and drainage schemes as well. Also, farmers' involvement in the management tasks is also thought to be important in improving the performance of irrigation schemes. In few cases, the rehabilitation/modernization works have been perceived as a measure for reducing the cost of operation and maintenance activities to beneficiary farmers, resulting from improved physical status of the irrigation and drainage infrastructure, after the management transfer. Such supports are generally driven by farmers' demand and in some cases by the agency' own assessment.

Cost sharing arrangements also vary from case to case. Nevertheless, all cases abide by the requirements stipulated in the Irrigation Policy. The policy has fixed the "minimum" cost sharing but it does not elaborate on the "maximum." All the cases meet the criteria of "minimum" cost sharing but there are variations in upper limits. For instance, the Irrigation Management Transfer Project requires about 26% from farmers as their part of cost sharing in the scheme strengthening works whereas the Marchwar Lift Irrigation Project is seeking only 10%, the "minimum" stipulated in the policy.

Majorities of cases have adopted a joint walk-through approach while identifying and prioritizing the rehabilitation/modernization needs. However, the notion of prioritization has not been considered in the cases that have a form of a package program.

General measures adopted for checking farmers' unnecessary or ambitious demands for rehabilitation/modernization works in their irrigation schemes, are: the cost sharing requirement, conditional strings for the different categories of works, and the process of joint decision making. The conditional strings, in case of Irrigation Management Transfer Project, require certain level of demonstrated capability of the beneficiaries before other forms (such as construction of farm-to-market roads) of supports could be extended by the project.

All the necessary design works, in all the cases, are undertaken by the agency whereas schedules for carrying out rehabilitation activities are prepared through joint discussions. Sometimes, such schedules are incorporated in the mutually prepared and agreed upon implementation plan (Action Plan) itself.

Contractual formalities for construction works related to identified and agreed upon scheme strengthening works are processed by the agency. However, in few cases, a joint committee is also involved in the process. All the works agreed to be done from the agency side are awarded to the professional contractor. However, in cases of Irrigation Management Transfer Project, Irrigation Line of Credit Program, Marchwar Lift Irrigation Project, some relatively easier works involving mainly earth works are contracted to the beneficiaries. In Bhairahawa Lumbini Ground Water Project and Sunsari Morang Irrigation Project, no construction contracts are given to beneficiaries' groups.

Some form of a joint supervision committee generally carries out supervision of construction works. However, quality of work is controlled by different ways in different cases. For instance, Sunsari Morang Irrigation Project does the job solely by itself whereas, Marchwar Lift Irrigation Project gets this job done through hired consultants. The KIS also does the work of quality control through its technicians. In other cases, quality of construction works is controlled by joint efforts of the agency and beneficiary farmers.

Payments for completed construction works, to be done from agency's side, are all made by the agency. However, in few cases, it requires the recommendation of the joint committee.

Commissioning of all the completed works, in general, are done jointly. Usually, the envisaged management transfer takes place during a mutually agreed transitory period after commissioning of the rehabilitation project/program.

In sum, there are some variations or differences in the approach itself. Further, in the course of actual implementation of such programs at the field level, one could expect further deviations from the planned ones. Hence, in order to have a better understanding of the rehabilitation process that leads to successful management transfer, further studies are suggested to be undertaken that focus on the actual implementation process of such programs and the results thereof.