

Paper 4: Learning from IMTP phase I

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PROJECT BACKGROUND

Irrigation Management Transfer Project (IMTP) has been launched in Nepal since 1995 to improve operation and maintenance (O&M) of the Department of Irrigation (DOI) managed irrigation system by involving farmer beneficiaries in accordance with the HMG/N's policy of privatization and users participation. Various literatures show that Nepalese farmers' capability to manage irrigation system is better than that of the government agency. Hence to better the management of agency managed irrigation system, Irrigation Policy 1993 has introduced the concept of transferring irrigation management responsibility to the democratically elected legal water users association as envisioned by Water Resources Regulation (1993).

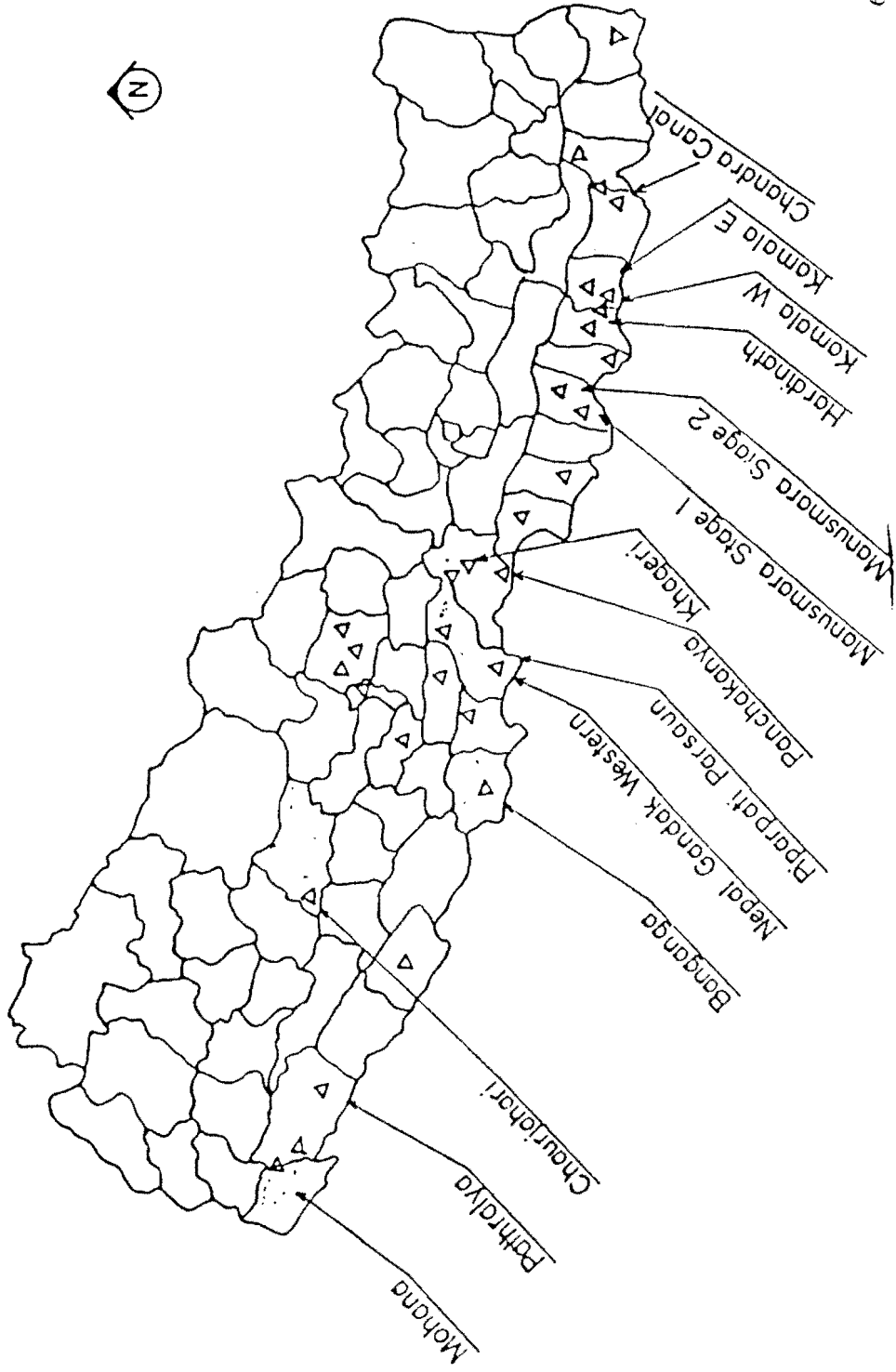
The performance evaluation of 11 agency managed irrigation systems (AMIS) selected to be undertaken by IMTP (Figure 1) also shows that these projects, designed to irrigate 67,800 ha, are actually irrigating only about 32,000 ha lower than half of the expectation (ADB, 1994). Water tax collection is negligible. Budget allocated for operation and maintenance had been reduced resulting into deferred maintenance and then consequently poor system performance.

To alleviate this problem, IMTP is being implemented in 11 AMIS systems in two phases - three projects: West Gandak, Khageri and Panchakanya in the first phase (1995-98) and remaining eight projects: Chandranahar, Kamala, Hardinath, Manusmara, Banganga, Chaurjahari, Patharaiya and Mohana in the second phase (1998-2001) with the financial assistance from Asian Development Bank, USAID/N and farmers participation. Now the IMTP phase - 1 has been completed and phase II is going to be implemented. This paper briefly presents the implementation procedure of Phase-1 accomplishments and the experiences.

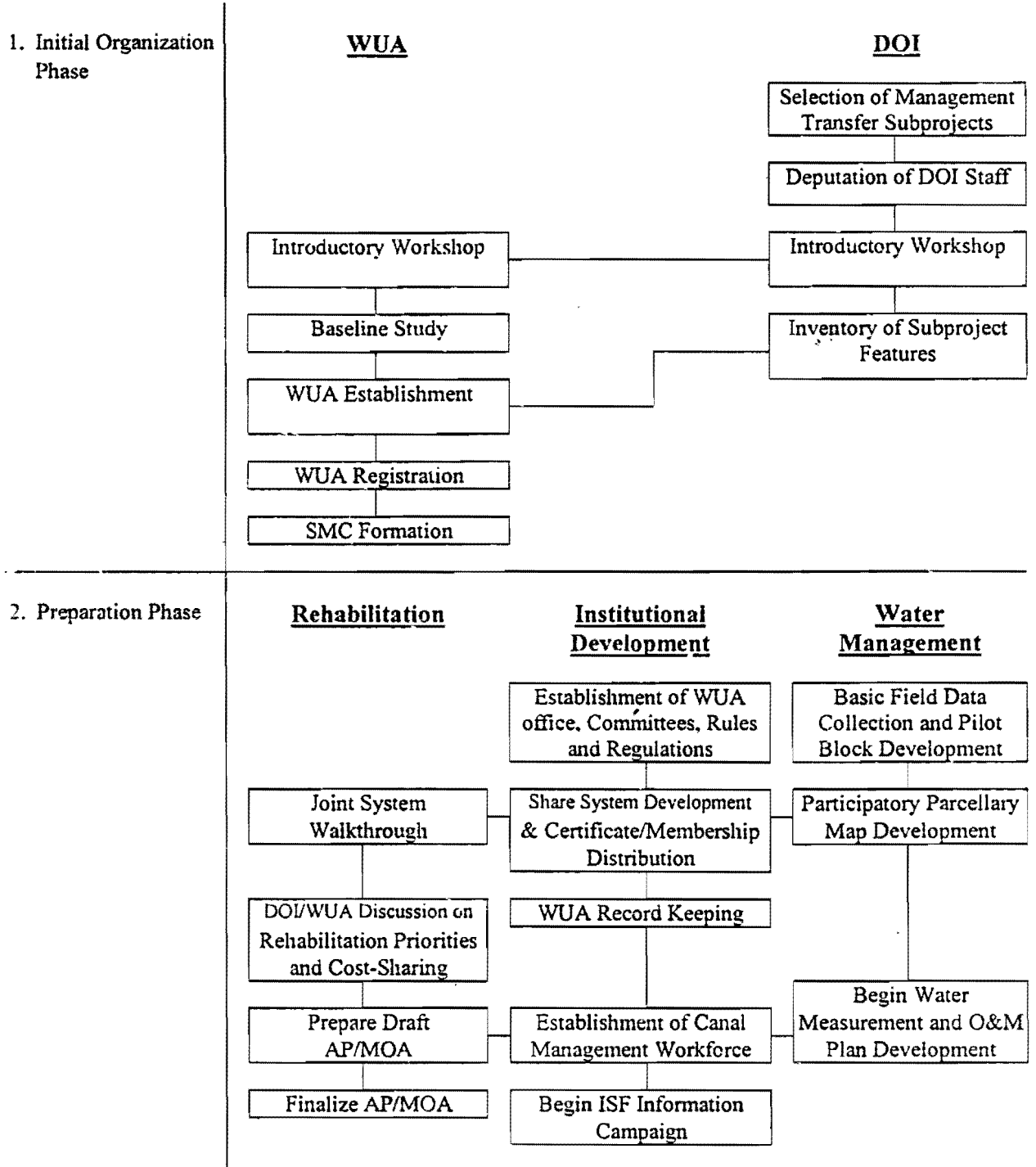
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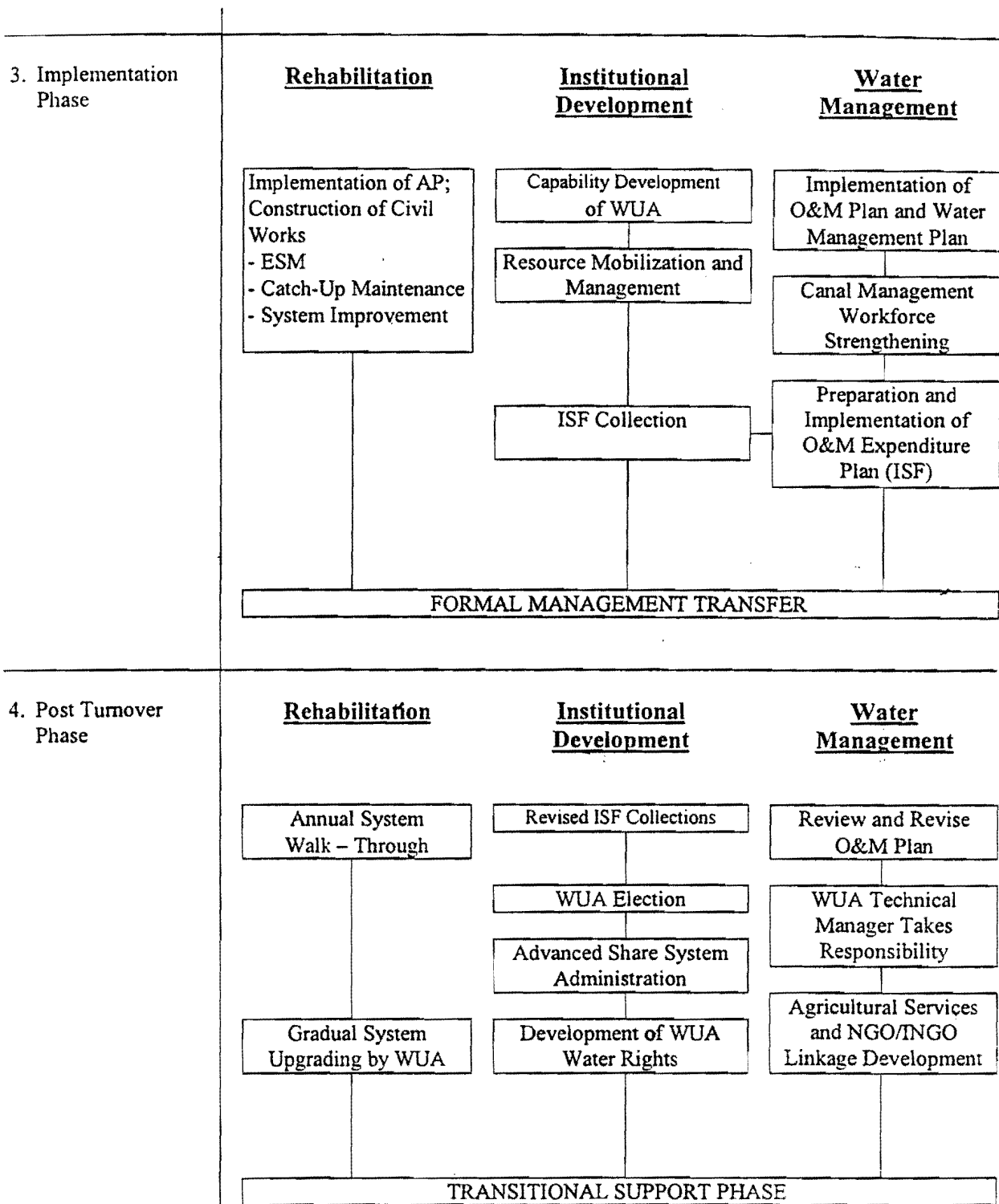
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Figure 4.1: IMTP Irrigation Systems, Nepal



Flow Chart 4.1: Irrigation Management Transfer Implementation Procedure





Flow Chart 4.2: Rehabilitation Procedure

Joint System Walk-through

- Identification of rehabilitation and physical improvement needs

Prioritization of rehabilitation needs

Surveys, design and cost estimate

DOI/WUA discussion & decision on cost sharing

Preparation of Action Plan (AP)

- Branchwise rehabilitation
- Emergency maintenance repair plan
- Categorization of civil works
- Cost estimate/cost sharing arrangement
- Work schedule

Implementation of emergency maintenance/repair plan

Preparation of draft MOA

Discussion/negotiation with WUA regarding AP/MOA

- Finalization of cost sharing

Finalization of AP/MOA

Formal Signing of AP/MOA

Implementation of AP

- Preparation of tender document
- Award of contracts

Commissioning of completed civil works

PROJECT IMPLEMENTATION APPROACH

As the name implies, this project's major objective is to transfer the management of the irrigation system from the agency (DOI) to the beneficiaries' body, Water Users Association (WUA). Major components of IMTP are:

- i) Establishment of sustainable and effective WUA, and
- ii) Rehabilitation and improvement of irrigation and drainage facilities.

The first component is to prepare the WUA for receiving the management responsibility while the second component is an incentive for the WUA to upgrade the physical system to operable and manageable status. Four phases in the IMTP implementation are.

- Initial organization stage
- Preparation stage
- Implementation stage
- Post-turnover stage

The detailed implementation procedure is presented in Flow Chart 4.1. The activities can be broadly divided into three types, namely:

- Physical Rehabilitation
- Institutional Development
- Water Management

Institutional development activities are related to formation of WUA, its registration, SMC formation, making the SMC members clear about rehabilitation, the agreement namely MOA and AP, and implement IMTP rehabilitation activities. Also WUA members should be made capable to undertake the management responsibility. The water management activities are related to building WUA capability to operate canal (i.e. allocate and distribute water) and to maintain the canal system. The physical rehabilitation is related to improving physical systems. In brief, the activities can be called modernization steps. The approach employed for rehabilitation in IMTP is typical to ensure WUA's involvement at all stages. Hence to elucidate, the steps of the procedure have been elaborated briefly.

Physical rehabilitation works have been divided into six categories as follows:

- Emergency maintenance and flood damage repair
- Essential Structure maintenance
- Catch-up Maintenance
- System Improvements
- System Calibration
- Improvement of canal service and farm-to- market roads

In order to advance institutional activities and rehabilitation closely together at par, following minimum indicators of institutional development have been set before the corresponding work may be carried out under the project.

<u>Physical Improvements to be Carried Out</u>	<u>Institutional Development Accomplishments</u>
• Emergency Maintenance/Repair	• WUA Formation/Registration, Preliminary AP Approved.
• Essential Structural Maintenance, Catch-Up Maintenance	• Joint System Walk-Through, AP Formally Adopted, Memorandum Of Agreement (MOA) Executed, WUA Record-Keeping Instituted.
• General System Improvements	WUA O&M Plan Prepared, WUA Established Irrigation Service Fees (ISF).

Also to make rehabilitation cost effective WUA have been made responsible to contribute at least 26 % of the total cost in cash, kind or labor in the due project period. Through the SMC, the WUA has been empowered to supervise construction and control quality. After completion of rehabilitation of a branch or minor, it can be handed over to that WUA. In this process, when all branches and minors are transferred, then if the main committee wishes to undertake the responsibility of main canal management with or without headwork, and shows capability to manage, the main canal with other available assets in the system may be handed over to the WUA. Such fully transferred system is called "Turnover". If part of the system is handed over, keeping other under the DOI's control, the system is called to be operating under " Joint management". The Irrigation Policy 1993 has clearly defined that irrigation system irrigating up to 2,000 ha in *Terai* and 500 ha in hill are to be turned over and above that are supposed to run under Joint Management.

ACHIEVEMENT

The implementation of IMTP Phase I has been satisfactory with respect to the accomplishment made. Principal accomplishment is the built up capacity of WUA to manage all irrigation systems by themselves. Now two systems Panchakanya (600 ha) and West Gandak (10300 ha) have been formally handed over. Similarly in Khageri, all but one branch (B-3), WUAs have decided to take over the management of respective branch/minor in branch WUAs' general meeting. Six branches out of eight and one minor out of four have already signed the transfer agreement document indicating formal transfer for joint management. Besides, there are progresses in institutional development aspects, irrigation management, etc. These are briefly described below.

Institutional

The WUAs are now widely accepted as democratic NGOs operating for the better management of irrigation in these systems. Timely elections have started to take place. In West Gandak and Khageri, three WUA elections have taken place, while in Panchakanya two elections were held. All WUAs and few branches have also established their offices. Necessary rules and regulations have been made and where necessary, WUAs' constitutions are also amended. Now ownership feeling has also developed in all WUAs and WUA has revised Irrigation service fee rates in order to meet their O&M cost requirement.

West Gandak WUA has even pursued the Ministry of Forest to hand over the trees planted along the canal and river to WUA. Among others, this is an indication of WUA's strength to act for its sustainability.

All WUAs have selected canal management work force members to manage the canals. Share system has been administered and resource collection has increased. All WUAs are collecting share membership fee/general membership fee and ISF. Year wise collection figures are shown in Table 4.1. Increase in resource collection is clearly noticeable. Each WUA is collecting fees or donations differently. West Gandak WUA collects rent from shop, raises road toll and sells tree branches while Panchkanya WUA has collected labor fee in lieu of labor contribution for the maintenance of canal.

Table 4.1: Resource Collection Status

Subproject	1994 (%)	1995 (%)	1996 (%)	1997 (%)	1998 (%)
a) WUA Membership (Percent accomplishment)					
West Gandak	NA	NA	36.2	54.9	60.6
Khageri	41.4	55.0	59.7	60.4	62.1
Panchakanya	NA	NA	74.0	NA	91.2
b) ISF Collection Efficiency (%)					
West Gandak	17.8	24.2	37.8	58.5	65.7
Khageri	55.6	NA	57.5	55.9	65.2
Panchakanya	NA	NA	76.0	NA	81.5

NA = Data Not Available

Source: MOU between the HMG and ADB - MTRM

Irrigation Management

After the rehabilitation of irrigation system there are improvements in water delivery and hence on crop area and production (TA Team, 1998). In west Gandak, there is reduction in the silt entry and reduction in flooded area and resulting in more canal water delivery

and more flood-protected area. In Khageri due to modernization works like lining and reshaping of canals, conveyance efficiency has increased and improvement has been noticed. Similarly in Panchakanya, due to increase in conveyance efficiency, from 26% to 51%, actual irrigated area has increased from 267 ha to 412 ha. Now WUA of Panchkanya in particular has started to keep record of irrigated crops grown on each land parcel in order to facilitate water allocation. By the effect of study on growing early paddy with reduced water supply carried out by RTDB, potential of increasing early paddy area is also expected.

In order to manage irrigation system by WUA at all Phase-I subproject, WUA has selected Canal Management Work Force (CMWF) members to look after canal operation and maintenance. In West Gandak canal system, a cadre of 215 members of CMWF headed by a coordinator and 4 main canal level CMWF for 4 regions are operating the canals. These have been given training on canal O&M. And in Piparpati - Parsauni branches of west Gandak, 50 CMWF members have been selected.

Similarly, in Panchakanya WUA has selected two CMWF to distribute water in the canal and to maintain it. Now they are operating the canal as per the canal operation plan provided to them. In Khageri too, 5 CMWF members have been selected to operate the canal particularly distribution of water during monsoon. As per the decision of CMWF, the ditch riders of the project office regulate the gates.

West Gandak WUA has done maintenance of the main canal, branches, minors, MC, MFD and structures using WUA resources and voluntary labor with assistance of heavy equipment from the sub-project office.

Similarly, Panchakanya WUA has collected NRs. 61,075 at the rate of NRs. 150/ha as labor fee in lieu for labor contribution this year. Also, WUA has cleaned the spring source and main canal at the cost of NRs. 12,655. WUA has raised the ISF for paddy to NRs. 150/ha and ISF for dry crops to NRs. 75/ha. It entrusts that in normal years the WUA is capable to operate and maintain the system efficiently.

EXPERIENCES

Implementation of IMTP Phase-I should be said a break-through experience towards Irrigation Management Transfer (IMT) in Nepal. Due to involvement of several agencies in the IMT, the outcome was not easy to be predicted in the beginning. Nevertheless there was a hope in the WUA as well as in the subproject office that the management transfer will take place for the better management of the system. Continuous support and interaction were needed to win the confidence of WUA to materialize actual management transfer.

Now after IMT, most WUAs are feeling confident to manage the system efficiently. Also, WUA expresses that managing irrigation system is not a new task to Nepalese farmers. For example Panchakanya was a FMIS earlier and there were several systems

managed by farmers in West Gandak. Now these two have been fully transferred to respective WUAs: Khageri is also on way to full transfer.

Actually management transfer is a complicated task and dependent upon different factors. For the successful IMT most important factor that need to be cared is that a clear action plan should prepared jointly with WUA and implementation should be as documented. This will create an atmosphere of belief between the subproject office and WUA. Other factors that helps IMT could be listed are: poor existing O&M situation, potential for the system improvement, awareness of the project implementation procedure like AP/MOA, cost sharing and the WUA's role in the project implementation.

WUA should be made adequately aware of the project implementation procedure and their adequate involvement should be sought in the joint walk through, detailed cost estimate and cost sharing arrangement, implementation schedule including training plan.

WUA is more efficient in administering ISF collection, in collecting share membership fee and general membership fee and in equitable water distribution. However, there is a continuous need of support to WUA for capability improvement. To improve performance of irrigation systems, project like IMTP should be implemented in all irrigation projects in O&M status.

NEEDED POST TRANSFER SUPPORT

Post transfer support is however needed to strengthen WUA's capability for improved system management. Main fields of assistance can be listed as below:

Capability build-up training

- Revised ISF collection and financial viability
- Share system administration
- WUA water rights
- Inventory of irrigated area and the demarcation of land

Water management

- Revised O&M plan
- Training on improved Canal Operation and Maintenance
- Water measurement & management
- Introduction to improved land and water management

Irrigated agriculture

- Improved irrigation methods
- Improved irrigated agriculture
- Agricultural cooperatives & marketing
- Record keeping (Monitoring & Evaluation)

Transitional maintenance support

VISIONS FOR EFFECTIVE IMPLEMENTATION OF IMTP PHASE-II

Now the IMTP is being launched in Phase-II sub-projects. These sub-projects are more diverse and complex and hence pose challenges of different nature. However all sub-projects are facing a common problem of budget shortage for operation and maintenance and hence poor performance of the system serving less area than the potential. This is a common concern to WUA and other farmers and there is zeal to implement IMTP in order to develop the system. This is also a concern for the DOI. Therefore, the common goal of DOI and WUA is for successful IMTP and hence IMT can be achieved.

However, as the WUAs in these sub-projects have been recently formed and the sizes of the systems are larger or in other words more households are concerned, more efforts are needed. For example, several interaction programs need to be conducted to let WUA's needs be presented in the MOA and AP clearly both in the plans for physical rehabilitation and institutional development. The contents of AP and MOA should be clarified to all WUA members up to grass root (upatoli) level and the need for participation should be clearly defined. There should be ample discussion on AP and MOA before signing so that later, they can be implemented perfectly.

In the preparation of AP, there is a need to look on the improvement of irrigation system in a system approach concept. For example, where water scarcity is a problem, conjunctive use or other augmentation measures should be considered, where flood water creates the problem, drainage and river training should be duly considered. Similarly, where silt and aggradation is a problem, watershed management should also be considered. Thus, by alleviating farmers' problem and winning their confidence, IMTP can be successfully implemented in phase II sub-projects improving their performances.

References

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