



## CASE STUDY

# Nepal: Irrigation Water Resource Management Project

## Summary

International donors have poured money into developing Nepal's irrigation infrastructures since late-1950s, but results remain only partly successful. The Irrigation Water Resources Management Project is one of the latest international aid efforts aimed to developing irrigation facilities while improving Nepal's institutional framework pertaining to water infrastructure projects. The importance of adequate and timely finance, well-defined administrative roles and institutional capacity building are part of key lessons learned from this project.

## Background

Water resource is the main natural resources of Nepal. The resources of water remains in glaciers, snow, rivers, lakes, ponds, wet lands and ground water. The country has utilized mainly medium and small rivers for different uses such as drinking water, watermill, irrigation and hydropower. The larger and perennial Himalayan rivers, except for a few cases, has remained untapped for Irrigation and other purposes. Food production in Nepal is barely sufficient to meet its annual food requirement. Irrigation is an important input for increasing food production. As of 2011, the country has a cultivated area of 2,642,000 ha (18% of its land area), of which two third (1,766,000 ha) is potentially irrigable. Up to the end of 2012, about 71% of the cultivated area has some form of irrigation infrastructure but only 40% of the cultivated area has year round and dependable irrigation.

Plans for developing Nepal's irrigation infrastructure started as early as the late 1950s. International donors including USAID, India, the Asian Development Bank, Saudi Fund for Development, and Kuwaiti Fund have assisted in the construction of irrigation schemes. At present, these irrigation infrastructures have been developed to serve 1.331 million ha with irrigation. Yet, it has been reported that these projects have repeatedly fallen short of their potential due to issues of governance, including misallocation of funds and systemic corruption.

## Actions taken

The Irrigation Water Resources Management Project was initiated in 2008 with the aim of supporting the national goal of poverty reduction and to develop Nepalese irrigated agriculture through irrigation development and management. The project was implemented with the grant assistance of the World Bank (50 million USD is grant assistance), along with

direct contribution of Water Users Associations (WUAs) (5 million USD) and the Government of Nepal (10 million USD). Basic concepts in the formulation of the projects were:

1. Acceleration of agricultural growth- a key focus area of Poverty Reduction Strategy Paper (PRSP 10th plan);
2. An improved and expanded irrigation system and key transformation input form agricultural growth;
3. Enhancement of water control and management; facilitate complementary investments in improved seeds, modern inputs and agronomic practices and market related investments, which together will raise crop yields, cropping intensives and farm incomes.

The objectives of the proposed project were to improve irrigation service delivery, and to enhance sustainability and productivity of selected irrigation systems in Nepal. This will be achieved through:

- irrigation infrastructure development and improvement;
- completion and consolidation of irrigation management transfer reforms; and
- institutional and policy support for better water management and productivity.

The realization of these objectives will be measured by:

1. improvement in indicators of irrigation service delivery;
2. greater collection and more effective use of water charges by WUAs; and
3. increase in farm income through improvements in crop yield, cropping intensity and diversification into higher value crops.

The Project has following four action components:

- Rehabilitating and modernizing the irrigation infrastructure;
- Completing and consolidating the irrigation management transfer reforms;
- Reinforcing the institutional and policy support for better water management and productivity;
- Integrating the crop and water management components.

## **Outcomes**

Significant improvements were made, especially towards action components 2 and 3. Feasibility studies and social investigations were thoroughly conducted, which enhanced ground level participation. Capacity support by governmental agencies, including operation and management (O&M) training, were delivered to farmers and were shown to be effective methods as to maintain and improve irrigation infrastructures in the long run.

The implementation of the irrigation projects was hindered by the fact that budgets were approved too late or towards the end of the fiscal year. A lack of clear cut responsibilities and authority at the regional level also worked against a smooth implementation of the projects. It was reported that several WUAs used funds provided by their village development committees or local MPs as proxies for their contribution.

In turn, such sort of rent seeking activities creates non-involvement among the majority of the beneficiaries. As a result, WUAs and farmers' associations continued to rely heavily on the local governments assistance, thus fueling the "Dependency Syndrome". Such poor

compliance of the funding scheme's guidelines is believed to have added to the problems of low public expenditure traceability and underlying corruption.

## **Lessons Learned**

O&M training is an important tool for the durability of projects and for local capacity building.

Feasibility studies and social investigations are methods that can be used in evaluating the tradeoff between technical and societal needs.

Adequate and timely financing is vital for the smooth the implementation of projects.

Public expenditure tracking body and integrity mapping reports are important measures to enhance the water governance. Participatory resource mobilization supports the sense of local-level involvement.

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## **Year**

2016

## **Country**

Nepal

## **Region**

Asia

## **Keywords**

Food and Nutrition , Financing

## **Thematic Tagging**

Urban , Water services

Language English

## **Supporting Materials**

GWP Nepal

GWP South Asia

Nepal: Irrigation Water Resource Manangement Project

## **Related IWRM Tools**

Public sector water utilities

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**Source** <https://iwrmaactionhub.org/case-study/nepal-irrigation-water-resource-management-project>  
**URL:**