

FRAME WORK OF IRRIGATION WATER MANAGEMENT ORGANIZATION AND THE FARMER PARTICIPATION IN MANAGING IRRIGATION AND DRAINAGE SYSTEMS

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ABSTRACT

The article presented the frame work for irrigation water system management organization in the country (Pakistan) compared with other models of different countries that are working in Bangladesh, India and Japan. These models are focused on the farmers' participation in managing irrigation and drainage systems. In this article the authors discuss different irrigation Management models of different countries. The structural framework of organizational models and views of various water management empirical studies discussed and reveal that the farmer participatory approach is being used in different patterns in different countries in past several years. This paper explores modern water management approach and considers existing agro-climate and soil conditions, various agricultural inputs including timely adequate water supply, together with participation of farmers at field level. The experiences make it clear that the modern approach is applicable and useful for optimizing the available water resources through improving the water delivery with respect to the measure of reliability, equity and user satisfaction, cost recovery. In irrigation management models farmers are benefited and obtain their water charges and government cess.

Keywords: Irrigation, Management, Drainage, Farming, Community.

INTRODUCTION

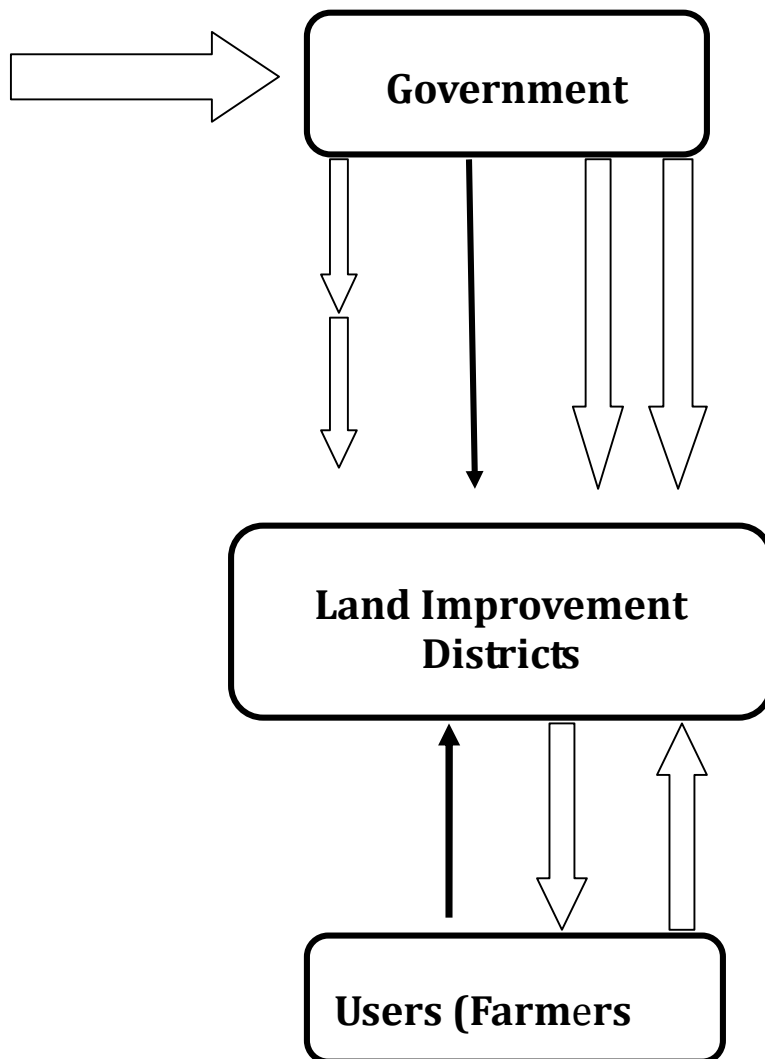
In Pakistan the left Bank outfall project (LBOD) success depends on efficient organization and Management (O&M) and the benefit to the farmers obtain from their participation and the cost recovery. In this article the irrigation water management model of the Japan, India, Bangladesh and that of Pakistan presented to give a comparable position. The model depicts the irrigation management transfer regarding improvement of water delivery and cost recovery.

ORGANIZATION OF MODEL STRUCTURE FRAMEWORK AND CANAL SYSTEMS

The organization model of the four countries (including Pakistan) is discussed below. Present the setup for the development drainage process in canal irrigation system.

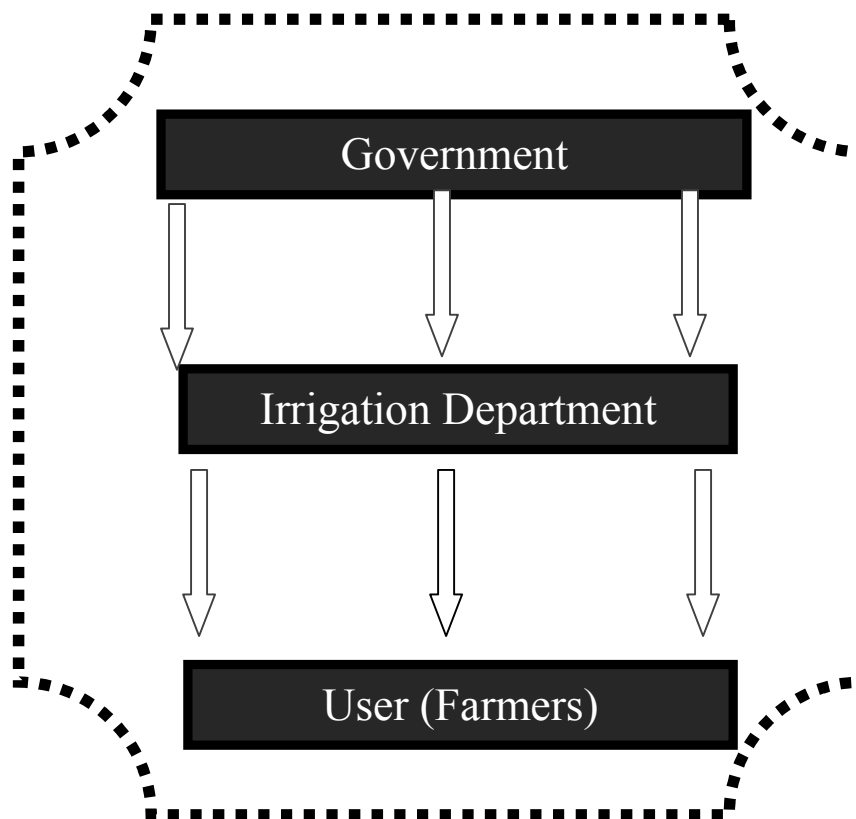
The models show the relationship between various organizations that who setup for the progress of water management in irrigation and drainage system with regard to planning construction, operation and management.

THE IRRIGATION MANAGEMENT MODEL OF JAPAN



The irrigation and drainage in Japan is collectively taken up by the traditional farmer organization, these organizations led to the emergence of Land Improvement District (LIDs), which manage irrigation and drainage facilities. The prefectures of these LIDs manage the operation and maintenance regarding land improvement in Japan. The other organization the Water Resource Development Public Corporation (WRDPC), Ministry of Agriculture, Forestry and Fisheries (MAFF) and other administration organization and water resource organization. The Ministry and Construction (TMC) the agency of home affairs (TAHA) and the Ministry of Agriculture (TMA) are involved in drainage development. The operation and maintenance are carried out by the farmers who benefit from the facilities in farm of waters charges.

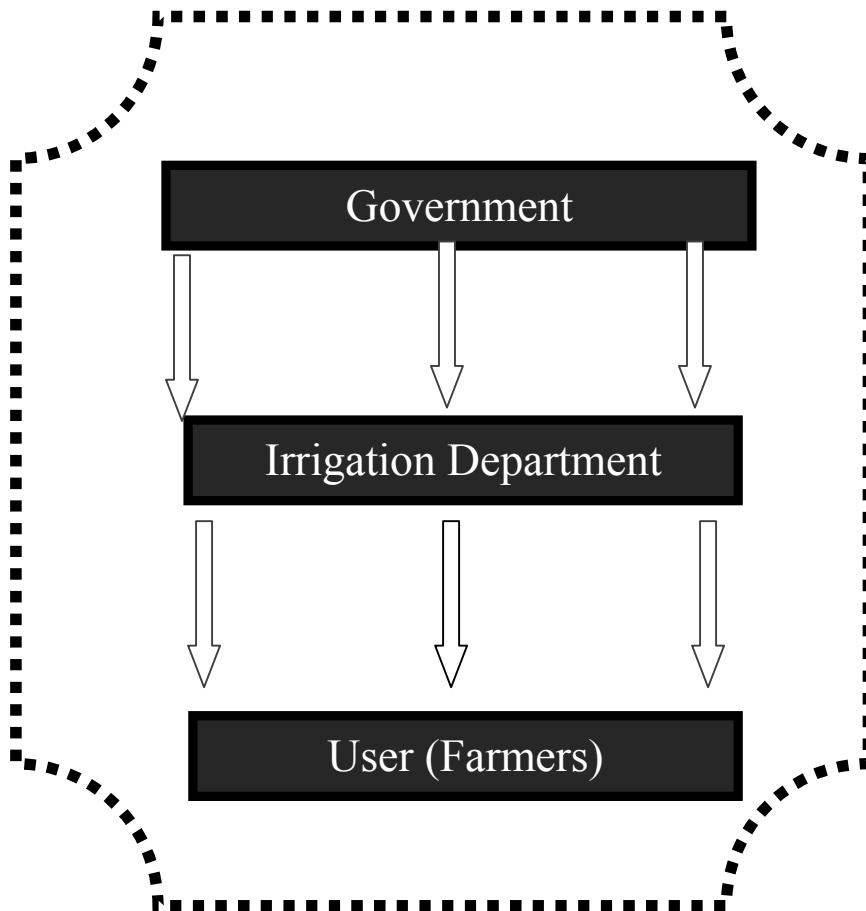
THE IRRIGATION MANAGEMENT MODEL OF INDIA



India's model has three parts which comprises government, irrigation department and users (FARMERS). The model depicts the relationship between the three organizations that is government irrigation departments and the users for the development for progress of irrigation water management .It shows that the Government in India has to take the responsibilities for the services of irrigation department.

It too provides the services to the irrigation department and extreme line the services of irrigation department. The irrigation departments in term provide services to the users (farmers). The users (who are farmers) bear the cost of the services to the irrigation department.

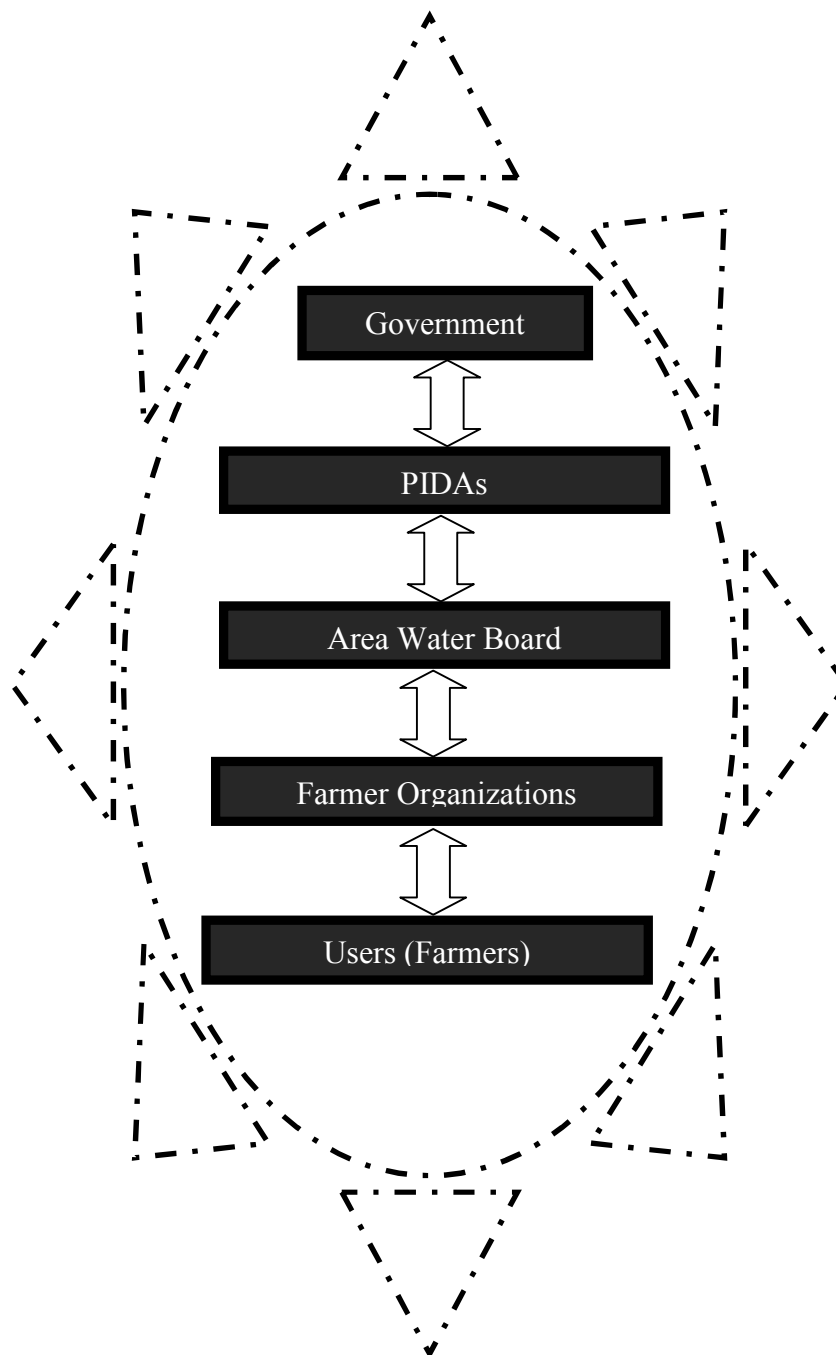
THE IRRIGATION MANAGEMENT MODEL OF BANGLADESH



The Bangladesh Irrigation Department model, like India also comprises three parts: governments, Bangladesh Water Development Board (BWDB) as the users (Farmers). It shows the relationship between these three organizations for the development and progress of irrigation water management. The focal water management organization is the Bangladesh Water Development Board (BWDB). It provides for planning, construction, operation in management of physical infrastructure of the irrigation system of the country.

It also supplies water up to the canal level from where farmers pump water for irrigation. Farmer contribution to the cost of operation and maintenance (O&M) comprises water charges at lower rates.

THE IRRIGATION MANAGEMENT MODEL OF PAKISTAN



The Pakistan's model unlike India and Bangladesh comprises five parts, government, Pakistan Irrigation Drainage Authority (PIDA), Area Waters Boards (AWB), Farmer Organizations (FOs) and users (Farmers). The model shows relationship between these organizations for development progress of irrigation water management. It is concerned with the canal irrigation system of the Pakistan and shows i.e. the Pakistan Irrigation Drainage Authority (PIDAs) facilitate and promote the formation of the (AWBs) which interim facilitate and promote formation of (FOs). Area Water Board (AWB) is formed by the government and comprises farmers, government representative and a representative of (PIDA). The Area water board provides for planning construction, operation and maintenance of the irrigation and drainage structures. Farmer organizations are also responsible for water charges and government cess from their members to pay for the expenses incurred for the deliverance of services to area water board (AWB).

WATER MANAGEMENT AND EMPIRICAL STUDIES

The main thrust is on institutional factors regarding the financing for management and operation research protection environment organization concerned with Area Water's Board (AWB) and farmers and the various policy actions relating to farmers participation in irrigation management.

The recommendations include joined on farm drainage, Farmer organization, capacity building, participatory approach, piloting studying, social mobilization to motivate farmers participation and the part played by government agencies regarding organization of farmers. The Studies reviewed below are concern with the management of drainage systems and the experiences in Pakistan:

- Cross (1992) the study mainly concern with mitigating negative the effect of drainage of which include salt removal and change soil chemistry, ecology threat and health.
- Qamar (1993) mainly focused on issues relating to environment and drainage in water birds migration and land used. He suggested improvement in education pollute lessening technologies institutional changes and policy reforms based on other countries successful achievements.

- Reeves (1995) reeves study concern with Operation and Maintenance (O&M) requirements of the LBOD Project and showed that the success depended on efficient O&M. He said that the greater awareness of Farmers (Beneficiaries) depends on good operation and maintenance. Befits must be fully demonstrated to Farmers to have their active participation.
- Akhtar (1997) suggested participatory management by Farmers (beneficiaries) and motivation and environment of Private sector are essential. He said that reforms institution will help increase Farmers participation in irrigation and drainage at management level and Operation and Maintenance (O&M), the establishment of PIDAs centers on projects.
- Kamal *et.al.*, (1997) Presented Farmer Participation experiences in the LBOD Project. He said that the drainage advisor services (DAS) has focused on an implemented strategies regarding information, communication, Gender and collaboration, which resulting from the participation service of action which include Farmers organization (FOs) and remained drainage groups. The Emphasis is on partnership supervised by stock holder committee for taking collective responsibilities for LBOD.
- Qaiser (1997) highlighted government policy objectives which include increase in water productivity, equitable water, O&M cause and revenues, increased participation of private sector in organization management (O&M) and the pilot testing farmer's organization (FOs).
- Mirbahar & Sipraw (2000) the authors study on-farm tile drainage system in Sindh and concluded that the Tile drainage units with the farmers participation head effective performance the authors suggested to increase the capacity of local private construction contractors by providing financial facilities in the form of short term loans to acquire drainage machine and implements.
- Pathan & Rind (2000) studies SCARP transitions North Rohri Pilot Project (NRPP) for assenting of Farmer Participation, regarding equity and sustainability in irrigation and drainage management. They recommended the farmer manage irrigation and drainage is essential they suggested water tariffs levy.

They concluded the transfers to Tube wells could be implemented in such a way that losses regarding equity, sustainability and productivity could be minimized. The studies mainly emphasize the participation Farmer's Organization (FOs) in Organization and Management (O&M) and appropriate social mobilization and involvement of farmers at every stage.

CONCLUSION

The structural frame work of organization and suggestion/ recommendations of various empirical studies show the farmer participation approach is used in different ways in different countries. The review revealed that water model management approach takes in to account climate and soil conditions, and agricultural inputs including adequate and timely water supplying on O&M, hence with participation of farmers at the field level. The experiences prove that the modern approach for optimizing the use of available water resources is essential and applicable by improving the reliable water delivery system, equitable and user satisfaction, cost recovery and crop intensity.

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