

Participatory Irrigation Management: A Case Study

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Abstract-

The present paper is an attempt to study the Participatory Irrigation Management system and the role of Water User Association's (WUA's) in this system. Since 1980, a number of countries have transferred rights and responsibilities for management of irrigation systems from government agencies to private or local persons or organization's. In India too, there is increasing user participation in the management of irrigation systems. It has been accepted as a policy of the Government of India and has been included in the National Water Policy adopted in 1987. Maharashtra has formulated a clearly defined and codified policy called participatory management of promoting transfer of irrigation management responsibilities from the government to farmers. For this purpose Maharashtra has enacted "The Maharashtra Management of Irrigation Systems by Farmers Act, 2005". Since then 1539 Water Users Associations (WUAs) have been formed, covering an area of 6.67 lakh ha.

We studied the role of Dharmvir Sambhaji Water Use Cooperative Society at Takali Ambad in Aurangabad district, in the participatory irrigation management. The study shows that, the society is continually in profit during the last four years. The society has made regular payments to the irrigation department. We observed that it led to the increased availability of water, improved reliability of supply of water and flexibility in cropping pattern. It means the participatory irrigation management system is the key for effective management of their resources.

Key words: Participatory Irrigation Management, Water Users Association, Water Management.

Introduction:

The Earth is easily distinguishable from other planets in our solar system by the abundance of water on its surface. Water covers approximately 70% of the world's surface. However, only 2.5% of the Earth's water is fresh and of that more than two-thirds is locked in glaciers and polar ice caps and is not available for use to society. Thus fresh water is actually a limited resource and its demand has increased due to an ever-growing population. Water being the most essential element, has important place in human life and should be managed holistically in all its uses. It should be managed economically and efficiently. Many irrigation facilities are planned, constructed and managed by the government. Invariably, farmers were not consulted in the design or the management of the irrigation facilities. However, there was a widespread dissatisfaction with the performance of irrigation projects, particularly on the efficacy of bureaucratic management in the irrigation sector. So in the 1980s, number of countries has transferred rights and responsibilities for management of irrigation system from government agencies to private or local person or organizations.

Participatory irrigation management is an approach in which farmers participate in all stages of irrigation development through to operation and maintenance and is implemented in many developing countries. The concept of involvement of farmers in management of the irrigation system has been accepted

as a policy of the government of India and has been included in the National Water Policy adopted in 1987 under the Command Area Development Programme (CADA). In April 1987, the Ministry of Water Resources issued guidelines for farmers' participation in water management. These guidelines covered all aspects like past experience in India and abroad, objectives of Participatory Irrigation Management (PIM), area of operation of farmers' associations in different irrigation schemes, duties and responsibilities of the farmers, training and monitoring. Regarding the need for sound legal framework for PIM, the government of India brought out and circulated in 1998 a model act to be adopted by the state Legislatures for enacting new irrigation acts/amending the existing irrigation acts for facilitating PIM.

Maharashtra, has formulated a clearly defined and codified policy, called participatory management to promote transfer of irrigation management responsibilities from the government to farmers. In accordance with the model act (1998), Maharashtra has enacted "The Maharashtra Management of Irrigation Systems by Farmers Act, 2005". Since then 1539 Water Users Associations (WUAs) have been formed, covering an area of 6.67 lakh hectares.

Review of Literatures:

Many studies and reports on participatory irrigation management and irrigation management transfer have been published. Vermillion (1997) studied the impact of IMT in 29 case studies, and found that the impact of IMT reforms cannot be drawn clearly because of a lack of systematic sampling and the limited extent of before and after analysis. Hamada and Samad (2001) study found that, in most cases farmers participate in all stages of irrigation development, but this approach was not successful, because, of the unfair cost sharing and financial weakness in farmers organizations. Swain and Das (2008) examine the implementation of PIM in India and showed that the process is fraught with many difficulties due to heterogeneity of farmers, cost class cleavages, physical system in efficiency, and half hearted support from the irrigation bureaucracy, lack of committed local leadership, inadequate capacity building and lack of proper incentives. They suggested that to achieve the intended benefits of PIM, an integrated and comprehensive reform is necessary. Naik and Kalro (1998) studied the role of water users Association in irrigation management in Maharashtra and showed that, in the proper situations, PIM leads to significant increases in the efficiency of water use and value of irrigated agricultural production. Users maintain the natural resources when substantial responsibilities are transferred to them.

Above this background this paper is an attempt to study the participatory irrigation Management system and role of Water User Associations (WUAs) in water management system. For this purpose we made case study of Dharmvir Sambhaji Water Use Cooperative Society at Takali Ambad in Aurangabad district. This society was established in 1996, and started water distribution activities in 2006. The membership of the society increased from 51 to 234 during the four year period. The quantity of water to be provided to the society was fixed 567 hectares. The volume of water was fixed at 31.58 Million cubic feet. The society continuously is in profit during the last four years. While this society has been prompt in making payments to the irrigation department and has got 5% discount for regular payment of water charges. For the study purpose we have collected primary as well as secondary data of society. In order to examine the functioning and impact of transfer of irrigation management of the water users, a detail survey of 50 household of the society has been done. We collected primary data from 10 beneficiary farmers from each village of the working area of society by using purposive sampling method. In all 50 samples beneficiary farmers out of 234 members of this society were selected for this study. Related quantitative information was collected through structured questionnaires. The field work was conducted during the month of July – September 2012.

Socio Economic Condition of Members of the Society:

We studied the family size, level of education, demographic features, land holding, their response to management etc.

The study indicated that, 24% of farmers have land holding to between 1 to 2% hectars, 20% are between 2 to 4 hectars, and 56% are more than 4 hectar. Thus 76% of the farmers have land holding more than 2 hectars. The average size of family among the member is 4.32. The literacy level among of the household has been classified into primary, secondary, higher secondary graduate and illiterate. 25% family members got primary education, 36.03% members were secondary level education and 16.20% family members got higher secondary level education. 5.6% and 16.20 % family member were graduate and illiterate respectively. The sex ratio was observed to be 841 in these surveyed families.

Water Use Efficiency:

74% respondents said they got advice for irrigation and cropping pattern form irrigation department. 93% respondent said that the irrigation management improved after the establishment of this society. Thus 95% respondent said the society is in profit during last four year. 82% respondent said that the irrigated area has been increased. The average crop yield has also increased due to this society.

With respect to the impact of water user society on water use efficiency, equity and empowerment of users, a positive to highly positive impact was reported. On an average 80% said there is adequate availability of water, 68% said there is timely availability of water, 80% said that water use efficiency has increased, 70% are satisfied about directors of the society and 76% are satisfied about better maintenance. It means irrigation efficiency improved when substantial responsibilities are transferred to society.

Conclusion:

The significant outcomes observed were the increased availability of water, improved reliability of supply of water and flexibility in cropping pattern which have enabled them to make shifts in cropping pattern towards high value crops. Users were more successful in maintaining the physical structure when substantial responsibilities are transferred to them. The equity in water distribution was also improved when WUAs distribute water. This society have devised and adopted water distribution rules most suitable to local conditions. It means the participatory irrigation management system is the key for making users effectively manage their resources. Participatory irrigation management leads to significant increases in the efficiency of water use and the value of agricultural production.

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