



A Study on Documentation of Constraints in the Functioning of Water User Associations in Mula Command Area

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ABSTRACT: This study was conducted on “Documentation of Constraints in the Functioning of Water User Associations in Mula Command Area”. This investigation seeks to offer insights into the required corrective actions to ensure the effective functioning of WUAs. The study documented the constraints encountered by office bearers in effective functioning of WUAs using ex-post facto research design and multistage sampling approach, collecting data from 57 directors of WUAs from Mula command area. Constraints were analyzed through Mean Percent Score, revealed that problems in volumetric water supply to individual farmers in absence of water measurement devices at farmers field level, canal officers do not take interest in solving water distribution related conflicts among the member farmers and non-cooperation from member farmers in recovery of current water charges and dues. These constraints collectively affect the effective functioning of WUAs in Mula command area. Tackling these diverse constraints with specific suggestions is essential for effective functioning of WUAs.

Keywords: Command Area, Effective, Functioning, Mean Percent Score, Water User Associations (WUAs).

INTRODUCTION

Participatory Irrigation Management (PIM) is one of the efficient methods of increasing irrigation water equality and efficiency. It incorporates farmers in the design, management, and maintenance of the irrigation system. According to Chopra *et al.* (1990), PIM programs place a high priority on organization setup. The existing PIM policies, however, have not given much thought to the institutional issues of farmers' irrigation participation. There are various PIM and Irrigation Management Transfer Programs across several states of India which are planning to involve farmers in the operation and maintenance at higher levels (Gulati *et al.*, 2005).

The involvement of the farmers in irrigation system management, particularly in water distribution and fee collection, is likewise emphasized by the National Water Policy (GoI, 2002). Participation of farmers in irrigation system management has also been recommended by the Vaidyanathan Committee on Pricing of Irrigation Water (GoI, 1992). The Restructured Command Area Development and Water Management Programme in India is placing greater focus on the use of participatory methods. Water Users Associations (WUAs) must be formed in order for states to receive central support under these programs.

Svendsen *et al.* (1997); Hamdy *et al.* (1998) reported that the major problems for WUAs are insecurity of water rights, financial problems and shortfall, rehabilitation and modernization of irrigation systems and shortage of financial and administrative management skills, environmental impact, leadership and management support of WUAs.

A significant factor in the effective use of water resources is the collaboration of farmers in the management of the operation, maintenance and collection of water charges from the areas under the control of water user associations (WUA). AWUA is a group of farmers who live near a lateral canal and create their own non-profit cooperative organization with a set of regulations to control water delivery in their region (Lohmar *et al.*, 2003). Those who gain from the efficient use of natural resources, such as water, must voluntarily participate in their management. For this reason, states in India have been attempting to encourage farmer involvement in the operation of irrigation systems. Since 1985, the Maharashtra government has shown a strong interest in the creation of water users cooperative groups. The irrigation department provides water on a volumetric basis to these beneficiary organizations, and the water user's cooperative societies themselves manage, operate, and maintain the distribution system. Farmers' registered

WUAs under the Maharashtra Cooperative Societies Act, 1960, which was in effect until 2005. The Maharashtra Management of Irrigation Systems by the Farmers Act, 2005, is a unique law that Maharashtra government passed in order to create WUA (Sangle, 2016).

This study is an attempt to provide a comprehensive view on the constraints in management of water resources in the state of Maharashtra with special focus on water user associations in Mula command area. The main aim of this study is to critically document the major constraints faced in the functioning of Water User Associations.

MATERIAL AND METHODS

The study was conducted of WUA in Mula command area by using an *ex-post facto* research design to document the constraints faced in functioning of WUAs for its betterment. Initially, two water user associations were selected from each head, middle and tail reach through stratified random sampling, resulting in a total 6 WUAs. From each WUA purposively selected all the office bearers (directors) of the WUAs, resulting in a total sample size of 57 office bearers. A close ended interview schedule was used for data collection. The opinions of office bearers of the WUAs investigation were recorded, analyzed and categorized in very major, major, light and negligible according to Gandhi and Namboodiri (2011). Based on mean and standard

deviation so obtained, the respondents were categorized into low, medium and high level.

Frequency, percentage, mean percent score and rank and other appropriate methods were used for this study:

(i) Percentage: Simple comparisons were made on the basis of frequency and per centage.

(ii) Mean Per cent score (MPS):

$$\text{MPS} = \frac{\text{Total score obtained by the respondent}}{\text{Maximum obtainable score}} \times 100$$

(iii) Rank: Ranks were accorded in the descending order according to the MPS obtained. This was used to find out the severity of constraint in order of priority.

RESULTS AND DISCUSSION

The dictionary meanings of constraints are 'confinement', the exercise to determine or 'confine action', 'bound' and 'faltered condition', restriction of liberty or of free action. To measure the constraints in WUA's functioning, a suitable schedule was developed. In this section, it was tried to find out the constraints being faced in WUA's functioning. The present investigation was to document the constraints faced in functioning of WUAs. The opinions of office bearers of the WUAs investigation were recorded, analyzed and categorized in very major, major, light and negligible according to Gandhi and Namboodiri (2011). The data pertaining to the constraints faced in WUA functioning was presented in Table 1.

Table 1: Constraints in water user associations (WUA's) functioning (n=57).

Sr. No.	Constraints faced by the WUA's functioning	MPS	Rank
1.	Canal officers do not take interest in solving water distribution related conflicts among the member farmers	59.52	II
2.	Non-cooperation from water resource department field staff in removal of encroachments	45.83	VI
3.	Lack of administrative and managerial skills among the management committee members	40.48	VIII
4.	Lack of accounting and book keeping skills among water user association secretaries	35.12	IX
5.	The system is handed over to the water user association without proper repairs and rehabilitation causing a major hindrance in proper water management	51.79	V
6.	Lack of cooperation among member farmers in water distribution & timely payment of water charges	35.12	IX
7.	Politicization of water user association management process	55.95	III
8.	Lack of timely funding support from water resource department for repairs and renovation of irrigation system	32.14	XII
9.	Lack of guidance & help from canal officer in preparation of annual maintenance plan of irrigation system	29.76	XIV
10.	Lack of guidance from canal officer in preparation of water distribution programme	32.14	XII
11.	Non-cooperation from member farmers in recovery of current water charges and dues	52.98	IV
12.	Problems in volumetric water supply to individual farmers in absence of water measurement devices at farmers field level	91.67	I
13.	Member farmers do not maintain canal system in (<i>i.e.</i> field channels) good condition resulting in wastage of water and time	41.07	VII
14.	Difficulty in issuing irrigation passes to member as all members do not apply for irrigation water	35.12	IX

Table 1, revealed that the major constraint with the highest mean percent score of 91.67 (First rank), was problems in volumetric water supply to individual farmers in absence of water measurement devices at farmers field level faced by the office bearers because most of WUA's were not water supply on volumetric basis. Following this canal officers do not take interest in solving water distribution related conflicts among the member farmers was second rank (59.52), politicization of water user association management process was third rank (55.95), non-cooperation from member farmers in recovery of

current water charges and dues was fourth rank (52.98), and the system is handed over to the water user association without proper repairs and rehabilitation causing a major hindrance in proper water management was fifth rank (51.79), on the basis of mean percent score other constraints were ranked.

Suggestions to overcome the constraints: From Table 2, it is observed that the major suggestions made by WUA office bearers like 'Water User Associations should be water supply on the volumetric basis to individual farmers at farmers field level' with highest percentage

77.19, 'WUAs should be made more farmer centered and external influence should be avoided' was second highest percentage 71.93, 'canal officers should be made more accountable towards member farmers for solving water distribution related conflicts' was at third position. 'Funding should be provided to Water User Associations on regular

basis by irrigation department' was at fourth place and 'to enhance administrative and managerial skills among the management committee members for capacity building of them should be done' was at fifth position, the other constraints were ordered on the basis of percentage score.

Table 2: Suggestions to overcome these constraints in water user associations (WUA's) functioning.

Sr. No.	Suggestions	Frequency	Percentage (%)
1.	Canal officers should be made more accountable towards member farmers for solving water distribution related conflicts	39	68.42
2.	Water resource department must cooperate and motivate to field staff in removal of encroachments	27	47.37
3.	So as to enhance administrative and managerial skills among the management committee members for capacity building of them should be done	34	59.65
4.	Training should be imparted accounting and book keeping skills among water user association secretaries	18	31.58
5.	System should be made up to date and regular maintain should be carried out	25	43.86
6.	Member farmers must cooperate each other's in water distribution & timely payment of water charges	32	56.14
7.	Water user association should be made more farmer centered and external influence should be avoided	41	71.93
8.	Funding should be provided to water user association's on regular basis by irrigation department	37	64.91
9.	Canal officer should provide proper guidance & help for preparation of annual maintenance plan of irrigation system	29	50.88
10.	Canal officer should provide guidance to preparation of water distribution	31	54.39
11.	Member farmers should cooperate and motivate to each other's for repayment of current water charges and dues on regular basis	26	45.61
12.	Water user association should be water supply on the volumetric basis to individual farmers at farmers field level	44	77.19
13.	Member farmers should go for effective and efficient water management practice, so that they save water	29	50.88
14.	Farmers should be increasing the utilization of water user association services	33	57.89

CONCLUSIONS

This study concluded the constraints encountered by the office bearers at WUAs in effective functioning. Key constraints identified were problems in volumetric water supply to individual farmers in absence of water measurement devices at farmers field level, canal officers do not take interest in solving water distribution related conflicts among the member farmers, politicization of water user association management process, non-cooperation from member farmers in recovery of current water charges and dues and the system is handed over to the water user association without proper repairs and rehabilitation causing a major hindrance in proper water management. These constraints collectively affect the effective functioning of WUAs. To enhance the effective functioning, it is crucial to address these multifaceted issues through targeted interventions that improve operational efficiency and farmer engagement. Implementing these suggestions will strengthen the effective functioning of WUAs.

Implications:

1. Addressing the identified constraints can enhance the operational efficiency and effectiveness of Water User Associations, leading to more equitable and sustainable water resource management in the Mula command area
2. The insights from this study can inform policy reforms and capacity-building initiatives, promoting

better institutional support and community engagement in water management practices.

FUTURE SCOPE

The study can help future researchers and scholars to focus on developing targeted strategies to address the specific constraints identified in the functioning of Water User Associations in the Mula Command Area, with an emphasis on enhancing their effectiveness and sustainability. Policymakers should use these insights to make more robust policies and support mechanisms that address the operational challenges and improve water management outcomes for the region.

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