

Performance of Water Users Cooperative Societies in Krishna Command Area, Karnataka

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ABSTRACT: Present study was conducted in Krishna Command Area at Vijayapura, Kalaburagi and Yadgiri districts of Karnataka to assess the Performance of Water Users Cooperative Societies (WUCS) in Krishna Command Area. Data was collected through personal interview method from eight WUCS. The results indicated that, WUCS 1, 2,3,5,6 were showing fully achieved for the indicator, group leaders to be selected followed by WUCS 4,7,8 were moderately achieved. Similarly, in the second indicator *i.e.*, total elected members in group (Male &Female) WUCS 1,2,3,5,6,7 were fully achieved followed by WUCS 4,8 were not Achieved etc. Out of eight WUCS, four WUCS were showing moderate (50.00 %) performance level followed by two WUCS had better (25.00 %) performance level and two were comes under poor (25.00 %) performance level. Overall performance with respect to individual WUCS and per cent value has been calculated for each societies based on their performance level, the values obtained under each societies were assigned ranks *viz.*, WUCS1 was ranked first followed by WUCS5 (Rank II), WUCS3 (Rank III), WUCS6 was ranked fourth, WUCS2 (Rank V), WUCS7 (Rank VI), WUCS4 (Rank VII) and WUCS8 (Rank VIII) respectively.

Keywords: Performance, Water Users Cooperative Societies, Indicators, canal irrigation water and Distributories.

INTRODUCTION

The most important natural resource and universal asset is rainfall water. But due to the uncertain nature of rainfall in India makes it essential to provide an insurance against crop failure through providing assured irrigation facilities, thus irrigation plays an important role in maintaining the food security in India. Irrigation source in India is mainly from three sources *viz.* canals, wells and tanks. Out of the total area under irrigation, 40 per cent are irrigated by canals, 40 per cent by wells or tube wells and 12 per cent by tanks. The rest 8 per cent of land are irrigated by other methods (Anon., 2017).

Due to lack of knowledge on water management practices and slight or no participation from farmers has aggravated the improper utilisation of canal irrigation water among the head reach and tail end farmers. Management of effective canal irrigation water in our country has been organized with proper planning and

implementation activities, formulation of guidelines, maintenance activities, responsibility sharing, crop planning activities and integrated crop management. It is necessary for desirable and essential management practices in irrigation system are restructured to make water management more efficient with farmers' participation and management of water user's co-operative societies (WUCS) effectively. Keeping these issues, the present study was conducted to assess the Performance of Water Users Cooperative Societies in Krishna Command Area.

METHODOLOGY

Performance: "Performance" is operationally defined as the extent to which the WUCS are carrying out their functions or activities. Performance is one of the criteria by which the effectiveness of an organization, institution or a group is measured.

To measure the performance of the WUCS, schedule was prepared using the criteria given by NABARD with suitable modification (Anon., 1995). This procedure entailed of 16 performance indicators *viz.*, group leaders to be selection procedure, total elected members in a group, group leaders get their turn in the term (rotated), attendance of members, fund generation, number of trainings to be conduct, number of meetings, timing of the meetings conducted, duration of releasing irrigation water from the distributory, repair and maintenance of field channel, cleaning and maintaining of field channels, equitable distribution of irrigation water, solve the water disputes, selection of crops based on availability of water, additional activity other than irrigation management and water tax collected within the group.

For each indicators scoring was assigned as 3 for “fully achieved”, 2 for “moderately achieved” and 1 was assigned for “not achieved”. By considering the response of WUCS, the score was marked. The total score was computed by summing up the scores on all the 16 indicators. Thus, after computing performance score, the WUCS were grouped into poor, moderate and better performance categories by taking the mean and standard deviation as a measure of check.

Selection of WUCS: The data collection was carried out with the help of Command Area Development Authority (CADA), B’ Gudi, and Rampur office, Indi (Anon., 2018). Based on the longest length, Distributory-6 (SBC) and Distributory-11 (IBC-11) were purposively selected. Under these two distributories (D-6 and D-11), eight WUCS were selected (Anon., 2018).

Table 1: Selection of eight Water Users Co-operative Societies from D-6 and D-11 Distributories

WUCS (8)	
Distributory-6	Distributory-11
1. Bommanalli (WUCS1)	5. Kakkalameeli (WUCS5)
2. Wandurga (WUCS2)	6. Kulekumatagi (WUCS6)
3. Chandlapur (WUCS3)	7. Belur (WUCS7)
4. Hemnur (WUCS4)	8. Ankalaga (WUCS8)

Table 2: Classification of Water Users Cooperative Societies based on the performance level.

Sr. No.	Category	Criteria	Mean Score Mean= 35.75, SD=7.72
1.	Poor	<(Mean - 1/2 SD)	<31.88
2.	Moderate	(Mean ± 1/2 SD)	31.88-39.61
3.	Better	>(Mean + 1/2 SD)	>39.61

Based on the mean and half standard deviation, eight WUCS were classified in to three category *viz.*, poor, moderate and better level of performance.

RESULTS AND DISCUSSION

For better understanding the performance selected eight WUCS under KCA were analyzed and it is depicted in Table 3.

Data in the Table 3 indicates that WUCS 1,2,3,5,6 were showing fully achieved for the indicator, group leaders to be selected followed by WUCS 4,7,8 were moderately achieve. Similarly, in the second indicator *i.e.*, total elected members in group (Male & Female), WUCS 1,2,3,5,6,7 were fully achieved followed by WUCS 4,8 were not achieved. For group leaders get their turn in the term (rotated), WUCS 1 was fully achieved followed by WUCS 2,3,4,5,6,7 were moderately achieved and WUCS 8 was not achieved. With respect to the fourth indicator, attendance of members, WUCS 1,2,3,5 were fully achieved followed

by WUCS 4,6,7,8 were moderately achieved. In case of fund generation, only first WUCS society was fully achieved followed by WUCS 2,3,5,6 were moderately achieved and WUCS 4,7,8 were not achieved. With respect to number of trainings to be conducted in a year, WUCS 1,3,5,6 were fully achieved followed by WUCS 2, 7, 4 were moderately achieved and WUCS 8 was not achieved. Whereas, for number of meetings conducted, WUCS 1,2,3,5,6 were fully achieved followed by WUCS 4,7,8 were moderately achieved. With respect to timing of the meetings conducted, WUCS 1,2,3,5,6 were fully achieved followed by WUCS 4,7,8 were moderately achieved. For duration of releasing irrigation water from the distributory, WUCS 1,5 were fully achieved followed by WUCS 2,3,6 were moderately achieved and WUCS 4,7,8 were not achieved. In case of repair and maintenance of field channel, WUCS 1,5 were fully achieved followed by WUCS 2,3,4,6,7,8 were moderately achieved.

Table 3: Performance of selected Water Users Cooperative Societies of Krishna Command Area(WUCS=8).

Sr. No.	Performance Indicators	Category	WUCS (No)	Name of WUCS
1.	Group leaders to be selected	Fully achieved	5	WUCS:1,2,3,5,6
		Moderately achieved	3	WUCS:4,7,8
		Not achieved	0	-
2.	Total elected members in group (Male & Female)	Fully achieved	6	WUCS:1,2,3,5,6,7
		Moderately achieved	0	-
		Not achieved	2	WUCS:4,8
3.	Group leaders get their turn in the term(rotated)	Fully achieved	1	WUCS1
		Moderately achieved	6	WUCS:2,3,4,5,6,7
		Not achieved	1	WUCS8
4.	Attendance of members	Fully achieved	4	WUCS1,2,3,5
		Moderately achieved	4	WUCS:4,6,7,8
		Not achieved	0	-
5.	Fund generation	Fully achieved	1	WUCS1
		Moderately achieved	4	WUCS:2,3,5,6
		Not achieved	3	WUCS:4,7,8
6.	Number of trainings to be conducted in a year	Fully achieved	4	WUCS:1,3,5,6
		Moderately achieved	3	WUCS:2,7,4
		Not achieved	1	WUCS8
7.	Number of meetings conducted	Fully achieved	5	WUCS:1,2,3,5,6
		Moderately achieved	3	WUCS:4,7,8
		Not achieved	0	-
8.	Timing of the meetings conducted	Fully achieved	5	WUCS1,2,3,5,6
		Moderately achieved	3	WUCS:4,7,8
		Not achieved	0	-
9.	Duration of releasing Irrigation water from the distributory	Fully achieved	2	WUCS:1,5
		Moderately achieved	3	WUCS:2,3,6
		Not achieved	3	WUCS:4,7,8
10.	Repair and maintenance of field channel	Fully achieved	2	WUCS:1,5
		Moderately achieved	6	WUCS:2,3,4,6,7,8
		Not achieved	0	-
11.	Cleaning and maintaining of field channels	Fully achieved	4	WUCS:1,3,5,7
		Moderately achieved	4	WUCS:2,4,6,8
		Not achieved	0	-
12.	Equitable Distribution of Irrigation Water	Fully achieved	2	WUCS:1,5
		Moderately achieved	2	WUCS: 3,6
		Not achieved	4	WUCS: 2,4,7,8
13.	Solve the water disputes	Fully achieved	3	WUCS:1,5,6
		Moderately achieved	5	WUCS:2,3,4,6,7,8
		Not achieved	0	-
14.	Help farmers to selection of crops based on the recommendation of irrigation department	Fully achieved	3	WUCS:2,3,7
		Moderately achieved	4	WUCS:4,5,6,8
		Not achieved	1	WUCS1
15.	Additional activity other than irrigation management	Fully achieved	1	WUCS1
		Moderately achieved	3	WUCS:5,6,8
		Not achieved	4	WUCS:2,3,4,7
16.	Water tax collected within the group	Fully achieved	2	WUCS:1,5
		Moderately achieved	3	WUCS:2,3,6
		Not achieved	3	WUCS: 4,7,8

*WUCS= Water Users Cooperative Societies,

WUCS1= Bommanalli, WUCS2= Wandurga, WUCS3= Kakkalameli, WUCS4= Kulekumatagi, WUCS5= Chandlapur, WUCS6= Hemnur, WUCS7= Belur, WUCS8= Ankalaga

With respect to cleaning and maintaining of field channels, WUCS 1,3,5,7 were fully achieved followed by WUCS 2,4,6,8 were moderately achieved. For equitable distribution of irrigation water, WUCS1, 5 were fully achieved followed by WUCS 3, 6 were moderately achieved and WUCS 2,4,7,8 were not

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achieved. Regarding solve the water disputes, WUCS 1,5,6 were fully achieved followed by WUCS 2,3,4,6,7,8 were moderately achieved. With respect to help farmers to selection of crops based on the recommendation of irrigation department, WUCS 2,3,7 were fully achieved followed by WUCS 4,5,6,8 were

moderately achieved and WUCS1 was not achieved. For additional activity other than irrigation management, WUCS1 was fully achieved followed by WUCS 5,6,8 were moderately achieved and WUCS 2,3,4,7 were not achieved and for the last indicator for water tax collected within the group, WUCS 1,5 were fully achieved followed WUCS 2,3,6 were moderately achieved and WUCS 4,7,8 were not achieved. The results were supported by the findings of Chandrasekaran *et al.* (2004); Satyal *et al.* (2006). This is because of the reason that fully achieved WUCS were aware of their responsibilities and having a frequent contact with the irrigation department and CADA and also all members of the WUCS are involved in the meetings and trainings. Thus, those societies were more involved in water distribution and properly follow the warabandi schedule. Similarly, majority of

the WUCS were belonged moderately to not achieved category because lack of awareness about the functions of WUCS and majority of the WUCS were not receiving sufficient water. Therefore, farmers were frustrated from water scarcity and did not involve functions and responsibilities of WUCS and also societies were failed to fulfill the farmers' needs.

Overall performance of selected Water Users Cooperative Societies in Krishna Command Area. It is clear from the results of Table 4 and Fig. 1 that four WUCS were showing moderate (50.00 %) performance level followed by two WUCS had better (25.00 %) performance level and two were comes under poor (25.00 %) performance level. The possible reasons could be discussed in the above Table. The results were supported by the findings of Chouhan (2013); Rohit (2016).

Table 4: Overall performance of Water Users Cooperative Societies in Krishna Command Area (WUCS=8).

Sr. No.	Category	Criteria	f	%
1	Poor	<31.88	2	25.00
2	Moderate	31.88-39.61	4	50.00
3	Better	>39.61	2	25.00
Mean: 35.75				
SD: 7.72				

*f=frequency %=percentage

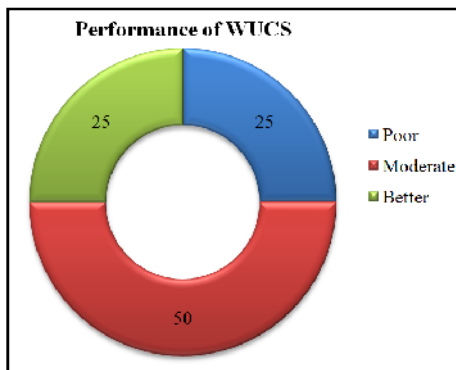


Fig. 1. Overall performance of Water Users Cooperative Societies.

Overall ranking of eight Water Users Cooperative Societies of Krishna Command Area based on their performance level. Data in the Table 5 and Fig. 2 indicates that overall performance with respect to individual WUCS and per cent value has been calculated for each societies based on their performance level, the values obtained under each societies were assigned ranks *viz.*, WUCS1 was ranked first followed by WUCS5 (Rank II), WUCS3 (Rank III), WUCS6 was ranked fourth, WUCS2 (Rank V), WUCS7 (Rank VI), WUCS4 (Rank VII) and WUCS8 (Rank VIII) respectively. The results were supported by the findings of Purnima (2001).

Table 5: Overall ranking of eight Water Users Cooperative Societies based on their performance level (WUCS=8).

Sr. No.	WUCS	Mean Percentage	Ranks
1.	Bommanalli (WUCS1)	16.19	I
2.	Wandurga (WUCS2)	12.32	V
3.	Chandlapur (WUCS3)	14.01	III
4.	Hemnur (WUCS4)	9.50	VII
5.	Kakkalameeli (WUCS5)	15.49	II
6.	Kulekumatagi (WUCS6)	13.73	IV
7.	Belur (WUCS7)	10.56	VI
8.	Ankalaga (WUCS8)	8.14	VIII

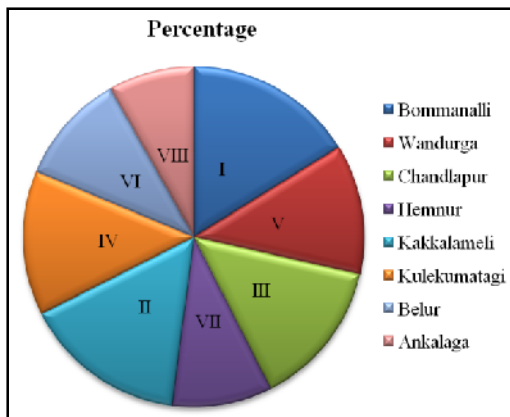


Fig. 2. Overall ranking of eight Water Users Cooperative Societies based on their performance level.

CONCLUSION

It can be concluded that majority of the WUCS were showing moderate performance level (50.00 %). Out of eight WUCS, WUCS1 was ranked first followed by WUCS5 (Rank II), WUCS3 (Rank III), WUCS6 was ranks fourth, WUCS2 (Rank V), WUCS7 (Rank VI) and WUCS4 (Rank VII) and WUCS8 (Rank VIII) respectively. There is a need to follow warabandi schedule among all the eight WUCS, timely meeting on water management practices, cleaning and maintaining of field channels, follow-up activities by CADA officials and timely collection of water tax. There should be a strict imposing of rule and penalty for those WUCS use water indiscriminately.

FUTURE SCOPE

A comparative study may be undertaken to know the performance of head reach and tail end WUCS.

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Conflict of Interest. None.

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