



Research Article

OPINION OF THE FUNCTIONARIES TOWARDS WATER USERS ASSOCIATIONS IN KRISHNA DELTA OF ANDHRA PRADESH

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Abstract: The study was conducted in Krishna delta region of Andhra Pradesh during 2018-2019 to find out the opinion of the functionaries towards water users associations. The Ex-post-facto research design was used for the present investigation. A total of 240 respondents were selected proportionately from both Krishna eastern delta and Krishna western delta regions for the study. The study revealed that majority (46.67%) of the respondents was highly favourable followed by favourable (43.33%) and less favourable (10.00%) towards water users associations.

Keywords: Opinion, Water Users Associations, Krishna delta

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Introduction

The shortage of water has raised due to the unbalances between the precipitation distribution and population and improper management practices. This situation has resulted in the need of the collective efforts of the farmers, intellectuals and other stakeholders to ensure store and distribute the water as efficiently as lead to the sustainable development in both agricultural and industrial sectors, these call for participatory approaches. So, the government of Andhra Pradesh has introduced the participatory irrigation management as "The Andhra Pradesh Farmers Management of Irrigation Systems (APFMIS) Act" in 1997. The legal framework created out of the APFMIS Act resulted in creation of farmers' organizations at different levels of irrigation system like Water User Associations (WUA), Distributory Committee (DC) and Project Committee (PC). The main role of Water Users Associations is to regulate and distribute water within its command area [1].

Material and Methods

The present study was carried out in Krishna delta region of Andhra Pradesh which includes four districts namely Krishna, Guntur and few parts in West Godavari and Prakasam. The Krishna delta region was mainly separated into Krishna Eastern Delta (Krishna and West Godavari) and Krishna Western Delta (Guntur and Prakasam). From Krishna Eastern Delta a total of 138 respondents who were members of 23 Water User Associations comprising of four Distributory Committees were selected and from Krishna Western Delta a total of 102 respondents who were members of 17 Water User Associations comprising of three Distributory Committees were selected for the study. Finally, 240 respondents were selected and ex-post-facto research design was adopted for the study. Thus, on the basis of proportionate sampling, the selected respondents were personally interviewed with the help of specially designed interview schedule. The opinion of the respondents towards water users' associations was measured by using Likerts summated rating scale technique because this technique has high reliability co-efficient and it gets a 4- or 5-point judgment on each item rather than mere acceptance or rejection [2].

Results and Discussion

[Table-1] represented the opinion of the respondents towards water users' associations in Krishna delta area. Majority of the respondents were highly favourable (46.67%) followed by favourable (43.33%) and less favourable (10.00%) towards water users associations [Fig-1].

Table-1 Distribution of respondents according to their, (n=240)

S	Category	Frequency	Percentage
1	Less favourable opinion (49-64)	24	10.00
2	Moderately favourable opinion (65-80)	104	43.33
3	Highly favourable opinion (81-95)	112	46.67
TOTAL		240	100

From the above [Table-1] we can conclude that most of the respondents had highly favourable opinion water users' associations. This would be because of the possible reasons except in few places of the tail end areas the rest of the areas were provided with sufficient irrigation water, the disputes were solved with proper implementation of warabandhi schedule, good support from the irrigation and agriculture departments for efficient managements of water through meetings/trainings. All these ultimately resulted in the increase of yields [3, 4].

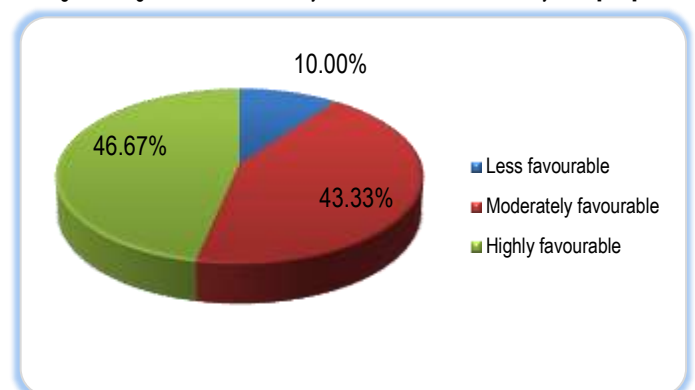


Fig-1 Distribution of respondents according to opinion

Table-2 Content analysis of opinion of the respondents towards water users associations, (n=240)

S	Statement	Response category									
		SA		A		UD		DA		SDA	
		F	%	F	%	F	%	F	%	F	%
1	There is increase in crop yields due to economic use of irrigation	173	72.08	44	18.33	8	3.34	13	5.42	2	0.83
2	There is timely delivery of water in relation to crop requirements and farmers agricultural programmes	79	32.91	61	25.41	14	5.83	60	25	26	10.83
3	There is equity in delivery of water to upstream, midstream and tail-end sections of farmers	74	30.83	48	20	23	9.58	67	27.92	28	11.67
4	Participatory Irrigation Management provides opportunity for changing of cropping pattern Rice-pulses Rice-maize	66	27.5	42	17.5	19	7.92	93	38.75	20	8.33
5	Water Users Associations promote economy in the use of water allocated	115	47.92	78	32.5	27	11.25	18	0.5	2	0.83
6	The Pattiseema Lift Irrigation scheme is largely beneficial to the farmers in the Krishna Delta area	142	59.17	52	21.67	21	8.75	19	7.91	6	2.5
7	Water Users Associations implement the warabandi schedule for each irrigation season	118	49.16	67	27.92	19	7.92	30	12.5	6	2.5
8	Water Users Associations helps in restoring the confidence of the farmers in the irrigation system	173	72.08	47	19.58	10	4.17	9	3.75	1	0.42
9	Cleaning of drains and its maintenance requires technical capabilities	125	52.08	52	21.67	14	5.83	39	16.25	10	4.17
10*	Participatory Irrigation Management contributed to increase disputes among stakeholders	59	24.58	18	7.5	33	13.75	103	42.92	27	11.25
11	The water from Pattiseema project stabilizes 12 lakh acres besides meeting the second crop requirements of Krishna Delta area	106	44.17	48	12.92	31	20	50	20.83	5	2.08
12*	Proper communication skills are not required among the associations for its effective functioning	59	24.58	22	9.17	27	11.25	113	47.08	19	7.92
13	The Water Users Associations system gives freedom for the members to be effective and efficient	78	32.5	86	35.83	31	12.92	32	13.33	13	5.42
14	There is need of conducting technical training programmes particularly on efficient and effective water application practices and their impacts on environment	155	64.58	38	15.83	18	7.5	25	10.42	4	1.67
15	Incentives should be given to less water used rice production technology users	148	61.67	49	20.42	15	6.25	23	9.58	5	2.08
16	All important decisions on water regulating and allocation are being discussed in the presence of all Water Users Associations members and I&CAD officials	121	50.42	61	25.42	26	10.83	27	11.25	5	2.08
17	Involvement of MGNREGS workers in canal rehabilitation	40	16.67	29	12.08	30	12.5	116	48.33	25	10.42
18*	Management Committee meetings are not conducted regularly to sort out problems related to funds allocation, operation of Operation and Maintenance works and water management	57	23.75	20	8.34	23	9.58	111	46.25	29	12.08
19	Water Users Associations is one of the best associates for Participatory Irrigation Management	109	45.42	67	27.92	26	10.83	27	11.25	11	4.58
20	Though there is displacement of more people in the project area it is important to have Polavaram Project	127	52.92	60	25	27	11.25	23	9.58	3	1.25
21	Local political play a big role in the way of functioning of Water Users Associations	60	25	63	26.25	39	16.25	71	29.58	7	2.92
22	Avenue planting along the canals bringing about improvement in environment, etc.	61	25.41	35	14.58	25	10.42	100	41.67	19	7.92

The [Table-2] stated that about 72.08 percent of them were strongly agreed to that Crop yields were increased due to economic use of irrigation and Water Users Associations helps in restoring the confidence of the farmers in the irrigation system (72.08%), there was a need of conducting technical training programmes particularly on efficient and effective water application practices and their impacts on environment (64.58%), incentives should be given to less water used rice production technology users (61.67%), the Pattiseema Lift Irrigation scheme was largely beneficial to the farmers in the Krishna Delta area (59.17%), though there was displacement of more people in the project area it was important to have Polavaram Project (52.92%), cleaning of drains and its maintenance requires technical capabilities (52.08%), all important decisions on water regulating and allocation are being discussed in the presence of all. Water Users Associations members and I&CAD officials (50.42%), warabandi schedule was implemented for each irrigation season (49.16%), Water Users Associations promote economy in the use of water allocated (47.92%), Water Users Associations was one of the best associates for Participatory Irrigation Management (45.42%), water from Pattiseema project stabilizes 12 lakh acres besides meeting the second crop requirements of Krishna Delta area (44.17%), there was timely delivery of water in relation to crop requirements and farmers agricultural programmes (32.91%), equity in delivery of water to upstream, midstream and tail-end sections of farmers (30.83%). The reasons might be because that due to sufficient availability of irrigation, good varieties of seeds and climatic conditions the yields of every crop has been increased. As warabandi schedule has been implemented the water was supplied up to till tail end areas of the WUA jurisdiction. The timely of release water made the respondents to use the water economically. Technical capabilities were provided for cleaning and maintenance of canals, Water Users Associations was one of the best associates for Participatory Irrigation Management because they were the ones look after the needs of the farmers at village levels regarding irrigation water. Hence they played a best role in facilitating its services to the farmers, though there was displacement of more people in the Polavaram project

area, many of them opined that it benefited the people lot in many areas by providing water timely through pattiseema lift irrigation scheme hence, it was important to have Polavaram Project. About 35.83 percent of them were agreed that Water Users Associations system gives freedom for the members to be effective and efficient, Water Users Associations promote economy in the use of water allocated (32.50%), Water Users Associations implement the warabandi schedule for each irrigation season and Water Users Associations is one of the best associates for Participatory Irrigation Management (27.92%), Local political play a big role in the way of functioning of Water Users Associations (26.25%), All important decisions on water regulating and allocation are being discussed in the presence of all Water Users Associations members and I&CAD officials (25.42%), There is timely delivery of water in relation to crop requirements and farmers agricultural programmes (25.41%). The Pattiseema Lift Irrigation scheme is largely beneficial to the farmers in the Krishna Delta area and Cleaning of drains and its maintenance requires technical capabilities (21.67%), Incentives should be given to less water used rice production technology users (20.42%), There is equity in delivery of water to upstream, midstream and tail-end sections of farmers (20.00%), Water Users Associations helps in restoring the confidence of the farmers in the irrigation system (19.58%), There is increase in crop yields due to economic use of irrigation (18.33%), Participatory Irrigation Management provides opportunity for changing of cropping pattern Rice-Pulses, Rice-Maize (17.50%), There is need of conducting technical training programmes particularly on efficient and effective water application practices and their impacts on environment (15.83%), Avenue planting along the canals bringing about improvement in environment, etc. (14.58%), The water from Pattiseema project stabilizes 12 lakh acres besides meeting the second crop requirements of Krishna Delta area (12.92%), Involvement of MGNREGS workers in canal rehabilitation (12.08%), Proper communication skills are not required among the associations for its effective functioning (9.17%), Management Committee meetings are not conducted regularly to sort out problems related to funds allocation, operation of

Operation and Maintenance works and water management (08.34%) and Participatory Irrigation Management contributed to increase disputes among stakeholders (07.50%). This could be due to that the Water Users Associations were given rights to look after and satisfy the water requirements of farmers in their area. So, the WUA members were working effectively and efficiently and providing their services to fulfil the irrigation requirements of the farmers. About 48.33 percent of the respondents disagreed for the statement involvement of MGNREGS workers in canal rehabilitation followed by management Committee meetings were not conducted regularly to sort out problems related to funds allocation, operation of Operation and Maintenance works and water management (46.25%), Participatory Irrigation Management contributed to increase disputes among stakeholders (42.92%), avenue planting along the canals bringing about improvement in environment, etc. (41.67%), nearly 38.75 percent of the respondents were disagreed that Participatory Irrigation Management provides opportunity for changing of cropping pattern Rice-Pulses, Rice-Maize, local political play a big role in the way of functioning of Water Users Associations (29.58%). The respondents were disagreed to that Participatory Irrigation Management provides opportunity for changing of cropping pattern because many of them were not rice-pulses due to the attack of Yellow vein Mosaic Virus (YMV) to the pulses they were rejecting to grow pulses, similarly rice-maize pattern increases the yield, it was used to followed only in few areas of Krishna delta area. The meetings were conducted by the Management Committee to monitor the operation and maintenance works of water users associations and also to discuss about the allocation of funds from the government for works in the WUA jurisdiction. The local political leaders involve in solving the issues regarding water in the villages. Many of the respondents opined that the not to involve the MGNREGS workers in canal rehabilitation works, because they felt the workers were not maintaining the quality of work done by them and also no proper time management for doing work.

Conclusion

Majority of the respondents had highly favourable opinion towards the water users associations in Krishna delta region. Because most of the respondents have opined that their crop yields have been increased due to sufficient availability of water to their fields, reduced water disputes due to effective implementation of warabandi schedule.

Application of research: The research can help the functionaries to be more effective in functioning of water users associations and officials of irrigation department to provide required training programmes to functionaries.

Research Category: Water Resource Management

Abbreviations:

I&CAD: Irrigation & Command Area Development

MGNREGS: Mahatma Gandhi National Rural Employment Guarantee Scheme

WUA: Water Users Associations

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Study area / Sample Collection: Krishna delta, Andhra Pradesh.

Cultivar / Variety / Breed name: Nil

Conflict of interest: None declared.

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.
Ethical Committee Approval Number: Nil.

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