

Extent of Water Utilization and its Management Aspect by Tribal and Non Tribal Farmers in Command Area of Surat District (Guj.)

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INTRODUCTION

Much of the success in agriculture depends on water use efficiency. Improper irrigation results in poor plant growth and consequently poor yield. Therefore, judicious utilization of water is necessary. India could irrigate most of cultivable (irrigable) land and also most other water demands, if total available water resources are properly managed.

Water resources development and management need more care and dynamic management. Therefore, study was undertaken with the following objectives.

OBJECTIVES

1. To determine the extent of utilization of irrigation water in tribal and non-tribal area.
2. To study the irrigation utilization management aspect in tribal and non-tribal area.
3. To study the relationship between water utilization management aspect and extent of adoption of improved farm technology.

METHODOLOGY

The study was carried out in the Surat district of Gujarat State. Population for study

constituted two categories (strata) of the respondents, i.e. tribal and non-tribals. Three villages from each taluka viz; Vyara as a tribal and Bardoli as a non-tribal having canal irrigation facilities were selected randomly. Thirty five farmeres were selected at random from each village, making total 105 respondents from tribal area and 105 respondents from non-tribal area. The data were collected through personal interview method with the help of interview schedule especially structured for the purpose.

Extent of utilization of irrigation water was measured in form of percentage utilization of the irrigable potentials as shown in Table 1.

Water utilization management was measured on the basis of the information collected for ten items viz; submission of water application, filling of water application, intimation about sanction for the application, receipt of passes for water, intimation about irrigation rotation, information about the requirement of the crop as per recommendations, importance of the drainage and sepage loss, maintenance of field channels, guidance for loan for irrigation purpose. The scoring procedure was applied on the basis of assistance rendered by the authorities/organisations to above mentioned

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items. The information was collected and measured with the scoring system. i.e. low assistance (up to 4), medium assistance (4 to 6) and high assistance (above 6).

RESULTS AND DISCUSSION

Extent of utilization of irrigation water

The data presented in Table 1 revealed that maximum utilization of irrigation water was done by both the categories of farmers i.e. 82.85 and 77.05 percent of the respondents from tribal and non-tribal areas, respectively. The statistical analysis showed independence between extent of utilization of irrigation water and categories of farmers. The finding of the study is in agreement with the finding of Chate (1983) and Timbadia (1991).

Water utilization management aspect

The management system refers to the assistance rendered by various authorities / organisations to various items mentioned in methodology para. This aspect plays crucial role in the command area, therefore, it was decided to examine the management role played by the authorities / organisations. The information in this respect is summarised in Table 2. The data indicate that about half of the tribal farmers received medium assistance, followed by low assistance by one third of the tribal farmers. Only 18.09 per cent of the tribal farmers received high assistance. In case of non-tribal farmers majority (56.11 per cent) of the farmers received high assistance where as 40.00 per cent non-tribal farmers received medium assistance in respect of irrigation utilization management and only 3.81 per cent of the farmers received low assistance.

The chi-square test indicated significant association between categories of farmers and assistance rendered in respect of water utilization management. The results revealed that non-tribal farmers had received better assistance from various organizations / authorities than tribal farmers.

It clearly shows that in tribal area farmers do need the assistance in respect of irrigation management and its related aspects. Thus the authority has played a crucial role in this regard. These findings are in line with the results reported by Shrinivasan (1984) and Tripathi and Kushwaha (1984) who observed low to high irrigation utilization management in command area.

Correlation between water utilization management aspect and extent of adoption of improved farm technology

The 'r' value presented in Table 3 indicate that the 'r' value was positive and significant for tribal farmers and non significant for non - tribal farmers. This suggests that in tribal area, water utilization management system played an important role in the extent of adoption of improved farm technology, whereas, in non-tribal area water management system did not affect the extent of adoption of improved farm technology. These results are in agreement with the finding of Patil (1977) and Mathur (1980).

CONCLUSION

1. Maximum utilization of irrigation water in command area was done by the farmers of both the categories i.e. 82.05 percent and 79.05 percent of the respondents from tribal and non-tribal areas, respectively.

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Table 1 : Distribution of the respondents according to the extent of utilization of irrigation water

Extent of utilization	Tribal farmers	Non-tribal farmers	Chisquare
Low Utilization (25.0 to 50.0 percent)	3 (2.9)	2 (1.9)	1.02 NS
Medium utilization (50.1 to 75.0 percent)	15 (14.3)	20 (19.0)	
Hight Utilization (75.1 to 100.0 percent)	87 (82.8)	83 (79.1)	
Total	105 (100.0)	105 (100.0)	

Note : 1. Figures in the paranthesis indicate percentage to total respondents.

2. There was no respondent having extent of utilization below 25 per cent.

NS = Non-significant

Table 2 : Distribution of the respondents according to the assistance received about water utilization management aspects.

Assistance received	Tribal farmers		Non-tribal Farmers		Chi-Square
	Number	percent	Number	percent	
Low assistance	36	34.29	4	3.81	46.82**
Medium assistance	50	47.62	42	40.00	
High assistance	19	18.09	59	56.11	
Total	105	100.00	105	100.00	

** Significant at 0.01 per cent level

Table 3 : Correlation between water utilization management aspect and extent of adoption of improved farm technology

Variable	'r' Value	
	Tribal farmers	Non-Tribal Farmers
Water management aspect	0.4670 **	0.0752

** Significant at 0.01 per cent level

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2. It was observed that farmers of tribal area received low assistance in respect of irrigation utilization management as compared to farmers of non-tribal area.
3. Water management system showed significant positive relationship with the adoption of improved farm technology in tribal area, where as it was non-significant in non-tribal area.

IMPLICATION

1. Rotational distribution of water is essential for uniform distribution of

irrigation supplies and it should operate with considerable flexibility, if it is to be truly efficient. It should be based on consumptive use of water at different stages of crop growth.

2. There is a need to educate farmers on scientific farming and water management and to motivate them to have more participation in various development agencies to accrue the benefits of the technology.

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❖ If every man could read the hearts of others, there would be more men anxious to descend than to rise in life

- ROUSSEAU