

Extent of Utilization of Canal Irrigation water and Problems in Rotational water delivery system

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INTRODUCTION

Irrigation is considered as an important input for increasing agricultural production. It is natural but scarce input available to the farmers. Therefore, it is necessary to use it judiciously and efficiently. The state government has therefore, decided for an improved methodology for optimising the utilization of created irrigation potentiality. The system of water distribution called "Rotational Water Delivery System" (R.W.D.S.) is considered to offer one good answer of the situation.

As an experiment R. W. D. system was introduced on Ravrapura sub-minor during the Rabi 1978-79. Considering one of the object of system, this study was undertaken with the following objectives :

OBJECTIVES

1. To know the extent of utilization of irrigation water of farmers.
2. To study the problems of farmers in relation to use of canal water in R.W.D.S. system.

METHODOLOGY

The study was conducted on Ravrapura sub-minor of Mahi project in Anand Taluka of Kheda district in Gujarat state. A list of farmers who were accepted R.W.D.S. system was obtained from irrigation department. All 100 respondents were selected randomly from three adopted villages viz., Samarkha, Sadanapura and Ravrapura. An interview schedule comprising both objectives was prepared with the help of engineers of Irrigation Department and from available literatures. The data were collected through personal interview schedule.

The extent of utilization of canal irrigation water was measured by forming standard formula as under :

$$\text{Extent of utilization of irrigation water} = \frac{\text{irrigated area}}{\text{irrigable area}} \times 100$$

Then respondents were grouped into three levels of extent of utilization i.e. low, medium and high level of utilization by equal division of the percentage.

Problems in utilizing canal water measured by interviewing personally.

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The response regarding various problems were measured through frequency and percentage and rank.

RESULTS AND DISCUSSION

Extent of utilization of irrigation water

On the basis of measurement of extent of utilization of water, the respondents were categorized and data in this respect are presented in Table 1.

The data presented in Table 1 reveal that, a large majority (65 per cent) had high level of extent of utilization, whereas 26 per cent of respondents had

The data presented in Table 2 indicate that, "construction and maintenance of field channels is costly" was faced by the 84 per cent of respondents having first rank. The next important problem faced by the respondents was "farmers do not follow the time schedule" and achieved second rank with 83 per cent. The third problem faced by the respondents as indicated by them (78 per cent) was "time arrangement is difficult when arranged at night" and fourth important problem faced by them (72 per cent) was "problems of water course from

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

			(N=100)
Sr. No.	Category for Extent Utilization of irri. water	Number	Per cent
1.	Low (upto 33 per cent)	9	9.00
2.	Medium (above 33 to 66 per cent)	26	26.00
3.	High (above 66 per cent)	65	65.00
Total		100	100.00

medium level of utilization followed by 9 per cent in low level of extent of utilization of canal irrigation water. Similar result was obtained in the study of Chate (1983) and Madalia (1983).

Problems in utilization of canal irrigation water

The problems faced by the respondents in utilization of canal irrigation water in R.W.D. system are presented in Table 2.

canal to field". Other problems expressed by the respondents were : cleanliness of water course in group and sub-group (71 per cent), Problem of trace passer at night time (65 per cent), problem of labour (60 per cent), problem of land at tail end (45 per cent) etc. which ranked 5th, 6th, 7th and 8th respectively. This finding was in support of findings reported by Shrinivasan (1984).

Extent of Utilization....

Table 2 : Distribution of the respondents according to the problems in utilization of canal irrigation water in RWD system (N=100)

Sr. No.	Problems	Per cent	Rank
1.	Construction and maintenance of field channel is costly	84.00	I
2.	Farmers do not follow the time schedule	83.00	II
3.	Time' arrangement is difficult when arranged at night	78.00	III
4.	Problems of water course from outlet to field	72.00	IV
5.	Problems of cleanliness of water course in group and sub-group	71.00	V
6.	At the night time trace passes break water course	65.00	VI
7.	Problems of labour to cover entire field at night time	60.00	VII
8.	Land is suited at tail end of outlet	45.00	VIII

CONCLUSION

This study concluded that majority of the respondents having high level of extent of utilization of canal water and main problems in utilization of canal water were "construction and maintenance of field channels" and "the time schedule is not followed by farmers".

IMPLICATIONS

Canal irrigation is the main input for intensive agricultural development. Efforts should made to cover more area under such system so that, the utility of water can be increased and enhance the agricultural production. Problems reflect that care should be taken about (i) to build up Pucca water course, (ii) convenient time arrangement for irrigation etc. for successful implementation of such system on other irrigation projects.

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