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Problems faced by farmers towards use of canal irrigation system in Chhattisgarh

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Abstract

The present study was carried out in Mahanadi reservoir canal irrigation system of Chhattisgarh state during the years 2017-18 and 2018-19. Total 240 beneficiary respondents had been selected for the study. The data was collected personally through pre-tested interview schedule. With regard to problems faced by the beneficiaries in canal irrigation system that out of total beneficiaries, one of the main problems is that, irregular water supply (100%) had expressed, followed by 58.75 per cent had opined that poor water supply due to long distance channel.

Keywords: Beneficiaries, canal irrigation, constraints, suggestions

Introduction

Water is the most essential component of the environment and holds a unique status in it. One-third of our country's total geographical area is drought-prone because we are dependent upon the monsoons which can be wavering. Water should be provided in drought-prone areas not only for human and cattle consumption but also for irrigation. Water has inimitable characteristics that determine that it can be allocated and use as a resource in agriculture. For irrigation, agricultural use of water is itself contingent on land resources. Since the origin of the earth, water has always been the most required and demand for it has been increasing since ever. To meet and cope up with this ever increasing demand, water resources development projects have been started in almost all countries of the world. The projects are having the potential of changing the total agriculture's scenario of the area as enormous benefits can be received by them. Keeping of above fact canal irrigation is the almost cheaper method for irrigation demand in farming community. Canal irrigation brings the influence the civilization, productivity of crops, agricultural based industrial progress too.

Materials and methods

Location of the study area

This study was conducted in Mahanadi reservoir canal irrigation system of Chhattisgarh state during the years 2017-18 and 2018-19. Mahanadi reservoir canal irrigation system comprise of seven canal systems namely, Mahanadi main canal, Mandhar branch canal, Abhanpur lift canal, Bhatapara branch canal, Baloda branch canal, Lawan branch canal and Mahanadi feeder canal system. Out of the 7 canal system, 4 were considered for this study namely Mahanadi main canal, Mandhar branch canal, Baloda branch canal and Lawan branch canal, as, it is very difficult to cover entire 7 canal system. Accordingly, total 28, 14, 17 and 21 distributaries belonging to Mahanadi main canal, Lawan branch canal, Mandhar branch canal and Baloda branch canal, respectively were taken for sample collection. 20 farm families (beneficiary of canal irrigation) had been selected randomly from each of the selected village. In this way, total 240 beneficiary families had been selected.

Method of data collection

The data were collected personally by the researchers in cooperation with gram sahayak and other officials of the blocks by using pre tested interview schedule.

Results and Discussion

Problems faces by the beneficiaries in canal irrigation system

As regards the distribution of respondents according to problems faced by beneficiaries' farmer in farming system, it was observed from the table 1, that out of total beneficiaries, one of the main problems is that, irregular water supply (100%) had expressed, followed by 58.75 per cent had opined that poor water supply due to long distance channel. Moreover, 56.67 per cent respondents had pointed out water supply is highly dependent on initial rainfall.

Similarly, various issues namely, which had to be taken care of farmers no scope for other than rice crop due to flood irrigation method (56.25%), followed by, poor maintainers of canals (50.42%), lack of co-operation among farmers in preparing field channels (47.92%), water logging and salinity in the field (46.67%), infestation of weeds in the channels (43.75%), farmers who were closer to the outlet using excessive water, had (40.83%) opined.

Suggestions given by the beneficiaries to overcome the problems

With regard to the suggestions received from the respondents to overcome the constraints faced in different farming situations by the beneficiary farmers, it has been observed from the table 2, that there are priorities which have to be noted down. As the first and foremost suggestion is to water should be timely available as per need, opined by 84.17 per cent of respondents, followed by adequate quantity of water should be supplied (72.50%). About 70.42 per cent respondents had opined out payment of water charges should be equal. A total of timely maintenance of channels (66.25%), 65 per cent of respondents had said that enhancing the water holding capacities of dams through deepening, trainings should be organized for the farmer for effective use of canal water (60.42%). some of the respondents (59.17%) had given their suggestions water losses/seepage must be checked, followed by information of releasing water in canals should be widely communicated (46.67%) and timely and equal water supply should be ensured also for tail end farmers (33.33%).

Table 1: Problems faced by beneficiary farmers pertaining to canal irrigation system (n=240)

| Sl. No. | Constrains | Frequency | Percentage | Rank |
|---------|---|-----------|------------|------|
| 1 | Irregular water supply | 240 | 100.00 | I |
| 2 | Poor water supply due to long distance channel | 141 | 58.75 | II |
| 3 | No scope for other than rice crop due to flood irrigation method | 135 | 56.25 | IV |
| 4 | Poor maintainers of canals | 121 | 50.42 | V |
| 5 | Poor water supply in undulating land | 89 | 37.08 | XII |
| 6 | Farmers who were closer to the outlet using excessive water | 98 | 40.83 | X |
| 7 | Infestation of weeds in the channels | 105 | 43.75 | VIII |
| 8 | Uneven water charges | 96 | 40.00 | XI |
| 9 | Water logging and salinity in the field | 112 | 46.67 | VII |
| 10 | Lack of co-operation among farmers in preparing field channels | 115 | 47.92 | VI |
| 11 | Water supply is highly dependent on initial rainfall | 136 | 56.67 | III |
| 12 | Lack of information from irrigation officials prior to release of canal water | 103 | 42.92 | IX |

*Data based on multiple responses

Table 2: Suggestions received from the beneficiaries to overcome the problems (n=240)

| Sl. No. | Suggestions | Frequency | Percentage | Rank |
|---------|--|-----------|------------|------|
| 1 | Adequate quantity of water should be supplied | 174 | 72.50 | II |
| 2 | Enhancing the water holding capacities of dams through deepening, de-silting etc | 156 | 65.00 | IV |
| 3 | Water losses/seepage must be checked | 142 | 59.17 | VII |
| 4 | Payment of water charges should be equal | 169 | 70.42 | III |
| 5 | Timely maintenance of channels | 159 | 66.25 | V |
| 6 | Water should be timely available as per need | 202 | 84.17 | I |
| 7 | Trainings should be organized for the farmer for effective use of canal water | 145 | 60.42 | VI |
| 8 | Information of releasing water in canals should be widely communicated. | 101 | 46.67 | VIII |
| 9 | Timely and equal water supply should be ensured also for tail end farmers. | 102 | 33.33 | IX |

*Data based on multiple responses

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