



P-ISSN: 2349-8528

E-ISSN: 2321-4902

IJCS 2019; 7(1): 1468-1470

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Received: 04-11-2018

Accepted: 08-12-2018

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Relational analysis of beneficiary farmers of middle region with agriculture and socio-economic development parameters

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Abstract

The present study entitled "Relational analysis of beneficiary farmers of middle region with agriculture and socio-economic development parameters" was frame and conducted in Akola and Buldhana district of Maharashtra State at Wan irrigation project. A total sample comprising 100 beneficiaries were selected from five villages by using random sampling method from head region. The data was collected with the help of pre-tested interview schedule by personally interviewing the respondents and data were subjected to appropriate statistical analysis. In this investigation it is found that, maximum number of the selected beneficiaries from middle region were satisfied with the benefits getting from wan irrigation project in middle region.

Keywords: agriculture, socio-economic, irrigation beneficiary, middle region and development

Introduction

Wan irrigation project is major irrigation project constructed on Wan River in Telhara Taluka in Akola District. Wan river forms the part of northwest boundary of Akola district of Maharashtra State of India, after entering from Amravati district. This irrigation project was sanctioned by Government of Maharashtra in 1979 with the estimated cost of Rs. 1337 lakh and up to completion of the project Rs. 22839.00 lakh was spent on the project. It was started functioning from 2005. The catchment area of this project is 279 sq. km and gross command area of this project is 25028 ha. The irrigable command area is 15100 ha and irrigation potential is 19177 ha. This project is a major source of irrigation in Akola and Buldhana district of Maharashtra State. Name given in official web site is "Wan". However, it appears that locally the place is called "Wari" and the local name of the Project is "Hanuman Sagar". Official name is used here Wan Reservoir was created as a result of construction of Wan dam of Wan irrigation Project. Official Designation of the Project is "Wan D – 03007". Locally this is also known as "Wan Talav " or " Wan Lake". It is therefore, felt necessary to examine the impact of this project on its beneficiaries in terms of extent of agriculture and socio-economic development in this area.

Methodology

In the present study, the command area of Wan irrigation project of middle reach was considered for study. From this segment five villages were selected on the basis of beneficiary farmers. From each village 20 beneficiary farmers were selected as respondents. It means 100 beneficiaries from this segment

Thus, for the proposed study, total 100 beneficiaries constituted the sample respondents. The respondents were selected by proportionate random sampling method from Akola and Buldhana districts of western Vidarbha region of Maharashtra.

Table 1: Total number of beneficiaries selected from Middle region of Wan irrigation project

Sl. No.	Segment of Command area	No. of beneficiaries (n=100)
1	Middle reach	100

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Table 2: Villages and number of beneficiaries selected from Middle region

Sl. No.	Segments	Name of villages	Number of Respondents
A)	Middle reach	1) Kakanvada (Khurd)	20
		2) Sheri (Khurd)	20
		3) Ghodegaon	20
		4) Malegaon	20
		5) Varud (Budruk)	20
	Total (A)		= 100

Results and Discussion

A. Coefficient of correlation between selected independent variables of beneficiaries of middle region with agriculture development parameters

In case of cropping intensity, Table A revealed that, the variables namely land holding, annual income, occupation, farming experience, sources of irrigation, method of irrigation, type of land, land under irrigation and frequency of irrigation and irrigation potential were found to be positively significant at 0.01 level of probability.

Table A: Coefficient of correlation between selected independent variables of beneficiaries with agriculture development of middle region

Sl. No.	Independent Variables	Cropping intensity ('r' value)	Productivity ('r' value)
1	Age	0.022	0.022
2	Land holding	0.203**	0.280**
3	Annual income	0.325**	0.230*
4	Occupation	0.370**	0.368**
5	Farming experience	0.264**	0.396**
6	Sources of information	0.066	0.111
7	Sources of irrigation	0.274**	0.396**
8	Method of irrigation	0.369**	0.366**
9	Type of land	0.350**	0.208*
10	Land under irrigation	0.290**	0.263**
11	Economic motivation	0.221*	0.278**
12	Scientific orientation	0.214*	0.227*
13	Innovativeness	0.228*	0.226*
14	Frequency of irrigation in a year	0.282**	0.303**
15	Irrigation potential	0.277**	0.235*
16	Distance of dam	-0.200*	-0.213*

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

Whereas, the variables like economic motivation, scientific orientation and innovativeness were found to be significant at

Table B: Coefficient of correlation between selected independent variables of beneficiary of middle region with socio-economic development parameters

Sl. No.	Independent Variables	Occu.	Land Holding	Family edu.	Annual Income	SPP	Expt. Pattern	Econ. Empow.
1	Age	0.061	0.044	0.099	0.032	0.194*	0.200*	0.218*
2	Land holding	0.231*	0.221*	0.232*	0.261**	0.234*	0.233*	0.258**
3	Annual income	0.236*	0.306**	0.391**	0.208*	0.267**	0.322**	0.512**
4	Occupation	0.404**	0.281*	0.352**	0.263**	0.201*	0.296**	0.263**
5	Farming experience	0.290*	0.195*	0.205*	0.316**	0.212*	0.205*	0.201*
6	Sources of information	0.102	0.133	0.060	0.122	0.050	0.114	0.126
7	Sources of irrigation	0.255**	0.311**	0.210**	0.312**	0.351**	0.308**	0.302**
8	Method of irrigation	0.300**	0.279**	0.306**	0.257**	0.315*	0.213*	0.199*
9	Type of land	0.261**	0.254*	0.230*	0.231*	0.204**	0.197*	0.197*
10	Land under irrigation	0.296**	0.289**	0.280**	0.402**	0.198*	0.336**	0.278**
11	Economic motivation	0.205*	0.261**	0.263**	0.314**	0.319**	0.416**	0.523**
12	Scientific orientation	0.194*	0.197*	0.215*	0.200*	0.219*	0.195*	0.229*
13	Innovativeness	0.220*	0.203*	0.211*	0.196*	0.200*	0.222*	0.206*
14	Frequency of irrigation in a year	0.255**	0.301**	0.337**	0.266**	0.206*	0.523**	0.502**
15	Irrigation potential	0.266*	0.306**	0.201*	0.257**	0.265*	0.307**	0.306**
16	Distance of dam	-0.201*	0.088	0.071	-0.198*	0.091	0.103	0.110

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

0.05 level of probability.

The other variable distance of dam was found to be negatively significant at 0.05 level of probability.

The relational analysis with productivity revealed that, the variables land holding, occupation, farming experience, sources of irrigation, method of irrigation, land under irrigation and frequency of irrigation in a year were found to be significant at 0.01 level of probability.

Whereas, the variables namely annual income, type of land, scientific orientation, innovativeness and irrigation potential were found significant at 0.05 level of probability.

Variable distance of dam was found to be negatively significant at 0.05 level of probability.

Coefficient of correlation between selected independent variables of beneficiaries of middle region with socio-economic development parameters

Coefficient of correlation between selected independent variables of beneficiary of middle region with socio-economic development parameters viz. occupation, land holding, family education, annual income, socio-political participation, expenditure pattern and economic empowerment presented in Table B. It is revealed from Table B that, in case of occupation, the variables such as occupation, sources of irrigation, method of irrigation, type of land, land under irrigation and frequency of irrigation in a year were found to be positively significant at 0.01 level of probability.

Whereas, the variables namely land holding, annual income, farming experience, economic motivation, scientific orientation, innovativeness and irrigation potential were found to be positively significant at 0.05 level of probability. Variable distance of dam was found negatively significant at 0.05 level of probability. The rest of the variables didn't show any relationship with the occupation.

In case of land holding, it is revealed from Table B, out of total independent variables, the variables namely annual income, sources of irrigation, method of irrigation land under irrigation, economic motivation frequency of irrigation in a year and irrigation potential were found to be positively significant at 0.01 level of probability. Whereas, the variables such as land holding, occupation, farming experience, type of land, scientific orientation and innovativeness were found to be significant at 0.05 level of probability. Rest of the variables didn't show any relationship with land holding.

In case of family education, out of total independent variables, the variables viz. annual income, occupation, sources of irrigation, method of irrigation, land under irrigation, economic motivation and frequency of irrigation in a year were found to be positively significant at 0.01 level of probability. Whereas, the variables such as land holding, farming experience, type of land, scientific orientation, innovativeness and irrigation potential were found to be significant at 0.05 level of probability. Rest of the variables didn't show any relationship with land holding.

In case of annual income, out of total independent variables, the variables namely land holding, occupation, sources of irrigation, method of irrigation, land under irrigation, economic motivation frequency of irrigation in a year and irrigation potential were found to be positively significant at 0.01 level of probability. Whereas, the variables such as annual income, type of land, scientific orientation and innovativeness were found to be significant at 0.05 level of probability. Distance of dam showed negative significant relationship at 0.05 level of probability.

In case of socio political participation, out of total independent variables, the variables namely annual income, sources of irrigation, type of land and economic motivation were found to be positively significant at 0.01 level of probability. Whereas, the variables namely age, land holding, occupation, farming experience, method of irrigation, land under irrigation, scientific orientation, innovativeness, frequency of irrigation in a year and irrigation potential were found to be significant at 0.05 level of probability. The rest of the variables didn't show any relationship with the socio political participation.

In case of expenditure pattern, out of total variables, the variables viz. annual income, occupation, sources of irrigation, land under irrigation, economic motivation, frequency of irrigation in a year and irrigation potential were found to be positively significant at 0.01 level of probability. Whereas, the variables such as age, land holding, farming experience, method of irrigation, type of land, scientific orientation and innovativeness were found to be significant at 0.05 level of probability. The rest of the variables didn't show any relationship with the expenditure pattern.

In case of economic empowerment, variables viz. land holding, annual income, occupation, sources of irrigation, land under irrigation, economic motivation, frequency of irrigation in a year and irrigation potential were found to be positively significant at 0.01 level of probability. Whereas, the variables such as age, farming experience, method of irrigation, type of land, scientific orientation and innovativeness were found to be significant at 0.05 level of probability. The rest of the variables didn't show any relationship with economic empowerment.

Conclusion

Over all it is concluded from the study that, there were changes observed in the dimensions of agriculture and socio-economic development such as cropping pattern, cropping intensity, crop productivity, annual income, expenditure pattern, economic empowerment, family education. It means that there is definite impact of Wan irrigation project on agriculture and socio-economic development. It is therefore implicated that, the implementation of this type of project should be extended to other areas. So farmers can take advantage of the irrigation project for their better life.

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