International Journal of Chemical Studies

Neeta Deokate
Ph.D (Agri.) Student
Department of Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

Dr. PP Bhople
Professor Department of
Extension Education, Post
Graduate Institute, Dr. PDKV,
Akola, Maharashtra, India

Dr. DM Mankar
Director of Extension Education
Department of Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

Dr. VS Tekale
Head of the Department of
Extension Education, Post
Graduate Institute, Dr. PDKV,
Akola, Maharashtra, India

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

Neeta Deokate, Dr. PP Bhople, Dr. DM Mankar and Dr. VS Tekale

Abstract
The present study entitled "Relational analysis of beneficiary farmers of head 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 head region were satisfied with the benefits getting from Wan irrigation project in head region.

Keywords: Agriculture, socio-economic, beneficiary, head 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 co mmand 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 tail 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 Head region of Wan irrigation project

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

Correspondence
Neeta Deokate
Ph.D (Agri.) Student
Department of Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

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

Sl. No.	Segments	Name of villages	Number of Respondents
A)	Head reach	1) Danapur	20
		2) Hingni	20
		3) Raykhed	20
		4) Varkhed	20
		5) Belkhed	20
	Total (A)		= 100

Results and Discussion

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

In case of cropping intensity, it is observed from the findings presented in Table 3 that, land holding, occupation, farming experience, sources of irrigation, method of irrigation, land under irrigation and frequency of irrigation in a year, method of irrigation, land under irrigation and frequency of irrigation in a year were found to be positively significant at 0.01 level of probability.

Table 3: Coefficient of correlation between selected independent variables of beneficiaries with agriculture development of head region

Sl. No.	Independent Variables	Cropping intensity ('r' value)	Productivity ('r' value)
1	Age	0.040	0.054
2	Land holding	0.262**	0.205*
3	Annual income	0.206*	0.298**
4	Occupation	0.261**	0.198*
5	Farming experience	0.291**	0.196*
6	Sources of information	0.106	0.110
7	Sources of irrigation	0.360**	0.265**
8	Method of irrigation	0.305**	0.306**
9	Type of land	0.204*	0.199*
10	Land under irrigation	0.263**	0.201*
11	Economic motivation	0.195*	0.256**
12	Scientific orientation	0.197*	0.200*
13	Innovativeness	0.223*	0.223*
14	Frequency of irrigation in a year	0.281**	0.203**
15	Irrigation potential	0.222*	0.214*
16	Distance of dam	-0.202*	-199*

** Significant at 0.01 level of probability
* Significant at 0.05 level of probability

Whereas, the variables like annual income, type of land, economic motivation, scientific orientation, innovativeness and irrigation potential were found to be significant at 0.05 level of probability. The other variable such as distance of dam was found to be negatively significant at 0.05 level of probability.

The relational analysis with productivity revealed that, the variables annual income, sources of irrigation, method of irrigation, economic motivation and frequency of irrigation in a year were found to be significant at 0.01 level of probability.

Whereas, the variables land holding, occupation, farming experience, type of land, scientific orientation, innovativeness and irrigation potential were found to be significant at 0.05 level of probability.

The rest of the variable didn't show any relationship with the dependent variables.

B. Coefficient of correlation between selected independent variables of beneficiaries of head region with socio-economic development parameters

Coefficient of correlation between selected independent variables of beneficiaries of head 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 4 .

It is revealed from Table that, in case of occupation, out of 16 variables, the variables namely occupation, sources of irrigation, method of irrigation, type of land, frequency of irrigation in a year were found to be positively significant at 0.01 level of probability.

Whereas, variables namely land holding, annual income, farming experience, economic motivation, innovativeness, irrigation potential were found to be positively significant at 0.05 level of probability. The rest of the variables didn't show any relationship with the dependent variable occupation.

In case of land holding, it is revealed from Table 3, out of total independent variables, the variables namely annual income, sources of irrigation, method of irrigation land under irrigation and irrigation potential were found to be positively significant at 0.01 level of probability Whereas, the variables such as land holding, farming experience, type of land, economic motivation, scientific orientation, innovativeness, frequency of irrigation in a year were found to be significant at 0.05 level of probability.

Distance of dam showed negatively significant relationship with dependent variable at 0.05 level of probability.

Table 4: Coefficient of correlation between selected independent variables of beneficiary of head region with socio-economic development parameters

Sl. No.	Independent Variables	Occu.	Land Holding	Family edu.	Annual Income	SPP	Expt. Pattern	Econ. Empow.
1	Age	0.053	0.116	0.023	0.025	0.253*	0.237*	0.230*
2	Land holding	0.255*	0.231*	0.205*	0.225**	0.239*	0.223*	0.260**
3	Annual income	0.219*	0.415**	0.346**	0.228*	0.317**	0.341**	0.360**
4	Occupation	0.293**	0.203*	0.274**	0.204*	0.202*	0.332**	0.273**
5	Farming experience	0.194*	0.195*	0.203*	0.194*	0.195*	0.338*	0.244*
6	Sources of information	0.172	0.119	0.060	0.128	0.080	0.115	0.247*
7	Sources of irrigation	0.344**	0.344**	0.210*	0.233*	0.259**	0.323**	0.282**
8	Method of irrigation	0.271**	0.523**	0.306**	0.258**	0.234*	0.230*	0.243*
9	Type of land	0.262**	0.210*	0.217*	0.241*	0.281**	0.263*	0.221*
10	Land under irrigation	0.199**	0.303**	0.260**	0.258**	0.222*	0.412**	0.368**
11	Economic motivation	0.204*	0.218*	0.235*	0.213*	0.270**	0.416**	0.436**
12	Scientific orientation	0.241	0.201*	0.201*	0.225*	0.240*	0.225*	0.229*
13	Innovativeness	0.197*	0.216*	0.237*	0.232*	0.224*	0.212*	0.226*
14	Frequency of irrigation in a year	0.254**	0.219*	0.239*	0.301**	0.251*	0.323**	0.436**

| 15 | Irrigation potential | 0.205* | 0.266** | 0.195* | 0.405** | 0.099 | 0.351** | 0.322** |
| 16 | Distance of dam | 0.201* | -0.196* | -0.218* | -0.201* | 0.114 | -0.226* | -0.218* |

** Significant at 0.01 level of probability
* Significant at 0.05 level of probability

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

Distance of dam showed negatively significant relationship with dependent variable at 0.05 level of probability.

In case of annual income, out of total independent variables, the variables namely land holding, method of irrigation, land under irrigation, occupation, method of irrigation, land under irrigation, 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, annual income, occupation, farming experience, sources of irrigation, type of land, economic motivation, scientific orientation and innovativeness were found to be significant at 0.05 level of probability.

Distance of dam showed negatively significant relationship with dependent variable 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 and frequency of irrigation in a year 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.

Distance of dam showed negatively significant relationship with expenditure pattern at 0.05 level of probability.

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, sources of information, method of irrigation, 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 with economic empowerment at 0.05 level of probability.

Conclusion
Over all it is concluded from the study that, maximum number of the selected beneficiaries from head region were getting benefits from Wan irrigation project. Therefore, it can be suggested that, State Department of Agriculture should encourage the beneficiary of this reason to take fodder cultivation and can organize additional tours to aware about cropping pattern in various regions of Maharashtra. In this way, excess water can be utilized and beneficiary farmers could go for subsidiary occupation like gottary, dairy, poultry etc.

References
1. Aruna Katole. Impact of SHG on socio-economic development of its women members. M.Sc. (Agri.) Thesis (Unpub.), Dr. PDKV, Akola, 2001.
2. Gowda MJ Chandre, Jayaramaiah KM. Impact of watershed development programme on socio-economic status, Land productivity and income of small and marginal farmers. Ind. J Ext. Edn. 1989; 26(3-4):48-52.
3. Maraddi, Gireesh N. An Analysis of Sustainable Cultivation Practices Followed By Sugarcane Growers in Karnataka. Phd. (Agri.) Thesis, University of Agricultural Sciences, Dharwad, 2006.
4. Thombare VL. Panchayat leaders and their socio-economic status. Voluntary Action. Valunj, D.R. A study of the role 92 performance of the grampanchayat members in village development activities in Ambegaon Taluka of Pune district. M.Sc.(Agri.) Thesis, M.P.K.V., Rahuri. 1976-1977; 17:1-2
5. Vanitha SM, Srikantha PS, Murthy. An economic analysis of MGNREG programme in Mysore district of Karnataka. Agricultural Economics Research Review. 2011; 24:415-422.