Relational Analysis of Profile of Beneficiaries of Farm Ponds and its Socio Economic Impact

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Abstract— The present investigation was conducted in Parbhani district of Marathwada region in Maharashtra State. The main objective of the study was relationship between profile of beneficiaries of farm ponds and its impact. The data were collected through personal interview with the help of interview schedule by contacting 80 beneficiaries. The result revealed that majority (75.00%) of the beneficiaries having middle farming experience, followed by 26.25 per cent of the beneficiaries were educated up to secondary school level, while 50.00 per cent of the beneficiaries were having semi-medium land holding .whereas 75.00 per cent of the beneficiaries having medium area under irrigation, While 80.00 per cent of the beneficiaries having medium family size. It was also found that 87.50 per cent of the beneficiaries having medium social participation, whereas 52.50 per cent of the beneficiaries having medium level of extension contact, and 52.50 per cent of the beneficiaries having medium level of economic motivation, followed by 63.75 per cent of the beneficiaries having medium risk preferences. Also the result showed that farming experience, education, land holding, area under irrigation, family size social participation, extension contact, economic motivation and risk preferences were found to be positively and significantly related with impact in technological change (i.e) crop production, cropping pattern and soil conservation structure of farm pond. Also the result showed that relationship of profile of beneficiaries with economic change in employment generation only economic motivation was positive and non-significant, followed by relationship of profile of beneficiaries with social change in material possession and implement possession i.e. economic motivation was non-significant also social participation was non-significant in change in education family member.
Keywords— Relationship of Beneficiaries, Farm Ponds, Economic Impact .

I.   INTRODUCTION

The challenges before Indian agriculture is to transform rainfed farming into more sustainable and productive system by giving social, economical and technological backup to the people who depend upon it. Moreover, the economy is mainly dependent on stability of crop production in rainfed areas. Construction of farm ponds is one of the such beneficial programme for harvesting excess rain water during rainy season; which is implemented by the State Agricultural Development under National Agricultural Development Programme, Rashtriya Krishi Vikas Yojana (Aug 2007 In 11th five year plan) etc. The excess rain water harvested in farm ponds play a vital role in stabilizing crop production through recycling during dry spell in kharif season and for protective irrigation in rabi season. The major works of Rain Water Harvesting Structure adopted in the watershed are check dams, farm ponds, nala bunds, contour bunds, vegetative covers etc. which play major role in managing and conserving the soil and water resources. However, farm pond is perceived as best rain water harvesting structure by large majority of farmers. The present study was undertaken with the following specific objective

1. To study the profile of farm pond beneficiaries
2. To study the relationship between profile of beneficiaries of farm ponds and its Socio-economic impact

II.   METHODOLOGY

The research study was selected by lottery method in Parbhani district of Marathwada region in Maharashtra State. The study was conducted in Parbhani district from selected district four talukas was selected and fro selected 4 talukas 5 villages from each talukas was selected on the basis of maximum number of farm ponds. From each selected village 4 beneficiary farmers was selected randomly those having 3 year before farm pond after receiving its beneficiaries list from the authority to make 80 samples of beneficiaries in total. All the respondents were personally interviewed at their home and farms and data was collected. The collected data was analyzed with the help of suitable statistical methods i.e. frequency, percentage, mean, standard deviation, coefficient of correlation and Z-test.

III.   RESULTS AND DISCUSSION

1. Profile of farm pond beneficiaries

Table 1   *(n=80)*

Sr. No.	Category	No.	%
1	**Farming experience**		
	1. Low	10	12.50
	1. Medium	60	75.00
	2. High	10	12.50
2	**Education**		
	1. Illiterate	14	17.50
	2. Primary school level	19	23.75
	3. Secondary school level	21	26.25
	4. Higher school level	19	23.75
	5. College level	07	08.75
3	**Land holding**		
	1. Marginal farmer	1	1.25
	2. Small farmers	23	28.75
	3. Semi-medium farmers	40	50.00
	4. Medium farmers	16	20.00
	5. Big farmers	00	00
4	**Area under irrigation**		
	1. Low	10	12.50
	2. Medium	60	75.00
	3. High	10	12.50
5	**Family size**		
	1. Low	4	5
	2. Medium	64	80
	3. High	12	15
6	**Social participation**		
	1. Low	70	87.50
	2. Medium	09	11.25
	3. High	01	01.25
7	**Extension contact**		
	1. Low	22	27.50
	2. Medium	42	52.50
	3. High	16	20.00
8	**Economic motivation**		
	1. Low	21	26.25
	2. Medium	42	52.50
	3. High	17	21.25
9	**Risk preferences**		
	1. Low	09	11.25
	2. Medium	51	63.75
	3. High	20	25.00

Table.2: Distribution of relationship of profile of beneficiaries with Technological change i.e. (crop production, change in cropping pattern, and soil conservation structure).

Sr. No	Profile	Crop Production 'r' value	Cropping pattern 'r' value	Soil conservation 'r' value
1.	Farming experience	0.450**	0.504**	0.489**
2.	Education	0.687**	0.662**	0.701**
3.	Land holding	0.778**	0.821**	0.808**
4.	Area under irrigation	0.747**	0.705**	0.741**
5.	Family size	0.765**	0.841**	0.828**
6	Social participation	0.395**	0.480**	0.330**
7.	Extension contact	0.753**	0.698**	0.732**
8.	Economic motivation	0.281*	0.191*	0.197 *
9.	Risk preferences	0.672**	0.554**	0.621**

**Significant at 0.01 level of probability.

1.1 Profile of farm pond beneficiaries

It was found from Table 1 that majority (74.00 %) of the beneficiaries had medium farming experience and 12.50 per cent of the respondents had low and high farming experience each, followed by (26.25%) beneficiaries were educated up to secondary school level and 23.75 per cent of the respondents were educated up to primary school level and higher school level both, followed by (50.00%) of the beneficiaries were having semi medium land holding and 28.75 per cent of the respondents were small farmers, followed by (75.00%) majority of the beneficiaries had medium area under irrigation and 12.50 per cent having low area under irrigation, followed by (80.00%) of the beneficiaries had medium family size, and 15.00 per cent of the respondents had high family size, followed by (87.50%) of the beneficiaries had low social participation and 11.25 per cent of respondents had medium social participation, followed by (52.50%) of the farmers medium extension contact and 27.50 per cent farmers had low extension contact, followed by (52.50%) had medium economic motivation and 26.25 per cent had low, followed by (63.75 %) were having medium risk preferences and 25.00 per cent having high risk preferences.

2.1 Relationship of profile of beneficiaries with Technological change

It was noticed from Table 2 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was positively and highly significantly related with impact on crop production at 0.01 level of probability and economic motivation was also positively and significantly related with impact on crop production at 0.05 level of probability. Above relation indicated that after construction and using of farm pond most of the crop yield is increased due to the increased area under irrigation. Due to crop yield also increase annual income of farmers and they provide the more education to his children also increase social contact with extension workers to get more information about agriculture. Above findings are in line with, Ahire (2000), Erappa (2000), Nipanikar (2006) and Kulkarni (2009).

It was noticed from Table 2 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was positively and highly significantly related with impact on cropping pattern at 0.01 level of probability and economic motivation was also positively and significantly related with impact on cropping pattern at 0.05 level of probability. Before construction of farm pond respondents followed traditional cropping pattern i.e. they cultivated only one or two crops. After construction of farm pond cropping pattern changed to growing more than one crop due to increased area under irrigation, crop yield also increase due to crop yield annual income get increased by change in crop pattern.Above findings are in line with Ahire (2000), Erappa (2000), Nipanikar (2006) and Kulkarni (2009).

It was noticed from Table 2 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was positively and highly significantly related with impact on soil conservation structure at 0.01 level of probability and economic motivation was also positively and significantly related with impact on soil conservation structure. Soil conservation increased with increasing area under irrigation also increase in crop yield and cropping pattern. More land is used after construction of farm pond for crop cultivation due to this soil conservation practices also increased. Above

findings are in line with Ahire (2000), Erappa (2000), Nipanikar (2006), Kulkarni (2009) and Deshmukh (2016). Farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, economic motivation and risk preferences this variables are positively and significantly associated with Technological change.

Table.3: Distribution of relationship of profile of beneficiaries with Economic change i.e. (employment generation).

Sr. No	Profile	Beneficiaries r value
1.	Farming experience	0.428**
2.	Education	0.707**
3.	Land holding	0.797**
4.	Area under irrigation	0.729**
5.	Family size	0.807**
6.	Social participation	0.344**
7.	Extension contact	0.716**
8.	Economic motivation	0.173 [NS]
9.	Risk preferences	0.555**

**Significant at 0.01 level of probability.

2.2 Relationship of profile of beneficiaries with Economical change

It was noticed from Table 3 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was positively and highly significantly related with impact on employment generation at 0.01 level of probability and economic motivation was also positively and non-significantly related with impact on employment generation at 0.05 level of probability. Due to change in cropping pattern work also increased for labour and also required more labour to done work in farm. Hence also increase the labour charges of labour. Before construction of farm pond respondents cultivated crop only in kharif season but after construction of farm pond they taken crop in rabi and summer season. Hence intensive crop cultivation increased the more number of labourer and additional employment is generated in the field of agriculture.Above findings are in line with Ahire (2000), Nakhate (2006), Ponnusamy and Gupta (2006), Kulkarni (2009) and Deshmukh (2016).

Farming experience, education, land holding, area under irrigation, family size, social participation, extension contact and risk preferences this variables are positively and significantly associated with Economic change.

Table.4: Distribution of Relationship of profile of beneficiaries with Social change i.e. (material possession, change in to education of family member and implement possession).

Sr. No	Profile	Material possession r value	Change in to education of family member r value	Implement possession r value
1.	Farming experience	0.417**	0.371**	0.375**
2.	Education	0.653**	0.444**	0.621**
3.	Land holding	0.773**	0.354**	0.753**
4.	Area under irrigation	0.695**	0.545**	0.665**
5.	Family size	0.776**	0.375**	0.715**
6.	Social participation	0.439**	0.155 [NS]	0.378**
7.	Extension contact	0.694**	0.364**	0.728**
8.	Economic motivation	0.183 [NS]	0..474**	0.160 [NS]
9.	Risk preferences	0.560**	0.637**	0.558**

**Significant at 0.01 level of probability.

2.3 Relationship of profile of beneficiaries with Social change

It was noticed from Table 4 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was

positively and highly significantly related with impact on material possession at 0.01 level of probability and economic motivation was also positively and non-significantly related with impact on material possession at 0.05 level of probability. The findings are supported by Ahire (2000), Shivanappan (2005), Nakhate (2006), Thakur (2014) and Deshmukh (2016).

It was noticed from Table 4 that farming experience, education, land holding, area under irrigation, family size, extension contact, economic motivation risk preferences was positively and highly significantly related with impact on change in education of family member at 0.01 level of probability and social participation, was also positively and non-significantly related with impact on change in education of family member at 0.05 level of probability. Due to this more yield are obtain from field and sold in the market. Income was available to educate the children with relation to construction of farm pond. Education is inversely propotional to the farm pond for improvement. The findings are supported by, Ahire (2000), Bhange (2005), Jugale (2006), Nakhate (2006) Chauhan et al. (2009) and Deshmukh (2016).

It was noticed from Table 4 that farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, risk preferences was positively and highly significantly related with impact on implement possession at 0.01 level of probability and economic motivation was also positively and non-significantly related with impact on implement possession at 0.05 level of probability. After construction of farm pond increased irrigated area result in increased area under cultivation of crops which result increased farm income also they require more implement for farm operation. Hence construction of farm pond result in increase in implement possession of respondents. The findings are supported by Ahire (2000), Erappa (2000), Nipanikar (2006) and kulkarni (2009).

Farming experience, education, land holding, area under irrigation, family size, extension contact and risk preferences this variables are positively and significantly associated with Social change.

IV.   CONCLUSIONS
It is concluded that majority (75.00%) of the beneficiaries having middle farming experience, followed by 26.25 per cent of the beneficiaries were educated up to secondary school level, while 50.00 per cent of the beneficiaries were having semi-medium land holding, whereas 75.00 per cent of the beneficiaries having medium area under irrigation,

While 80.00 per cent of the beneficiaries having medium family size. It was also found that 87.50 per cent of the beneficiaries having medium social participation, whereas 52.50 per cent of the beneficiaries having medium level of extension contact, and 52.50 per cent of the beneficiaries having medium level of economic motivation, followed by 63.75 per cent of the beneficiaries having medium risk preferences. Farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, and risk preferences were found to be positive and highly significant related with technological change and economic change. While only economic motivation was positive and significantly related with technological change and positive and non-significantly related with economic change. Also in social change Farming experience, education, land holding, area under irrigation, family size, social participation, extension contact, and risk preferences were found to be positive and highly significant related with material possession, whereas, economic motivation was positively and non-significantly related with material possession and implement possession. Also social participation was positive non-significantly related with change in education of family members. While only economic motivation was significantly related with technological change.

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