FLORA AND FAUNA
DOI:10.33451/florafauna.v23i1pp45-52
2017 Vol. 23 No. 1 PP 45-52
ISSN 0971 - 6920

IMPACT ASSESSMENT OF KVK ACTIVITIES ON INCOME ENHANCEMENT OF TRIBAL FARMERS

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Received : 25.03.2017; ***Accepted*** : 24.04.2017

ABSTRACT

The KVK has excelled in bringing the modern technologies at the farmers doorstep with the help of various instructional aides. The KVK today has sufficient resources to impart training, skills and knowledge for not only the farmers but also to the rural youth. The present study was undertaken to assess the income generation of beneficiaries and non-beneficiaries of KVKs working in the tribal districts of Madhya Pradesh, India. The study was conducted with 300 tribal farmers randomly selected in 12 villages of Mandla, Dindori and Shahdol district, which were results showed that, tribal farmers were of comparatively middle age group, education up to high school, agriculture plus other as their occupation, medium annual income, medium landholdings, medium experience, high attitude towards technological demonstrations, high knowledge about KVK activities, high perception towards scientific agriculture, medium market orientation, high scientific orientation, high aspiration level, medium use of information sources and high training exposure. The income generation of tribal farmers was high.

Figure :00 References : 05 Tables : 03
KEY WORDS : Beneficiaries, Income generation, Krishi Vigyan Kendra, Non-beneficiaries, Tribal farmers

Introduction

Madhya Pradesh has four agro-climatic zones, and thus, has the most interesting mix of ethnic groups and tribes, castes and communities, including the indigenous tribals and relatively more recent migrants from other states. It has a significant tribal population, which constitutes more than one-fifth of its total population and 40 percent of India's total tribal population. In absolute numbers, Madhya Pradesh is home to the largest number of Scheduled Tribes (STs) in India and is often called the tribal state of India. There are 46 recognized STs, three of which are identified as Special Primitive Tribal Groups *viz.* Goand, Bhil and Baiga[8]. Bahu Lamsena, Jadoo-Tona, Jhada-Phooki and Alcoholism are co-tradition of their life. Badadev is the main god of tribes. The tribal population is largely concentrated in and around the forest area of Madhya Pradesh. They have maintained their cultural peculiarity and individuality over the years. They have somewhat made progress in social and religious reformation but economically they are very much backward as compared to other societies.

These tribal people have significant contributions to the local and national economy by being participated in Income generating activities (IGAs) such as vegetable production, nursery establishment, livestock and poultry rising, cottage industry and small business etc. Unfortunately, the tribal people community is almost unknown to modern agricultural technology and has been left out from the main stream of economic

development. Considering their socio-economic upliftment, it is reported that the various economic activities that can profitably be carried out by the tribal people include agricultural production, such as Vegetables, fruits, field crops, livestock production e.g. poultry rearing, cow rearing, beef fattening and pig rearing etc and non-agricultural e.g., handicrafts, cottage industry, small business, tailoring and nursery establishment[4].

Krishi Vigyan Kendra is an innovative science based institution which conducts On Farm Testing for technology assessment and refinement. KVK undertakes vocational training of farmers, farm women extension workers and rural youths the latest agricultural technologies. KVK's function in collaboration with scientists, subject experts, extension workers and farmers. There are 642 Krishi Vigyan Kendra in India and 8 Zonal Project Directorate working under administrative control of Indian Council of Agriculture Research. In Madhya Pradesh 47 KVK's are functioning under zone VII ZPD, out of which 6 KVK's are working in tribal districts. These KVK's are primarily focused on dissemination of location specific technologies access to information for upliftment and empowerment of tribals.

An effective extension programme might be a tool in order for carrying out IGAs to train and educate its client system. Agricultural extension services, NGOs' and other development agencies. Through effective training, tribal peoples are more likely to acquire up-to-date knowledge on IGAs and refresh their existing knowledge. As a result, the tribal people will favourably be disposed towards adoption of various agricultural and non-agricultural IGAs[3].

Methodology

The study was carried out in three districts of Madhya Pradesh during 2013-14 *i.e.* Mandla Dindori and Shahdol. As these districts comes under tribal districts of Madhya Pradesh. The Mandla district comprises of seven blocks out of which two blocks were selected and from each selected block two adopted villages of KVK were selected i.e., Prempur, Bhavarda, Silwara, Madanpur. The Dindori district also comprises of seven blocks out of which two blocks were selected and from each selected block two adopted villages of KVK were selected i.e., Rusamal, Nariya, Bilasar, Chaura. The Shahdol district comprises of five blocks out of which two blocks were selected and from each selected block two adopted villages of KVK were selected i.e., Sinduchunia, Kalyanpur, Shahpur, Kudeli. A comprehensive list of tribal farmers of each selected village was prepared with the help of KVKs of each district. From the list a proportionate sample of 10 per cent from each village were selected as the beneficiaries and non-beneficiaries for the investigation. Thus, 75 equal numbers of beneficiaries and 25 equal numbers of non-beneficiaries from each district was selected randomly, thus the total 300 tribal farmers was the sample size of the study.

The following statistics was used to measure the income generation of tribal farmers regarding selected technologies given by KVKs.

1. **t- test:** Student's t-test was used for testing the significant differences of mean scores of various categories of the respondents. The t-value was worked out by using the following statistics:

$$t = \frac{|\bar{x}_1 - \bar{x}_2|}{\sqrt{S^2\left\{\frac{1}{n_1} + \frac{1}{n_2}\right\}}}$$

2. **Correlation coefficient 'r':** Pearson's product moment correlation (r) was used to assess the Correlation between two variables with the help of formula.

$$r = \frac{\Sigma xy - \frac{(\Sigma x)(\Sigma y)}{N}}{\sqrt{\left\{\Sigma x^2 - \frac{(\Sigma x)^2}{N}\right\}\left\{\Sigma y^2 - \frac{(\Sigma y)^2}{N}\right\}}}$$

3. **Chi-Square :** Test to determine whether two attributes are independent by comparison of observed frequencies related to expected frequencies.

Formula: $X^2 = S (Oi - Ei)^2$ With d.f. = (r-1) (c - 1)

Results and Discussion

Table-1 shows profile of beneficiaries and non- beneficiaries. The study revealed that the highest percentage of beneficiaries 54.66 % belonged to middle age group. The data indicates

TABLE- 1 : Profile of Beneficiaries & Non-beneficiaries

S. No.	CATEGORIES	N= 225		N= 75	
		Beneficiaries		Non-Beneficiaries	
		Freq.	% age	Freq.	% age
A. Independent Variable					
Age	Young age group (Up to 35 years)	66	29.34	27	36.00
	Middle age group (36-50yrs)	117	52.00	38	50.66
	Old age group (Above 50)	42	18.66	10	13.34
Education	Illiterate	39	17.34	15	20.00
	Up to primary school	31	13.78	10	13.33
	Up to middle school	34	15.11	07	09.33
	Up to High school	53	23.55	20	26.67
	Up to Higher Secondary	53	23.55	17	22.67
	Up to College	15	06.67	06	08.00
Occupation	Agriculture	35	15.55	10	13.34
	Agriculture + Labour	23	10.22	30	40.00
	Agriculture + Other	111	49.33	18	24.00
	Agriculture + Cast Occupation	11	04.88	09	12.00
	Agriculture + Independent Business	45	20.00	08	10.66
Annual income	BPL (Below Rs 24,000/-)	30	13.33	29	38.66
	Low income (Rs 24,000 - 1,00,000 /-)	59	26.22	16	21.34
	Medium income (Rs 1,00,001 – 1,76,000/-)	95	42.23	20	26.66
	High income (Rs 1,76,001 – 2,50,000/-	41	18.22	10	13.34

Land Holding	Marginal (Below 1 ha)	40	17.77	19	25.33
	Small (1.01 – 2 ha)	65	28.88	16	21.33
	Medium (2.01 – 4 ha)	79	35.12	30	40.00
	Large (Above 4 ha)	41	18.23	10	13.34
Farming Experience	Low experience (5 - 16 years)	78	34.66	30	40.00
	Medium experience (17 - 27 years)	87	38.67	29	38.66
	High experience (28 - 38 years)	60	26.67	16	21.34
Attitude towards	Low (10 – 23)	40	17.77	10	13.33
Technological	Medium (24 - 36)	29	12.88	44	58.60
Demonstration	High (37 - 50)	156	69.33	21	28.00
Knowledge	Low (Up to 8)	30	13.33	25	38.33
about KVK	Medium (19 - 17)	20	08.89	36	48.00
activities	High (18 – 25)	175	77.78	14	18.67
Perception	Low (7 - 21)	40	17.78	14	18.66
towards Scientific	Medium (22 - 35)	65	28.88	42	56.00
Agriculture	High (36 - 49)	120	53.34	19	25.34
Market Orientation	Low (Up to 3)	63	28.00	34	45.33
	Medium (4 - 6)	79	35.12	25	33.33
	High (7 - 10)	83	36.88	16	21.34
Scientific	Low (6 - 18)	30	13.33	22	29.33
Orientation	Medium (19 - 30)	20	08.89	37	49.33
	High (31 - 42)	175	77.78	16	21.34

Aspiration level	Low (3 - 8)	12	05.33	41	54.66
	Medium (9 - 14)	61	27.11	16	21.34
	High (15 - 20)	152	67.56	18	24.00
Participation in KVK activities	Low (Up to 4)	17	07.55	43	57.33
	Medium (5 - 9)	106	47.11	20	26.67
	High (10 – 14)	102	45.34	12	16.00
Use of information sources	Low (0 – 6)	20	08.88	40	53.34
	Medium (7 – 13)	180	80.00	14	18.66
	High (14 - 20)	25	11.12	21	28.00
Training exposure	Low (Up to 2)	28	12.44	39	52.00
	Medium (3 - 4)	52	23.11	20	26.67
	High (5 - 6)	145	64.45	16	21.33

that their level of education was high school about 23.33 % of the beneficiaries had education up to high school.

In case of occupation most of the beneficiaries 49.33% was doing agriculture + other as an occupation for lively hood of the family. In case of annual income most of the beneficiaries 42.33 % had medium annual income (Rs 1, 00,001 – 1, 76,000/-). The average land holding of beneficiaries was 2.01 – 4 ha. About 35.12 % of beneficiaries had medium land holdings. In case of farming experience highest percentage of beneficiaries 38.67 % had medium experience. The data regarding attitude towards technological demonstration indicates that majority of beneficiaries 69.33 % had high attitude towards technological demonstration and 77.78% had high knowledge about KVK activities. Perception of beneficiaries towards scientific agriculture highest percentage 53.33% of beneficiaries had high perception. In case of market orientation highest percentage 36.88 % of beneficiaries had high market orientation and 77.77 % of beneficiaries had high scientific orientation. It is evident from the data that about 67.56 % of beneficiaries had high aspiration level. In case of participation 47.11% had medium participation in KVK activities, 80.00 % beneficiaries had medium use of information sources and 64.45% beneficiaries had high training exposure.

While in case of non-beneficiaries, the study revealed that the highest percentage of non-beneficiaries 50.66% belonged to middle age group, their level of education was high school about 26.67 % of the non-beneficiaries had education up to high school. In case of occupation most of the non-beneficiaries 40.00% was doing agriculture + labour as an occupation for lively hood of the family. In case of annual income most of the non-beneficiaries 38.66 % had come under below poverty line. The average land holding of non-beneficiaries was 2.01 – 4 ha. About 40.00 % of non-beneficiaries had medium land holdings. In case of farming experience majority of non-beneficiaries 40.00 % had low experience. The data regarding attitude towards technological demonstration indicates that highest percentage of non-beneficiaries 58.60 % had medium attitude towards technological demonstration and 48.00% had medium knowledge about KVK activities.

Perception of non-beneficiaries towards scientific agriculture highest percentage 56.00% of non-beneficiaries had medium perception. In case of market orientation highest percentage 45.00 % of non-beneficiaries had low market orientation and 49.33 % of non-beneficiaries had medium scientific orientation. It is evident from the data that about 54.66 % of non-beneficiaries had low aspiration level. In case of participation 57.33% had low participation in KVK activities In case of use of information sources the highest percentage of non-beneficiaries 53.34 % had low use of information sources and 52.00% of non-beneficiaries had low training exposure.

The data (Table-2) indicate that out of the total beneficiaries, highest percentage i.e. 61.78 per cent was found in high income generation category, followed by 23.56 per cent in medium and 14.66 per cent in low income generation category. In case of non-beneficiaries 58.67 per cent was found in low income generation category, followed by 22.66 per cent in medium and 18.67 per cent in high income generation category. On the basis of above data, it can be concluded, that the highest per cent of the beneficiaries found in high income generation category while the highest per cent of the non-beneficiaries found in low income generation category.

Thus, it can be concluded that the highest (51.00%) of tribal farmers were found in high income generation category[1].

Statistical parameters reveal the mean score for beneficiaries and non-beneficiaries 42.64 and 28.05 respectively with standard deviation of 8.89 and 9.01 respectively. The t-test calculated was found to be significant. Thus, the earlier stated hypothesis that there is no difference between beneficiaries and non-beneficiaries regarding income generation is rejected, thereby, indicating that there was difference between the income generation of beneficiaries and non-beneficiaries.

It is seen (Table - 3) that all the attributes of beneficiaries and non-beneficiarieshave significant positive association with income generation. Only age was found to be non significant with income generation of beneficiaries and non-beneficiaries.It suggest that in general, the tribal farmers income generation increases with the increase in their education, occupation, annual income, land holding, farming experience, attitude towards technological demonstration, knowledge about KVK activities, perception towards scientific agriculture, market orientation, scientific orientation, aspiration level, participation in KVK activities, use of information sources and training exposure.

Conclusion

Regarding the income generation of tribal farmers majority of beneficiaries had high income generation while, non-beneficiaries had low income

TABLE-2 : Distribution of tribal farmers according to their income generation

S. No.	Categories	Beneficiaries	Non-beneficiaries	Total
1.	Low (14 - 28)	33 (14.66)	44 (58.67)	77 (25.66)
2.	Medium (29 - 42)	53 (23.56)	17 (22.66)	70 (23.34)
3.	High (43 - 56)	139 (61.78)	14 (18.67)	153 (51.00)
	Total	225	75	300
	Mean	42.64	28.05	
	S.D.	8.89	9.01	

t =12.26** ** Significant at 0.01 probability level.

generation. The t-test calculated was found to be significant, this indicates that there was considerable difference between the income generation of beneficiaries and non-beneficiaries.

Association between independent variables with their income generation, revealed that education level, occupation, annual income, land holding, farming experience, attitude towards technological demonstrations, participation in KVK activities, knowledge about KVK activities, perception towards scientific agriculture, market orientation, scientific orientation, aspiration level, use of information sources, training exposure of beneficiaries and non-beneficiaries except age have significant positive association with the income generation[5].

TABLE-3: Association between independent variables with their Income Generation

S. No.	Variables	Income Generation			
		Beneficiaries		Non-beneficiaries	
		c^2	DF	c^2	DF
1.	Age	2.334*NS	4	0.007**NS	2
2.	Education	20.324*	6	8.606*	3
3.	Occupation	24.849*	6	7.834	3
4.	Annual income	28.552**	6	12.968**	2
5.	Land Holding	29.831**	6	20.787**	2
6.	Farming Experience	10.071*	4	6.844*	4
7.	Attitude towards Technological Demonstration	27.332**	4	6.711*	2
8.	Knowledge about KVK activities	26.341**	2	8.175**	2
9.	Perception towards Scientific Agriculture	29.631**	4	6.962*	2
10.	Market Orientation	24.248**	4	6.512	4
11.	Scientific Orientation	27.550**	4	6.761*	2
12.	Aspiration level	14.647**	2	7.493**	2
13.	Participation in KVK activities	12.520**	4	14.003**	2
14.	Use of information sources	15.149*	4	7.255**	2
15.	Training exposure	22.077**	4	8.303*	4

*,** Significant at 0.05 and 0.01 level of probability, NS, Non-significantDF, Degree of Freedom

Constraints

The major constraints reported by the tribal farmers were lack of agro based and rural industries for the income generation and employment to tribal's. High cost of seeds, technological skills are not developed through special training programme, lack of current agricultural literature, irregular visit of FEOs, demonstrations not conducted adequately and timely, co-operative societies are not providing seeds timely, low market price, lack of storage facilities, lack of Irrigation facilities and lack of market etc[2,5].

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