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Impact Assessment of KVK Interventions in Tribal Districts of Madhya Pradesh

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ABSTRACT

Krishi Vigyan Kendra Dindori adopted more than 30 villages in different years to enhance income of the tribal families through enhancing farm profitability, engaging rural youth and farm women in subsidiary occupations and imparting skills in agriculture. Keeping in view the above, 100 beneficiaries and 50 non-beneficiaries were selected in 10 villages during 2021-22. Data were collected on different aspects and scoring was done for comparing the impact of activities in adopted villages. It was observed that a total of 48 per cent of respondents were young aged (up to 35 yrs) and 74 per cent the respondents were belonged to schedule tribe caste. Among them 55 and 48 per cent of the respondents were having secondary school education in both categories *i.e.*, beneficiary and non-beneficiary respectively. Farming was main occupation and having medium technical orientation among beneficiaries; and low in non-beneficiaries. Majority of them had small land holding in both categories, whereas 65 per cent have up to 5 cattle and 40 per cent had up to 2 cattle in non-beneficiaries. Majority (62 %) of beneficiaries were medium to high farming experience and 62 per cent non-beneficiaries had low net income. In respect to adoption of agricultural technologies, 55 per cent beneficiaries grouped in medium adoption level, however 64 per cent non-beneficiaries categorized into low adoption level. Overall adoption quotient found 74.6 and 32.72 for beneficiaries and non-beneficiaries respectively.

Key Words: Adopted Villages, Entrepreneurship, Extension activities,Impact, Training, Technologies.

INTRODUCTION

Dindori, a district of Madhya Pradesh state has 3,74,879 ha geographical area spread over 932 villages and has 2,05000 ha area under cultivation. The district has tribal dominated community. The major crops of district are paddy, kodo, kutki, maize, pigeonpea and niger in kharif season and wheat, chickpea, mustard, lentil and linseed in rabi season. The average annual rainfall received in district about 1528 mm. The climate of region is cool and pleasing with temperature ranging from 2ºC to 44ºC. Krishi Vigyan Kendras have adopted villages in different blocks of the district and conducting various activities in collaboration with state department pf agriculture and allied departments. One of the important mandates of Krishi Vigyan Kendra is to provide and improve the knowledge of the trainees about the improved farm practices. KVK's are playing vital role in transfer of agricultural technology and in increasing productivity and income of the farmers. KVKs draws all the information requirement of farmers, most suitable technological suggestions, management of technologies, including optimal use of inputs, changing farm system options (integrated farming, mixed farming and crop diversification, animal husbandry, fisheries), sourcing reputed input dealers, collective action with other farmers, consumer and market demands for products, quality standards for produce, suitable time to buy inputs and sell produce, off-farm income-generation activities and options, approach to credit and loans, sustainable resource management and coping with changing climatic conditions. Therefore, it was desirable to know the impact of KVK trainings on farmer's economic condition. Keeping this in mind, an attention was therefore, focused in present study “An Impact Assessment of KVK Interventions in Tribal Districts of Madhya Pradesh” was conducted with

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Table 1. Details of sample selection.

S.No.	Beneficiary Respondents			Non-beneficiary Respondents		
	Block	Village	Respondents	Block	Village	Respondents
1.	Dindori	Rusamal	20	Dindori	Lukampur	10
2.	Samnapur	Poudi	20	Samnapur	Devalpur	10
3.	Bajag	Pindrukhi	20	Bajag	Khargahna	10
4.	Karanjiya	Dhanras	20	Karanjiya	Mohtara	10
5.	Shahpura	Ghundisarai	20	Shahpura	Indori	10
Total	05	05	100	05	05	50

the specific objectives- To study the socio-personal and economic characteristics of the beneficiaries; and impact of KVK activities on adoption of improved agricultural practices.

MATERIALS AND METHODS

The present study was undertaken in Dindori district of Madhya Pradesh in the year 2021-2022. The dindori district comprises of 7 blocks namely Dindori, Sahpura, Samnapur, Bajag Karanjiya, Amarpur and Mehandwani from these blocks Dindori, Samnapur, Bajag, Sahpura and Karanjiya were selected purposively. Thus, 100 farmers were selected from 05 villages from each selected block. From each selected village 20 beneficiary farmers were selected through random sampling method as respondents for the study purpose. Apart from this, in order to assess the impact of KVK in terms of adoption of improved agricultural production practices a sample of 50 non-beneficiary farmers was selected from control villages. One village from each selected block 10 respondents from each village. Thus, a total of 150 farmers were selected as respondents for the study purpose. The data were collected using a well-structured interview schedule and analyzed by using various statistical tools and methods. To measure the extent of adoption of improved agriculture production technologies an index was developed by following the recommended procedure. The respondents were asked to respond to each item of adoption of these practices with respect to their extent of adoption on a three-point continuum namely full adoption, partial adoption, and non-adoption with respective weightage accorded. Based on the response of each item, total score of individual respondents was computed by summing up these scores. Thus, total score secured by an individual was the obtained score. For each respondent the adoption quotient was worked out by following quotient

$$\text{Adoption Quotient (AQ)} = \frac{\text{Adoption score obtained by respondent}}{\text{Maximum possible adoption score}} \times 100$$

Overall adoption level in the area was also worked out by calculating the arithmetic mean of the adoption quotient of all the respondents as below:

Overall adoption level = $\sum AQ/N$

Where, AQ= Adoption quotient for the respondents, N= Total number of respondents

The adoption scores assigned to each respondent was tabulated and mean score of adoption (x) and standard deviation (SD) were computed. Adoption behavior was categorized into three levels i.e. (i) Low extent of adoption (ii) Medium extent of adoption (iii) High extent of adoption

RESULTS AND DISCUSSION

The majority of the beneficiary respondents belonged to young age group (48 %) Similar trend was also observed in case of non-beneficiary respondents, majority of the respondents, beneficiary (74 %) as well as non-beneficiary (72 %) belongs to schedule tribe group caste category. Forty per cent of the beneficiary respondents educated up to high school and forty-four per cent of the non-beneficiary respondents educated up to high school. Main occupation of the majority was farming with dairy in both category beneficiary and non-beneficiary respondents. It was observed the majority of the beneficiary respondents belong to small sized land holding category with medium level of net income. The frequency distribution of

Table 2. Profile of the respondents.

Variable	Category	Respondents			
		Beneficiaries (n=100)		Non-beneficiaries(n=50)	
		Frequency	Per cent	Frequency	Per cent
Age (Yrs)	Young (Up to 35)	48	48	23	46
	Middle (36 -55)	34	34	19	38
	Old (56 and above)	18	18	08	16
Caste	Schedule caste	20	20	09	18
	Schedule tribe	74	74	36	72
	OBC	05	05	03	06
	General	01	01	02	04
Education	Illiterate	05	05	02	04
	Primary (I to V)	10	10	07	14
	Middle (VI to VIII)	28	28	15	30
	Secondary School (IX to XII)	55	55	24	48
	Graduate (above XII)	02	02	02	04
Occupation	Farming	12	12	07	14
	Farming+Dairy	75	75	30	60
	Farming+Dairy+Service	08	08	09	18
	Business	05	05	04	08
Land holding	Marginal (up to 1 ha)	36	36	12	24
	Small (1.01 to 2.0 ha)	46	46	28	56
	Medium (above 2.0 ha)	18	18	10	20
Net income	Low (up to 1 lakh)	30	30	31	62
	Medium (up to 3 lakh)	62	62	14	28
	High (more than 3 lakh)	08	08	05	10
Animal possession	No animal	12	12	08	16
	Up to 2 animal	15	15	20	40
	Up to 5 animal	65	65	16	32
	Above 5 animal	08	08	06	12
Scientific orientation	Low	22	22	26	52
	Medium	49	49	18	36
	High	29	29	06	12
Farming Experience	Low (upto 10 years)	30	30	10	20
	Medium (11 -20 years)	55	55	35	70
	High (more than 20 years)	15	15	05	10

respondents on their farm family net income appears more in case of beneficiary respondents of the KVKs than those of non-beneficiary respondents. The fig.1 shows frequency distribution of respondents appears to be highly skewed towards higher side of scientific orientation among the respondents from adopted villages of KVK. In case of non-adopted villages, the frequencies fell into a more or less normal distribution, though slightly skewed towards lower side of scientific orientation. Majority of the respondents in both categories had medium level of farming experience (Fig.2)

Overall adoption quotient for different aspects of agricultural production practices were analyzed and results presented in table 3, it is clearly indicated adoption quotient for different aspect of agricultural practices is highly skewed towards beneficiary respondents.

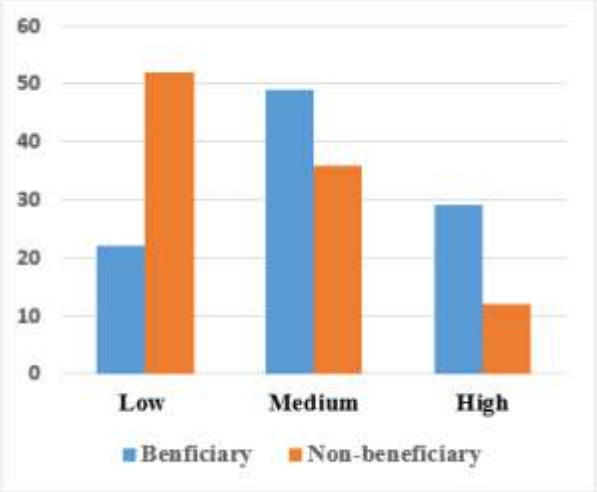

Fig. 1. Scientific orientation of respondents

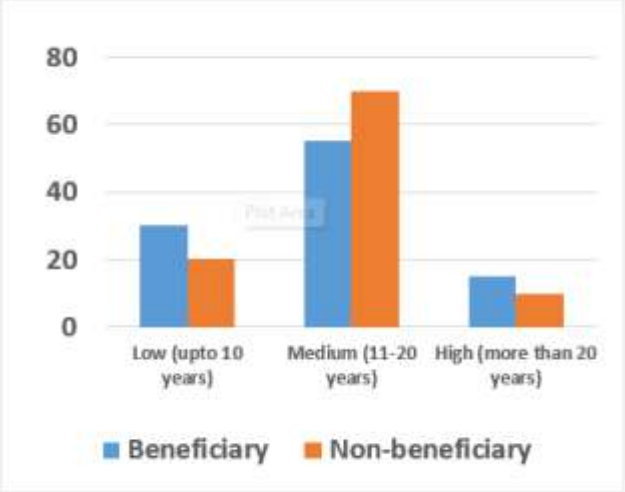

Fig.2 Farming experience of the respondents

Table 3. Overall adoption of improved agricultural production practices.

Aspects	Beneficiary			Non-Beneficiary		
	Total score	Mean score	Adoption quotient	Total score	Mean score	Adoption quotient
Preparatory cultivation	445	4.45	89.00	180	3.60	36.00
Seed & spacing	435	4.35	87.00	175	3.50	35.00
Cropping pattern & crop rotation	455	4.55	91.00	185	3.70	37.00
Fertilizer management	299	2.99	59.80	169	3.38	33.80
Irrigation management	320	3.20	64.00	140	2.80	28.00
Weed management	340	3.40	68.00	154	3.08	30.80
Plant protection	310	3.10	62.00	140	2.80	28.00
Harvest & post -harvest management	380	3.80	76.00	170	3.40	34.00
			596.80			**261.80**

Table 4. Distribution of the respondents according to the level of adoption.

Category	Respondents			
	Beneficiary (n=100)		Beneficiary (n=50)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Low	12	12	32	64
Medium	55	55	14	28
High	33	33	04	08

Table 5. Difference between adoption quotients of beneficiary and non-beneficiary respondents.

Mean Adoption Quotient	
Beneficiary respondents	Non-beneficiary respondents
74.60	32.72

Level of adoption

The data presented in table 4 revealed that nearly 88 per cent beneficiary respondents had high to medium level of adoption of improved agricultural production practices. While, only 12 per cent of the respondents had low level of adoption. In case of non-beneficiary respondent's majority of the farmers (64 %) had low level of adoption of improved agricultural practices. The results clearly show the non-beneficiary respondents seem to have the low level of adoption and were in agreement with Shelke and Murai (2024).

In obvious from table 5 that the difference between two means was statistically significant. It means adoption quotient of beneficiaries was significantly higher than the adoption quotient of non-beneficiaries. This shows positive and significant impact of activities of KVK on adoption of improved agricultural production technologies. These results occur could be due to the exposure of beneficiary farmers to improved cultivation technologies through demonstration (OFTs, FLDs, CFLDs) and trainings conducted by KVK findings were in agreement with Malabasari and Hiremath (2016), Sharma *et al* (2014).

Impact of KVK activities in farming community

It was observed that, earlier vegetables were brought from neighbor district Jabalpur, now organic vegetables grown in the district, being sold in Jabalpur. Krishi Vigyan Kendra's influence on tribal women was less initially, as they didn't attend the trainings due to hesitation but now, they participate in it frequently. Baiga tribal women stated that earlier they used to attend the farmers fair to eat puri which was not prepared by them but now they cultivate wheat and can make puri as per their wish. It was observed that farmers frequently contacting KVK scientists for agricultural advisories. Kisan Mobile Advisory Services helped them in getting information related to agriculture and allied subjects in time. Various WhatsApp groups made by KVK for day-to-day information as per the requirement of the farmers and crop losses minimized as well as it lead to save the time and money as they need not to visit KVK every time. KVK imparted technical information through the training programmes which lead to enhance the rate of adoption of the new technology. In every activity, quarterly published technical newsletter 'Jawahar Krishi Sandesh' provided to farmers which plays an important role in providing technical information to them. KVK regularly organize various camps, awareness porgrammes i.e. plantation, parthenium eradication, soil health awareness campaign, cuscuta management in niger, health awareness of woman and adolescence children, cleanliness in fields, surroundings and public places of the village which improved the livelihood of the farm families.

CONCLUSION

KVK played important role in enhancing the adoption level of farmers in various aspects of agricultural production technologies. KVK activities created awareness and motivated the other farmers to adopt improved production technologies. KVK seemed to have a positive effect in enhancing the farmers technical knowledge on agricultural production practices. Trainings, on farm trials, frontline demonstration and other extension activities helped in enhancing the knowledge level of farmers which lead to higher adoption of agricultural technologies. The findings indicated that KVK through its spectrum of activities, have a positive impact on farming community in terms of productivity per unit area, income from agriculture, sustainable use of land, water and other resources.

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