

Research Article

## Impact analysis of overall knowledge about improved agricultural practices of maize production technology of beneficiaries and non-beneficiaries' farmers at KVK operational area Banswara and Dungarpur districts of South Rajasthan

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**SUMMARY :** The Krishi Vigyan Kendra, Banswara and Dungarpur of southern Rajasthan are engaged in providing skill oriented vocational trainings to the farmers, farm women and rural youth since 1983 and 1992, respectively in their operational areas. Therefore, the present study was planned to see the effectiveness of training programmes organized by KVKs on maize crop for tribal farmers of southern Rajasthan. Findings of the study showed the significant difference between beneficiary tribal farmers and non-beneficiary tribal farmers regarding level of overall knowledge about improved agricultural practices of maize production technology. It shows the effectiveness of the training programmes organized by KVKs.

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**KEY WORDS :**

Trainings, Maize, Knowledge, Production technology, Age group beneficiaries,

### BACKGROUND AND OBJECTIVES

Agriculture being dominant sector of India is backbone of its economy and would continue to be the most predominant sector in future also. Agriculture contributes nearly 30 per cent of net domestic product (NDP) and employs 70 per cent of the people. The agriculture extension system in India faces a tough challenge in meeting the agricultural production and productivity requirements of the farmers. The basic problem of this is not so much of poverty of natural resources but under development of human resource. Now a day when research in agriculture is moving fast and practically, every month new practices of modern cultivation are coming to light, it is essential that the farmers are kept abreast of the dynamic agriculture by an equally dynamic system of extension.

It is commonly realized that very little attention has so far been paid towards non-formal education in rural areas especially in tribal areas.

Due to this, transfer of newly generated proven technology is taking place at a slow pace. Considering these facts, ICAR has already been planned to increase Krishi Vigyan Kendra in the country. Since Krishi Vigyan Kendra (KVKs) are engaged in promoting science and technology in agriculture in this area for more than decade, it is important to see its impact over the area. Maize being the major crop of this area, knowledge level regarding improved cultivation practices of maize production technology will give sufficient evidence of success achieved by KVKs.

### RESOURCES AND METHODS

This study dealt with the gain in knowledge among tribal farmers through training programmes organized by Krishi Vigyan Kendra (KVKs). Present study was carried out in tribal dominated areas of Banswara and Dungarpur districts of southern Rajasthan. For this purpose

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four Panchayat samities were selected from two districts *viz.*, two Panchayat samities from each district on the basis of maximum training programmes organized by KVKs. Two villages from each Panchayat Samiti were selected from where maximum farmers participated in training programme organized by KVKs. Thus, the total numbers of villages were eight. For selection of respondents, a list of beneficiaries was prepared who had participated in any of the training programme related to improved agricultural practices of maize production technology organized by KVKs. Out of the list prepared, 15 respondents were randomly selected from each village as respondents for present study. Similarly 15 non-beneficiaries were selected from each village as control group for comparison. Thus in all 30 respondents from each village were randomly selected. So the sample size for the present study from eight villages was 120 beneficiaries and 120 non-beneficiaries. Thus, the sample of the study was consisted of 240 farmers.

The personal interview technique was used to collect the data for the present investigation. The tool used for data collection was a structured schedule. Interview schedule had thirteen practices with a total number of 76 items questions. Each question carries one mark for the each correct answer and zero for incorrect answer.

## OBSERVATIONS AND ANALYSIS

The experimental findings obtained from the present study have been discussed in following heads:

### Distribution of the respondents on the basis of their personal characteristics:

#### Age:

The result in Table 1 indicated that the majorities of beneficiary farmers (56.6%) were found to be in middle age group, where as 27.5 per cent beneficiary respondents were found in young age group. Only 15.83 per cent beneficiary respondents were found in old age group. Similarly in case of non-beneficiary respondents, 69 respondents (57.5%) were belonged to middle age group, whereas 25 per cent were in young group only. While majority of combined respondents (57.08%) were found to be in middle age group followed by young age group (26.58%) and old age group (16.67%). Hence, it may be concluded that majority of beneficiary and non-beneficiary respondents were in middle age group followed by young and old age group, respectively.

#### Education :

The data presented in the Table 1 reveals that 62.5 per cent beneficiary and 70.83 per cent non-beneficiary

**Table 1: Distribution of the respondents on the basis of their personal characteristics**

Sr. No.	Personal characteristics	Beneficiaries respondents		Non-beneficiaries respondents		Combined	
		Frequency	%	Frequency	%	Frequency	%
1.	<b>Age:</b>						
	Young	33	27.5	30	25	63	26.58
	Middle	68	56.6	69	57.5	137	57.08
	Old	19	15.83	21	17.5	40	16.67
2.	<b>Education</b>						
	Illiterate	75	62.5	85	70.83	160	66.67
	Literate	33	27.5	28	23.33	61	25.42
	Other	12	10.0	7	5.80	19	7.92
3.	<b>Occupation</b>						
	Agriculture	95	79.16	102	85	189	82.08
	Other	25	20.83	18	15	43	17.92
4.	<b>Participation</b>						
	Active	47	39.16	24	20	71	29.58
	Pasive	73	60.83	96	80	169	70.42
5.	<b>Size of land holding</b>						
	Big farmer	48	40.00	32	26.67	80	33.33
	Small	65	54.16	68	56.60	133	55.42
	Marginal	7	5.83	20	16.67	27	11.25
6.	<b>Type of family</b>						
	Nuclear family	43	35.83	47	39.16	90	37.5
	Joint family	77	64.16	73	60.83	150	62.5

respondents were illiterate whereas only 27.5 per cent beneficiary and 23.33 per cent non-beneficiary respondents were found to be literate. Only 10 per cent beneficiary and 5.83 per cent non-beneficiary respondents were found to be educated. Table also reveals that majority of combined respondents were found to be illiterate (66.67%), followed by literate (25.42 %) and educated (7.9%) .

#### *Occupation :*

The data represented in the Table 1 reveal that 79.16 per cent beneficiary respondents were engaged in agriculture, whereas in case of non-beneficiary respondents it was 85 per cent. Only 20.83 per cent beneficiary and 15 per cent non-beneficiary respondents were engaged in agricultural business. Table also reveals that majority of combined respondents (82.08%) were found agriculture as an occupation followed by other business (17.92%).

#### *Participation :*

Observation of the Table 1 reveal that 60.83 per cent beneficiary respondents and 80 per cent of non-beneficiary respondents were found to be as passive participants. Whereas, only 39.16 per cent beneficiary had active participation. While in case of non-beneficiary respondents, only 20 per cent were found to be active participants. In case of combined respondents, majority (70.42%) were found passive participants. Only 29.58 per cent respondents were found as active participants.

#### *Size of land holding :*

The data presented in the Table 1 clearly show that majority of beneficiary farmers (54.16%) were found in the category of small farmers followed by big farmers (40%) and 5.83 per cent marginal farmers. Whereas in case of non-beneficiary respondent farmers, 56.60 per cent were found as small farmers followed by 26.67 per cent big farmers and 16.67 per cent marginal farmers. Table reveals that majority of combined respondents (55.42%) were small farmers followed by big(33.33%) and marginal farmers(11.25%).

#### *Type of family :*

The data presented in the Table 1 reveal that 35.83 per

cent beneficiary and 39.16 per cent non-beneficiary respondents had nuclear family whereas 64.16 per cent beneficiary and 60.83 per cent non-beneficiary respondents had joint family. In case of combined respondents, majority of respondents (62.5%) had joint family followed by nuclear family (37.5%) .

#### **Distribution of respondents according to their extent of knowledge about improved agricultural practices of maize production technology:**

It was observed (Table 2) that majority (69.16%) of the beneficiary tribal respondents were having medium level of knowledge about improved agricultural practices of maize production technology followed by 16.67 per cent had high and 14.16 per cent had low level of knowledge. Similarly in case of the non-beneficiary tribal respondents, 65.83 per cent had medium knowledge followed by low level (20%) and high level of knowledge (14.16%) .

#### **Present status of knowledge of beneficiary and non-beneficiary with regards to improved agricultural practices of maize production technology :**

Data shown in the Table 3 reveal that beneficiaries of the training programme conducted by the KVKs had fairly good knowledge about recommended spacing (88.75%), irrigation management (86.10%), use of fertilizer application (82.5%), use of inter cropping (77.19%) and use of high yielding varieties (76.93%). Beneficiary respondents had medium knowledge with regards to harvesting and storage (73.50%), seed rate and depth of sowing (72.29%), time and method of sowing (70.64%) and chemical weed control (68.98%). While in case of non-beneficiary respondents, they had medium level of knowledge regarding practice of recommended spacing (65.80%), irrigation management (58.30%), use of inter cropping (51.15%). Table 2 further shows that non-beneficiary respondents had low level of knowledge about seed rate and depth of sowing (43.95%), time and method of sowing (41.75%), chemical weed control (39%), plant protection measures (36.80%), use of high yielding varieties (35.70). They possessed least knowledge level regarding seed treatment (30.50%) and soil treatment (26.00%) . The low level of knowledge of non beneficiaries

**Table 2 : Distribution of respondents according to their extent of knowledge about improved agricultural practices of maize production technology**

Sr. No.	Extent of knowledge about maize production technology	Beneficiary	Extent of knowledge about maize production technology	Non-beneficiary
1.	Low (below 47.95 score)	17(14.16)	Low (below 24.30 score)	24(20)
2.	Medium (47.95 to 63.306 score)	83(69.167)	Medium (24.30 to 39.89 score)	79(65.83)
3.	High (above 63.306 score)	20(16.67)	High (above 39.89 score)	17(14.16)
	Table	120(100)		120(100)

with regards to seed treatment and soil treatment might be due to lack of technical know how and technical advise, as it is required more practice due to its complexity of its use. The findings are in line with the findings of Mahawer (1998) who reported that majority of respondents had low knowledge about seed treatment practice.

Table 4 reveals that there was a significant difference in knowledge between beneficiary and non-beneficiary

respondents in all the 13 improved agricultural practices of maize production technology namely use of HYV seed of maize, use of inter cropping, soil treatment, seed treatment, use of culture, time and methods of sowing, recommended spacing, seed rate and depth of sowing, balanced use of fertilizer, chemical weed control, irrigation management, plant protection measures and harvesting and storage. The calculated 'Z' value was also found to be significant in each

**Table 3 : Present status of knowledge of beneficiary and non beneficiary respondents with regards to improved agricultural practices of maize production technology**

Sr. No.	Name of practices	Present status of knowledge			
		Per cent beneficiaries	Rank	Per cent non-beneficiaries	Rank
1.	Use of HYV seed of maize	76.93	V	35.72	X
2.	Use of inter cropping	77.187	IV	51.35	IV
3.	Soil treatment	61.875	XII	26.00	XIII
4.	Seed treatment	66.93	X	30.50	XII
5.	Use of culture	65.83	XI	35.50	XI
6.	Time and methods of sowing	70.64	VIII	41.75	VII
7.	Recommended spacing	88.75	I	65.80	I
8.	Seed rate and depth of sowing	72.287	VII	43.95	VI
9.	Balanced use of fertilizer	82.50	III	49.157	V
10.	Chemical weed control	68.977	IX	39.00	VIII
11.	Irrigation management	86.10	II	58.33	II
12.	Plant protection measures	58.33	XIII	36.80	IX
13.	Harvesting and storage	73.50	VI	55.50	III

**Table 4: Comparison of knowledge between beneficiary and non- beneficiary with regards to improved agricultural practices of maize production technology**

Sr. No.	Name of practices	Mean score obtained		Difference	'Z' Test
		Beneficiaries	Non-beneficiaries		
1.	Use of HYV seed of maize	11.54	5.358	6.182	30.573**
2.	Use of inter cropping	6.175	4.108	2.067	17.167**
3.	Soil treatment	2.475	1.04	1.435	16.76**
4.	Seed treatment	2.008	0.915	1.093	24.697**
5.	Use of culture	1.975	1.065	0.91	11.89**
6.	Time and methods of sowing	6.358	3.758	2.60	17.58**
7.	Recommended spacing	1.775	1.316	0.454	7.80**
8.	Seed rate and depth of sowing	2.8915	1.758	1.136	12.69**
9.	Balanced use of fertilizer	5.775	3.441	2.334	18.538**
10.	Chemical weed control	6.208	3.51	2.689	18.973**
11.	Irrigation management	2.583	1.75	0.833	11.36**
12.	Plant protection measures	2.915	1.84	1.075	10.42**
13.	Harvesting and storage	2.94	2.22	0.72	8.27**

\*\* Indicate significance of value at P=0.01

**Table 5 : Comparison of beneficiaries and non beneficiaries with regards to their overall present status of knowledge about improved agricultural practices of maize production technology**

Sr. No.	Crop	Beneficiary respondents	Non-beneficiary respondents	Difference	'Z' Test
1.	Maize	55.633	32.0985	23.5345	23.77**

practice. Therefore, Null hypothesis was rejected and alternative hypothesis was accepted. Thus it was concluded that that farmers who benefited by training programmes organized by the KVK had more knowledge about different improved agricultural practices of maize production technology as compared to non-beneficiary farmers. These findings are in confirmation with the findings of Maawer (1998) and Chand (1993).

#### **Comparison of beneficiaries and non beneficiaries with regards to their overall present status of knowledge about improved agricultural practices of maize production technology :**

It is quite evident from the Table 5 that the beneficiary respondents had significantly higher knowledge than non-beneficiary respondents regarding improved agricultural practices of maize production technology. This may be due to timely and adequate support, technical advice and better transfer of technology through training programmes organized by the KVK Banswara and KVK Dungarpur. Thus, it may be concluded that training programmes organized by the KVKs had played role in increasing the level of knowledge of the beneficiary respondents regarding improved agricultural practices of maize production technology. The findings are supported by Trivedi and Patel (1990), who reported a significant difference between trained and untrained farmers with respect to their knowledge level regarding improved practices of maize crop.

#### **Conclusion :**

The study revealed that majority of beneficiaries and non beneficiaries tribal respondents were found in middle

age group followed by young and old age group. The majority of respondents of both the category were illiterate, found to be agriculture as their occupation, had passive participation, they possessed small land holdings and had joint family. Majority of beneficiary (69.16%) and non-beneficiary (65.83%) were found to have medium level of knowledge with regards to improved practices of maize crop. It was found that on an average 73.20 per cent of beneficiaries and 42.11 per cent of non beneficiaries had their present status of knowledge high with regards to improved agricultural practices of maize production technology. The highly significant difference was observed between beneficiary and non-beneficiary respondents regarding extent of knowledge about maize production technology.

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