



Impact of Extension Activities of Krishi Vigyan Kendra, Jodhpur on Knowledge Level of Farmers on Improved Agricultural Production Practices

Savita Singhal*, Lalita Vatta, Poonam Kalash and S.K. Sharma

ICAR-Central Arid Zone Research Institute, Krishi Vigyan Kendra, Jodhpur 342 003, India

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Abstract: The present investigation was undertaken in Jodhpur district of Rajasthan. A multi-stage sampling design was used to select the sample farmers as respondents. A total of 180 farmers were selected for the study purpose. The primary data for the study were collected from respondents through specially prepared interview schedule. It was found that nearly 92% beneficiary respondents had high to medium level of knowledge about improved agricultural production technologies, while, only 7.50% of the beneficiary respondents possessed low level of knowledge. In case of non-beneficiary respondents, majority of the farmers (43%) had medium level of knowledge of improved technologies and the percentage of those possessing low knowledge was 45%. Non-beneficiary respondents seem to have the least level of knowledge as is evident from the lowest number of farmers having high knowledge and high number in the category of low to medium knowledge.

Key words: Impact, extension activities, KVK, production practices.

In order to enhance production and productivity of crop it is utmost important to have knowledge about improved agricultural production technologies. Agriculture has now become extremely competitive. Use of science and technology, knowledge empowerment and capacity building can enable farmers to make them competitive and induce inclusive growth. So far, the achievements with respect to agricultural growth and food production have been spectacular with self-sufficiency in food grains. There is still untapped potential of currently available agricultural technologies, which can help to mitigate the effects of shrinking cultivable land, scarcity of irrigation water, soil nutrient depletion, increasing biotic and abiotic stress etc. The farming has to be sustainable and profitable in different resource environments in order to bring in financial and livelihood security for rural households. To address issues related to technology dissemination in agriculture, the Krishi Vigyan Kendra (KVK), known also as Agriculture Science Centre, a grass root level scheme has been designed and nurtured by Indian Council of Agricultural Research (ICAR) for the past decades. A considerable time has passed after the initiation of the KVKs and it is time to take stock of the situation, especially on the performance appraisal. Therefore, the questions

arise whether there is an impact of Krishi Vigyan Kendra on the beneficiary farmers' knowledge of agricultural technologies, and ultimately on the level of agricultural development in the district. So keeping these aspects in mind the present study has been conducted.

Methodology

The present investigation was undertaken in Jodhpur district of Rajasthan. A multi-stage sampling design was used to select the sample farmers as respondents. In first stage, Jodhpur district was selected purposively. In second stage, two Panchayat Samities from Jodhpur district were selected. In third stage, three villages adopted by Krishi Vigyan Kendra, Jodhpur were selected from each selected Tehsil. Finally at last stage a comprehensive list of all the beneficiary farmers from each selected village was prepared with help of records of Krishi Vigyan Kendra. From each sample village, 20 beneficiary farmers were selected through random sampling method as respondents for the study. Apart from this, in order to assess the impact of Krishi Vigyan Kendra in terms of gain in knowledge about improved agriculture production practices, a sample of 60 non-beneficiary farmers was selected from control villages. Thus, a total of 180 farmers were selected as respondents for the study.

*E-mail: savita.singhal1961@gmail.com

The primary data for the study were collected from respondents through specially prepared schedules. The schedule included the data relating to the profile of respondents and extent of adoption of various improved agricultural practices. The schedule was subjected to pre-testing before administering it to the actual respondents. The schedule was improved and revised according to the suggestions received from the respondents. The final set of schedules was used after being translated into Hindi version and was personally introduced to the respondents. The responses were recorded on the schedule itself. The purpose of the study was explained to the respondents before recording the responses. The primary data required for the study were collected through recall method in one round.

The data so collected were transferred to the work table and tally sheets. They were processed, tabulated, classified, analyzed, and given statistical treatment. The cross tables were also prepared and the data were interpreted. The hypotheses formulated were tested and salient interpretations were drawn from the data in light of the objectives of the study.

Knowledge was operationalized as the information possessed by the farmers about improved agriculture production practices recommended for their farming situation. Schedule consisted of 40 major practices pertaining to crop production and allied fields. The response of farmer on each practice was obtained on three point continuum i.e. fully correct, partial correct and incorrect with scores of 2, 1, and 0, respectively. The maximum possible score for knowledge one could obtain was 80 and minimum as zero. On the basis of mean knowledge score, the farmers were categorized into low, medium and high knowledge. Overall knowledge was also calculated through the knowledge index.

Knowledge Index = (Score obtained by respondents/Maximum obtainable score) X 100

Results and Discussion

The data presented in Table 1 revealed that nearly 92% beneficiary respondents had high to medium level of knowledge about improved agricultural production technologies. Only 7.50% of the beneficiary respondents possessed low level of knowledge. In case of

non-beneficiary respondents, majority of the farmers (43%) had medium level of knowledge of improved technologies and the percentage of those possessing low knowledge was 45%. Non-beneficiary respondents seem to have the least level of knowledge as is evident from the lowest number of farmers having high knowledge. High number in the category of low to medium knowledge also reconfirms the above conclusion, Ghosh and Pandey (2003) also recorded that the trainee farmers of KVK had higher knowledge about rice cultivation technologies than the non-trainees. Further, Waman *et al.* (2012) revealed that FLDs acts as source of information for farmers and created greater awareness and motivated to adopt the appropriate production technology. Sheikh *et al.* (2013) also measured knowledge level of participant and non participant farmers on various aspects of improved agricultural production practices and reported that among participant farmers mean knowledge score was 68.33% as compared to 27.31% among non-participating farmers with mean difference of 41.02. The study conducted by Yadav *et al.* (2014) in Basti District (Uttar Pradesh) concluded that KVK training programs had also influenced in enhancing the level of knowledge level of technologies of tomato growers. This shows positive impact of KVK on knowledge of the farmers due to the concentrated efforts made by the KVK scientists.

Overall knowledge index for different aspects of agricultural production practices were analyzed and results are presented in Table 2. It clearly indicates knowledge index for different aspects of agricultural practices is highly skewed towards beneficiary respondents.

Ramakrishna (1980) reported in his study that majority of trained farmers gained

Table 1. Distribution of respondents based on level of knowledge

Category	Respondents			
	Beneficiaries (n=120)		Non-beneficiaries (n=60)	
	F	P	F	P
Low	9	7.50	27	45.00
Medium	66	55.00	26	43.33
High	45	37.50	7	11.67
Total	120	100.00	60	100.00

F=Frequency; P=Percentage (%).

Table 2. Overall knowledge index of improved agricultural production practices

Aspects	Beneficiaries (n=120)			Non-beneficiaries (n=60)		
	Total score	Mean score	Knowledge Index	Total score	Mean score	Knowledge Index
Preparatory cultivation	176.29	1.47	73.45	74.71	1.25	62.31
Seed and spacing	196.50	1.64	81.88	81.50	1.36	68.00
Cropping pattern and crop rotation	204.5	1.705	85.21	87	1.45	72.43
Fertilizer management	168.83	1.41	70.35	71.83	1.20	59.80
Irrigation management	184.25	1.54	76.77	78.00	1.31	65.26
Weed management	171.5	1.4275	71.46	72.75	1.215	60.74
Plant protection	171.83	1.43	71.60	73.17	1.22	60.86
Harvest and post harvest operations	150.80	1.26	62.83	64.00	1.07	53.41

significant change in knowledge in all the trained practices. Chauhan (2012) stated that the knowledge level of the tribal farmers was amplified after imparting training and also due to frontline demonstrations by Krishi Vigyan Kendra.

The knowledge index of beneficiary and non-beneficiary respondents was compared by applying independent 't' test in (Table 3).

Table 3. Comparison of knowledge indexes of beneficiary and non-beneficiary respondents

Mean knowledge index		Calculated 't' value
Beneficiary respondents	Non-beneficiary respondents	
75.37	62.85	9.24**

** Significant at 1% probability level.

The calculated 't' value was found to be highly significant at one percent level (Table 3). It means knowledge index of beneficiary respondents was significantly higher over the knowledge index of non-beneficiary respondents. This shows positive and significant impact of services of Krishi Vigyan Kendra on knowledge of farmers about improved agricultural production practices. Sarma *et al.* (2013) also observed that the level of knowledge of trained women farmers was significantly higher than the untrained women farmers of Jorhat district of Assam State. Ram and Chaturvedi (2015) concluded that the mean knowledge score of the wheat, dairy and fodder farmers had increased substantially due to the training programs organized by three KVKs namely Karnal, Hissar and Rewari in Haryana. Jatav and Patel (2010) also reported that majority of the respondents (beneficiaries of FLD program and non-beneficiaries) possessed

medium level of the scientific temperament. The mean value of scientific temperament of FLD beneficiaries was significantly higher than the mean score of scientific temperament of non-beneficiaries. Thus, it can be stated that, there is a positive impact of FLD program on scientific temperament of wheat growers in Indore and Dewas district. Similar findings were also reported by Malabasari and Hiremath (2016), Ram and Chaturvedi (2015), Meena and Gupta (2013), Sheikh *et al.* (2013), Chauhan (2012), Singh and Chauhan (2012), Jatav and Patel (2010), Singh (2010), Ghosh and Pandey (2003), Sharma (2002), Sakharkar *et al.* (1992) and Rao (1991).

Conclusion

It is concluded that the Krishi Vigyan Kendra contributed positively in enhancing the knowledge level of farmers in various aspects of agricultural production technologies. KVK practices created great awareness and motivated other farmers to adopt appropriate production technologies. Interventions of KVK scientists in training, demonstrations, on farm trials and other extension activities helped in enhancing the knowledge level of farmers which in turn led to higher adoption of agricultural production technologies.

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