

IMPACT OF KRISHI VIGYAN KENDRA IN OPERATIONAL VILLAGES

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ABSTRACT

Krishi Vigyan Kendra has been proved to be one of the best option for improvement of knowledge, attitude and skill level in farming community of rural India. It is the innovative scientific training institute which has been established throughout the country with the mandates to impart need based and skill oriented trainings to practicing farmers, in-service field level extension workers and to those who wish to go for self employment. The basic objective of Krishi Vigyan Kendra is focused on demonstrating the recent technology at the farmers' field through Front Line Demonstrations (FLDs). The another important activities carried out by KVK in operational villages were On Farm Trials (OFT), On and Off campus trainings, field days, sharing of know-how through cell phones and literature, celebration of technology weeks, agricultural fairs, exposure visits, etc. had provided scientific know-how to farmers. These all activities has great influence which resulted in decrease the gap between the old and new farming system and increase in adoption rate, knowledge and change in attitude and behavior also. Finally the impact was observed to a better life style of famers.

Keywords: *impact, front line demonstrations, training, technology, adoption, knowledge*

INTRODUCTION

The mandatory activities like trainings, FLDs (front line demonstrations), OFT (on farm testing) and other extension programmes are proven as the best boon for improving the agricultural knowledge as well as socio-economic level of farming community in India. The main aim of establishing the KVK is to bring improvement in farm production and economy of the farmers. Keeping in mind the above aim, in 2003-04 the Junagadh Agricultural University has established KVK at Jamnagar. In order to achieve the goal, KVK Jamnagar had been started the above mentioned extension activities extensively for agriculture and allied fields throughout the district alone as well as in collaboration with line departments and NGOs as and when necessary. As a result, farmers started interaction with KVK scientist for their agricultural technical need base problems, diagnosis, etc. which helped them to adopt recommended technology. By imparting skill oriented vocational training programmes and value addition of their agricultural products self employment rate among the farmers was increased. The present study was conducted to assess the impact of KVK activities on agricultural situation like change in production and productivity, adoption of farm mechanization and new technologies, change in know-how and attitude about IPM, INM, improvement in socio-economic condition etc. in the

operational villages of KVK.

METHODOLOGY

The present investigation was undertaken in operational villages of Jamnagar district of Gujarat state. The district consist of total 10 blocks, out of which Jamjodhpur, Dhrol and Jodiya were selected for different extension activities carried out by Krishi Vigyan Kendra, Junagadh Agricultural University, Jamnagar. Three irrigated and three rain fed villages were selected from each block. Thus, total eighteen villages were adopted as operational area for mandatory activities of Krishi Vigyan Kendra for the period of 2011-12 to 2014-15. These eighteen villages were considered as the study sample for this investigation. For selection of respondents, 10 respondents were selected randomly from each adopted village. Thus, total number of respondents was 180. For the collection of data, a simple structured interview schedule was developed and data were collected by personal interview.

OBJECTIVES

- (1) To study the socio-economic profile of selected respondents
- (2) To assess the impact of extension indicator

(3) To study the impact of technological indicator

economic profile of the respondents viz; age, education, size of family, size of land holding, social participation, extension contact and farm mechanization index were worked out. Selected characteristics are depicted in Table 1.

RESULTS AND DISCUSSION

Socio economic profile of the respondents

Considering the objectives of the study, socio-

Table 1 : Distribution of the respondents according to their characteristics

n=180

Sr. No.	Socio-economic characteristics	Frequency	Per cent
1	Age		
	Young age group (up to 35 year)	31	17.22
	Middle age group (36 to 50 year)	82	45.56
	Old age group (above 50 year)	67	37.22
2	Education		
	Illiterate	14	07.78
	Primary education (1 to 7 standard)	71	39.44
	Middle education (8 to 10 standard)	71	39.44
	Secondary education (11 to 12 standard)	13	07.22
	College and above	11	06.11
3	Size of family		
	Nuclear family (> 5 member)	105	58.33
	Joint family (< 5 member)	75	41.67
4	Social Participation		
	Social participation	93	51.67
	No Social participation	87	48.33
5	Extension Contact		
	Low extension participation (> 2.8 score)	15	08.33
	Medium extension participation (2.8 to 7.5 score)	114	63.33
	High extension participation (<7.5 score)	51	28.33
6	Size of land holding		
	Small holding (up to 2 ha score)	48	26.67
	Medium holding (>2 to 4 ha score)	74	41.11
	Large holding (above 4 ha score)	58	32.22
7	Farm mechanization index		
	Low FMI (Mean – S.D.)	67	37.22
	Medium FMI (Mean ± S.D.)	89	49.44
	High FMI (Mean + S.D.)	24	13.33

The data presented in table 1 indicate that the maximum number of the respondents (45.56 per cent) were of middle age group (36 to 50 years) followed by old age group 37.22 per cent and young age group 17.22 per cent respectively. In case of education, equal number of respondents was educated up to primary and middle education (39.44 per cent) followed by illiterate, secondary education and college and its above level education with 7.78, 7.22 and 6.11 per cent respectively. From the table, it is also observed that majority (58.33 per cent) of the respondents were belonged to nuclear family and 41.67 percent of joint family.

The data depicted in table- 1 revealed that more than half (51.67 per cent) of the respondents had social participation while 48.33 per cent had no social participation. In case of extension participation, 63.33 per cent of the respondents had medium extension participation, whereas 28.33 per cent and 08.33 per cent of them had high and low extension participation respectively.

It is quite clear from the table-1 that 41.11 per cent respondents were medium land holder (2 to 4 ha) while 32.22 and 26.67 percent farmers were large and small land holders respectively. In case of farm mechanization, 49.44 per cent of

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the farmers had medium farm mechanization index followed by 37.22 and 13.33 per cent respondents had low and high farm mechanization index.

Impact of extension indicator

In a view to ascertain impact of different extension

activities in adopted villages, questionnaire was prepared to measure the different extension indicators. It was structured to know the experience of farmers before and after five years experience. The percentage worked out and percent increase should be the growth of the farmers after the KVK activities in adopted villages. The data are presented in table:2.

Table 2 : Distribution of the respondents according to its extension intervention

n = 180

Sr. No.	Extension indicator	Impact of Krishi Vigyan Kendra				Difference	Rank
		Before		After			
		Frequency	Per cent	Frequency	Per cent		
1	Knowledge about technology and package of practices	105	58.33	155	86.11	27.78	IV
2	Extent of awareness	75	41.67	167	92.78	51.11	III
3	Change in attitude	57	31.67	154	85.56	53.89	II
4	Improvement in work performance / skill	77	42.78	113	62.78	20.00	V
5	Extent of spread of technology	62	34.44	169	93.89	59.44	I
6	Increase in SHGs / FIGs	69	38.33	100	55.53	17.22	VI
7	Formation / establishment of cooperative	68	37.78	75	41.67	3.89	VII

The perusal of data presented in table 2 revealed that more than 50.00 per cent difference was noticed in case of spread of technology (59.44 per cent) which was followed by change in attitude (53.89 per cent) and extent of awareness (51.11 per cent) respectively.

In case of other extension indicators, the difference observed was less than 50.00 per cent are gain in knowledge about technology and package of practices, improvement in work performance/skill and increase in SHGs /CIGs with 27.78, 20.00 and 17.22 per cent respectively. The least difference was observed in case of formation and

establishment of cooperative (3.89 per cent).

From above result and discussion, it can be concluded that the spread of technology was ranked first, followed by change in attitude, extent of awareness, gain in knowledge and improvement in work performance/skill with 2nd, 3rd, 4th and 5th rank respectively.

Impact of technological indicator

To measure the different technological indicators, the following nine parameters were tested and the results depicted in table - 3.

Table 3 : Distribution of farmers according to different technological indicator

n = 180

Sr. No.	Technological indicator	Impact of Krishi Vigyan Kendra				Difference	Rank
		Before		After			
		Frequency	Percent	Frequency	Percent		
1	Introduction of new varieties	112	62.22	155	86.17	23.95	II
2	Increase in productivity	120	66.61	143	79.57	12.96	VI
3	Increase in area	109	60.68	128	71.05	10.37	VII
4	Increase in production	15	12.50	85	70.83	58.33	I
5	Extent of adoption	107	59.44	149	82.78	23.33	III
6	Increase in income	130	72.22	159	88.33	16.11	V
7	Generation of employment	122	67.78	139	77.22	9.44	VIII
8	Creation of infrastructure	103	57.22	134	74.44	17.22	IV
9	Decrease in yield gaps	91	50.56	120	66.67	16.11	V

It is concluded from above table: 3 that the highest difference (58.33 per cent) was observed in increase of production followed by introduction of new varieties (23.95 per cent) and adoption rate (23.33 per cent) respectively. The least differences were observed in generation of employment (9.44 per cent) and increase in area of different crops (10.37 per cent).From above result and discussion, it can be

concluded that increase in production was ranked first while introduction of new varieties and adoption rate were ranked second and third respectively.

The reason for increase in production and productivity of different crops might be due to constant and concrete efforts of KVK scientists to solve farmers'

problems of plant protection and crop production by field visit, phone or personally visit of farmers to KVK. Front Line Demonstrations conducted by KVK at farmer's fields and

trainings had played vital role in introduction of new varieties (ranked second position) in the district.

Table 4 : Impact of farm mechanization, IPM (2011-12 to 2014-15)

n = 180

Sr. No.	Practices	Before	After	Per cent increase
		Year 2011-12	Year 2014-15	
(a) Farm mechanization				
1	Tractor (No.)	33	103	212.12
2	Rotavator	03	15	400.00
3	Thresher (No.)	33	50	51.51
4	Drip irrigation set	07	40	471.43
5	Sprinkler irrigation set	13	45	246.15
(b) Integrated nutrient management				
1	Use of FYM	142	165	16.20
2	Judicious use of Urea	98	125	27.55
3	Judicious use of DAP	73	102	39.73
4	Judicious use of SSP	56	73	30.36
5	Judicious use of Potash	45	63	40.00
(c) IPM				
1	Use of Trichoderma (no.)	52	165	217.31
2	Pheromone trap (no.)	17	45	164.71
3	NPV (no.)	08	35	337.50
4	Neem oil (no.)	67	104	55.22
5	Beuvariya (no.)	45	138	206.67

The data depicted in Table: 4 indicate that in case of farm mechanization, the highest per cent increase was observed in Drip irrigation set (471.43 per cent) followed by rotavator (400.00 per cent), Sprinkler irrigation system (246.15 per cent) and tractor (212.12 per cent) respectively. Use of drip and sprinkler system was increased because of scarcity of irrigation water, proper guidance and motivation from KVK scientist and help from GGRC and Government.

Awareness was aroused among the farmers of adopted villages about importance of integrated nutrient management (INM) through On and Off campus trainings, FLDs, OFTs, field days and mobile phones. In integrated nutrient management the highest percent rise was observed in judicious use of potash (40.00 per cent) followed by judicious use of DAP (39.73 per cent), Single Super Phosphate (30.36 per cent) and urea (27.55 per cent) respectively. While least percent increase was observed in use of FYM (16.20 per cent).

Now a day's IPM is the most important factor from production technology point of view. Due to continuous efforts of KVK scientists, regular diagnostic visits to

farmers' field and guidance through mobile phone, the use of bio control agents were remarkably enhanced. In adopted villages the highest percent increase was observed in use of NPV (337.50) followed by trichoderma (217.31), beuvariya (206.67 per cent), pheromone trap (164.71 per cent) and neem oil (55.22 per cent), respectively.

Table : 5 Increase and decrease of productivity of major crops during last four years (Year 2011-12 to 2014-15)

Sr. No.	Crop	Productivity Difference	Rank
1	Cotton	-28.33	IX
2	Groundnut	21.67	II
3	Cumin	17.78	IV
4	Chickpea	19.44	III
5	Coriander	30.56	I

From above table-5, it is clear that highest increase was observed in production of coriander with first rank. Before adoption time the farmers were sowing local variety

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of coriander. After adoption of these villages by KVK, the awareness about coriander was first time given to farmers through Seed Village Scheme and also the FLDs of coriander variety GC-2 were conducted. Moreover, the farmers were awaked about recommended variety and package of practices of coriander during training and field days. Therefore the productivity of coriander was increased. This was followed by groundnut and chickpea with second and third rank respectively. It is due to adoption of recommended varieties, good crop management practices and regular guidance of KVK experts to farmers.

At the same time, the productivity of cotton crop was declined up to - 28.33 per cent. The reason behind this as per farmers' feedback was mono cropping system (every year sowing of cotton on same land), attack of pink bollworm and remarkable infestation of sucking pests.

From the table- 5, it is concluded that the productivity of coriander, groundnut, chickpea, cumin and pearl millet was increased while it was reduced in case of cotton. This impact was due to the different extension activities carried out by KVK in the adopted villages.

CONCLUSION

After collection and analysis of data, the results were prepared to assess the impact of activities of Krishi Vigyan Kendra. It is proved that Krishi Vigyan Kendra has been playing pivotal role for the all over improvement of farming community. To concentrate its efforts 18 villages were adopted for different extension activities for the period of 2011-12 to 2014-15. Due to constant and concrete efforts of KVK scientists, like organizing On and Off campus trainings, Front Line demonstrations (FLDs), On Farm trials (OFTs), field days, sharing of agricultural know-how through mobile phone technology, providing literature, celebration of technology weeks, soil health day, agricultural fairs, Krishi Mahotsava, exhibitions, exposure visits, etc. had increased scientific know-how to farmers which led them to adopt new technology and finally to a better livelihood.

After completion of four years in adopted villages the major outcomes are: The yield of coriander and groundnut was increased by 30.56 and 21.67 percent respectively. A remarkable change was noticed in adoption of drip and sprinkler irrigation system. Injudicious use of DAP and urea was minimized. Farmers started to use more bio agents especially *trichoderma* and *beauveria* to control

pest and diseases which resulted in decrease of cost of cultivation with conservation of environment. The efforts of KVK scientists succeeded in arousing awareness, change in attitude, introduction of new varieties and increase in extent of adoption which increased the crop production and finally the income of the farmer.

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