

## **Impact of KVK activities in adopted villages of KVK-Dangs**

### **Background**

KVK is the Farm Science Center with multidisciplinary aims to transfer the latest technology to farmers in the district. The mandates of KVKs are conducting on farm testing, organizing training, front line demonstrations (FLDs) and to work as knowledge resource center for overall agricultural and rural development through hits various research and transfer of technology mechanisms. The transfer of modern agricultural practices to the farmers with pre-conceived thought of traditional farming calls for a well developed and organized training programmes for the farmers. Training is a critical input for quick transfer of technology and away to improve their agriculture and to uplift their socio economic condition. Keeping this fact in view, many krishi vigyan kendras have been started all over the country. The past studies clearly indicated that KVK is an important medium to impart the latest technical knowhow to the farmers. Other extension activities carried out by the KVK was also important in TOT. Keeping this in view, it was felt worthwhile to study “Impact of KVK activities in adopted villages of KVK-Dangs”.

### **Objectives:**

1. To study the profile of the respondents
2. To know the impact of KVK activities in adopted villages of KVK-Dangs
3. To ascertain the relationship between dependent and independent variables

### **Methodology:**

The present study was conducted in dang district of Gujarat. For the purpose of this study, 10 adopted villages of Waghai, Ahwa and Subir taluka were selected purposively from dang district to conduct the study by following the random sampling methods. A total 200 samples (100 respondent were before the adoption of villages and 100 same respondent were after the adoption of villages) 10 from each village was selected at purposive and random sampling, PRA method were be used. The information of each respondent was collected with the help of pretested, structured interview schedule by personal interview. The collected data were analyzed and interpreted in the light of the objectives with appropriate statistical tools like percentage, rank, mean and standard deviation. The impact of KVK activities in adopted villages have shown by comparing the tables. The resultant changes occurred due to main training carried out by the scientist of KVKs.

### **Findings:**

The outcome of the present study has been presented here after applying the appropriate statistical analysis. The results have been described under the following subheads in the light of the objectives of the study.

#### **1. Study the profile of the respondents**

The data regarding socio-economic and personal characteristics of respondents were analyzed and presented in the following sequence.

The data in age were grouped into three categories viz; (i) Young age (up to 35 years), (ii) Middle age (36 to 50 years) and (iii) Old age (Above 50 years). The data in education was collected and grouped as; Illiterate, primary level of education (1<sup>st</sup> to 7<sup>th</sup> standard), secondary and higher secondary level of education (8<sup>th</sup> to 12<sup>th</sup> standard) including diploma and college level of education (above 12<sup>th</sup> standard).

Press Information Bureau, Government of India and Ministry of Agriculture & Farmers Welfare the operational holdings are categorized in five size classes. They all were grouped into five categories, viz.; (i) Marginal farmer (Below 1.00 ha) (ii) Small farmer (1.1 ha to 2.00 ha), (iii) Semi medium (2.1 ha to 4.0 ha), (iv) Medium (4.1 ha to 10.0 ha) and (v) Large (10.0 ha and above). Family size was measured with the help of SES scale developed by Venkatarmaiah (1983). Family size were grouped into three categories, viz. ; (i) Small size of family (Up to 5 members) (ii) Medium size of family (6 to 8 members) and (iii) Large size of family (Above 8 members). Social participation denotes the involvement of an individual in various social, religious, political, educational as well as cultural groups, organization and institutions. The individual who have generally involved in social participation, they are definitely resourceful, highly advanced and empowered. Maximum cases it is seen that individuals having less/ negligible level or high participation due to social participation. The extent of social participation tells about the progressiveness and social standing of a person in the society. A man with greater exposure is supposed to be more up to date and more enthusiastic about new innovations.

On the base of mean and standard deviation the social participation, extension participation, information seeking behavior and innovativeness were find out. Farming experience was measured on the basis of years. Lower level of farming experience (Up to 5 years), medium level of farming experience (6 to 10 years) and higher level of farming experience (Above 10 years). Animal possession had measured by categorized of animal into having no animal, up to 3 animal, 4 to 6 animals and above 6 animals. Family annual income was measured on the bases of three categories viz, low family income (Up to Rs 1,00,000/-), medium family income (Rs.1,00,001 to 2,00,000) and high family income (above Rs 2,00,000) Scale developed by Supe (1969) with some due modification was adopted for scientific orientation study to measure the degree to which the farmers are oriented towards scientific methods. The scale consisted of six statements out of which one statement was negative, while rests were positive. The responses of the respondents were obtained against each statement in terms of their agreement or disagreements. The positive statements were scored 3, 2 and 1 for agree, undecided and disagree whereas, the scoring system was reversed in case of negative statement. For this variable, the maximum score was 18 and minimum was 6. An arbitrary method was used for categorization to each section. For that the higher score is subtracted from the lower score and divided by the number of categories. The obtained score is added into the lower score until you get the highest score. Later on, same data were used for correlation with dependent variables.

Risk orientation was measured with the help of scale developed by Supe (1969) with due modification. The responses of respondents were obtained against each statement. The positive statements were scored 3, 2 and 1 for agree, undecided and disagree respectively. In case of negative statements the scoring systems were used reverse. For this variable, the maximum score was 18 and minimum was 6. An arbitrary method was used for categorization to each section. For that the higher score is subtracted from the lower score and divided by the number of categories. The obtained score is

added into the lower score until you get the highest score. Later on, same data were used for correlation with dependent variables.

Self-confidence indicates the extent of own ability of enterprise owners and resourcefulness in carrying out any activity in the respective enterprise which they desire to undertake. The structure schedule was developed to measure the self confidence in the present study. Total 9 dichotomous statements were created to be answered by the respondents as either 'yes' or 'no'. The 'no' response is given a score of one and 'yes' response a score of 2 for each of the items except numbers 1, 4, 5 and 8 in that case, the scoring process was reversed. The score of an individual was ranged from zero to 18. An arbitrary method was used for categorization to each section. For that the higher score is subtracted from the lower score and divided by the number of categories. The obtained score is added into the lower score until you get the highest score. Later on, correlation with dependent variables was also calculated.

Economic orientation is defined as occupational success in terms of profit maximization and the relative value of an individual places on economic ends. The level of respondents was measured with the scale developed by Supe (1969) with due modification. The scale consisted of six statements, out of which the two were negative and four were positive. The responses were obtained against each statement in terms of their agreement or disagreement. The positive statements were scored 3, 2 and 1 for agree, undecided and disagree, respectively. The scoring system was reversed in case of negative statements. For this variable, the maximum score was 18 and minimum was 6. An arbitrary method was used for categorization to each section. For that the higher score is subtracted from the lower score and divided by the number of categories. The obtained score is added into the lower score until you get the highest score. Later on, same data were used for correlation with dependent variables. The classified data are presented in table 1

**Table 1: Distribution of respondents according to their Profile n=100**

Sr.No.	Profile of the respondent	Category	Category of farmers			
			Before adoption		After adoption	
			Number	Per cent	Number	Per cent
1	Age	Young age (Up to 35 years)	38	38.00	19	19.00
		Middle age (36 to 50 years)	35	35.00	53	53.00
		Higher age (Above 50 years)	27	27.00	28	28.00
2	Education	Illiterate	05	05.00	05	05.00
		Primary level of education (1 <sup>st</sup> to 7 <sup>th</sup> standard),	31	31.00	31	31.00
		Secondary and higher secondary level of education (8 <sup>th</sup> to 12 <sup>th</sup> standard)	49	49.00	49	49.00
		College level of education and above (Above 12 <sup>th</sup> standard)	15	15.00	15	15.00
3	Land Holding	Marginal farmer (Below 1.00 ha)	32	32.00	41	41.00
		Small farmer (1.1 ha to 2.00 ha)	37	37.00	28	28.00

		Semi medium (2.1 ha to 4.0 ha)	20	20.00	21	21.00
		Medium (4.1 ha to 10.00 ha)	11	11.00	10	10.00
		Large (10.00 ha and above)	00	00.00	00	0.00
4	Family size	Small size of family (Up to 5 members)	44	44.00	44	44.00
		Medium size of family (6 to 8 members)	45	45.00	45	45.00
		Large size of family (Above 8 members)	11	11.00	11	11.00
5	Social Participation	Low	26	26.00	18	18.00
		Medium	66	66.00	76	76.00
		High	08	08.00	06	6.00
6	Extension participation	Low	14	14.00	26	26.00
		Medium	64	64.00	48	48.00
		High	22	22.00	26	26.00
7	Information seeking behavior	Low	21	21.00	16	16.00
		Medium	61	61.00	62	62.00
		High	18	18.00	22	22.00
8	Farming experience	Lower level of farming experience (Up to 5 years)	04	04.000	02	02.00
		Medium level of farming experience (6 to 10 years)	29	29.00	29	29.00
		Higher level of farming experience (Above 10 years)	67	67.00	69	69.00
9	Animal possession	Having no animal	01	01.00	06	06.00
		Up to 3 animal	32	32.00	16	16.00
		4 to 6 animal	35	35.00	28	28.00
		Above 6 animal	32	32.00	50	50.00
10	Innovativeness	Low	04	04.00	02	02.00
		Medium	73	73.00	54	54.00
		High	23	23.00	44	44.00
11	Family annual income	Low family income (Up to Rs 1,00,000/-),	18	18.00	01	01.00
		Medium family income (Rs.1,00,001 to 2,00,000)	77	77.00	72	72.00
		High family income (above Rs 2,00,000)	05	05.00	27	27.00
12	Scientific orientation	Low level of scientific orientation (Up to 10 score)	27	27.00	07	07.00
		Medium level of scientific orientation (11 to 14 score)	61	61.00	18	18.00
		High level of scientific orientation (15 to 18 score)	12	12.00	75	75.00

13	Risk orientation	Low level of risk orientation (Up to 10 score)	28	28.00	09	09.00
		Medium level of risk orientation (11 to 14 score)	65	65.00	40	40.00
		High level of risk orientation (15 to 18 score)	07	07.00	51	51.00
14	Self confidence	Low self confidence (Up to 6 score)	00	00.00	00	00.00
		Medium self confidence (7 to 12 score)	33	33.00	10	10.00
		High self confidence (13 to 18 score)	67	67.00	90	90.00
15	Economic orientation	Lower level of economic orientation (Up to 10 score)	37	37.00	08	08.00
		Moderate level of economic orientation (11 to 14 score)	41	41.00	09	09.00
		Higher level of economic orientation (15 to 18 score)	22	22.00	83	83.00

The data in Table 1 revealed that 38.00 per cent of the farmers had young age group in before adoption in situation while, about 53.00 per cent of farmers were belonged to middle age group situation. It is seen from the table that there was no any change was observed in the level of education in before adoption and after adoption of the villages. It is observed from table 1 that nearly two third of farmers of the villages in before adoption and after adoption (69.00%) possessed small and marginal land holding. Near half of the farmers of villages in before adoption situation and farmers of villages of after adoption (45.00%, 45.00%) had medium family size. The majority of (76.00 %) of farmers had medium social participation after adoption of villages while 66 per cent had the same category of social participation before adoption. In case of extension participation, majority of (64.00 %) farmers of before adoption situation came under medium category, While 48.00 per cent of farmers came under medium categories before adoption of villages. The table showed that the information seeking behavior was increase after adoption of villages by KVK, Waghai. Majority of (69.00 %) of farmers had higher farming experience after adoption of villages while 67.00 per cent had the same category of farming experience before the adoption of villages. About 32.00 per cent farmers were having above 6 animals of before adoption while, 50.00 per cent of farmer had possessed above 6 animals after the adoption of villages. 23.00 per cent of farmers had high innovativeness in before adoption of villages while 44.00 per cent had the same category of innovativeness after adoption of villages. Very few 5.00 per cent of farmers had high family income (Above Rs 2,00,000) before adoption of villages while, 27.00 per cent of farmers had the same category after adoption of villages.

The data seen in the table that high level of scientific orientation (12.00 %) were observed in before adoption of villages while, the after adoption of villages, majority (75.00 %) farmers had cum in the high level of scientific orientation. In case of risk orientation, 7.00 per cent of the farmers observed high level of risk orientation in before adoption of villages while, the after adoption of villages, 51.00 per cent farmers had cum in the same categories. The majority (67.00 %) of the farmers cum under high self confidence before the adoption of villages while, 90.00 per cent farmers cum under same categories after adoption of villages by KVK, Waghai. 22.00 per cent of the farmers cum under high

level of economic orientation before the adoption of villages while, 83.00 per cent farmers cum under same categories after adoption of villages by KVK, Waghai.

## 2. To know the impact of training in adopted villages of KVK-Dangs

KVK is an innovative science based institution which functions on the principal of collaborative participation of scientist, subject matter expert, extension workers and farmers. The main purpose of KVK is to impart learning through work experience to those who are engage in farming. Learning by doing is the main method of imparting skill training by KVK. Follow-up actions are also made through visit of the scientists, organizing ex-trainees meet discussing with the field functionaries etc. to assist the farmers in adoption of changes practice learned through training and other extension activities. With this hypothesis, another objective was framed in the study to analyze the extent of knowledge gained and used of technologies by the farmers after undergoing training and other extension activities at KVK. Knowledge and adoption of various practices crop production, horticulture, animal husbandry, plant protection, income generating capacity and home Science were selected as variable. Attempt has been made for comparative analyses of the extent of gained in the knowledge and adoption of new technology through KVK training and other extension programme. The result obtain has been presented in table below.

**Table 2.1 Comparative knowledge gained on farm activities**

**n=100**

<b>Knowledge gained for training and extension activities</b>					
<b>Sr.No.</b>	<b>Activities</b>	<b>Mean Score</b>		<b>Increase %</b>	<b>Gap %</b>
		<b>Befor adoption</b>	<b>After adoption</b>		
1	Crop production	1.87	2.34	29.98	17.94
2	Horticulture	1.43	1.79	32.83	17.39
3	Animal husbandry	2.11	2.64	30.97	17.94
4	Plant protection	1.82	2.40	40.86	20.56
5	Income generating capacity	1.89	2.40	32.16	16.89
6	Home Science	1.87	2.54	41.92	23.27
<b>Average</b>		<b>1.83</b>	<b>2.35</b>	<b>34.78</b>	<b>18.99</b>

Comparative analyses of the data in the table 2.1 reveal that there was significant gain in knowledge on all the aspect of the farm activities covered under the study. Comparatively more knowledge was gained on crop production, horticulture crops, animal husbandry, plant protection, income generating capacity and home science activities. At the same time average gap percentage of 18.99 per cent indicated that the knowledge level was high, there was 34.78 per cent increase in knowledge as well as 18.99 per cent gap in knowledge level. Through KVK has made significant role impact on knowledge level of the respondent still more training and other extension programmes may be organized to abreast the respondents with knowledge and skills sufficiently for the improvement of the farming community.

Further KVKs have been designed to impart need based and skill oriented vocational training to various categories of farming communities. The main purpose is to influence to productivity to achieve the social justices for the neediest and deserving weaker section of the society. KVKs are also imparting training on the most important need of the client, their resources constants' and nature of eco system. It is therefore apprehended that significant improvements might have been made to the farmers after taking training from KVKs.

Attempt was therefore made in the study to assess the extent of development of the farmers at KVKs. Indicators such as technological, economical, social, farm activities and infrastructural were selected as the variable to assess the extent of developments. Data collected from the respondent only three point scale consisting of fully agree, partial agree, and disagree with the corresponding score of 3, 2 and 1 over the statements had been analyzed and discussed in this action. The result of the analysis has been presented in the table below.

**Table 2.2 Comparative analysis of various aspect of developments n=100**

<b>Knowledge gained for training and extension activities</b>					
<b>Sr.No</b>	<b>Activities</b>	<b>Mean Score</b>		<b>Increase %</b>	<b>Gap %</b>
		<b>Before adoption</b>	<b>After adoption</b>		
1.	Technological development	1.63	2.20	42.41	22.79
2.	Economical development	1.66	2.25	43.79	22.29
3.	Social development	1.80	2.49	48.29	23.57
4.	Farm activities development	1.76	2.44	46.19	24.06
5.	Infrastructural development	1.90	2.43	36.21	18.15
<b>Average</b>		<b>1.75</b>	<b>2.36</b>	<b>43.37</b>	<b>22.17</b>

Comparative analysis of the respondent mentioned in the table 2.2 indicate that the development under various aspect were almost at par. KVK has imparted training and other extension activities programme for technological development which is turn increase production, productivity, income and brings improvements on economic status of the farmers. The economic development have also regulated for development of farm activities. Various aspects of social improvements could bring the coordination and cooperation among people for better planning and management of farm activities on communities' basis.

Further attempt have also been made to locate the extent of development of the respondent after receiving training from KVK. These lection made with comparatively higher mean score value have been presented here with.

It is therefore suggested that KVK has to organize training and other extension activities programmes effectively to develop the knowledge and skill competency of the farmers for their improvement.

### **2.3 Extent of adoption**

We had also calculated the adoption on the basis of mean and standard deviation. The farmers were categorized in three catenaries, 1) Low level of adoption, 2) Medium level of adoption and 3) High level of adoption on the basis of SD and mean.

**Table 2.3: Distribution of respondents according to their Extent of adoption of major technologies n=100**

<b>Sr.No</b>	<b>Categories</b>	<b>Extent of adoption</b>			
		<b>Before adopted of villages</b>		<b>After adopted of villages</b>	
		<b>Frequency</b>	<b>%</b>	<b>Frequency</b>	<b>%</b>
1.	Low level of adopted	20	20.00	12	12.00
2.	Medium level of adopted	67	<b>67.00</b>	71	<b>71.00</b>

3.	High level of adopted	13	<b>13.00</b>	17	<b>17.00</b>
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In the table 2.3, the result showed that 13.00 per cent of the farmers at before adoption of villages that is increase to 17.00 per cent of after adoption of the villages. These showed that the adoption levels were increased during this three year period of adopted villages by KVK, Waghai.

3. Relationship between the selected characteristic of farmers of before adoption of villages and after adoption of villages with their knowledge and adoption of improved agricultural technologies

Attempt was also made to analyze influence of socio economic variables in increasing knowledge and adoption level of the respondent. Result of the analysis done to find pearson's coefficient of correlation has been presented in table below.

**Table 4:-Influence of Socio Economic variable on knowledge** **n=100**

Sr. No.	Variable	(r – Value) for Knowledge		(r – Value) for adoption	
		Before adoption of villages	After adoption of villages	Before adoption of villages	After adoption of villages
1	Age	-0.099	0.012	0.075	0.149
2	Education	0.089	0.186	0.112	0.152
3	Land holding	0.255**	0.350**	0.033	0.297**
4	Family size	0.022	0.045	0.022	0.014
5	Social participation	0.067	0.303**	0.134	0.333**
6	Extension participation	0.047	0.144	0.012	0.274**
7	Information seeking behavior	-0.080	0.332**	-0.138	0.362**
8	Farming experience	-0.129	0.002	0.065	0.125
9	Animal possession	0.001	0.201*	0.111	0.210*
10	Innovativeness	0.043	0.080	0.030	0.200*
11	Family Annual Income	0.008	0.117	0.065	0.118
12	Scientific orientation	-0.058	0.461**	-0.172	0.464**
13	Risk orientation	-0.005	0.313**	-0.121	0.312**
14	Self confidence	-0.069	0.006	-0.161	0.052
15	Economic orientation	-0.037	0.528**	0.211*	0.560**

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*.. Correlation is significant at the 0.01 level (2-tailed).

As observed from the table land holding, social participation, extension participation, information seeking behavior, animal possession, scientific orientation, risk orientation and economic orientation observation had influenced significantly increase level of the respondent towards knowledge and adoption. It is therefore suggested that KVK may utilize the socio

economic variables while organizing training programme and extension activities. While very less significant relationship was observed under farmers cum under before adoption of villages with their level of knowledge and adoption of improved agricultural technologies.

### **Conclusion**

Majority of the farmer were in middle age group, had secondary and higher secondary level of education, small and marginal land holding, medium family size, majority of the respondents were medium social participation, had medium extension participation, had income above Rs 2,00,000/-, had observed high level of scientific orientation, high level of risk orientation, high self confidence, high level of economic orientation. Comparatively more knowledge was gained on crop production, horticulture crops, animal husbandry, plant protection, income generating capacity and home science than before adoption of villages. At the same time average gap percentage of 18.99 % indicated that the knowledge level was high, there was 34.78 % increase in knowledge. KVK has imparted training programme and extension activities for technological development which is turn increase production, productivity, income and brings improvements on economic status of the farmers. The economic development have also regulated for development of farm activities. Various aspects of social improvements could bring the coordination and cooperation among people for better planning and management of farm activities on community's basis. The result showed that the adoption rate is increased during this three year. At observed from the research land holding, social participation, extension participat, information seeking behavior, animal possession, scientific orientation, risk orientation and economic orientation observation had influenced significantly increase level of the respondent towards knowledge and adoption. It is therefore suggested that KVK may utilized these socio economic variables while organizing training programme and extension activities. While very less significant relationship was observed under farmers of before adopted villages with their knowledge and adoption of improved agricultural technologies. Through KVK has made significant role impact on knowledge level and adoption of the respondent still more training programmes may be organized to abreast there spondents with knowledge and skills sufficiently for the improvement of the farming community. It is therefore apprehended that significant improvements might have been made to the farmers after taking training and extension activities from KVKs. It is therefore suggested that KVK has to organize training programmes and extension activities effectively to develop the knowledge and skill competency of the farmers for their improvement.