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Research Article

IMPACT OF KRISHI VIGYAN KENDRA IN AMRELI DISTRICT OF GUJARAT STATE

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Abstract- Now days Krishi Vigyan Kendra is become information hub for the farmers. Planning and implement various activities carried out in KVK according to the thrust area identified on basis of PRA survey of adopted villages. Various activities like conducted FLDs to test the yield potentiality of newly released varieties of field crops and improved technologies, organizing various need based training programme and other extension activities like field days, kisan ghosthi, exhibition, seminar, workshop and F-S interaction, lectures etc., carried out by the Centre for rural development. Total 16 villages Adopted by KVK Amreli in the year 2012-13 to 2014-15 were selected for the study.During 2012 to 2015 KVK Amreli had organised 221 training programme for farmers, Extension functionaries and Rural Youth. Conducting 14 on Farm Trial and 513 Frontline Demonstration. Various 5683 other Extension activities like field day, lectures, radio talk, scientist visit to farmer's field, farmer fair, diagnostic service etc. as a result positive changes occurs in adopted villages. From the study the result revealed that increase in extent of awareness (69.64 %) of new agricultural technology so spread of new technology (64.28) as a result change in attitude of farmer (41.07) increase in knowledge level of farmer, increases in production. Due to introduction of new varieties (53.57 %) reducing yield gap (26.79 %). Also increase in 25 % adoption, increase in marketable farm produce resulting in betterment of rural people due to KVK activities in adopted villages.

Keywords- Training, Impact, KVK, FLD, Extension activities

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Introduction

Krishi Vigyan Kendra, in Amreli district established in 2005-06and than till date centre is working for betterment of farmers in district. The various activities were planned according to the thrust area on basis of PRA survey. Various activities like conducted FLDs to test the yield potentiality of newly released varieties of field crops and improved technologies, organizing various need based training programme and other extension activities like field days, kisan ghosthi, exhibition, seminar, workshop and F-S interaction, lectures etc., carried out by the Centre for rural development. Total 16 villages Adopted by KVK in the year 2012-13 to 2014-15 were selected for the study. Among them 9 villages are rain fed and remaining 7 villages are irrigated.

Materials and Methods

With a view to measure the overall impact of Krishi Vigyan Kendra on farmers of sixteen villages, questionnaires were prepared in local language in two parts, according to ZC office suggestions. 1) Extension intervention indicator 2) Technological intervention indicator. Basic information of selected villages and proportionately selection of respondents are given in [Table-1].

It was considered worthwhile to study entitled "Impact of KVK on selected villages" with following objective.

1. To study the socio-economic profile of selected respondents
2. To assess the impact of extension indicator
3. To study the technological impact of KVK activities.

Table-1 *Adopted Villages and selected respondents for Study*

Sr. No.	Village	Farming situation	Total no. of selected farmers
1	MotaBhandariya	Rainfed	7
2	Sanosara	Rainfed	7
3	Lapaliya	Rainfed	7
4	Ponjapadar	Rainfed	7
5	Godhavadar	Rainfed	7
6	Boradi	Irrigated	7
7	Kathrota	Irrigated	7
8	Gigasan	Irrigated	7
9	Motaagariya	Irrigated	7
10	Victor	Rainfed	7
11	Shilana	Irrigated	7
12	Karjala	Irrigated	7
13	Mayapadar	Irrigated	7
14	Nava vaghaniya	Rainfed	7
15	Matirala	Rainfed	7
16	Charkha	Rainfed	7
Total			**112**

Socio economic profile of the respondents

Considering the objectives of the study, socio-economic profile of the respondents *viz*, age, education, family member, size of land holding, social participation, extension contact and farm mechanization index were worked out of selected KVKs respondents. Selected characteristics are narrate in [Table-2]

It is quite clear from [Table-2] that maximum numbers of the respondents were of 36 to 50 years of age group. i.e. 51.79 per cent followed by old age group 27.68 per cent and young age group 20.53. In case of education, majority (60.71 per cent) of respondents were educated up to seven standards followed by 22.32 respondents were in medium education whereas illiterate group is only 8 per cent and higher education group is near about 9 per cent. Majority (52.68 per cent) of the respondents were belonged to nuclear family, followed by joint family (47.32 per cent) [1].

Data shows in [Table-2] revealed that more than half (65.18 per cent) of the respondents had medium social participation followed by high (18.75 per cent) and low (16.07 per cent) social participation. In case of extension participation, 50.89 per cent of the respondents had medium extension participation, whereas 31.25 per cent and 17.86 per cent of them had high and low extension participation respectively [2].

Table-2 *Distribution of the respondents according to their characteristics*

Sr No	Socio-economic characteristics	Selected respondents (n=112)	
		Frequency	Per cent
1	2	3	4
1	**Age**		
	Young age (up to 35 year)	23	20.53
	Middle age (36 to 50 year)	58	51.79
	Old age (above 50 year)	31	27.68
2	**Education**		
	Illiterate	9	8.04
	Low education (1st to 7th std.)	68	60.71
	Medium education (8th to 10thstd)	25	22.32
	High education (above 10thstd)	10	8.93
3	**Size of family**		
	Nuclear family (> 5 member)	59	52.68
	Joint family (< 5 member)	63	47.32
4	**Social Participation**		
	Low social participation (>2.14 score)	18	16.07
	Medium social participation (2.14 to 7.14 score)	73	65.18
	High social participation (<7.14 score)	21	18.75
5	**Extension Participation**		
	Low extension participation (> 3.25 score)	20	17.86
	Medium extension participation (3.25 to 10.40 score)	57	50.89
	High extension participation (<10.40 score)	35	31.25
6	**Size of land holding**		
	Small holding (up to 2 ha score)	60	53.57
	Medium holding (>2 to 4 ha score)	33	29.46
	Large holding (above 4 ha score)	19	16.97
7	**Farm mechanization index**		
	Small holding (less than 1.76 score)	15	14.29
	Medium holding (1.76 to 7.58 score)	73	62.50
	Large holding (above 7.5 score)	32	23.21

The data presented in [Table-2] reveled that more than half 53.57 per cent respondents were having up to 2 ha of land holding while 29.46 per cent having 2 to 4 ha of land holding and only 16.97 per cent respondents having more than 4 ha of land holding. Whereas 62.50 per cent of the farmers had medium farm mechanization index followed by 23.21 per cent respondents had high and 14.29 had small farm mechanization index.

Impact of extension indicator

In view to ascertain impact of extension indicator, questionnaire made on three years previous experience of the farmers and present experiences of the farmers. The percentage worked out and percent increase should be the growth of the farmers after the KVK activities in entire village. The data should be given in following [Table-3].

From the [Table-3] indicated that 69.64 per cent difference shown in case of extent of awareness and whereas difference in spread of technology is found 64.28 per cent. Other extension indicator change in attitude (41.07 %), gain in knowledge about technology and package of practices (35.71 %), improvement in work performance and skill (16.07%) and increase in SHGs /FIGs and formation / establishment of co-operative both (14.29 %) differences are found.

Table-3 *Distribution of the respondents according to its extension intervention*

n=112

Sr. No.	Extension indicator	Impact of Krishi Vigyan Kendra				Difference	Rank
		Before		After			
		Frequency	Percent	Frequency	Percent		
1	Gain in knowledge about technology and package of practices	36	32.14	76	67.86	35.71	IV
2	Extent of awareness	17	15.18	95	84.82	69.64	I
3	Change in attitude	33	29.46	79	70.54	41.07	III
4	Improvement in work performance / skill	47	41.96	65	58.04	16.07	V
5	Extent of spread of technology	20	17.86	92	82.14	64.28	II
6	Increase in SHGs / FIGs	48	42.86	64	57.14	14.29	VI
7	Formation / establishment of co-operative	48	42.86	64	57.14	14.29	VI

It is concluded that extent of awareness (ranked first), spread of technology (ranked second), and followed by change in attitude (ranked third), gain in knowledge about technology and package of practices (ranked fourth), Improvement in work performance/skill (ranked fifth). And increase in SHGs/Figs, Formation/establishment of co- operative (ranked sixth).

Impact of technological indicator

To find out the technological impact, the following 13 technologies were tested, amongst three i.e. introduction of new verities, increase in yield /production and increase in area were tested in four major crops of this district are cotton, groundnut, Sesame and wheat.

It is cleared from above mentioned in [Table-4] that the highest difference 53.57 % found in introduction of new varieties and 41.07 % increase in production, 26.79 % in decrease in Yield gap while 25 % differences found in extent of adoption, increase in income and creation of infrastructure facility.

While remaining technological indicator has less difference observed in increase in marketable farm produce (19.64%), opening of farm school (16.07), expansion of enterprises and introduction of new enterprise (12.50%), increase in yield/ productivity (10.71 %), generation of employment (7.14 %) and increase in area (5.36 %).

From above discussion it can be concluded that introduction of, new varieties ranked first followed by rank two is increase in production rank third is decrease in Yield gap. while extent of adoption, increase in income and creation of infrastructure facility stood ranked fourth, where as marketable farm produce ranked five, opening of farm school ranked sixth, expansion of enterprises and introduction of new enterprise ranked seventh, increase in yield/ productivity ranked eighth, generation of employment ranked ninth and increase in area stood rank tenth.

The reason for increase in production and income of respondents is due to constant concentration and contact of subject matter specialist to the farmers vis versa. Farmers could be solved the problem regarding plant protection and crop production by direction of the scientist of KVK. Introduction of new varieties ranked first because new and high yielding variety is given to farmers in a front line demonstration in adopted villages as a result decreased in yield gap a 26.79 per cent, increased in adoption, and resulting in increase in income 25 per cent.

Table-4 *Distribution of farmers according to his technological indicator*

n=112

Sr. No.	Technological indicator	Impact of Krishi Vigyan Kendra				Difference	Rank
		Before		After			
		Frequency	Percent	Frequency	Percent		
1	Introduction of new verities	26	23.21	86	76.79	53.57	I
2	Increase in yield / productivity	50	44.64	62	55.36	10.71	VIII
3	Increase in area	53	47.32	59	52.68	5.36	X
4	Increase in production	33	29.46	79	70.54	41.07	II
5	Extent of adoption	42	37.50	70	62.50	25.00	IV
6	Increase in income	42	37.50	70	62.50	25.00	IV
7	Generation of employment	52	46.43	60	53.57	7.14	IX
8	Expansion of an enterprise	49	43.75	63	56.25	12.50	VII
9	Introduction of new enterprise	49	43.75	63	56.25	12.50	VII
10	Increase in marketable farm produce	45	40.18	67	59.82	19.64	V
11	Creation of infrastructure	42	37.50	70	62.50	25.00	IV
12	Opening of farm school	47	41.96	65	58.04	16.07	VI
13	Decrease in yield gaps	41	36.61	71	63.39	26.79	III

Table-5 *Impact of farm mechanization / IPM / INM/Bio agent etc.*

n= 112

Sr. No.	Practices	Year 2012	Year 2015	Per cent increase
a)	**Farm mechanization**			
1	Tractor (No.)	38	67	76.32
2	Thresher (No.)	18	24	33.33
3	Seed drill (No.)	27	44	62.96
4	Sprayer (No.)	60	112	86.67
5	Seed cum ferti. Drill (No)	26	45	73.08
6	Drip / Sprikler irrigation set (Ha)	16	24	50
b)	**Integrated nutrient management**			
1	FYM (t)	600	625	4.17
2	Urea (t)	36	72	100
3	DAP (t)	36	69	91.67
4	SSP (t)	25	43	72
5	Potash (t)	14	19	35.71
6	Mineral mix (kg)	48	80	66.66
7	Vermicompst (t)	3	4	33.33
8	Gypsum / Sulpher (t)	27	34	25.93
c)	**IPM**			
1	Use of Trichoderma (kg)	25	50	100
2	Pheromen Trap (no)	11	14	27.27
3	NPV (no)	4	7	75
4	Neem oil (ltr)	150	262	74.67
5	Bio pesticides	25	45	80

It can be concluded from [Table-5] that in case of farm mechanization increase in spraying pump (86.67 per cent), tractor (76.32 per cent), Seed cum ferti drill (73.08 per cent), Seed drill (62.96 per cent), Drip/Sprinkler irrigation set (ha) (50.00 per cent), Thresher (33.33 per cent). Use of spraying pump ranked first and second rank was tractor because of increase in area of cotton and in cotton more use of pesticides and shortage of labour in district [3].

The data depicted in [Table-5] showed that, in case of integrated nutrient management the highest percent increase in use of urea fertilizer 100 per cent and use of DAP fertilizer 91.67 per cent found in the study. Mineral mixture use was found 66.66 per cent, use of potash is 35.71 per cent and use of vermi compost 33.33 per cent and use of gypsum/sulpher 25.93 was observed. While least percent i.e. only 4.17 per cent increase is found in case use of FYM. In IPM component, highest percent increases observed in use of trichoderma (100.00 per cent) followed by bio pesticide (80 per cent), NPV (75.00 %), Neem oil (74.67 per cent) and Pheromen trap (27.27 per cent). This is due to the distribution of trichoderma from the KVK centre, constant contact of KVK scientist to the farmers by regular visit, personal/Telephonic guidance, FLD, in addition to these farmers are visited KVK in mode of training, problem diagnosis and new technology guidance.

From above [Table-6] it is revealed that Gram (ranked first), Wheat (ranked second), Castor (ranked third), Green Gram (ranked fourth), Cotton (ranked fifth), Groundnut (ranked sixth), Cumin (ranked seventh) and Sesame (ranked eighth). It is clear that productivity increased in all major crops. This finding supported to the result of [4].

Table-6 *Increase of productivity of major crops in KVK adopted villages during 2012-2015*

Sr. No.	Crop	Productivity Difference (Q/ha)	Rank
1	Wheat	3.8218	**II**
2	Castor	2.65815	**III**
3	Gram	6.2829	**I**
4	Green gram	2.16	**IV**
5	Sesame	0.2652	**VIII**
6	Groundnut	0.88	**VI**
7	Cumin	0.336	**VII**
8	Cotton	1.82	**V**

During 2012 to 2015 KVK had organised 221 training programme for farmers, Extension functionaries and Rural Youth. Conducting 14 on Farm Trial and 513 Frontline Demonstration. Various 5683 other Extension activities like field day, lectures, radio talk, scientist visit to farmer's field, farmer fair, diagnostic service etc. as a result positive changes occurs in adopted villages.

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betterment of rural people due to KVK activities in adopted villages.

Conclusion

The above findings on different aspects observed that there is better impact on extension indicator like extent of awareness (ranked first), spread of technology (ranked second) followed by change in attitude (ranked third), gain in knowledge about technology and package of practices (ranked fourth), Improvement in work performance/skill (ranked fifth) and increase in SHGs/Figs, Formation/ establishment of co-operative (ranked sixth). In case of technological indicators, introduction of new varieties ranked first followed by rank two is increase in production rank third is decrease in Yield gap. while extent of adoption, increase in income and creation of infrastructure facility stood ranked fourth, where as marketable farm produce ranked five, opening of farm school ranked sixth, expansion of enterprises and introduction of new enterprise ranked seventh, increase in yield/ productivity ranked eighth, generation of employment ranked ninth and increase in area stood rank tenth.

Conflict of Interest: None declared

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