



Research Article

## Adoption of Krishi Vigyan Kendra (KVK) recommended practices

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**SUMMARY :** Present investigation was carried out in four KVK's under State Agricultural Universities of Maharashtra state to know the profile of the respondents, adoption of recommended practices of KVK and their relation with their profile. Keeping the objectives in mind, the list of beneficiaries was obtained from KVK which acts as beneficiary population. Fifty beneficiaries from each course were selected by using n<sup>th</sup> number method. Same numbers of non-beneficiary respondents were randomly selected from outside the population. Thus, 150 beneficiaries and 150 non-beneficiaries formed the sample for the study. The respondents were personally interviewed with a well-structured and pre-tested interview schedule. From the study it was observed that most of the respondents were middle aged, educated up to Higher Secondary and College level, with medium land holding farming experience and annual income, agriculture + business as their occupation. Whereas socio-economic status, economic motivation, infrastructural facilities, sources of information of the respondents and knowledge about selected KVK recommended practices had shown extent of their existence up to medium level. Majority of the respondents were found in medium level adoption of organic manures and pesticides, sweet orange cultivation practices and dairy animals management practices. In case of correlation coefficient, education, land holding, annual income, socio-economic status, economic motivation, infrastructural facilities, sources of information, knowledge and attitude towards KVK of the beneficiaries were having significant and positive relationship with all the selected courses. While socio-economic status, economic motivation, knowledge and attitude towards KVK were significant contributors for adoption of KVK recommended practices. Data were analysed by using mean, percentage, frequency, correlation and multiple regression.

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Key Words :

Adoption,  
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### BACKGROUND AND OBJECTIVES

In the post GATT scenario, scientific transformation of agriculture is an important pre-requisite for rural development. To propel Indian agriculture into 21st century the quality, technical skills and management of agriculture manpower must improve in consonance with rapidly changing national and global market needs. If any organization wishes to assume a leadership role, it has no option but to strengthen its human resource base. The ICAR is fully seized of this issue and hence is providing highest priority to the human resource development of farmers. Krishi Vigyan Kendras (Farm Science Centres) play key role for training to the farmers about agricultural technology. Evaluation of Krishi Vigyan Kendra gives facts, comprehension and

adaptation of training strategies to make them more useful for the farmers.

The major goal of the research has been to identify the factors which influence the adoption behaviour of the KVK beneficiaries. The knowledge of which will help extension agents, KVK officials to develop appropriate strategy to increase adoption of KVK recommended practices. The present study examined the adoption process among the beneficiary and non-beneficiary farmers in respect of selected KVK recommended practices viz., adoption of organic manures and pesticides, adoption of sweet orange cultivation practices and dairy animals management practices.

Therefore, the present study was undertaken with the following specific objectives in view:

- To study the personal, psychological, socio-economical and situational characteristics of

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- the respondents.
- To study the adoption of KVK recommended practices by respondents.
  - To study the relationship between selected characteristics of the respondents with adoption of the KVK recommended practices.

## RESOURCES AND METHODS

Keeping the objectives in mind the aspects of adoption of KVK recommended practices have been studied in respect of four KVK's under State Agricultural Universities. In addition to this, KVK Aurangabad from M.A.U., Parbhani was selected for the same. The list of beneficiaries was obtained from KVK which acts as beneficiary population. Fifty beneficiaries from each course were selected by using n<sup>th</sup> number method from respective beneficiaries. Same numbers of non-beneficiary respondents were randomly selected from outside the population. Thus for three selected courses *viz.*, use of organic manures and pesticides, sweet orange cultivation practices, dairy animal's management practices, 150 beneficiaries and 150 non-beneficiaries formed the sample for the study. The respondents were personally interviewed with a well-structured and pre-tested interview schedule. Data were analysed by using mean, percentage, frequency, correlation and multiple regression.

## OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation has been presented in the following heads:

### Profile of the respondents:

Most of the respondents beneficiaries (62%) were middle aged and 68.00 per cent non-beneficiaries were of middle age category. It was observed that beneficiary respondents were comparatively younger than non-beneficiary respondents (Table 1). Such findings have also been reported by Patil (2000).

In case of education, 26.66 per cent beneficiaries were educated upto Higher Secondary and 24 per cent were upto college, as against non-beneficiaries, 22.00 per cent upto Higher Secondary and 18.00 per cent upto college. So, the beneficiary respondents hold significantly higher education than non-beneficiary respondents. Similar findings were also reported by Saxena and Gour (1999) and Patil (2000).

Majority (75.34 %) of respondents of beneficiary and 82.00 per cent of non-beneficiary respondents were among medium land holders *i.e.* 2 to 8 hectares. There was no significant difference in respect of land holding among the beneficiary and non-beneficiary respondents. Similar findings were also reported by Katole (1998) and Patil (2000).

Most of the beneficiaries respondents (63.34%) and 66.67 per cent non-beneficiaries were among medium level farming

experience. There was difference in farming experience among beneficiary and non-beneficiary respondents. Similar finding was also reported by Bhole (2000).

Majority of beneficiary (62.00 per cent) and non-beneficiary (52.00 per cent) respondents had agriculture + business as their occupation. *i.e.* they have subsidiary occupation in addition to agriculture *eg.* dairy, goetry etc. There was difference among beneficiary and non-beneficiary respondents about their occupation. Similar findings were also reported by Desai *et al.* (1996) and Bhole (2000).

Majority *i.e.* 72.00 per cent beneficiary and 60.67 per cent non-beneficiary respondents had medium level annual income (*i.e.* in between Rs. 52,000 to 1,10,000). It was observed that, there was significant difference among beneficiary and non-beneficiary respondents. Ahire (1997) and Ingle (1997) observed the similar findings.

Other socio-economical, psychological characteristics *viz.*, socio-economic status, economic motivation, infrastructural facilities, sources of information of the respondents had shown extent of their existence upto medium level. It was also observed that there was significant difference between beneficiary and non-beneficiary respondents. Similar results pertaining to the present findings were also reported by Bhole (2000) and Kapse *et al.* (2000).

Majority of respondents had medium level knowledge about selected KVK recommended practices. It was observed that there was significant difference among the beneficiaries and non-beneficiaries about knowledge of organic manures and pesticides, sweet orange cultivation practices and dairy animals management practices. Gogoi *et al.* (2000) observed similar findings.

### Adoption of KVK recommended practices by respondents:

#### *Adoption of organic manures and pesticides:*

It is revealed from Table 2 that 46.00 per cent beneficiary and 32.00 per cent non-beneficiary respondents were found to be in medium level adoption category whereas, 44.00 per cent beneficiary and 24.00 per cent non-beneficiary respondents had high level adoption of organic manures and pesticides.

It was also found that merely 10.00 per cent beneficiary and 44.00 per cent non-beneficiary respondents had low level adoption.

The calculated 'Z' value was significant, indicating that there was a difference in adoption of organic manures and pesticide among beneficiary and non-beneficiary respondents.

#### *Adoption of sweet orange cultivation practices:*

The data from Table 2 indicated that 56.00 per cent beneficiary and 46.00 per cent non-beneficiary respondents were among medium level adoption category whereas 38.00

**Table 1: Distribution of the beneficiary and non-beneficiary respondents according to their personal, socio-economic, psychological and situational characteristics**

Sr. No.	Variable	Beneficiary			Non-beneficiary			'Z' Value
		Freq.	%	Mean	Freq.	%	Mean	
1.	<b>Age</b>							
	Young	36	24.00		18	12.00		
	Middle	93	62.00	40.44	102	68.00	42.10	2.88**
	Old	21	14.00		30	20.00		
2.	<b>Education</b>							
	Illiterate	09	06.00		16	10.66		
	Read & write	10	06.66		18	12.00		
	Primary	13	08.66		20	13.33		
	Secondary	42	28.00	12.20	36	24.00	11.08	6.59**
	Higher Second.	40	26.66		33	22.00		
	College	36	24.00		37	18.00		
3.	<b>Land holding</b>							
	Marginal	02	01.33		05	03.33		
	Small	23	15.33		07	04.67		
	Medium	113	75.34	04.62	123	82.00	04.78	1.39
	Large	12	08.00		15	10.00		
4.	<b>Farming experience</b>							
	Low	35	23.33		24	16.00		
	Medium	95	63.34	21.26	100	66.67	23.10	3.63**
	High	20	13.33		26	17.33		
5.	<b>Occupation</b>							
	Agriculture	35	23.33		56	37.33		
	Agri+ Business	93	62.00	02.36	78	52.00	01.90	2.80**
	Agri+Business+ Service	22	14.67		16	10.67		
6.	<b>Annual income</b>							
	Low	19	12.67		44	29.33		
	Medium	108	72.00	84.20	91	60.67	78.80	4.60**
	High	23	15.33		15	10.00		
7.	<b>Socio-economic status</b>							
	Low	15	10.00		39	26.00		
	Medium	98	65.33	31.68	82	54.67	27.10	4.11**
	High	37	24.67		29	19.33		
8.	<b>Economic motivation</b>							
	Low	16	10.67	23.06	33	22.00	21.08	3.71**
	Medium	105	70.00		93	62.00		
	High	29	19.33		24	16.00		
9.	<b>Infrastructural facilities</b>							
	Low	36	24.00		34	22.66		
	Medium	94	62.67	23.80	88	58.67	22.50	1.83*
	High	20	13.33		28	18.67		
10.	<b>Sources of information</b>							
	Low	12	08.00		36	24.00		
	Medium	109	72.67	25.01	90	60.00	22.32	3.20**
	High	29	19.33		24	16.00		

**Table 2: Distribution of the respondents according to their adoption of selected KVK recommended practices**

Sr. No.	Variable	Beneficiary			Non-beneficiary			'Z' Value
		Freq.	%	Mean	Freq.	%	Mean	
1.	<b>Adoption of organic manures and pesticides</b>							
	Low	05	10.00		22	44.00		
	Medium	23	46.00	36.38	16	32.00	31.29	14.92**
	High	22	44.00		12	24.00		
2.	<b>Adoption of sweet orange cultivation practice</b>							
	Low	03	06.00		15	30.00		
	Medium	28	56.00	49.34	23	46.00	46.78	4.64**
	High	19	38.00		12	24.00		
3.	<b>Land holding</b>							
	Low	05	10.00		21	42.00		
	Medium	30	60.00	61.20	20	40.00	56.41	9.91**
	High	15	30.00		09	18.00		

\*\* and \* indicate significance of values at P=0.01 and P=0.05, respectively

per cent beneficiary and 24.00 per cent non-beneficiary respondents had high level adoption of sweet orange cultivation practices. The data also revealed that 06.00 per cent beneficiary and 30.00 per cent non-beneficiary respondents had low level of adoption.

The calculated 'z' value was significant. It indicates that there was difference among beneficiary and non-beneficiary respondents in respect of adoption of sweet orange cultivation practices.

#### *Adoption of dairy animals management practices:*

It was concluded from Table 2 that 60.00 per cent beneficiary and 40.00 per cent non-beneficiary respondents had medium level adoption, whereas 30.00 per cent beneficiary and 18.00 per cent non-beneficiary respondents had high level adoption of dairy animals management practices.

It was also observed that, 10.00 per cent beneficiary and 42.00 per cent non-beneficiary respondents had low level adoption. The calculated 'z' value was significant which indicates that there was difference among beneficiary and non-beneficiary respondents. Present findings are in line with the observations made by Jondhale *et al.* (2000) and Wase (2001).

#### **Relationship between selected characteristics of the respondents with adoption of the KVK recommended practices:**

##### *Correlation coefficient:*

Relationship of the independent and intervening variables with adoption of organic manures and pesticides:

The results of the correlation coefficient regarding the beneficiary respondents are shown in Table 3. The table portrays that variables namely, knowledge (0.6825), economic motivation (0.5600), sources of information (0.4773), attitude

(0.4658), annual income (0.4610), infrastructural facilities (0.4490), socio-economic status (0.3880) and land holding (0.3640) were positively and significantly related with adoption. Only age (-0.2802) had shown negative significant relationship with adoption.

##### *Relationship of independent and intervening variables with adoption of sweet orange cultivation practices:*

As regards the beneficiaries were concerned, the results of coefficients of correlation shown in Table 3 indicate that knowledge (0.6230), sources of information (0.5296) and attitude (0.3638), were positively significant with adoption at 0.01 level of probability. Whereas infrastructural facilities (0.3490), socio-economic status (0.3434), economic motivation (0.2930) and education (0.2913) were positively significant at 0.05 level of probability.

The remaining variables like occupation (0.2610), age (-0.2402), land holding (0.0655) and farming experience (-0.0590) did not show any relationship with the adoption of sweet orange cultivation practices.

##### *Relationship of independent and intervening variables with adoption of dairy animals management practices:*

It is evident from Table 3 that, the characteristics of beneficiary farmers *viz.*, knowledge (0.6830), sources of information (0.4590), annual income (0.4143) and attitude (0.3540) showed positive and significant relationship with adoption at 0.01 level of probability. Whereas socio-economic status (0.3120), economic motivation (0.2930), land holding (0.2880) and infrastructural facilities (0.2823) showed significant and positive relationship with adoption of dairy animals management practices at 0.05 level of probability. The variables like farming experience (0.1901), occupation (0.1381),

**Table 3: Relationship of independent and dependent variables**

Sr. No.	Variables	'r' value	'r' value	'r' value
		Adoption of organic manures	Adoption of sweet orange cultivation practices	Adoption of dairy animals management practices
1.	Age	-0.2802*	-0.2402	-0.0483
2.	Education	0.2020	0.2913*	-0.0960
3.	Land holding	0.3640**	0.0655	0.2880*
4.	Farming experience	-0.1360	-0.0590	0.1901
5.	Occupation	0.1720	0.2610	0.1381
6.	Annual income	0.4610**	0.3030*	0.4143**
7.	Socio-economic status	0.3880**	0.3434*	0.3120*
8.	Economic motivation	0.5600**	0.2930*	0.2930*
9.	Infrastructural facilities	0.4490**	0.3490*	0.2823*
10.	Sources of information	0.4773**	0.5296**	0.4590**
11.	Knowledge	0.6825**	0.6230**	0.6830**
12.	Attitude	0.4658**	0.3638**	0.3540**

\*\* and \* indicate significance of values at P=0.01 and P=0.05, respectively

education (-0.0960) and age (-0.0483) had not any relationship with adoption by beneficiaries.

#### Multiple regression analysis:

Multiple regression analysis of adoption of organic manures and pesticides:

It has been observed from Table 4 that independent variables and intervening variable (attitude of respondents towards KVK) together had explained the variation in adoption of organic manures and pesticides by beneficiary respondents to the extent of 62.60 per cent.

The 'F' value (04.6370) was found to be significant at

**Table 4: Multiple regression analysis of adoption of organic manures and pesticides with independent and intervening variables**

Sr. No.	Independent variables	Multiple regression analysis		
		Re-Co	SE(b)	't' value
X <sub>1</sub>	Age	-0.0222	0.3090	-0.0710
X <sub>2</sub>	Education	0.1390	0.2550	0.5450
X <sub>3</sub>	Land holding	0.1650	0.5660	0.2920
X <sub>4</sub>	Farming experience	0.1000	0.3660	0.2750
X <sub>5</sub>	Occupation	0.8580	1.3210	0.6490
X <sub>6</sub>	Annual income	0.4740	0.0352	1.340
X <sub>7</sub>	Socio-economic status	0.6810	1.1350	0.5028
X <sub>8</sub>	Economic motivation	1.0940	0.4550	2.4020**
X <sub>9</sub>	Infrastructural facilities	0.1032	0.2960	0.3480
X <sub>10</sub>	Sources of information	-0.7010	0.2290	0.3050
X <sub>11</sub>	Knowledge	0.5820	0.1791	3.2490**
X <sub>12</sub>	Attitude	-0.3810	0.3540	1.074

\*\* and \* indicate significance of values at P=0.01 and P=0.05, respectively.  
R<sup>2</sup> = 0.6260      F = 4.6370

one per cent level of probability. The 't' value indicated that economic motivation (02.402) and knowledge (3.249) were significantly contributed to the adoption among beneficiary respondents.

#### Multiple regression analysis of adoption of sweet orange cultivation practices:

Table 5 revealed that 11 independent variables and intervening variable (attitude of respondents towards KVK) together had explained the variation in the adoption of sweet orange cultivation practices by beneficiaries to the extent of 92.20 per cent. The 'F' value (32.7670) was found to be significant at 1.00 per cent level of probability.

The 't' value indicates that socio-economic status (2.25), knowledge (8.34) and attitude of respondents towards KVK (3.92) were significantly contributed to the adoption of sweet orange cultivation practices.

#### Multiple regression analysis of adoption of dairy animals management practices:

Table 6 depicted that selected eleven (11) independent variables and intervening variable (attitude of respondents towards KVK) together had explained the variation in adoption of dairy animals management practices by beneficiaries to the extent of 82.80 per cent. The 'F' value (13.29) was found significant at one per cent level of probability.

Multiple correlation was 5.3211. The unexplained variation to the tune of 17.20 per cent may be due to the variables not included in the present study. The 't' value indicates that, socio-economic status (2.4123), economic motivation (3.3878) and knowledge (9.6943) were significantly contributed to the adoption of dairy animals management practices. The regression coefficient indicated that one unit

**Table 5: Multiple regression analysis of adoption of sweet orange cultivation practices with independent and intervening variables**

Sr. No.	Independent variables	Multiple regression analysis		
		Re-Co	SE(b)	't' value
X <sub>1</sub>	Age	0.0990	0.0818	1.1290
X <sub>2</sub>	Education	0.1620	0.2270	0.7150
X <sub>3</sub>	Land holding	0.4230	0.4153	1.0201
X <sub>4</sub>	Farming experience	-0.1200	0.0760	-1.5698
X <sub>5</sub>	Occupation	2.1500	0.8490	1.5400
X <sub>6</sub>	Annual income	0.0260	0.0209	-1.2700
X <sub>7</sub>	Socioeconomic status	-0.3520	0.1566	2.2500
X <sub>8</sub>	Economic motivation	0.0464	0.2605	1.7800
X <sub>9</sub>	Infrastructural facilities	0.1160	0.1655	0.7030*
X <sub>10</sub>	Sources of information	0.1340	0.1392	0.9670
X <sub>11</sub>	Knowledge	1.1100	0.0776	8.3400**
X <sub>12</sub>	Attitude	0.0920	0.1008	3.9200**

\*\* and \* indicate significance of values at P=0.01 and P=0.05, respectively.

$$R^2 = 0.9220$$

$$F = 32.767$$

change in socio-economic status, economic status and knowledge would effect 0.3809, 0.7704 and 0.6638 unit change, respectively in adoption of dairy animal management practices.

**Table 6 : Multiple regression analysis of adoption of dairy animals management practices with independent and intervening variables**

Sr. No.	Independent variables	Multiple regression analysis		
		Re-Co	SE(b)	't' value
X <sub>1</sub>	Age	0.0440	0.1200	0.3687
X <sub>2</sub>	Education	0.0390	0.1984	0.1965
X <sub>3</sub>	Land holding	0.550	0.5001	1.1134
X <sub>4</sub>	Farming experience	0.0510	0.1224	0.4204
X <sub>5</sub>	Occupation	1.4670	1.9541	0.7507
X <sub>6</sub>	Annual income	-0.0126	0.0255	0.4949
X <sub>7</sub>	Socioeconomic status	0.3809	0.2565	2.4123**
X <sub>8</sub>	Economic motivation	0.7704	0.5552	3.3878**
X <sub>9</sub>	Infrastructural facilities	0.4235	0.3496	1.2112
X <sub>10</sub>	Sources of information	0.1183	0.3168	0.3734
X <sub>11</sub>	Knowledge	0.6638	0.0684	9.6943**
X <sub>12</sub>	Attitude	0.1301	0.2340	0.5560

\*\* and \* indicate significance of values at P=0.01 and P=0.05, respectively.

$$R^2 = 0.8280$$

$$F = 13.29$$

### Conclusion:

From the study it is concluded that most of the respondents were middle aged, educated up to Higher Secondary and College level, medium land holders, with

medium level of farming experience and annual income, agriculture + business as their occupation. Whereas socio-economic status, economic motivation, infrastructural facilities, sources of information of the respondents and knowledge about selected KVK recommended practices had shown extent of their existence up to medium level. Majority of beneficiary and non-beneficiary respondents were found in medium level adoption of organic manures and pesticides, sweet orange cultivation practices and dairy animals management practices. Significant difference was also found among adoption of beneficiary and non-beneficiary respondents.

In case of correlation coefficient, it was revealed that the independent parameters like education, land holding, annual income, socio-economic status, economic motivation, infrastructural facilities, sources of information, knowledge and attitude towards KVK of the beneficiaries were having significant and positive relationship with adoption of organic manures, sweet orange cultivation practices and adoption of dairy animals management practices.

The multiple regression analysis leads to the conclusion that socio-economic status, economic motivation, knowledge and attitude towards KVK were significant contributors for adoption of organic manures and pesticides, sweet orange cultivation practices and adoption of dairy animals management practices among the beneficiaries.

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