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Research Article

Adoption behaviour of contact farmers of Krishi Vigyan Kendra about bio-fertilizers

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SUMMARY : Bio-fertlizers are likely to assume greater significance as compliment or supplement to chemical fertilizers, they do not fixe atmospheric nitrogen, improved the soil fertility but also increase the agriculture production so thus, way improvement agro-ecological soundness. The present investigation was carried out adoption behaviour of contact farmers of Krishi Vigyan Kendra about bio-fertilizers. From correlation co-efficient analysis attitude and adoption had positive and significant contribution with constraint severity of respondents about utilization about bio-fertilizers. The present study concludes that although majority of the farmers have medium to high level of attitude, however, their adoption behaviour of contact farmers of KVK about bio-fertilizers. The probable reasons are technical, lack of knowledge as well as water availability constraints faced by the farmers in adoption of bio-fertilizers.

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KEY WORDS :
Adoption behaviour, Ofs contact farmers about bio-fertilizers

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BACKGROUND AND OBJECTIVES

The term bio-fertilizers or, which can be more appropriately called microbial inoculants can be generally defined as preparation containing live or, latent cell of efficient strains of nitrogen fixing, phosphate solublizing or, cellulolytic microorganisms used for application to seed, soil or, composting area with the objective or increasing the number of such microorganisms and accelerate certain microbial process to augment the extent of the availability of nutrients in such a form which can be easily assimilated by plant. In India, the use of bio-fertilizers was started during 1954. The present national consumption of bio-fertilizers is nearly 7000-8000 tonnes/year, India should need 627180 tones bio-fertilizers every year, estimated on the basis of requirement to total area under crop.

Agriculture production depends upon availability and use of quality and quantity of farm inputs. The chemical fertilizers are supposed to be essential inputs for boosting up of production of hybrids and high yielding crop varieties. It has played a significant role in increasing agricultural production in the country since 'Green Revolution'. The continuous use of chemical fertilizers however, has deteriorated the soil fertility, destroyed soil microbial activity.

Objectives :

To study profile of the farmers, to study the adoption behaviour of bio-fertilizer by contact farmers of KVK, to find out the relationship of selected characteristic of farmers with their attitude and adoption of bio-fertilizers and to identify the constraints encountered by the farmers in use of bio-fertilizer.

RESOURCES AND METHODS

Amravati district was under two KVK one Durgapur and another Ghatkhed to Village purposively selected for the study. The study was conducted Durgapur and Ghatkhed KVK of

Amravati district. Farmers in 13 villages were contacted at their places of residence and data were collected by personal interview. From 13 villages 120 respondents were selected. The interview schedule was constructed by formulating relevant questions in accordance with objectives of the study. The schedule included questions pertaining to age, education, land holding, annual income, experience use of bio-fertilizers, extension contact, information sources, risk preference, economic motivation, cropping pattern, irrigation facility as well as attitude towards bio-fertilizers and adoption of bio-fertilizers and constraints faced by them while seeking information about bio-fertilizers.

The information from the respondent was collected by personal interview methods and their responses were considered for the purpose of present study. Data related to the adoption behaviour of bio-fertilizers and constraints faced by farmers while seeking information about market were collected. Mean, S.D., correlation and t test methods were used for analysis of the data.

Table A : Number of villages and number of farmers selected from the village they contact the KVK

Sr. No.	Name of village	No.of farmers
1.	Durgapure	14
2.	Takali	15
3.	Papad	14
4.	Pusada	8
5.	Pohara	8
6.	Pimpari	5
7.	Kohala	7
8.	Ghatkhed	15
9.	Tapaon	14
10.	Bodana	5
11.	Rajura	6
12.	Jawara	4
13.	Pada	5

OBSERVATIONS AND ANALYSIS

The findings of the study as well as relevant discussion have been summarized under the following heads :

Distribution of personal, socio-economic and psychological profile of respondents :

The data were collected by personal interview with the help of pretested and well-structured interview schedule subjected to appropriate statistical analysis.

Nearly half of the farmers (58.33%) were found under middle age group of 36 to 50 years, followed by (25.00%) in younger age group of up to 35 years.

Nearly one third of the respondents (28.33%) using bio-

Table 1: Showing personal, socio-economic and psychological profile of respondents

Sr. No.	Profile	Number (n=120)	Percentage
1.	**Age**		
	Young	30	25
	Middle	70	58.33
	Old	20	16.67
2.	**Education**		
	illiterate	16	13.33
	Primary education	34	28.33
	Middle education	21	17.50
	High school	24	20.00
	College	25	20.83
3.	**Land holding**		
	Marginal	10	8.33
	Small	30	25
	Semi Medium	55	45.83
	Medium	20	16.67
	Large	5	4.17
4.	**Annual income**		
	BPL	15	12.50
	Low	56	46.47
	Medium	27	22.50
	Semi-Medium	18	15
	High	5	4.17
5.	**Experience use of bio-fertilizers**		
	Low	30	25
	Medium	61	50.83
	High	29	24.13
6.	**Extension contact**		
	Low	29	24.17
	Medium	63	52.50
	High	28	23.33
7.	**Sources of information**		
	Low	30	25
	Medium	65	54.17
	High	25	20.83
8.	**Risk preference**		
	Low	25	20.83
	medium	82	68.33
	High	13	10.83
9.	**Economic motivation**		
	Low	30	25
	Medium	64	53.33
	High	26	21.67
10.	**Cropping pattern**		
	Kharif	65	54.17
	Rabi	45	37.50
	Summer	10	8.33
11.	**Irrigation facility**		
	No sources	31	25.83
	River	0	00.00
	Well	38	31.67
	Cement plug	18	15
	Tube well	33	27.50

fertilizers were found to be educated from primary,middle school to college level.

The maximum percentage of the farmers (45.83%) belonged to the category of semi medium land holders (2.01ha to 4.00 ha). It was followed by about one fourth of the farmers (25.00%) who were possessing land between 1.01 to 2.00 ha.

The majority of the respondents (46.67%) belonged to income level of Rs. 75000– Rs. 1,50,000, followed by (22.50%) of the farmers were having income up to Rs.1, 50,001-2,25,000.

The majority of respondent experience use of bio-fertilizers (50.83%) to range up to 2-3 years of experience about bio-fertilizers and followed by (25.00%) farmers range up to 2 years.

The majority of the farmers (52.50%) had medium level of the extension contact.

The majority of the farmers (54.17%) had medium level of the information sources. The majority of the respondent (68.33%) expressed the medium level of availability risk preference. Higher percentage of the respondents (53.33%) expressed the medium level of economic motivation. Majority of the respondents (54.17%) were following single cropping pattern, followed by (37.50%) respondents with doubble cropping pattern. More than one third of the respondents (31.67%) were having source in well of irrigation. It was followed (25.83%) were not having any sources of irrigation.

Distribution of respondent on attitude and adoption :

Attitude :

The attitude of the respondents towards use of bio-fertilizers was ascertained and these result obtained are reported in Table 2.

Table 2 : Distribution of farmers according to level of attitude

(n=120)

Sr. No.	Attitude	Respondents	
		Frequency	Percentage
1.	Low	30	25.00
2.	Medium	68	56.67
3.	High	22	18.33
	Total	120	100.00

It is seen from Table 2 that majority of respondent (56.67%) were found to posses medium attitude towards utilization of bio-fertizers. This was followed by near about one-six respondents (18.33%) indicate their high level attitude and one-fourth of respondents (25%) low level of attitude towards the bio-fertilizers. The majority of respondents' medium level of attitude towards the bio-fertilizers.

Adoption :

Adoption shows the present status of actual use of bio-fertilizers by farmers for inoculating to different crops. The distribution of respondents according to their level of adoption of bio-fertilizers presented in Table 3.

Table 3: Distribution of farmers according to level of adoption

(n=120)

Sr. No.	Adoption	Respondents	
		Frequency	Percentage
1.	Low	20	16.67
2.	Medium	86	71.67
3.	High	14	11.67
	Total	120	100.00

It reveals that (16.67%) of the farmers were included under low category of adoption of bio-fertilizers. The farmer belongings to medium categories of adoption were found (71.67%) maximum. Whereas, only (11.67%) of the farmers had high level of adoption of bio-fertilizers.

Relational analysis :

Correlates of attitude :

The correlation co-efficient of attitude with personal, situational, communicational and psychological characteristics of the respondents have been depicted in Table 4.

Table 4 : Correlation of attidude

Sr. No.	Characteristics	`r` Value	t_{cal}
1.	Age	0.4736	5.8400**
2.	Education	-0.0448	-0.4783^{NS}
3.	Land holding	0.5610 **	7.3598**
4.	Annual income	0.6439**	9.1396**
5.	Experience in use of bio-fertilizers	0.8363**	16.5643**
6.	Extension contact	0.7985**	14.4072**
7.	Sources of information	0.7552**	12.5117**
8.	Risk preference	0.7861**	138117**
9.	Economic motivation	0.7514**	12.3676**
10.	Cropping pattern	0.6613**	9.5743**
11.	Irrigation facility	-0.2527^{NS}	-2.8365^{NS}

* and ** Indicate significance of value at P=0.05 and 0.01, respectively
NS = Non-significant

A critical examination of table reveals that among selected variables, education and irrigation facility were non-significantly related with attitude.

Age, land holding, annual income, experience in use of bio-fertilizers, extension contact, sources of information, risk preference, economic motivation, cropping pattern irrigation facility, were positively significant with adoption at 0.01 level of significance.

Relationship of selected profile of respondents with adoption :

The correlation co-efficient of adoption with personal,

situational, communicational and psychological characteristics of the respondents have been depicted in Table 5.

Table 5 : Co-efficient of correlation between selected profile of the respondents with their adoption

Sr. No.	Characteristics	`r` Value	t_{cal}
1.	Age	0.2097 **	2.329*
2.	Education	-0.0823 NS	-0.8967NS
3.	Land holding	0.2418**	2.7057*
4.	Annual income	0.3118**	4.0311**
5.	Experience in use of bio-fertilizers	0.3312**	3.8117**
6.	Extension contact	0.3153**	3.6084**
7.	Sources of information	0.3589**	4.1694**
8.	Risk preference	0.4038**	4.7936**
9.	Economic motivation	0.3155**	3.6108**
10.	Cropping pattern	0.3462**	4.0077**
11.	Irrigation facility	-0.0330 NS	-03585NS

* and ** Indicate significance of value at P=0.05 and 0.01, respectively
NS = Non-significant

A critical examination of table reveals that among selected variables, education and irrigation facility were non significantly related with adoption.

Age, land holding,annual income, experience in use of bio-fertilizers, extension contact, sources of information, risk preference, economic motivation, cropping pattern and irrigation facility, were positively significant with adoption at 0.01 level of significance.

Conclusion :

It is seen from the distribution in table, that in case of technical constraints, majority of the respondents (56.66%) reported that lack of knowledge about bio-fertilizers, followed by inadequate water availability (45.33%) and lack of guidance from extension personnel (39.66%). The meagre per cent of respondent (19.16%) faced problem of non-availability of bio-fertilizers.

In case of financial constraints, majority of respondents (17.50%) reported the lack of subsidee on bio-fertilizers and about one fifth of respondents (14.16%) reported the lack of timely finance as their constraint. In case of other constraints a great majority of respondents (54.16%) reported the lack of confidence towards various bio-fertilizers practices. A meagre percentage of the respondents reported complicated method (31.66%) and lack of interest (7.5%) as constraints.

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