PERSONAL,SOCIO-ECONOMIC,COMMUNICATIONAL & PSYCHOLOGICAL CHARACTERISTICS OF THE FARMERS USING OF PRIVATE BIO-FERTILIZERS.

ABSTRACT

In a nutshell, Bio-fertilizers provides "eco-friendly" organic agro-input which has the ability to convert nutritionally important elements from unavailable to available form through biological processes. The present study was conducted at Navsari district of South Gujarat. Total 120 respondents were selected through simple random sampling for the study. Ex-post facto research design was used for the study. The result of the study revealed that majority of the respondents belonged to middle age groups with secondary level of education, were male, had small family, and had farming as their major occupation, they had medium land holding, possessed medium farming experience, and belonged to medium annual income with moderate mass media exposure and medium extension contact with membership in one organization. Further, higher scientific orientation, and moderate risk orientation, economic motivation, and had moderate management orientation too.

Key words: Farmers, Private Bio-fertilizers

INTRODUCTION

Bio-fertilizers can fix atmospheric nitrogen through the process of biological nitrogen fixation (BNF) and solubilise plant nutrients like phosphates, potash; in addition, it also stimulates plant growth through synthesis of different growth promoting substances and has C: N ratio 20:1 indicating its stability (Wani et al., 2013; Borkar, 2015). In a nutshell, it provides "eco-friendly"

organic agro-input which has the ability to convert nutritionally important elements from unavailable to available form through biological processes (Vessey, 2003).

From long-ago, the chemical pesticides and fertilizers have played a vital role in improving agricultural production. Although they have a short history in modern agriculture, their instant action and low cost managed to bring them quickly into the center of attention. Thus their adverse effects on environment, plant, animal and human life have diverted the priority on eco-friendly plant protection (Patel et al., 2014).

Hence, in the recent years, many organic fertilizers have been introduced that act as natural stimulators for plant growth. A particular group of organic fertilizers includes outcomes based on plant growth-promoting microorganisms identified as 'Bio-fertilizers'. These bio-fertilizers comprised efficient strains of nitrogen fixing or phosphate solubilising microorganism. Organic farming has appeared as a prime concern area globally in aspect of the growing demand for safe and healthy food, durable sustainability and issue on environmental pollution associated with random use of agrochemicals (Ghany et al., 2013).

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The rising importance of bio-fertilizers will reduce the requirement of chemical fertilizers and the result it will be helpful in the renewal of environment. Bio-fertilizer is an organic by-product containing living microorganisms arrested from plant roots or soil. Choice of bio-fertilizer is becoming increasingly popular for the replacement of chemical fertilizer in order to lower the cost of crop production, enhance the growth and crop yield by increasing the nitrogen availability and by producing certain substances, such as auxin, cytokinin and gibberellins, which are helpful in the growth of plants. Microbial activity plays a key role in agriculture because they are very significant in the movement and availability of minerals required for plant growth and ultimately lower the use of chemical fertilizers (Verma et al., 2017).

There are many private bio-fertilizers available in the market like ORGA-AZOTO, ORGA-AZOS, ORGA-RHIZO, ORGAMORE, AZODAWN, MYCODAWN, and RHIZODAWN, *etc.* manufactured by private manufacturers like Annadata organic biotech, Surat, Algrin microbial private ltd, Banakshata, Asiadawn biocare private ltd, Surat *etc.*

OBJECTIVE

(1) To study the Personal, socio-economic, Communicational and Psychological Characteristics of the farmers using of private bio-fertilizers.

METHODOLOGY

The study was conducted in Navsari district of South Gujarat with *Ex-post facto* research design. All the talukas of the Navsari district were covered under the study. Twelve villages were selected through proportionate random sampling. From each village ten respondents were selected through simple random sampling. Thus, the total respondents were 120, This study was based on the primary data which were collected from sample households on various parameters of socio-economic profile through well-structured and pretested interview schedule. The data were analysed by using tabular analysis, mean, percentage, frequency etc., to draw the meaningful conclusion.

RESULTS AND DISCUSSION

The detail of socio-economic profile of respondents' viz., Age, education, Gender, size of family, occupation, association with organizations, size of land holding, Extension contact etc. affect the economy of the farm and also the decision making about adoption of inventive techniques to a substantial extent. These aspects of sample respondents have been analyzed and presented as under:

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Table 1 : Socio-economic profile of respondents **(n = 120)**

Sr. No.	Variables	Frequency	Percent
I. Personal Characteristics			
1.	**Age**		
a)	Young	09	07.50
b)	Middle	75	62.50
c)	Old	36	30.00
2.	**Education**		
a)	Primary	43	35.80
b)	Secondary	61	50.80
c)	College and above	16	13.40

3.	**Gender**		
a)	Male	104	86.66
b)	Female	16	13.34
4.	**Family size**		
a)	Small	77	64.20
b)	Medium	35	29.20
c)	Large	08	06.60
5.	**Occupation**		
a)	Farming	55	45.80
b)	Farming + Animal husbandry	37	30.80
c)	Farming + Animal husbandry + Service	28	23.40
II . Socio-economic Characteristics			
6.	**Landholding**		
a)	Small	22	18.30
b)	Medium	77	64.20
c)	Large	21	17.50
7.	**Farming experience**		
a)	Low	28	23.30
b)	Medium	82	68.40
c)	High	10	08.30
8.	**Annual income**		
a)	Low	26	21.70
b)	Medium	63	52.50
c)	High	31	25.80
III Communicational Characteristics			
9.	**Mass media exposure**		
a)	Lower	37	30.80

b)	Moderate	62	51.70
c)	Higher	21	17.50
10.	**Extension contact**		
a)	Low	32	26.70
b)	Medium	67	55.80
c)	High	21	17.50
11.	**Social participation**		
a)	No membership in any organization	10	08.30
b)	Membership in one organization	51	42.60
c)	Membership in more than one organization	46	38.30
d)	Holding position in organization	13	10.80
12.	**Scientific orientation**		
a)	Lower	20	16.70
b)	Moderate	44	36.60
c)	Higher	56	46.70
IV. Psychological Characteristics			
13.	**Risk orientation**		
a)	Lower	46	38.30
b)	Moderate	48	40.00
c)	Higher	26	21.70
14.	**Economic motivation**		
a)	Lower	46	38.30
b)	Moderate	50	41.70
c)	Higher	24	20.00
15.	**Management orientation**		
a)	Lower	31	25.80

b)	Moderate	70	58.30
c)	Higher	19	15.90

Age:

It is clear from the data indicated in the table 1 that out of total private bio-fertilizers user's majority of the respondents (62.50 %) were in the middle age group, 7.50 per cent were in the young age group and 30.00 per cent were in the old age group. Majority of respondents (92.50 %) were from middle to old age group. The results indicate that they have enough maturity and have better experience in the farming.

Education:

It is evident from the table 1 that 50.80 per cent of the respondents had secondary level of education followed by 35.80 per cent of them had primary level of education and 13.40 per cent had college and above level of education. In general, majority of the respondents (86.60 %) had primary to secondary level of education. It is obvious from the above facts that the respondents have comprehended the importance of education as the means for improvement of overall living standard.

Gender:

It is clear from the data indicated in the table 1 that majority of respondents (86.66 %) were male. The outcome shows that in our country the role of women in the family is enormously characterized by social structure and familial ties.

Family size:

The data presented in table 1 revealed that majority (64.20 %) of the respondents belonged to category of small family, followed by 29.20 and 6.70 per cent were in medium and Large family categories, respectively. In general, from the above finding it could be said that majority of the respondents (93.40 %) belonged to small to medium family categories. It is deduced that the respondents follow new cultivating strategies despite the fact that, still they believe in age old social characteristics of agrarian.

Occupation:

The data presented in The table 1 shows that slightly less than half of respondents (45.80 %) had farming as their major occupation, followed by 30.80 per

cent were having farming + animal husbandry and 23.40 per cent of them had farming + animal husbandry + service, respectively. In general, the majority of the respondents (76.60 %) had farming and farming + animal husbandry as their major occupations. The probable reason might be that the respondents have considered these two as supportive to sustain their livelihood and lack of other opportunity may limit them to go for some other supplementary income.

Land holding

It is evident from The data presented in The table 1 shows that majority of the respondents(64.20 %) belongs to medium land holding category, followed by 18.30 per cent belongs to small land holding category, while 17.50 per cent had large land holding. In general, majority of the respondents (82.50 %) had medium to small land holding. The plausible explanation of this finding may be because of fragmentation of inherited land from generation to generation along with agriculture as main occupation.

Farming experience

The data presented in table 1 revealed that the majority of the respondents (68.40 %) had medium farming experience followed by 23.30 per cent had lower farming experience and 08.30 per cent of them had higher farming experience, respectively. In general, majority of the respondents (68.40 %) had moderate farming experience because majority of the respondents were from middle age group.

Annual income

The data presented in table 1 indicated that 52.50 per cent of the respondents belonged to medium annual income category, followed by 25.80 per cent belongs to high annual income category and 21.70 per cent belonged low income category. In general, it could be said that the majority of respondents (74.20 %) had medium to low annual income. This might be due to more dependence on agriculture and allied enterprises for income.

Mass media exposure

The data presented in table 1 revealed that majority of farmers (51.70 %) belonged to moderate mass media exposure, followed by lower (30.80 %) and higher (17.50 %).In general, it could be said that the majority of respondents (82.50 %) belonged

to moderate and lower mass media exposure. This might be due to lower level of education and rapid changing of technology.

Extension contact

Data presented in table 1 revealed that majority (55.80 %) of the respondents had medium extension contact whereas, 26.70 and 17.50 per cent of them had low extension contact and high extension contact, respectively. In general, it could be said that the majority of the respondents (82.50 %) had low to medium extension contact. The probable reason may be that the different extension institutions are not able to reach every individual of society or also respondents were not trying to get other best sources of information for sustain their production.

Social participation

The data presented in table 1 revealed that 42.60 per cent respondents had membership in one organization followed by 38.30 and 08.30 per cent of them had membership in more than one organization and no membership, respectively. Only, 10.80 per cent of them were holding the position in respective social organization. In general, the majority of the respondents (80.90 %) had membership in one organization or more than one organization.

Scientific orientation

It is observed from table 1 that 46.70 per cent of respondents had higher scientific orientation followed by 36.60 and 16.70 per cent had moderate and lower scientific orientation, respectively.

The data showed that the majority of respondents (83.30%) had higher to moderate level of scientific orientation.

Risk orientation

It is evident from table 1 that 40.00 per cent of the respondents had moderate risk orientation, followed by 38.30 per cent had lower risk orientation and 21.70 per cent had higher risk orientation, respectively.The data also showed that majority of the respondents (78.30 %) had moderate to lower level risk orientation. The existence of moderate risk orientation is indicative of the fact that, the respondents have obsession of the new services to afford and avail but not having substantial expenditure in adoption. Further, the lack of

safety about the performance of the new services and poor financial condition might be the probable reasons for this.

Economic motivation

It is evident from table 1 that 41.70 per cent of the respondents had moderate economic motivation, followed by 38.30 per cent had lower economic motivation and 20.00 per cent had higher economic motivation, respectively. In general, majority of the respondents (80.00%) had moderate to lower economic motivation.

Management orientation

It was revealed from table 1 that majority of the respondents (58.30 %) possessed moderate management orientation followed by 25.80 and 15.90 per cent had lower and higher management orientation respectively. In general, the majority of respondents (58.30%) had moderate management orientation. The probable reason for the above finding might be that the respondents had perceived the importance of managerial aspect in their crop cultivation after their active participation in different activities of extension institutions.

CONCLUSION

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It can be concluded that majority of the respondents belonged to middle age groups with secondary level of education, were male, had small family, and had farming as their major occupation, they had medium land holding, possessed medium farming experience, and belonged to medium annual income with moderate mass media exposure and medium extension contact with membership in one organization. Further, higher scientific orientation, and moderate risk orientation, economic motivation, and had moderate management orientation.

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