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Relationship between the profile of the banana growers and their perception about good agricultural practices (GAPs)

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Abstract
The present study had been undertaken in Anand district of the Gujarat to study the relationship between profile of the banana growers and their perception about Good Agricultural Practices (GAPs). The data was conducted from 200 respondents. Majority of the banana growers belonged to the middle to old aged group and educated from higher secondary to graduation and above graduation level. Most of the banana growers were found with medium size of family. Majority of the banana growers had average level of extension contact with different agencies. It was seen that vast majority (90.00 percent) of the banana growers had high to very high level of mass media exposure and high to very high level of scientific orientation. A huge majority of the banana growers was found in the category of high to medium innovativeness and medium to high level risk orientation in banana cultivation. From this study it is found that majority of the banana growers were found in the category of medium to high level of perception about GAPs in banana. The independent variables viz., age, size of land holding, area under banana cultivation, production of banana, income from banana, annual income, economic motivation and risk orientation had a positive and significant correlation with the perception of the banana growers about GAPs. On the other hand, the variables namely, education, experience in banana cultivation, size of family, extension contact, mass media exposure, scientific orientation, management orientation and innovativeness showed a non-significant relationship with perception of the banana growers about GAPs. The six independent variables namely, size of land holding, risk orientation, production of banana, scientific orientation, education and management orientation together had explained 59.40percent variation in the perception of the banana growers about GAPs in banana.

Keywords: Banana growers, good agricultural practices and perception

Introduction

Among fruits, banana is a major fruit which is grown in almost all parts of the country. Banana is blended with Indian culture and finds mention in the ancient scriptures. The fruits provide the staple food; the plants are used for decoration purposes; preparation of fiber and the leaves for storing and packing food items. The fruit is available throughout the year and is considered to be a common man's food. Globally, banana is the fourth most important commodity after rice, wheat and corn. To enable farm produce to be internationally competitive, innovative farming practices incorporating the concept of globally accepted Good Agricultural Practices (GA Ps) within the framework of commercial agricultural production for long term improvement and sustainability are essential. GAPs, in addition to improving the yield and quality of the products, also have environmental and social dimensions. Implementation of GAPs would promote optimum utilization of resources such as pesticides, fertilizers, water and eco-friendly agriculture. Its social dimension would be to protect the agricultural workers' health from improper use of chemicals and pesticides. Good Agriculture Practices for reduction in microbial food safety hazards during farming, grading, and packaging and storage operations are being encouraged. Considering the scope and opportunity in the world market, there is a need to give importance to quality assurance of banana fruits. So also, for standing firmly in the world market, there is a need to keep quality, hygienic conditions and standard residue control, so that the fruits qualify all analytical tests. Understanding perception level of the banana growers about GAP will help in understanding their behavior towards these practices. Promotion of the export of banana would help to earn valuable foreign exchange for the country, in addition to realize higher returns for the banana growers. Keeping in view the importance of good agricultural practices and its effects on farmers' economy, environment

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and sustainability, the present study entitled "Relationship between profile of the banana growers and their perception about Good Agricultural Practices (GAPs) Was undertaken with objectives to know the profile of the banana growers and to study the perception of the banana growers about good agricultural practices (GAPs).

Methodology

The study was undertaken on the banana growing farmers of Anand and Kheda districts of Gujarat. From each districts 2 talukas will be selected on the basis of highest area under banana cultivation. Anand and Borsad talukas of Anand district and Kheda and Matar talukas from Kheda district were selected for the study. The study was undertaken by using systematic random sampling method and 200 banana growing farmers were selected from the study area. Data was collected with the help of structured schedule by personally interviewing the farmers. Frequency, percentages were worked out for analysing and interpretation of data. The Karl Pearson's method was used for computing the correlation coefficient, ('r'). The Ex-post-facto research design was used for the study.

Result and Discussion
Profile of the banana growers

It is evident from the data presented in table 1 that more than one half (53.50 percent) of the banana growers were in middle age category, followed by 26.00 percent and 20.50 percent of them in old and young age category, respectively. The data indicate that slightly less than two fifth (39.50 percent) of the banana growers had graduation and above level of education. It is noticed that majority (63.50 percent) of the banana growers had medium (11-20 years) experience in banana cultivation. It is revealed that majority (71.00 percent) of the banana growers were found with medium size of family. Cent percent of the banana growers belonged to medium to large size of land holding. The data regarding communicational characteristics indicated that more than three third (77.50 percent) of the banana growers had average level of extension contact with different agencies. Vast majority (90.00 percent) of the banana growers had high to very high level of mass media exposure. The regarding psychological characteristics revealed that majority (84.50 percent) of the banana growers had medium to high level risk orientation in banana cultivation and overwhelming number (85.50 percent) of the banana growers had high to very high level of scientific orientation. Majority (78.00 percent) of the banana growers had medium to high level of management orientation. A huge majority (92.50 percent) of the banana growers was found in the category of high to medium innovativeness. Less than four fifth (79.50 percent) of the banana growers were found with medium to high level of economic motivation. Majority (84.50 percent) of the banana growers had medium to high level risk orientation in banana cultivation.

Overall Perception of the banana growers about Good Agricultural Practices (GAPs)

It was noticed from table 2 that less than three fifth (57.50 percent) of the banana growers had medium level of perception followed by 28.00 percent and 14.50 percent of them with high and very high level of perception, respectively. None (0.00 percent) of the banana growers were found in the low to very low level of categories. This leads to conclude that a great majority of the banana growers were in the category of medium to high level of perception about GAPs. The probable reason for this observation might be that most of the banana growers had fairly good awareness about GAPs. In addition to this, they might have gained better and fruitful experiences with regard to the GAPs selected for the study and adopted by them. This might have helped in forming better perception about GAPs among the banana growers.

Relationship between profile of the banana growers and their perception about Good Agricultural Practices (GAPs)
Age and perception about GAPs

It is apparent from the data presented in the table 3 that level of perception about GAPs for banana cultivation had a positive and significant relationship ($r = 0.1489*$) with age of the banana growers. This indicated that perception about GAPs in banana cultivation was better among the old age banana growers than the young age banana growers.

Education and perception about GAPs

It is clear from the data presented in table 3 that education had a negatively non-significant correlation ($r = -0.0641$ NS) with perception of the banana growers about GAPs. The results indicated that education of the banana growers had least influence on their perception about GAPs in banana cultivation.

Experience in banana cultivation and perception about GAPs

It is noticed that experience of the banana growers in banana cultivation had a positive but non-significant correlation ($r = 0.1329$ NS) with their perception about GAPs.

Size of family and perception about GAPs

The size of family had a non-significant correlation ($r = 0.1323$ NS) with perception of the banana growers about GAPs in banana cultivation. The results pointed out that size of family of the banana growers had negligible impact on their perception about GAPs in banana cultivation.

Size of land holding and perception about GAPs

It can be seen that relationship between size of land holding of the banana growers and their level of perception about GAPs in banana cultivation was positive and highly significant ($r = 0.6187**$). The findings implied that banana growers having large size of land holding had high perception as compared to those having small size of land holding and vice versa.

Area under banana cultivation and perception about GAPs

It is observed that area under banana cultivation of the banana growers had a positive and highly significant relationship ($r = 0.3553**$) with their perception about GAPs in banana. It means that, the banana growers having larger area under banana cultivation had shown higher level of perception about GAPs in banana cultivation than those who had small and medium area under banana cultivation.

Production of banana and perception about GAPs

The production of banana was having a positive and highly significant relationship ($r = 0.3037**$) with the perception of the banana growers about GAPs in banana cultivation. This indicated that, perception of the banana growers with higher production was better than those with lower production.

Income from banana and perception about GAPs

It is noticed that income gained by the banana growers from banana had a positive and highly significant relationship (r = 0.2608**) with their perception about GAPs in banana cultivation. The result implies that banana growers with higher income from banana had high perception level about GAPs as compared to those having low income from banana.

Annual income and perception about GAPs

The annual income of the banana growers had a positive and highly significant correlation (r = 0.2093**) with their perception about GAPs in banana cultivation.

Extension contact and perception about GAPs

The extension contact of the banana growers had a negative and non-significant correlation (r = -0.1099 NS) with their perception about GAPs in banana cultivation.

The result indicated that extension contact did not play significant role in forming the perception of the banana growers about GAPs for banana cultivation.

Mass media exposure and perception about GAPs

It is observed that mass media exposure of the banana growers had a negative and non-significant correlation (r = -0.1086 NS) with their perception about GAPs in banana cultivation. The result indicates that, all the banana growers had somewhat similar perception about GAPs regardless of mass media exposure.

Scientific orientation and perception about GAPs

It is noticed that scientific orientation of the banana growers had a non-significant relationship (r = 0.0579 NS) with their perception about GAPs in banana cultivation. This indicated that there was least influence of scientific orientation on perception of the banana growers.

Management orientation and perception about GAPs

It was realized from the data provided in table 3 that perception about GAPs of the banana growers had a negative and non-significant correlation (r = -0.1381 NS) with their level of management orientation.

Innovativeness and perception about GAPs

It is evident from table 3 that innovativeness of the banana growers had a negative and non-significant relationship (r = -0.0543 NS) with the perception about GAPs in banana cultivation.

Economic motivation and perception about GAPs

It is revealed that there was a positive and highly significant correlation (r = 0.4858**) between economic motivation of the banana growers and their perception about GAPs in banana. So, it can be said that banana growers with high economic motivation had high perception about GAPs as compared to those with low economic motivation and vice versa.

Risk orientation and perception about GAPs

It is observed that risk orientation of the banana growers had a positive and highly significant relationship (r = 0.3877**) with their perception about GAPs in banana cultivation.

The functional relationship between independent variables and perception about Good Agricultural Practices (GAPs)

In this section, the multiple regression analysis using the step wise method was carried out with the help of computer using SPSS software to see the functional relationship between dependent variables and perception about GAPs.

1. The contents of the table 4 revealed that the independent variables were introduced stepwise in succession, depending upon the contribution of each of the independent variable in explaining the variation in the dependent variable. It can be observed from the Table 4 that out of 16 independent variables, six variables were exhibiting significant influence on the perception about GAPs in banana cultivation. All the six variables together were contributing 59.40 percent variation in the perception of the banana growers about GAPs in banana cultivation.

2. It can be inferred that maximum (38.30 percent) variation in perception about GAPs in banana cultivation was explained by size of land holding alone. However, Size of land holding + Risk orientation in banana cultivation accounted for 46.30 percent of the variation. Likewise, Size of land holding + Risk orientation + Production of banana had contributed 53.70 percent, Size of land holding + Risk orientation + Production of banana + Scientific orientation had determined 56.00 percent of the variation in perception. Next to this, Size of land holding + Risk orientation + Production of banana + Scientific orientation + Education had explained 58.20 percent of the variation. Whereas, six variables namely, Size of land holding + Risk orientation + Production of banana + Scientific orientation + Education + Management orientation together had contributed 59.40 percent of the variation in perception about GAPs.

3. The R^2 values at each stage of step up regression were found to be significant at 0.01 level of probability. The partial 'b' values of these six variables were converted in to standard partial 'b' values, which were 0.806 for Size of land holding, 0.389 for Risk orientation, -0.341 for Production of banana, 0.312 for Scientific orientation, -0.189 for Education and -0.131 for Management orientation.

4. The 't' value or partial 'b' was found significant in case of all the variables. Considering the highest to lowest standard partial 'b', the ranks were given to the variables. The findings are suggestive of the fact that for improving the perception about GAPs in banana cultivation among the banana growers, these traits may be taken in to consideration.

Table 1: Profile of the banana growers N=200

Sl. No.	Characteristics	Frequency	Percentage
	Personal characteristics		
A.	**Age**		
1	Young (Up to 35 years)	41	20.50
2	Middle (Between 36 to 50 years)	107	53.50
3	Old (Above 50 years)	52	26.00
B.	**Education**		
1	Illiterate	_	_
2	Primary education (up to 7th standard)	15	07.50
3	Secondary education (8th to 10th standard)	44	22.00
4	Higher secondary education (11th to 12th standard)	62	31.00
5	Graduation and above	79	39.50
C.	**Experience in banana cultivation**		
1	Low (upto 10)	24	12.00
2	Medium (11 to 20)	127	63.50
3	High (Above 20)	49	24.50
D.	**Size of family**		
1	Small (Up to 3)	35	17.50
2	Medium (4 to 5)	142	71.00
3	Large (Above 5)	23	11.50
	Socioeconomic characteristics		
A.	**Size of land holding**		
1	Marginal size (Up to 1.00)	_	_
2	Small size (1.01 to 2.00)	_	_
3	Medium size (2.01 to 4.00)	67	33.50
4	Large size (Above 4.00)	133	66.50
B.	**Area under banana cultivation**		
1	Marginal size (Up to 1.00)	01	00.50
2	Small size (1.01 to 2.00)	104	52.00
3	Medium size (2.01 to 4.00)	68	34.00
4	Large size (Above 4.00)	27	13.50
C.	**Production of banana**		
1	Very low (Up to 100)	01	00.50
2	Low (101 to 200)	104	52.00
3	Medium (201 to 300)	48	24.00
4	High (301 to 400)	25	12.50
5	Very high (Above 400)	22	11.00
D.	**Income from banana**		
1	Very low (Up to 10,00,000)	10	05.00
2	Low(10,00,001 to 20,00,000)	118	59.00
3	Medium(20,00,001 to 30,00,000)	38	19.00
4	High(30,00,001 to 40,00,000)	25	12.50
5	Very high (Above 40,00,000)	09	04.50
E.	**Annual income**		
1	Very low (Up to 12,00,000)	01	00.50
2	Low(12,00,001 to 24,00,000)	88	44.00
3	Medium(24,00,001 to 36,00,000)	75	37.50
4	High(36,00,001 to 48,00,000)	28	14.00
5	Very high (Above ` 48,00,000)	08	04.00
	Communicational characteristics		
	Extension contact		
1	Poor (up to 6.00)	18	09.00
2	Average (7.00 to 12.00)	155	77.50
3	Good (13.00 to 18.00)	27	13.50
4	Very good (19.00 to 24.00)	-	-
5	Excellent (above 24.00)	-	-
	Mass media exposure		
1	Very low (Up to 3.20)	01	00.50
2	Low (3.21 to 6.40)	06	03.00
3	Medium (6.41 to 9.60)	13	06.50
4	High (9.61 to 12.80)	89	44.50
5	Very high (Above 12.80)	91	45.50
	Psychological characteristics		
A.	**Scientific orientation**		
1	Very low (up to 25.20)	-	-
2	Low (25.21 to 36.40)	04	02.00
3	Medium (36.41 to 47.60)	25	12.50

No.		Number	Percent
4	High (47.61 to 58.80)	59	29.50
5	Very high (above 58.80)	112	56.00
B.	**Management orientation**		
1	Very low (up to 28.80)	-	-
2	Low (28.81 to 39.60)	05	02.50
3	Medium (39.61 to 50.40)	50	25.00
4	High (50.41 to 61.20)	106	53.00
5	Very high (above 61.20)	39	19.50
C.	**Innovativeness**		
1	Low innovativeness (1)	15	07.50
2	Medium innovativeness (2)	74	37.00
3	High innovativeness (3)	111	55.50
D.	**Economic motivation**		
1	Very low (up to 10.80)	-	-
2	Low (10.81 to 15.60)	01	00.50
3	Medium (15.61 to 20.40)	68	34.00
4	High (20.41 to 25.20)	91	45.50
5	Very high (above 25.20)	40	20.00
E.	**Risk orientation**		
1	Very low (up to 18)	-	-
2	Low (19 to 26)	09	04.50
3	Medium (27 to 34)	73	36.50
4	High (35 to 42)	96	48.00
5	Very high (above 42 score)	22	11.00

Table 2: Distribution of the banana growers according to their perception N=200

No.	Perception (score)	Number	Percent
1	Very low (up to 30.60)	00	00.00
2	Low (30.61 to 44.20)	00	00.00
3	Medium (44.21 to 57.80)	115	57.50
4	High (57.81 to 71.40)	56	28.00
5	Very high (above 71.40)	29	14.50
	Total	200	100.00

Table 3: Relationship between characteristics of the banana growers and their perception about Good Agricultural Practices (GAPs) N=200

No.	Independent variable (s)	Correlation Coefficient ('r' value)
Personal characteristics		
1	Age	0.1489 *
2	Education	- 0.0641NS
3	Experience in banana cultivation	0.1329 NS
4	Size of family	0.1323 NS
Socio-economic characteristics		
5	Size of land holding	0.6187 **
6	Area under banana cultivation	0.3553 **
7	Production of banana	0.3037 **
8	Income from banana	0.2608 **
9	Annual income	0.2093 **
Communicational characteristics		
10	Extension contact	- 0.1099 NS
11	Mass media exposure	- 0.1086 NS
Psychological characteristics		
12	Scientific orientation	0.0579 NS
13	Management orientation	- 0.1381 NS
14	Innovativeness	- 0.0543 NS
15	Economic motivation	0.4858 **
16	Risk orientation	0.3877 **

* = Significant at 0.05 level of probability
** = Significant at 0.01 level of probability
NS = Non significant

Table 4: Stepwise regression analysis of the independent variables and perception about Good Agricultural Practices (GAPs) by banana growers

No.	Independent variable(s)	Constant	Coefficient of Determination (R^2)	Partial Regression Coefficient (b_i)	Standard error of b_i	't' value	Standard Partial Regression Coefficient (SPRC)	Adjusted R^2	Rank
1	Size of Land Holding	27.324	38.3	2.734	0.214	12.769**	0.806	0.582	I
2	Risk Orientation		46.3	0.510	0.075	6.787**	0.389		II
3	Production of Banana		53.7	-0.024	0.005	-5.005**	-0.341		III
4	Scientific Orientation		56.0	0.266	0.052	5.074**	0.312		IV
5	Education		58.2	-0.511	0.148	-3.454**	-0.189		V
6	Management Orientation		59.4	-0.115	0.047	-2.431*	-0.131		VI

R^2 = 59.4%
* = Significant at 0.05 level of probability
** = Significant at 0.01 level of probability

Conclusion

It was seen that personal characteristics of the banana growers namely age, socio-economic characteristics namely, size of land holding, area under banana cultivation, production of banana, income from banana and annual income, psychological characteristics namely, economic motivation and risk orientation of the banana growers had played a significant role in determining the perception of the banana growers about GAPs. The study pointed out that the banana growers had differential awareness about GAPs for banana. Though, none of them was in low and very low category and majority were in high to very high category of awareness, the study indicates the scope for creating awareness about GAPs for banana. The concerned organizations and personnel need to intensify the efforts in that direction.

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