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AdoptionBehaviour of Anthurium Flower Cultivators in Darjeeling District of West Bengal

KEYWORDS: Adoption behaviour, Anthurium Flower, Market orientation,Risk orientation.

Deepa Roy
Assistant Professor, Department of Agricultural Extension, Uttar Banga Krishi Viswavidyalaya Pundibari, Dist: Cooch Behar, West Bengal-736165

Dr. A. K. Bandyopadhyay
Professor, Department of Agricultural Extension, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal-741252

Balkho R Marak
Ph.D Research Scholar Department of Agricultural Extension, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, West Bengal-741252

ABSTRACT *Keeping in view the vast potential and the importance of anthurium cultivation to the states revenue in the broader sense and the impact of the practice on improving the social life of the farmersin the hill region of Darjeeling district, the study was undertaken to measure the adoption behaviour of the farmer as dependent variable with seventeen causal independent variables.Nine villages from two blocks of Kalimpong were selected purposively and respondents were selected randomly. From correlation analysis it was observed that the variables viz, age, education, knowledge level, area under anthurium cultivation, annual income, market orientation, production orientation, risk orientation, economic motivation, achievement motivation, innovation proneness, and extension communication had gone positively and significantly correlated with the adoption behaviour of anthurium growers. The R2 value being 0.7674, it is to infer that the 17 predictors put together have explained 76.74% variation embedded with the predicted variable.*

Introduction

Anthurium is one of the thrust floriculture crops identified for West Bengal because of many advantages, such as increasing demand, ideal agro climatic conditions, availability of group of progressive farmers having land and other infrastructure facilities to take up this activity. International market for flowers and accessories is as high as 50 billion and has been growing at a steady pace. Anthurium is now one of the most important flowers with a promising future for the state. Keeping in view the vast potential and the importance of anthurium cultivation to the states revenue in the broader sense and the impact of the practice on improving the social life of the farmers, the study was undertaken. Moreover the farmers engaged in the cultivation of anthurium were following in the traditional way and got low production with minimum return in terms of rupees. In this situation UBKV, Govt. of West Bengal and other organizations have been taken initiative to introduce anthurium as a commercial crop in this region. They have conducted demonstration training and given subsidy to cultivate anthurium in the district of Darjeeling especially in Kalimpong. Now the farmers have undertaken anthurium cultivation scientifically on a large scale and are increasing the area under cultivation day to day. On the basis of these facts, the study was undertaken to measure the adoption behaviour of the farmer engaged in anthurium in the hill region of Darjeeling district.

Material and Methods:

Kalimpong-I and Kalimpong-II block of Kalimpong sub-division, Darjeeling, West Bengal were selected purposively to generate the relevant information about the anthurium growers. A sample of 100 progressive anthurium growers who were cultivating on their own land or having tenancy status was selected randomly from 9 villages. The respondents were interviewed through personal interview method with the help of well structured schedule, which was developed and pre tested for the study. After an intensive review work and consultation with number of experts, the different variables were selected for this study. The adoption behaviour was considered as dependent variable (Y) and 17 independent variables viz. age (x_1), caste (x_2), family type (x_3), education (x_4), knowledge level (x_5), area under anthurium cultivation (x_6), economic status (x_7), annual income (x_8), social participation (x_9), attitude towards anthurium cultivation (x_{10}), market orientation (x_{11}), production orientation (x_{12}), risk orientation (x_{13}), economic motivation (x_{14}), achievement motivation (x_{15}), innovation proneness (x_{16}) and extension communication (x_{17}) were selected for the need of the study after consultation with different experts.

Results and Discussion:

Pearson's Correlation of Co-efficient and Multiple Regression analysis with the help of SPSS (Statistical Package for Social Science) were calculated for interpretation of the result.

Table 1: Correlation co-efficient between Adoption behaviour of anthurium cultivators and rest 17 other independent variables

Independent Variables	Co-efficient correlation
Age (X_1)	0.239*
Caste (X_2)	-0.148
Family type (X_3)	-0.114
Education (X_4)	0.227**
Knowledge level (X_5)	0.476**
Area under anthurium cultivation (X_6)	0.450**
Economic status (X_7)	0.197
Annual income (X_8)	0.563**

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Social participation (X_9)	0.162
Attitude towards anthurium cultivation (X_{10})	0.104
Market orientation (X_{11})	0.507**
Production orientation (X_{12})	0.337**
Risk orientation (X_{13})	0.700**
Economic motivation (X_{14})	0.225**
Achievement motivation (X_{15})	0.489**
Innovation proneness (X_{16})	0.270**
Extension communication (X_{17})	0.333**

** Correlation is significant at the 0.01 level of probability
* Correlation is significant at the 0.05 level of probability

Table 1 presents the co-efficient of correlation between different independent variables with dependent variables i.e. adoption behaviour of anthurium cultivars toward its cultivation. It is evident from the above result that among different independent variables viz. Age, Education, Knowledge level, Area under anthurium cultivation, Annual income, Market orientation, Production orientation, Risk orientation, Economic motivation, Achievement motivation, Innovation proneness, Extension communication had gone positively and significantly correlated with the adoption behaviour of anthurium growers.

This finding supports the findings of Ganeshprasad *et al* (2010), Shakya *et al* (2010), Lawrence and Ganguli (2011), Mamathalakshmi and Nagabhushanam (2011), Pounraj and Rathakrishnan (2011), Singha *et al* (2012).

Table 2: Value of Regression Analysis of predicted variable with predictor variables

Variables	β	**β×r**	**Standard error of b**	**b-value**	**t-value**
Age (X_1)	0.006	0.202	0.076	0.008	0.100
Caste (X_2)	0.028	-0.540	0.430	0.203	0.473
Family type (X_3)	0.073	-1.084	1.063	1.334	1.254
Education (X_4)	0.132	3.894	0.443	0.937	2.115*
Knowledge level (X_5)	0.035	2.146	0.782	0.312	0.399
Area under anthurium cultivation (X_6)	0.142	8.347	0.032	0.065	2.059*
Economic status (X_7)	0.059	1.505	0.185	0.168	0.912
Annual income (X_8)	0.123	9.010	0.688	0.987	1.435
Social participation (X_9)	-0.036	-0.765	0.524	-0.322	0.615
Attitude towards anthurium cultivation (X_{10})	0.145	1.978	0.174	0.422	2.425
Market orientation (X_{11})	0.410	27.103	0.355	1.779	5.006**
Production orientation (X_{12})	0.161	7.071	0.612	1.610	2.632*
Risk orientation (X_{13})	0.330	30.112	0.315	1.217	3.862**
Economic motivation (X_{14})	0.049	1.426	0.271	0.220	0.812
Achievement motivation (X_{15})	0.178	11.321	0.256	0.662	2.591*
Innovation proneness (X_{16})	0.149	5.256	0.285	0.702	2.464*
Extension communication (X_{17})	-0.161	-6.978	0.412	-0.783	1.899

SE of intercept= 17.22; R^2=0.7674; F-value=15.92; Note=**Significant at 0.01 level of probability,
* Significant at 0.05 level of probability.

Table 2 shows that the variable, market orientation has the highest contribution towards determining the adoption behaviour of anthurium growers, followed by risk orientation. The variables education, area under anthurium cultivation, production orientation, achievement motivation and innovation proneness also have their significant effect in determining the predicted variable with the adoption behaviour of anthurium growers. The R^2 value being 0.7674, it is to infer that the 17 predictors put together have explained 76.74% variation embedded with the predicted variable of adoption behaviour of anthurium growers.

Farmers Perception of The Problems Faced During Anthurium Cultivation:

This part deals with farmers' perception of the problems faced by them in the cultivation of anthurium, thus posing as a hindrance and limiting the further development of this vocation the problems were collected on the basis of an open-ended question administered personally by the researches and the said information were recorded. Each problem was assigned a unit score and on the basis of the frequency they were ranked.

Similarly, the farmers' suggestions regarding the problem faced by them were recorded and presented in the Table 4.

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Table 3: Problems in anthurium cultivation as perceived by the farmers

Sl. No.	Perceived problems	Frequency	Percentage	Ranks
1.	Inadequate supply of irrigation water	85	85	I
2.	Inappropriate transportation facilities	83	83	II
3.	Lack of packaging facilities	79	79	III
4.	Lack of modern and scientific cultivation	77	77	IV
5.	Unavailability of hybrid varieties	72	72	V
6.	Inference of middlemen	67	67	VI
7.	Lack of soil testing facilities	65	65	VII
8.	Non availability of equipments	60	60	VIII
9.	Lack of facility of refrigerator van	56	56	IX
10.	Lack of storage facility	51	51	X
11.	Lack of training facilities	45	45	XI
12.	Inadequate market facilities	40	40	XII
13.	Non-assistance from government personnel	23	23	XIII
14.	Variation of temperature during summer and winter	20	20	XIV

Table 4: Solutions to the problems as suggested by the farmers

Sl. No.	Suggested measures	Frequency	Percentage	Ranks
1.	Provision of irrigation water during summer days	71	71	I
2.	Provision of proper packaging facilities	64	64	II
3.	Appropriate technology should be provided	63	63	III
4.	Provision of irrigator van	61	61	IV
5.	Constructions of link roads	57	57	V
6.	Regular visit by extension agencies and provision of training	46	46	VI
7.	Establishment of regulated market	43	43	VII
8.	Setting up of storage facilities	39	39	VIII
9.	Distribution of new hybrid varieties by the Govt. at cheaper rate	30	30	IX
10.	Provision of flower marketing	25	25	X
11.	Provision of loan at low interest	18	18	XI
12.	Setting up of soil testing lab	15	15	XII

CONCLUSION:

Statistical analysis of the selected variable for the study has presented a consistent resulted. The analyzed higher scores of socio-economic status, attitudinal factors knowledge level had shown a greater degree of adaptation. The person enjoying a higher status in rural society can also be a good adopter of anthurium cultivation practices after taking the risk of anthurium cultivation in Darjeeling district.

Inconstancy of entire farming system, productivity of crops, use of agricultural inputs supporting yield, adoption of improved package of practices and plant protection measures etc are conspicuous from the data of anthurium cultivation in the hill zone of West Bengal. The provision of the improved scientific technology, multidisciplinary research efforts and the development of necessary infrastructure shall be worthwhile contribution towards the accelerated performance of the anthurium enterprise. Educating the framers can prove to be an effective strategic tool. Transfer of technologies to large number of farmers through the area is much needed. Greater media exposure and quality deliverance shall be remunerative either.

A high cost of production for anthurium enterprise necessitates the provision for credit facilities, since the transportation in hill is hazardous and costly motorable village link roads need to be constructed. Market infrastructure needs to be developed to evade the intermediaries. Popularization of disease free certified seedlings would further aid in the farmers for deriving higher, superior and better qualities of produce.

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