Relationship between Profile and Marketing Behaviour of Turmeric Farmers in Kadapa District of Andhra Pradesh

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The present study was conducted at Kadapa district of Andhra Pradesh with the objectives to find out the relationship between the turmeric farmers' profile and their marketing behaviour. *Ex post facto* research design was used for the study. Two mandals of Kadapa district namely Mydukur and Duvvur were purposively selected based on the highest area under turmeric cultivation and data was collected from a randomly drawn sample of 90 respondents by a structured questionnaire administered personally as per schedules. The correlation results of the study revealed that the independent variables viz., age, farming experience, education, material possession, extension contact, training received, achievement motivation and social interaction had positive and statistically significant relationship with the marketing behaviour of the turmeric farmers. Whereas, area under turmeric cultivation and economic status had non-significant relationship with the marketing behaviour of the turmeric farmers. Multiple Linear Regression analysis revealed that all the selected 10 independent variables put together explained about 79.10 per cent variation in the marketing behaviour of turmeric farmers. The analysis of turmeric farmers' profile indicated that majority of them were middle aged, with less than 2.5 acres of area under turmeric cultivation with medium farming experience, high school level of education, medium economic status, extension

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contact, training received, achievement motivation and social interaction and they also had medium level of marketing behaviour due to medium levels of planning orientation, production orientation, marketing orientation, market information sources utilization, decision making ability, risk taking ability and innovativeness.

1. INTRODUCTION

Turmeric (*Curcuma longa* L.) the ancient and sacred spice of India known as 'Yellow gold' is an important commercial spice crop grown in India. It is also known as the 'Golden Spice of life' and is one of the most essential spices used as an important ingredient in culinary all over the world. India is the largest producer, consumer and exporter of turmeric in the world contributing 78 per cent of the global production and 60 per cent of world export. Turmeric occupies a distinct position in Indian spices market as well as in the international market. India leads in the turmeric production in the world with an area of 2.57 lakh ha and with production of 9.46 lakh tonnes and productivity of 3.7 MT/ha and it accounts for about 14 per cent of total spices produced in India. India exports 1.39 lakh tonnes of turmeric worth Rs. 1786.00 crores [1]. In Andhra Pradesh, the area under turmeric crop was 17,800 hectares with a production of 80,100 metric tonnes and productivity of 4.16 MT/ha. Kadapa district is well known for turmeric production and turmeric market in Rayalaseema region of Andhra Pradesh. In Kadapa, turmeric was cultivated in an area of 4,315 hectares with a total production of 51,780 tonnes (Season and Crop report 2019). The turmeric farmers face major risk particularly in the marketing as they lose their bargaining strength and get exploited as entire produce will come to market at a time. Monthly data on minimum prices of turmeric in Kadapa regulated market yard show a highly erratic behaviour. The present research paper focuses on the relationship between the turmeric farmers' profile and their marketing behaviour.

The effect of global warming is having its own signature in many parts of the world including India causing serious concern for the last few years. Like many agricultural and horticultural crops, turmeric crop are also facing the brunt of climate change. Different abiotic factors, especially temperature, rainfall, photoperiod, sunshine hours, wind, etc. directly or indirectly influence different physiological growth stages like flowering, fruit setting, fruit development, seed setting and final reproductive or vegetative yield of spice crops. High rainfall and humidity invite pests like aphid and diseases like powdery mildew in most of the seed spices viz., turmeric, fenugreek, cumin, etc. The stress effect of environment also influences the seed production and storage life of the spice crops [2].

2. MATERIALS AND METHODS

Kadapa district of Andhra Pradesh was purposively selected for the study as it had maximum area under turmeric cultivation in Rayalaseema region. *Ex post facto* research design of social research was used for this study. Two mandals out of 51 mandals of Kadapa district namely Mydukur and Duvvur were purposively selected based on the highest area under turmeric cultivation. Out of these, three villages from each of the selected mandal were selected by following simple random sampling procedure, thus making a total of 6 villages. From each selected village, 15 respondents were selected by following simple random sampling procedure, thus making a total of 90 respondents. The data were collected by structured questionnaire administered personally as per schedules and analyzed by employing descriptive statistics. Hejase et al. [3] contend that informed objective decisions are based on facts and numbers, real, realistic and timely information. Furthermore, according to Hejase and Hejase [4], "descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can used Arithmetic means, Standard deviations, frequencies and percentages. The simple Pearson's correlation coefficient was used to find out the strength of relationship between the independent variables and marketing behaviour to know the degree of association between the variables. Multiple regression analysis was also carried out to find out the functional relationship between independent variables and marketing behaviour.

3. RESULTS AND DISCUSSION

In order to study the relationship between the profile and marketing behaviour of turmeric

farmers, correlation coefficients (r) were computed and the values are presented in Table 1.

3.1 Age Vs Marketing Behaviour

From Table 1, it is evident that the co-efficient of correlation (r = 0.376**) between age and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between age and marketing behaviour of the turmeric farmers.

The possible reason might be due to the fact that with respect to the age of the respondent, the marketing behaviour of turmeric farmers was dependent on individual's personal interest and educational level. Farmers relatively of all age groups might have come in contact with friends, neighbors, relatives or others to seek information about different activities related to marketing. This finding was in agreement with the findings of Madhusekhar [5].

3.2 Area under Turmeric Cultivation Vs Marketing Behaviour

Table 1 also shows that the co-efficient of correlation (r = 0.119^{NS}) between area under turmeric cultivation and marketing behaviour of turmeric farmers was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and statistically non- significant relationship between area under turmeric cultivation and marketing behaviour of the turmeric farmers.

The probable reason might be that irrespective of their area under turmeric cultivation the farmers possessed knowledge about marketing aspects because of their educational level and interpersonal contacts with friends, neighbors, extension agencies and others. This finding was in tune with Gangadhar [6] and Vineetha [7].

3.3 Farming Experience Vs Marketing Behaviour

From Table 1, it is evident that the co-efficient of correlation (r = 0.254**) between farming experience and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically

significant relationship between farming experience and marketing behaviour of the turmeric farmers.

The probable reason might be that high farming experience allows farmers to gain more knowledge about marketing in turmeric through their experience in farming and personal interest. Hence they can take appropriate decisions about the market related issues for getting good profits. Thus, higher the farming experience higher will be the marketing behaviour. This finding was in tune with the results of Madhusekhar [5].

3.4 Education Vs Marketing Behaviour

Table 1 shows that the co-efficient of correlation (r = 0.192*) between education and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between education and marketing behaviour of the turmeric farmers.

The probable reason for this trend might be that education plays an important role in enhancing the thinking capabilities and it widens horizons of the individuals. Educated farmers with more information seeking habits had better access to information sources such as farm magazines, books on agriculture possess better capacity to grasp things, analyze and interpret them in proper way. It can be concluded that education is a very crucial and important variable which contributed for better marketing behaviour. This finding was in line with the findings of Madhusekhar [5], Gangadhar [6] and Vineetha [7].

3.5 Economic Status Vs Marketing Behaviour

From the Table 1, it is evident that the co-efficient of correlation (r = 0.154^{NS}) between economic status and marketing behaviour of turmeric farmers was less than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and statistically non-significant relationship between economic status and marketing behaviour of the turmeric farmers.

The probable reason might be that irrespective of economic status, farmers had more knowledge about marketing in turmeric through their farming

experience, educational level and personal interest. This finding of the study was in agreement with the findings of Madhusekhar [5] and Gangadhar [6].

3.6 Material Possession Vs Marketing Behaviour

Moreover, Table 1 illustrates that the co-efficient of correlation (r = 0.539**) between material possession and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between material possession and marketing behaviour of the turmeric farmers.

The probable reason might be that increase in income will increase the material possession of the farmers. Having material possession is directly connected with income which comes through proper marketing over the years. This finding of the study was in agreement with the findings of Gangadhar [6] and Vineetha [7].

3.7 Extension Contact Vs Marketing Behaviour

In addition from Table 1, the co-efficient of correlation (r = 0.692**) between extension contact and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between extension contact and marketing behaviour of the turmeric farmers.

The probable reason might be that extension contact is the major channel to get market related information. The regular contacts with various extension agencies could enable the farmers to access to the valid, reliable and accurate market related information. Higher the extension contact greater the scope of getting information about marketing aspects. This finding of the study was in agreement with the findings of Gangadhar [6], Vineetha [7] and Devi [8].

3.8 Training Received Vs Marketing Behaviour

Results from Table 1 show, that the co-efficient of correlation (r = 0.229*) between training received and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.05 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between training received and marketing behaviour of the turmeric farmers.

The possible reason for this might be that the farmers who have undergone more number of trainings related to specific subjects will have more knowledge and exposure related to those particular aspects. Farmers who have undergone trainings can also be aware about the importance of marketing and they can also get more information about different markets and prices prevailing in different markets for the turmeric produce. Thus, training received by the turmeric farmers influenced their marketing behaviour. Hence the above trend was noticed. This finding of the study was in agreement with the findings of Madhusekhar [5], Vineetha [7] and Devi [8].

3.9 Achievement Motivation Vs Marketing Behaviour

From Table 1, results show that the co-efficient of correlation (r = 0.799**) between achievement motivation and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between achievement motivation and marketing behaviour of the turmeric farmers.

The reason might be that most of the farmers possess a strong desire to achieve something in life and it is the source of success for any individual. The farmers might be motivated through their fellow members in the group and learn the ways and means to achieve their goals. High achievement motivation might have driven their direction towards high marketing behaviour leading of success in farming. On the other side, poor achievement motivation derived through lack of interest, initiation and inspiration might have contributed for low marketing behaviour. Hence the above trend was noticed.

3.10 Social Interaction Vs Marketing Behaviour

Furthermore, Table 1 shows, that the co-efficient of correlation (r = 0.790**) between social interaction and marketing behaviour of turmeric farmers was greater than the table value of 'r' at 0.01 level of significance. Therefore, it could be inferred that there was a positive and statistically significant relationship between social interaction and marketing behaviour of the turmeric farmers.

Table 1. Correlation coefficients between the selected profile with the marketing behaviour of turmeric farmers

S. No.	Variable No.	Independent variable	Correlation coefficient (r) values
1	X1	Age	0.376**
2	X2	Area under turmeric cultivation	0.119NS
3	X3	Farming experience	0.254**
4	X4	Education	0.192*
5	X5	Economic status	0.154NS
6	X6	Material possession	0.539**
7	X7	Extension contact	0.692**
8	X8	Training received	0.229*
9	X9	Achievement motivation	0.799**
10	X10	Social interaction	0.790**

*: Significant at 0.05 level of probability
** : Significant at 0.01 level probability
NS: Non-significant

Table 2. Multiple linear regression analysis of the selected independent variables with the marketing behaviour of turmeric farmers

S. No.	Variable	Turmeric farmers (n=90)			
		Sta. error	'b' values	't'values	'P' values
X_1	Age	0.183	0.311	1.704NS	0.92
X_2	Area under turmeric cultivation	2.571	2.011	0.782 NS	0.436
X_3	Farming experience	0.183	0.76	0.414 NS	0.680
X_4	Education	0.723	1.884	2.608**	0.011
X_5	Economic status	0.026	0.021	0.791NS	0.431
X_6	Material possession	0.636	0.305	0.480 NS	0.633
X_7	Extension contact	0.659	1.502	2.280 NS	0.025
X_8	Training received	1.148	-0.002	-0.001 NS	0.999
X_9	Achievement motivation	0.539	2.420	4.486**	0.000
X_{10}	Social interaction	0.706	2.027	2.872**	0.005

*: Significant at 5% level of probability; R^2= 0.791; **: Significant at 1% level of probability; NS: Non-significant

The possible reason might be that increased social interaction of farmers will always possess good knowledge about current advances in agriculture and it provides more chances of getting exposed to different sources and ideas related to marketing. Further, it also provides better opportunity to have interpersonal interactions which will help in exchanging ideas on new market related information and competition aspects. As a result, they can make profits by choosing best options from the available sources indicating that they have good marketing behaviour. Hence this trend was observed. This finding was in line with the findings of Gangadhar [6].

3.11 Regression Analysis

Table 2 shows that the coefficient of determination 'R^2' value was significant. The 'R^2' value of 0.791 which depicted that all the selected ten independent variables put together explained about 79.10% variation in the marketing behaviour of turmeric farmers. The remaining 20.9% might be due to the effect of extraneous variables. Hence, it indicates that the profile selected to a large extent explained the variation in marketing behaviour of turmeric farmers.

The multiple regression coefficients presented in Table 2 further revealed that the independent variables viz., education (Sig. = .011), achievement motivation (Sig. = .000) and social interaction (Sig. = .005) were found positively and statistically significant as evident from their significant 't' values. This implied that education, achievement motivation and social interaction have contributed to most of the variation in the marketing behaviour of turmeric farmers. Normally a farmer with high education makes him to strive hard to get more information through various means to meet his marketing requirements. High level of achievement

motivation will look forward the convenient and sophisticated transport mechanism to carry the farm produce from production center to the far off sale points to get remunerative prices. Higher the social interaction greater the scope of getting information about marketing aspects. Therefore, education, achievement motivation and social interaction would have contributed to most of the variation in the marketing behaviour of the turmeric farmers.

4. CONCLUSION

The results showed that the independent variables viz., age, farming experience, education, material possession, extension contact, training received, achievement motivation and social interaction had positive and significant relationship with the marketing behaviour of the turmeric farmers whereas area under turmeric cultivation and economic status had positive and non-significant relationship with the marketing behaviour of the turmeric farmers. All the selected 10 independent variables put together explained about 79.10 per cent variation in the marketing behaviour of turmeric farmers. The partial regression co-efficient values implied that education, achievement motivation and social interaction were the most important variables that contributed to most of the variation in the marketing behaviour of turmeric farmers. Hence it may be suggested that the association of turmeric traders/sellers as well as growers come together and with the help of, all traders and sellers have to develop interest about the online marketing system, i.e. website NCDEX National Commodity Derivative Exchange, which is helpful for marketing turmeric.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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