

RESEARCH ARTICLE :

Relationship between selected characteristics of tomato growers and their adoption level of recommended technology in Nashik district of Maharashtra state

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SUMMARY : The present research on relationship between socio-economic characteristics of tomato grower was conducted in Nashik district of Maharashtra state. Seventy tomato growers were selected randomly from ten villages. The data were collected by personal interview technique from tomato growers with the help of structured interview schedule. Mostly respondents were found in medium age category, higher secondary education, medium farming experience, joint and large family, medium level economic motivation, scientific orientation and risk orientation as well as medium knowledge level. The relationship of selected characteristics namely age, type of family, land holding, economic motivation and knowledge level were found to be positively and significantly correlated with overall adoption of recommended practices of tomato.

KEY WORDS :

Relationship,
Adoption, Tomato
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BACKGROUND AND OBJECTIVES

Vegetable crops are extensively grown in Nashik district. This might be due to the nearness of the district to Mumbai market where much of the produce is sold profitably. Besides, the land and climatic conditions in Nashik are very favorable for vegetable cultivation. The area under vegetable cultivation is much more than it is in the rest of the districts of the State. It occupied an area of 28,838.46 hectares with production

of 5.31 lakh MT (Tauqueer Ahmed *et al.*, 2012). The main vegetables grown in the district are onion, tomato, brinjal, fenugreek, lady's finger, cabbage, cauliflower etc.

Tomato is one of the most important "protective food" both because of its special nutritive value and also because of its wide spread production. Tomato is one of the most important vegetable crops cultivated for its fleshy fruit. It is considered as important commercial and dietary vegetable crop. As it is a short duration crop and gives high yield, it

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is important from economic point of view and hence, area under its cultivation is increasing day by day. Tomato is used in products like ketchup, sauce, chutney, soup, paste, puree etc.

Considering these facts and demand of situation the present study on relationship between selected characteristics of the tomato growers and their adoption level of recommended technology was undertaken.

RESOURCES AND METHODS

Being a highly potential district for tomato crops the Nashik district was purposely selected. Tomato mainly grown in Dindori, Niphad, Nashik and Sinnar tahsils. Out of these Dindori and Niphad tahsils were selected for the present study. In all, the total sample size for the study was seventy. Ex-post facto research design was used for the study. Keeping in view, the objectives of the study, the interview schedule was prepared and respondents were interviewed at their home and field.

Twelve independent variables of the tomato growers were measured through respective scales with due modification. Age was measured by collecting their chronological age. The education, size of family, type of family, annual income, land holding and social participation variables were measured with the scale developed by Venkataramaiah (1983). The farming experience was measured with the scale developed by Silvakumar (1988), whereas, economic orientation, scientific orientation and risk orientation variables were measured with the scale developed by Supe (1969).

The statistical tools used were percentage, mean score, standard deviation and correlation of co-efficient (r) was applied to determine the association between dependent and independent variables.

OBSERVATIONS AND ANALYSIS

Socio-economic characteristics of the tomato growers, data in Table 1 show that majority 51.43 per cent respondents were found in the range of 35 to 50 years of age. Those below 35 years of age were 30.00 per cent and 18.57 per cent respondents were either 51 years of age or more. The implication of these findings is that majority of tomato growers belong to middle to young age group. This is an advantage since they are supposed to be physically able and more mentally alert in adopting recommended technology than the older

farmers.

Table 1 further shows that all tomato growers were found educated. About 37.14 per cent of the respondents had higher secondary (11th to 12th standard) level education followed by 31.43 and 30.00 per cent respondent had college and secondary level education, respectively and only 1.43 per cent tomato grower had primary education. The low proportion of illiterates in the respondents' group implies that the majority of them are in a better position to be aware, understand and adopt recommended tomato technology.

It is also evident from Table 1 that about 40.00 per cent of the respondents had between 4 to 8 years of farming experience and 5.00 per cent between 2 to 3 years of farming experience, while 10.00 per cent had 8 years and above of farming experience. This implies that majority of the tomato farmers had long period of farming experience and, therefore, would be conversant with constraints to increased tomato production. This could increase their level of acceptance of new ideas as a means of overcoming their production constraints and hence, could serve as an advantage for increased tomato production.

Majority 71.43 and 64.29 per cent tomato grower had joint family and having more members in family, while 28.57 and 35.71 per cent tomato growers had nuclear family and small family size (Table 1).

It is seen clear from the Table 1 that the about 34.29 per cent of tomato growers had membership in one organization, followed by 27.14 and 25.71 per cent of tomato growers had no social participation and membership in more than one organization, respectively. Only 12.86 per cent tomato growers having position in social institution.

As evident from Table 1, the majority of the respondents (62.86 %) possessed large size of land holding followed by, 24.29 and 10.00 per cent of them had medium and small size of land holding, respectively and only 2.86 per cent respondents had marginal land holding.

The data presented in Table 1, clearly show that the majority of the tomato grower (80.00 %) had higher level of annual income followed by, 17.14 and 2.86 per cent had medium and lower level of annual income, respectively.

It is apparent from the Table 1, the majority of the tomato growers (72.86 %) had medium level of economic

Table 1: Distribution of tomato growers according to their socio-economic status				(n=70)
Age groups	Frequency	Percentage	\bar{X}	Sd.
Young (Upto 35 years)	21	30.00	2.11	0.69
Middle (between 36 to 50 years)	36	51.43		
Old (Above 50 years)	13	18.57		
Educational level				
Illiterate	00	0	3.00	0.81
Primary (1 st to 7 th std.)	01	1.43		
Secondary (8 th to 10 th standard)	21	30.00		
Higher Secondary (11 th to 12 th standard)	26	37.14		
College (above 12 th standard)	22	31.43		
Experience in tomato cultivation				
Low (2 to 3 years)	35	50.00	1.60	0.66
Medium (4 to 8 years)	28	40.00		
High (above 8 years)	07	10.00		
Family type				
Nuclear	20	28.57	1.71	0.45
Joint	50	71.43		
Family size				
Small (Upto 5 members)	25	35.71	1.64	0.48
Large (more than 5 members)	45	64.29		
Social participation				
No membership	19	27.14	1.24	0.99
Membership in one organization	24	34.29		
Membership in more than one organization	18	25.71		
Holding position	09	12.86		
Land holding position				
Marginal farmers (Upto 1.00 ha)	02	2.86	3.47	0.79
Small farmers (1.01 to 2.0 ha)	07	10.00		
Medium farmers (2.01 to 3.00)	17	24.29		
Large farmers (Above 3.0 ha)	44	62.86		
Annual income				
Low (Upto Rs. 50000/-)	02	2.86	2.77	0.48
Medium (Rs. 50,001 to 1,00,000/-)	12	17.14		
High (above Rs. 1,00,000/-)	56	80.00		
Economic motivation				
Lower (less than 16 score)	06	8.57	19.28	3.15
Medium (between 16 to 22 score)	51	72.86		
Higher (greater than 22 score)	13	18.57		
Scientific orientation				
Lower (less than 19 score)	10	14.29	22.25	2.92
Medium (between 19 to 25 score)	55	78.57		
Higher (greater than 25 score)	05	7.14		
Risk orientation				
Low (less than 18 score)	09	12.86	21.34	2.92
Medium (between 18 to 24 score)	51	72.86		
Higher (greater than 24 score)	10	14.29		
Knowledge level				
Low (less than 60 score)	11	15.71	72.77	12.64
Medium (between 60 to 85 score)	46	65.71		
High (greater than 85 score)	13	18.57		

Table 2 : Relationship between the characteristics of tomato growers and their adoption level of recommended technology

Sr. No.	Independent variables	Correlation-coefficient (r value)
1.	Age	0.308*
2.	Education	-0.053NS
3.	Farming experience	-0.238*
4.	Type of family	0.321**
5.	Size of family	0.152NS
6.	Social participation	0.036NS
7.	Land holding	0.321**
8.	Annual income	0.090NS
9.	Economic motivation	0.272*
10.	Scientific orientation	0.130NS
11.	Risk orientation	-0.13NS
12.	Knowledge level	0.274*

NS = Non-significant

* and ** indicate significance of value at P=0.05 and 0.01, respectively

motivation followed by and 18.57 and 8.57 per cent of tomato growers had higher and lower level of economic motivation, respectively. In case of scientific orientation 78.57 per cent of respondents had moderate level, while 14.29 and 7.14 per cent of respondents had poor and higher level, respectively.

The results in Table 1 indicated that the majority of the respondents (72.86 %) had moderate level of risk orientation, while 14.29, 12.86 per cent respondents had low and higher level of risk orientation, respectively.

According to Table 1, the result showed that majority (65.71 %) of the farmers were having medium level of knowledge about package of practices for tomato cultivation, while 18.57 and 15.71 per cent farmers fell in high and low knowledge level category, respectively. These findings are in close conformity with that of Patel *et al.* (2015).

Correlation co-efficient was used to find out the relationship between selected characteristics of the tomato growers and their adoption level of recommended technology of tomato crop. The findings are presented in Table 2.

It is apparent from the Table 2 that the type of family (0.321**) and land holding of tomato growers (0.221**) had highly significant correction with their level of adoption of recommended technology of tomato crop. However, age (0.308*), economic motivation (0.272*) and knowledge level of tomato growers (0.274*) were found significant with their level of adoption of recommended technology of tomato crop. Incase of farming experience of tomato growers (-0.238*) were found negatively but

significantly associated with their level of adoption of recommended technology of tomato crop.

The variable like education, size of family, social participation, annual income, scientific orientation and risk orientation of tomato growers exerted no relationship with the adoption behaviour of tomato growers.

These findings are in the agreement with the findings of Shitre *et al.* (2015). They concluded that the independent variables like land holding, annual income, irrigation facilities, extension participation, social participation, extension contact, mass media exposure, scientific orientation, risk orientation and knowledge had positive and highly significant correlation with adoption of improved technology of potato. While the variables like education, experience and economic motivation had positive and significant correlation with adoption of improved technology of potato. While the variables like age shows positive and non-significant and size of family shows non- significant correlation with adoption of recommended production technology of potato, Ahmad N. Al-Shadiadeh *et al.* (2012) reveals that among the socio-economic variables considered; family size, farming experience and level of education were the most significant factors that influence farmers' adoption of protected tomato practices in the study area. Tadesse Adgo Mihiretu (2008) reveled that education, land holding and social participation of onion growers had positive significant with adoption of onion recommended practices, while age, family size and farming experience had non-significant relationship with adoption of onion recommended practices. Similar findings were also

reported by Patel *et al.* (2012).

Conclusion:

From above discussion it can be concluded that the variable like age, type of family, land holding, economic motivation and knowledge level had positive correlation with their adoption of recommended technology of tomato, while farming experience was negatively correlated with their adoption of recommended technology of tomato.

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