

RESEARCH ARTICLE :

Socio-economic characteristics and knowledge level of mango growers on plant protection measures in Ratnagiri district of Maharashtra

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SUMMARY : In research study conducted on mango growers in Kokan region of Maharashtra state with the major objectives of measuring the socio-economic characteristics and knowledge level of mango growers on plant protection measures. It was observed that the more than half (52.50 %) of the respondents were in middle age group, having (65.00 %) secondary to higher secondary level of education and medium size of land holding (61.66 %). More than half of the (57.50 %) of the respondents possessed 2 to 10.9 ha. of land under mango cultivation, medium size of family (54.16 %), having low to medium level of income (79.16 %) and medium level of experience in mango cultivation (77.50 %). Nearly three fourth (70.00 %) of the respondents had medium social participation, majority of respondents *i.e.* 71.66 per cent had medium level of mass media exposure, nearly two third (67.50 %) of the respondents had medium level risk orientation, majority of them had (84.16 %) good level of change proneness and majority of respondent had medium level of achievement motivation and economic motivation (64.16 % and 37.50 %), respectively. The majority of mango growers (65.83 %) had 'medium' level of knowledge about plant protective measures indicating need for training in this aspect of cultivation.

KEY WORDS :

Mango growers, Plant protection measures, Knowledge level

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BACKGROUND AND OBJECTIVES

Mango (*Mangifera indica* L.) is the national fruit of India having a great cultural, socio-economic and religious significance since ancient time. Owing to its origin in Indo-Burma (Myanmar), possessing the delicious fruit quality with richness in vitamins and minerals, accessibility to common man, liking by the masses and coverage of large area under cultivation ranging from the near coastal

areas to the Himalayan foot hills, mango has been assigned the status of the "king of the fruits". In the year 2010, the largest share of land devoted to mango cultivation was in India *i.e.*, about 46.75 per cent, of mango producing countries of the world (*i.e.*, 4946.36 thousand ha). The total production of mango in the world in the year 2010 was 37124.74 thousand tons with 40.48 per cent of Indian shares (Yadav and Pandey, 2016). In Maharashtra area under

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mango has increased continuously and in the same period the production has also increased. Mango is nutritionally superior and capable of producing higher yield and good return. It is considered as the most potential fruit crop based on export volume and value. Maharashtra has an established export market and poses bright opportunities for export in the international market whether in fresh or processed form. Similarly, mango industry has provided livelihood opportunities to its growers and those involved in its marketing channel. Over half of the world mango is produced by India, while its export share in the world market is meager only 5.3 per cent. Hence, there is a good opportunity for the mango growers and those who are involved in marketing and processing business. In view of these facts, it was highly considered necessary to carry out the study with the following specific objectives: to study the personal, socio- economic and psychological characteristics of mango growers and adoption of plant protection measures followed by mango growers.

RESOURCES AND METHODS

The investigation was undertaken in three tahsils namely, Ratnagiri, Sangmeshwar, Rajapur of Ratnagiri district on the basis of maximum area under mango cultivation. From these three tahsils, twelve villages were selected purposively on the basis of more number of mango growers in the village. From each village, 10 mango growers were selected. Thus, the sample size of the investigation was one hundred and twenty. The farmers doing mango cultivation since last five years were selected randomly. Expost facto research design was used for the study and multistage random sampling technique was used for the selection of districts, Talukas and villages. An interview schedule was prepared containing information regarding different variables. The data were collected by personal interview. The data so collected were coded, classified, tabulated and analysed in order to make the findings meaningful. The findings of the study and conclusions are summarized as below.

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation has been discussed below:

Age:

The data presented in Table 1 indicate that 52.50

per cent of the respondents were in the middle age group, while 25.00 per cent were in the young age group. The remaining 22.50 per cent of the respondents were from the old age group. This finding is in conformity with the observation of Chothani (1999).

Education :

The data in Table 1 depicts that a maximum number (48.34 %) of the respondents had completed 'secondary' education followed by 'Higher secondary' education 16.66 per cent, 'primary' education (13.33 %) and 11.67 per cent respondents had pre-primary education. While an equal number of respondents had completed graduation and post-graduation 5.00 per cent.

This shows that all the respondents were sufficiently educated and most of them were educated upto secondary level. This, in turn, might have influenced their attitude. The results of the present study are similar to Thorat (2003) and dissimilar to Godse (2010).

Land holding :

As shown in Table 1, 61.66 per cent of the mango growers had a medium size of land holding. Remaining 30.00 per cent and 8.33 had small and big size of land holding, respectively. The finding of Chothani (1999) is in conformity with the present finding.

Area under mango cultivation :

The data pertaining to the area under mango cultivation are given in Table 1, which revealed that more than half of the respondents (57.00 %) possessed 2 to 10.9 ha of land under mango cultivation, whereas 27.00 per cent had land upto 1.9 ha, while only 15.00 per cent of mango growers were fall in the category of above 11 ha, respectively.

It could be said that the average area under mango cultivation was quite satisfactory. Owing to typical geographical situation of Konkan region, where average size of land holding was medium, the mango growers in present study have put a substantial area under mango, which could be considered as commercially viable proposition. The findings are in conformity with findings of Khanolkar (2004).

Experience in mango cultivation :

It is observed from Table 1 that majority (77.50 %) of the respondents had 'medium' experience in mango

cultivation, while remaining 15.00 per cent of the respondents had 'high' and 7.50 per cent of respondent had 'low' experience in mango cultivation. The average experience of respondents was 17 years.

Hence, it can be stated that majority of the respondents had fairly satisfactory experience in mango cultivation. This experience might have helped them to have favourable attitude and skill about plant protection practices. The present findings are in close conformity with the findings of Thorat (2003) and Kadam (2006).

Socio-economic, psychological and extension communication variables:

Family size :

As shown in Table 2, 18.33 per cent of the respondents had small size of family, while 27.58 per cent of respondents were in the category of large size of family. Similar results were reported by Jadav (2005).

Annual income :

The data from Table 2 revealed that maximum number (43.33 %) of the respondents had 'low' annual income, while 35.83 per cent respondents had 'medium' annual income and 20.84 per cent respondents had 'high' annual income. The average annual income of the respondents was Rs. 415791/-.

Lack of skill labours, low to medium adoption of

plant protection measures leads to take low production of mango. This might be the reason for low income. This finding is similar to Thorat (2003) and dissimilar to Godse (2010) and Pawar (2011).

Social participation :

The data presented in Table 2 revealed that nearly three fourth (70.00 %) of the respondents had medium social participation followed by low (12.50 %) and high (17.50 %) social participation. The similar findings were observed by Chothani (1999) and Jadav (2005).

Employment generation :

The data presented in Table 2 revealed that majority of mango growers (65.83 %) had medium employment generation, whereas 23.33 per cent of respondents had high employment generation and only 10.83 per cent of the respondents had low employment generation.

Mass media exposure :

From perusal of the data presented in Table 2, it is clear that 71.66 per cent of the mango growers had medium level of mass media exposure, whereas 15.33 per cent and 12.50 per cent of them had high and low level of mass media exposure. It can be concluded that majority (87.00 %) of the respondents had medium to high level of mass media exposure. This finding is in

Table 1 : Personal variables of mango growers				(n=120)	
Sr. No.	Characteristics	Category	Frequency	Per cent	
1.	Age	Young (Upto 35 years)	30	25.00	
		Middle (36 to 50 years)	63	52.50	
		Old (Above 50 years)	27	22.50	
2.	Education	Pre-primary (Upto 4)	14	11.67	
		Primary (5 to 7)	16	13.33	
		Secondary (8 to 10)	58	48.34	
		Higher secondary (11 to 12)	20	16.66	
		Graduation (13 to 16)	06	05.00	
		Post graduate (17 and above)	06	05.00	
3.	Land holding	Small (1 to 2 ha)	36	30.00	
		Medium (2 to 10 ha)	74	61.66	
		Big (above 10 ha)	10	8.33	
4.	Area under mango cultivation (ha)	Low (Upto 1.9)	33	27.50	
		Medium (2.00 to 10.9)	69	57.50	
		High (11 and above)	18	15.00	
5.	Experience in mango cultivation (Years)	Low (Upto 9)	09	07.50	
		Medium (10 to 23)	93	77.50	
		High (24 and above)	18	15.00	

concurrence with the results of Jadav (2005).

Risk orientation :

It is evident from Table 2 that majority (67.50 %) of the respondents had 'medium' risk orientation, while 18.33 per cent of them had 'low' risk orientation and 14.17 per cent of the respondents had 'high' risk orientation. The average risk orientation score of respondents was 13.27.

Thus, the risk orientation ability of the respondents was satisfactory. The size of mango orchard coupled with satisfactory educational level, might have favourably changed the attitude of mango growers towards new ideas, which involve somewhat risk. The findings are

similar to Godse (2010) and dissimilar to Kumar *et al.* (2003).

Change proneness :

The data regarding change proneness Table 2 showed that majority (84.16 %) of the mango growers were in the 'good' category, while 15.84 per cent of the respondents were in 'fair' category. The average score of change proneness was 7.8. This indicates that the mango growers had favourable attitude towards use of pesticides, instead of depending on traditional practices. The findings of present study are supported by the studies of Yadav (2004).

Sr. No.	Characteristics	Category	Frequency	Per cent
1.	Family size	Small family (Upto 5 members)	22	18.33
		Medium family (6 to 9 members)	65	54.17
		Large family (10 and above members)	33	27.5
2.	Annual income	Low (Upto 1,99,274/-)	52	43.33
		Medium (1,99,275 to 6,32,308/-)	43	35.83
		High (6,32,309 and above/-)	25	20.84
3.	Social participation	Low (member in one organization)	15	12.5
		Medium (member in more than one organization)	84	70.00
		High (members with office bearer)	21	17.5
4.	Employment generation	Low (below 100 man days)	13	10.83
		Medium (101 – 150 man days)	79	65.83
		High (above 150 man days)	28	23.33
5.	Mass media expoture	Low (Upto 9.06)	15	12.50
		Medium (9.07 – 12.78)	86	71.66
		High (above 12.78)	19	15.33.
6.	Risk orientation	Low (Upto 11)	22	18.33
		Medium (12 to 14)	81	67.50
		High (15 and above)	17	14.17
7.	Change proneness	Fair (below average)	19	15.84
		Good (above average)	101	84.16
8.	Achievement motivation	Low (<2.86)	23	19.17
		Medium (2.86 to 4.03)	77	64.16
		High (>4.03)	20	16.67
		Mean = 3.44 SD* = 1.37		
9.	Economic motivation	Low (<15.86)	36	30.00
		Medium (15.86 to 20.12)	45	37.50
		High (>20.12)	39	32.50
		Mean = 17.90 SD* = 5.23		
10.	Knowledge level	Low (Upto 14)	15	12.50
		Medium (15 to 18)	79	65.83
		High (19 and above)	26	21.67
		Average:16.44 (Score)		

SD=Standard deviation

Achievement motivation :

Majority of respondents (64.16%) belonged to medium level of achievement motivation followed by low (19.17%) and high (16.67%) level of achievement motivation (Table 2). Not confident of higher returns and lack of confidence to practice improved management practices might be reasons for the results.

Economic motivation :

The distribution of sample farmers on economic motivation (Table 2) highlight that around one-third respondents were noticed in medium (37.50%), high (32.50%) and low (30.00%) economic motivation categories. The inclination of the respondents to take up average level practices with the available resources might have favoured the situation. The similar results were reported by Nagesh (2006) on pomegranate growers and Atul (2008) on grape growers.

It is observed from Table 2 that maximum (65.83 %) of the respondents had 'medium' level of knowledge, while 21.67 per cent and 12.50 per cent of the respondents, had 'high' and 'low' level of knowledge, respectively. The average knowledge level score of respondent was 16.44. Thus, majority of the mango growers had 'medium' level of knowledge. Since, knowledge is a prerequisite for adoption, efforts ought to be made to impart detail knowledge about pests and diseases and its control measures to the mango growers. The findings are in agreement with the study of Godse (2010).

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