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Manoj Kumar
Department of Agricultural
Extension and Communication
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

RN Yadav
Department of Agricultural
Extension and Communication
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

DK Singh
Department of Agricultural
Extension and Communication
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

Dan Singh
Department of Agricultural
Extension and Communication
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

Yogesh Prasad
Department of Horticulture
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

Manoj Kumar
Department of Extension
Education N.D.U.A.T.
Kumaranj Faizabad U.P.
224229, India

Correspondence
Manoj Kumar
Department of Agricultural
Extension and Communication
S.V.P.U. & T. Modipuram
Meerut U.P. 250110, India

Socio-economic profile of mango orchardists in Western Uttar Pradesh

Manoj Kumar, RN Yadav, DK Singh, Dan Singh, Yogesh Prasad and Manoj Kumar

Abstract

This study was an attempt to study the socio economic profile mango orchardist Western Uttar Pradesh. It is clearly indicated that the maximum respondents were educational status up to high school level. The above scenario clearly indicates that the maximum respondents were belonged to other backward class and minimum respondents were belong to schedule caste/schedule tribe showed that the most of the respondents 78.12 per cent were having lived under the joint family system revealed that out of the total sample size, 70.63 per cent respondents were having belonging to the medium family size showed from the that most of the total sample size respondents were having more than one hectare of cultivable land size. Out of the total sample size, 66.87 per cent respondents were belonged to large orchardists.

Keywords: Socio Economic, orchardists

Introduction

Mango is the choicest fruit of India "pride of the garden" which may be consumed in all stages of growth. Mango is recognized as one of the choicest and well accepted fruit all over the world due to its taste, flavour, attractive colour, nutritive and aesthetic value. It plays an important role in balancing the diet of human being by providing about 64-66 calories per 100 g of ripe fruit. It is an excellent source of vital protective nutrients like vitamins such as vitamin A (4800 I.U.), and C. Mango fruit contains 73.0-86.7 per cent moisture, 11.6-24.3 per cent carbohydrate, 0.3-1.0 per cent protein, 0.1-0.8 per cent fat, 0.3-0.7 per cent mineral per 100 gram pulp. Seed kernels contain 9.5 per cent protein, 8-12 per cent fat, 79.2 per cent starch, 2 per cent mineral matter and 2 per cent fibers (Dock Worth, 1979 and Amin and Hanif, 2002). Raw fruits are also used for preparation of chutney, amchur, pickle and juice. The ripe fruits are also utilized for preparing several products as RTS (ready to serve), nectar, squash, panna syrup, mango leather, mango powder, toffee, jam, jelly, etc. Mango seed consists of a tenacious coat enclosing the kernel. The seed content of different varieties of mangoes ranges from 9% to 23% of the fruit weight (Palaniswamy *et al.*, 1974) and the kernel content of the seed ranges from 45.7% to 72.8% (Hemavathy *et al.*, 1988). Maisuthisakul and Gordon, (2009) indicated that mango seed kernel has potent antioxidant activity with relatively high phenolic contents. Mango seed kernel contains stigmaterol and tocopherols. The antioxidant effect of the mango seed kernel is due to high content of polyphenols, sesquiterpenoids and tocopherols. It is also rich in phytosterols and microelements like selenium, copper and zinc (Schiber *et al.*, 2003 & Nunez-Selles, 2005). The wood is used as timber, and dried twigs are used for religious purposes. Mango kernel also contains about 8-10% good quality fat, which can be used for saponification. Its starch is used in confectionery industry. Mango also has medicinal uses.

Mango is well adapted to tropical and sub-tropical climates. It thrives well in almost all the regions of the country but cannot be grown commercially in areas above 600 meter above sea level, but may be grown in valley areas of the temperate region. It cannot withstand severe frost, especially when the tree is young, high temperature itself is not so injurious to mango, but in combination with low humidity and high winds, it affects the tree adversely. Mango varieties usually thrive well in places with rainfall in the range of 75-375 cm/annum and dry season. The distribution of rainfall is more important than its amount. Dry weather before blossoming is conducive to profuse flowering. Rain during flowering is detrimental to the crop as it interferes with pollination. However, rain during fruit development is good but heavy rain cause damage to ripening fruits. Strong winds and cyclones during fruiting season may play havoc as they cause excessive fruit drop resulting poor yield.

Material Method

This study was an attempt to study the socio economic mango orchardist along with the extent

of knowledge & adoption of improved mango cultivation practices among of orchardists of Western Uttar Pradesh. The variable and procedures were described accurately and completely So that the study could be replicated by the researchers and extension workers. The variables selected for describing respondents age, education, caste, occupation, Type of family, size of family, type of house, land holding size, material possession, social participation, communication behavior, economic motivation. Annual income reasons and constrains faced in the adoption of the new package of practices, knowledge level of the orchardists and extent of adoption of improved mango cultivation practices.

This indicates selection of zone. The State of Uttar Pradesh is broadly divided into three zones i.e. Western, Central and Eastern zone. Thus the western zone occupying the highest fruits growing tracks among three zones. The present study was conducted in Western zone of Uttar Pradesh. This zone was selected on the basis of maximum area and production under mango cultivation. Easy convenience availability for investigator with regard to Bulandshahr and Saharanpur districts has come under the SVPUA&T Meerut jurisdiction area. The mango orchardists of this area had cultivated mango in large scale and send to nearest of Delhi NCR for sale. Another cause for its selection is the close familiarity language of investigator with respect to the area, peoples, officials, who involved in the mango cultivation directly or indirectly.

These districts considered to the most geographically and climatically suitable for mango production and their marketing for higher return. This study was conducted in Bulandshahr and Saharanpur districts of Western Uttar Pradesh, because in these districts vicinity of metropolitan markets could supply fresh mango fruits, and included all ready mango production Zone of Uttar Pradesh. As the good transportation facility is pre-requisite for better transportation and marketing. As the investigation is easy from Sardar Vallabhbhai Patel University of Agriculture and Technology Meerut, keeping the convenience for the study in mind, the above districts were purposively selected for this study.

Result and discussion

Table 1: Distribution of respondents according to their age

S. No.	Particulars	Frequency	Percentage
a.	Young age (15-30 years)	20	12.50
b.	Lower Middle age (30-45years)	62	38.75
c.	Upper Middle age (45-60 years)	70	43.75
d.	Old age (60 & above)	08	05.00
	Total	160	100.00

The data presented in the Table 1 revealed that the most of the respondents were belonging to upper middle age group (45 to 60 years). Out of the total sample size, maximum 43.75 respondents per cent were belonged to upper middle age group, followed by 38.75 per cent respondents were belonged to lower middle age group (31 to 45 years). However, 12.50 per cent respondents were related to young age group category (15 to 30 years) and remaining 05.00 per cent respondents were belonged to old age group (above 60 years). The above results clearly indicated that the mostly respondents were belonged to upper middle age group. This showed that the experience of age matters a lot of in establishing the mango cultivation and their management practices. Similar result findings were presented by Kaur (2002), George *et al.* (2012), Mishra *et al.* (2012), Mohapatra

and Sahu (2012), Neethi and Sailaja (2013), Somvanshi *et al.* (2016).

Educational level

Table 2: Distribution of respondents according to their educational status

S. No.	Education	Frequency	Percentage
a.	Illiterate	02	1.25
b.	Primary	21	13.12
c.	Junior high school	32	20.00
d.	High school	76	47.50
e.	Intermediate	19	11.88
f.	Graduation	07	4.38
g.	Post Graduate & above	03	1.78
	Total	160	100.00

The educational status of the study area was not in good. The data showed from the Table 2 the maximum number of the respondents 47.50 per cent were having the educational status up to high school, followed by 20.00 per cent respondents were educational status up to the junior high school. The primary school educational level of respondents were found up to 13.12 per cent, intermediate level of responded were found up to 11.88 per cent, 4.38 per cent respondents were found up to educational status of graduate and only 02.50 per cent respondents were having educational status up to post graduate & above. Along with this 1.25 per cent respondents were having illiterate in the study area. It is clearly indicated that the maximum respondents were educational status up to high school level. Similar findings were also reported by Shakuntala and Chaman (2000), Somvanshi *et al.* (2016).

The number of illiterate persons in the study area were found in very low and their educational status were also observed low. The reason behind such a scenario was reported by the investigator was the mental status of the respondents. Most of the respondents were not able to justify the significance of higher education in mango cultivation. They reported that educational qualification was not important for mango cultivation, but the large experience and hard work in their field was matters a lot of mango cultivation.

It was also observed that those respondents were having higher level of education more than in compare to uneducated, wanted to the job in office and other fields in urban areas. They were reported that because they had not got the job in urban areas, they have engages themselves in mango cultivation and their management practices.

Caste

Table 3: Distribution of respondents according to their caste

S. No.	Particulars	Frequency	Percentage
a.	General Caste	43	26.87
b.	Other Backward Classes	84	52.50
c.	Schedule Caste/ Scheduled Tribe	03	01.88
d.	Minority	30	18.75
	Total	160	100.00

The data related to caste scenario from the Table 3 showed that the area of study most of the respondents were belonging to the Other Backward Class. Out of the total sample size, maximum 52.50 per cent respondents were founded to other backward class. The proportion of general category respondents were belonged to only 26.87 per cent whereas, 18.75 per cent respondents were related to minority and

remaining 01.88 per cent respondents were belonging to schedule caste and schedule tribes category. The above scenario clearly indicates that the maximum respondents were belonged to other backward class and minimum respondents were belong to schedule caste/schedule tribe. Similar result finding was presented by Khare *et al.* (2001).

The descriptive data revealed that the other backward class persons were having dominance in all types of activities in the village because of being more in number and physically fit for hard work to all types of activities. The Schedule caste/Schedule tribe and minority caste category person did not come together on one platform. This was also observed as one of the main reason due to which the rate of participation of any type of developmental activities. It was also observed that caste categories were also an important factor affecting the adoption rate of new and improved techniques of mango cultivation. Other backward class respondents being more in number have a sense of unity and have more farm assets to new and modified resources. The general, minority, schedule caste/ schedule tribe caste respondents were being less in number and they have not equal assets to adoption of new technologies.

Marital status

Table 4: Distribution of respondents according to their marital status

S. No.	Particular	Frequency	Percentage
1.	Married	152	95
2.	Unmarried	08	05
	Total	160	100.00

The data presented in the Table 4 showed that the most of the mango orchardist 95.00 percent were married and remaining 05.00 percent of the mango orchardist were unmarried in the study area. This finding was also support to the study carried by. Farinde *et al.* (2006). The descriptive data regarding marital status revealed that both marital status setup were having their advantages and disadvantages.

Occupation

Table 5: Distribution of respondents according to their occupation

S. No.	Occupation	Frequency	Percentage
a.	Agriculture	124	75.00
b.	Agriculture +Survice	19	11.87
c.	Subsidiary Occupation	17	10.63
	Total	160	100.00

It is clear from the Table- 5. That the 75.00 per cent mango orchardist were having their main occupation of agriculture followed by 19.00 per cent mango orchardist were having agriculture with survice whereas, 17.00 per cent mango orchardist having engaged in Subsidiary Occupation.

It is concluded that the maximum percentage of mango orchardist had involved in agriculture and agriculture was their pre dominant occupation.

Type of Family

Table 6: Distribution of respondents according to their type of family

S. No.	Particulars	Frequency	Percentage
1.	Joint Family	125	78.12
2.	Nuclear Family	35	21.88
	Total	160	100.00

The data presented in the Table 6 showed that the most of the respondents 78.12 per cent were having lived under the joint family system and remaining 21.88 per cent respondents were lived under nuclear family system in the study area. The descriptive data regarding family type setup revealed that both family type set up were having their own advantages and disadvantages. In the joint family setup, respondents were reported that there less more own responsibility. The similar result findings by Mishra *et al.* (2012), Das (2012).

With the help of their age and long experience these families were performing well as compare to nuclear family. The advantage reported of the respondents of joint family was that the younger person's perception and views are generally taken into consideration. Many times it becomes a job of great difficulty to unfreeze the old and traditional ideas and way of mango cultivation management practices so that the new and improved technologies can be adopted by them. In contrast to this in nuclear family, setup the head of the family was more ready to accept the new and improved technologies. These respondents reported their full command over decisions regarding mango cultivation management practices but they took more time to take the decision.

Size of Family

Table 7: Distribution of respondents according to their size family'

S. No.	Family size	Frequency	Percentage
1.	Small (Up to 4 members)	07	04.37
2.	Medium (5-8 members)	113	70.63
3.	Large (More than 8 members)	40	25.00
	Total	160	100.00

The data presented in the Table 7 revealed that out of the total sample size, 70.63 per cent respondents were having belonging to the medium family size in which 5 to 8 members in their family followed by large family size with more than 8 members having in their family were 25.00 per cent respondents. Only 04.37 per cent respondents were having related to small family size up to 4 members in their family system. In the study area, more than 70.63 per cent respondents were the family size of 5-8 members in their family. One of the reason of such scenario was that the presence of one male child was considered as essential in the locals of the study which ultimately gives rise in the family. It was also reported by the respondents that it is the mentality of villagers that more number of person's in the family have, larger the working hands will be available to earn in the family. It was also one of the main reasons of big size of the family. Some of the respondents also reported that the family size depends on the good will of God. They were not aware of proper means and methods to be adopted for family planning. The finding was also support of the present study Mishra *et al.* (2012), Boruah *et al.* (2015), Somvanshi *et al.* (2016).

Organisational membership/Social Participation

Table 8: Distribution of respondents according to their Organisational membership

S.No.	Particular	Frequency	%
a.	No any organisational membership	97	59.38
b.	Formal organisational membership (Punchayat, Co-operative, Political parties)	35	21.87
c.	Informal organisational membership (Religious etc.)	20	18.75
	Total	160	100.00

Organisational membership was taken as a social factor affecting the mango cultivation. It links to an individual to the larger society and exposes one to a variety of ideas. The present study showed from the Table 4.1.8 maximum 59.38 per cent respondents were no any organizational membership in the formal or informal organisational, 21.87 per cent respondents were the member of formal organisational membership like punchayat, co-operative society and political parties. The overall picture showed very poor status of social participation of the respondents in the study area. Among the total sample size only 18.75 per cent respondents were the members of informal organisations like religious organizations.

Housing pattern

Table 9: Distribution of respondents according to their housing pattern

S. No.	Houses	Frequency	Percentage
1.	Mixed (Kachcha + Pucca)	55	34.37
2.	Pucca	105	65.63
	Total	160	100.00

Type of house is one of the indicator of level of living standard of the respondents. It is therefore, had been included as an economic factor of the study. The data presented on the above Table 9 regarding type of houses showed that the most of the respondents 65.63 per cent were possessed pucca houses of concrete and cement. Only 34.37 per cent respondents were possessed mixed (Kachcha + Pucca) housing pattern in the study area. Similar finding was also reported by Khare *et al.* (2001). It was observed that though quantitatively there was no shortage of house but quantitatively the house were not adequately planned as per the house making planning principles. The reason for this was reported by the respondents that their annual income profile did not permit them to plan the whole house construction at one time. When the income comes in the family, the required modification and construction of house steps took place.

The reason for more number of pucca houses, reported by respondent were that the income return in season of harvesting of mango crop is more in big orchard. Along with the most of the respondents were following the intercropping system to maintain higher returned and good standard of living, which was reflected by the type of house they possessed. Maximum respondents were having pucca houses to show a high living standard of them.

Land holding size

Table 10: Distribution of respondents according to their land holding

S. No.	Land holding (in ha)	Frequency	Percentage
1.	Marginal orchardists (Less than 01 ha)	03	1.88
2.	Small orchardists (01- 02 ha)	15	9.37
3.	Medium orchardists (02-04 ha)	35	21.87
4.	Large farmer (above to 04 ha)	107	66.87
	Total	160	100.00

Land holding size is one of the indicators of the economic status of respondents. It is also determinant for taking up new and improved practices in a given situation. It encourages and supports of respondents to adopt new and improved practices of mango cultivation. Land holding of the respondents was

studied as an economic factor affecting to the mango cultivation and management practices. The data showed from the Table 10 that most of the total sample size respondents were having more than one hectare of cultivable land size. Out of the total sample size, 66.87 per cent respondents were belonged to large orchardists (above to 04 hectare) land holding category followed by 21.87 per cent respondents were belonged to medium orchardists (02-04 hectare) category and 09.37 per cent respondents were under small growers (01-02 hectare) category. Only 01.88 percent respondents were under marginal growers (less than 01 hectare) land holding category. The similar result also reported by Shakuntala and Chaman (2000), Khare *et al.* (2001), Ram *et al.* (2010), George *et al.* (2012), Neethi and Sailaja (2013), Boruah *et al.* (2015).

Irrigation facilities

Table 11: Distribution of respondents according to their irrigation facilities

S. No.	Particular	Frequency	Percentage
1.	Government Tube well	20	12.50
2.	Private Tube well electric /Diesel engine	130	81.25
3.	Canal	10	06.25
	Total	160	100.00

Uniform leveling of field and proper drainage are most essential for effective water management in the mango orchardists. The data presented on above the Table 11 that in both districts majority of the mango orchardist i.e. 81.25 per cent were having source of irrigation had private tube well Electric/Diesel engine followed by 12.50 per cent respondents were use Government tube well for irrigation in your mango orchard. Only 06.25 per cent respondents were used canal water for irrigation in your orchards. Investigator had not found drip or sprinkler irrigation on system in any orchardists in the study area. Study area rich in the artificial and natural sources of irrigation facilities.

Live-stock position

Table 12: Distribution of respondents according to their Live-stock position facilities

S. No.	Type	Frequency	Percentage
a.	Nil (Not any milch animals)	04	02.50
b.	Small dairy (1-3 milk animals or 10 Small animals)	07	04.38
c.	Medium dairy (4-6 milk animals or 15 Small animals)	48	30.00
d.	Large dairy (more than 6 milk animals or 20 Small animals)	101	63.12
	Total	160	100.00

Live-stock position was considered to be one of the economic indicator of the study. Most of the respondents possess animal but size of herd is different. It is observed from the above Table 12 that most of the respondents i.e. 63.12 percent were having large dairy (more than 6 milk animals or 20 small animals) size. Among the total sample size, 30.00 percent respondents were having medium dairy (4-6 milk animals or 15 small animals). Only 04.38 percent respondents were having small dairy (1-3 milk animals or 10 small animals). There were 02.50 percent respondents having not (not any

milch animals) live-stock rearing. They were having large land holding size. The respondents who were having agricultural land more than 10 acre having large animal herd size.

Animal herd ownership was observed to have positive association with the adoption of improved technology for dairy and intercropping mango orchard. Due to large herd size, animal rearing were also extra sources of family income. As the financial back ground of these respondents were strong and they were easily ready to take risk for adopting new and improved practices of mango cultivation along with the dairying.

Material possession

Farm Assets/Implements/Machinery

Table 13: Distribution of respondents according to their farm assets⁷

S.No.	Type	Frequency	Percentage
a.	Low (Up to 5)	12	07.50
b.	Medium (6 to11)	144	90.00
c.	High (Above to 12)	04	02.50
	Total	160	100.00

Mean=8.675 S. D. =3.0 Min=5 Max=14

The collected data related to the farm assets was categorized in three categories namely high, medium and low. High category of respondents were having modern and improved farm assets like tractor, thresher, zero tillage, sprayer/duster, seed drill, tube well, tiller, disk plough etc.

The descriptive data related from the Table 13 to ownership of farm assets revealed that more than 90.00 percent of the respondents were having medium level of farm assets followed by low level of farm assets were owned by 07.50 percent respondents whereas only 04.00 percent respondents were having high level of farm assets. Similar result finding by Khare *et al.* (2001).

Home appliances

Table 14: Distribution of respondents according to their home appliances

S. No.	Particulars	Frequency	Percentage
a.	Low (Up to 5)	09	05.63
b.	Medium (6-10)	140	87.50
c.	High (Above 10)	11	06.87
	Total	160	100.00

Mean=9.687 S.D.=1.40 Min=5 mix=12

The collected data related to the home appliances was categorized into three categories namely high, medium and low. High category of respondents were having modern and high living standard like sofa set, toilet, AC, refrigerator, washing machine, geyser, water purifier, chair, table, cooler, fan and induction chulha etc.

The descriptive data related to ownership of household material revealed from the above Table 14 showed that 87.50 percent of the respondents were having medium category of home appliances followed by high category of home appliances were owned by 06.87 percent respondents whereas, only 05.63 percent respondents were having low category of home appliances.

Conclusion

The socio-economic profile of mango orchardist included the personal profile of respondents in terms of their age,

educational status, caste, marital status, occupation, type of family, size of family, land holding size, irrigation facilities, farm assets, type of dairy, home appliances, information source, transportation facility and annual income. The maximum numbers of the respondents were found in the upper middle age group *i.e.* 45-60 years. It is observed that the maximum numbers of the respondents were found to the other backward class. The maximum respondents were educational status up to the high school level. Nuclear families were found more in numbers. It is observed that the respondents were having 5 to 8 members in their families (medium). It is observed that the majority of the respondents were found that they were not participated in any formal or informal organisational membership. It is observed that the maximum numbers of mango orchardists were reported having pucca houses.

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