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Socio-Economic Transformation of Mango Cultivators through Contract Farming in Karnataka

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Abstract

India is bestowed with diversified climate by nature, coupled with tremendous changes in the field of agriculture science have given an ample opportunity to the Indian farmers to cultivate diversified crop. Many revolution and reforms was witnessed by the farmers to overcome the problems of agriculture sector. At the same time the socio economic development among the farmer has given a room for the much needed changes and these has helped the farmers to take their decision in cultivating, marketing and even the decision towards the exports also. It is well understood that Indian agriculture is divided in to various sections like, agriculture commodities, horticulture commodities and allied activities. To study the socio economic status Indian farmers, mango cultivators was taken for the study. For simplicity the paper is dividing into sub-head, Micro and Macro level.

Introduction

Socioeconomic status is one of those terms typically learned in a seventh grade social studies or civics class and then used in college term papers to subtly suggest a

deep understanding of how society works, or perhaps how it should work. While it is understandable that few go beyond a cursory understanding of the construct, among social scientists the term is serious business because it connotes one's position in the social hierarchy, how the hierarchy is structured, and very often one's consequent life chances. In other words, socioeconomic status (here in after SES) indicates one's access to collectively desired resources, be they material goods, money, power, friendship networks, healthcare, leisure time, or educational opportunities. And it is access to such resources that enable individuals and/or groups to prosper in the social world.

Social hierarchy, or stratification, appears to be intuitively recognized by most everyone everywhere (Smith et al. 2011). During social interactions various indicators are typically displayed or revealed in order to convey one's SES to other members of the social group. Common indicators include age, gender, income and so forth.

This paper confines to the profile of sample mango growers (farmers) in the selected six districts of Karnataka. The

analysis is based on certain parameters like age, level of Tumkur, Darward, Chikkaballapur and Bangalore (Rural). education, social status, occupational pattern, size of family In the study area majority of the farmers are having land etc. Attempt has also been made to classify the mango holdings of less than 3 hectares which constitutes about orchards according to size of land holding. This will be 36per cent of the sample. While coming to the discussed by dividing into sub-head, Micro and Macro level.

Micro Level

Age

The study covers six districts which are major mango producing area in Karnataka viz., Kolar, Ramanagar,

demographic characteristics of mango cultivators shows that majority of the farmers in mango producing belt are age group of 36 – 45 years. That shows the cultivators are having enough maturity to take up the decision for different tasks of the family. Below table reveals the age structure of mango cultivator in the study area.

Table 1 Age Wise Distribution of Sample Mango Growers

Age	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
20-25	1	1	00	00	2	2	1.7
26-35	24	7	9	14	42	22	33.7
36-45	27	15	13	18	51	26	42.9
46-55	10	6	2	4	23	14	16.9
55& above	1	3	4	0	6	2	4.6
Total	63	32	28	37	124	66	100.0

Source: Field Data

Table 1 reveals that out of 350 samples which are collected from 6 districts, 42.9 per cent of the samples are recorded between the age group of 36 –45 years which constitutes highest. While 33.7 per cent were in the age group of 26 –35 years. 16.9per cent of the samples are of age group 46-55 years and 1.7 per cent and 4.6per cent were recorded in the age group of 20-25 years and above 55 years respectively. So it is quite evident from the data that majority of the farmers involved in farming were above 26 years of age. The concentration of farmers whose age is below 26 is very few. It is mainly because lack of interest among youngsters towards agriculture activities. Other reason is, many of the youngsters are pursuing their education in urban area. On the other hand due to non-profitability of farming farmers will not encourages their kids to take up the farming activities. Further, the table also reveals that farmers above 55 years age are quite less as these segment are not that much active to take up the farming activities. Hence one can

conclude that the average of mango cultivators in the study area is lie between 36-45 years of age.

Education

A recent survey on government's plan to shift small and marginal farmers away from unprofitable agriculture and engage them in economically viable activities, has found the government initiatives lacking in preparing the farmers undertake the transition (Sanjay Sharma, 2012) The survey has revealed that the dropout rate among the farmers' children is so high that only 0.4 per cent of students reach the post graduation level and only 5 per cent get technical education. But is true that in Karnataka the education is quite impressive and it stood at 75.06per cent and in the study area also it was seen that high literacy rate as it was recorded 73.57, 70.73, 66.75, 66.65, 61.55, and 61.30 in Darward, Bangalore rural, Tumkur, Kolar, Chikkaballapur and Ramanagar district respectively. (Census, 2011)

Table 2 Distribution of Sample Mango Growers by level of Education

Education	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Primary School	5	4	2	10	7	3	8.9
Middle School	4	13	4	8	9	10	13.7
High School	7	13	10	16	30	17	26.6
College dropout	20	1	3	1	36	16	22.0
Graduate	20	1	9	2	42	20	26.9
Total	63	32	28	37	124	66	100.0
	70.73	61.55	73.57	66.75	66.65	61.30	

Source: Field Data

According to Table 2 in the study area, 26.8per cent of mango cultivators are graduates, 26.6 per cent of them are having done their schooling up to high school. While, 22.0per cent of mango cultivator are dropout from the college and 13.7per cent and 8.9per cent were of primary and middle school respectively.

It is obvious that education plays an important role in agriculture activities no doubt the uneducated or illiterates in rural area also have sufficient knowledge of the agriculture activities by their may not in the position to use the latest technology which will enhances the productivity of the crop. On the other hand educated farmers will adopt new farm technology, because they know that new farm technology can increase their farm output and improvement of their socio economic conditions of the cultivators. Therefore, the Graduate people in the study area considered themselves to be knowledgeable than the other categories and have greater capacity to adopt new changes.

Household size

One of the key indicators of socio-economic condition of farmer is household size. It is well known that in rural area it prevail joint family system. Over the period of time this system is slightly diminishing because of the developments that are taking place in the rural arena. Now olden traditional family households are no longer exists, joint families are becoming nucleated family system. In India, the joint family system provides family members with a tight-knit community and an extended support network. Currently, some Indians prefer the sense of the community and organizational structure of the joint family system while others prefer the autonomy of the nuclear family structure. For study convenience family size was categorized in to 4 type viz., up to 3, 4-6 7-9 and 9+. In study area it was found that most of the farming families are nucleated and the size of household are also impressive in nature. In sample area it was observed most of the mango cultivating family has a family size of 4-6 members.

Table 3 Distribution of Sample Mango Growers by household Size

Family size	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Up to 3	12	1	3	1	29	3	14.0
4-6	34	25	16	22	57	39	55.1
7-9	16	6	9	14	37	23	30.0
9+	1	0	0	0	1	1	0.9
Total	63	32	28	37	124	66	100.0

Source: Field Data, 2017-18

Table 3 shows, 55.1 per cent of the sample household is having 4-6 members in the family. Means father, mother

and their children some are having 2 and some are 4, surprisingly all the sample households are nucleated

family. Four categories show in the above table which reveals 14.0 per cent of the cultivators are having small size of household. 30.0 per cent of the cultivators whose family size was 7-9 members and finally 0.9 per cent of the population belongs to the category of above 9 members in a family. As the size of household increases, the adoption of new agricultural technology decreases. According to Waman et al. (1998) "household size significantly influenced the adoption of improved farm technology in Maharashtra, India". This theory is also applicable to the household size of the sample respondents, because increase in their households has direct effect on the adoption of improved agricultural technology.

Occupational patterns

Other key index of micro level demographic characteristic is occupation pattern in the study area. The days that farmers will be engaged in non-farming activities and artisan's activities are reduced to maximum extent. Since mango is a seasonal crop it would be difficult for the mango cultivators to be in the same activities. In the study area most of the mango cultivators apart from cultivation there are also involved in other activities some are business men, Agriculture labourers, traders and to large extent there are exclusive involved in cultivation. By enlarge cultivation itself has recorded 55.4 percent but cultivation includes mango cultivation and other cultivation like cereals in some area, vegetables and small quantity of fruits like Sapota, Guava and others.

Table 4 Distributions of Sample Mango Growers by Occupational Pattern

Occupational Pattern	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	% age
Business men / Commission agent	10	2	5	2	13	8	11.42
Agriculture labour /animal husbandry	13	9	7	6	37	20	26.28
Trader	13	1	4	0	5	1	6.9
Cultivars	27	20	12	29	69	37	55.4
Total	63	32	28	37	124	66	100.0

Source: Field Data

It is clearly shown in the table 4 that most of the mango growers in the study area are depend on the cultivation for their livelihood which constitutes about 55.4 per cent of 350 samples on the other hand, some of the cultivators not only cultivate mangos but also work in the other farms as agricultural labour or some of them are involved in animal husbandry (in some village in Ramangara and Darward districts) which constitute about 26.28 per cent. While some of the mango growers are also running business as the mango cultivation is a seasonal in nature (mostly from Bangalore rural district). There are involved in business like transportation, wholes dealers in rural area and some are commission agents and many of them involved in exports of mango. Such positions of cultivators are accounts to be 11.42 per cent. Out of 350 samples only 6.9 per cent of the cultivators are traders who are involved in trading of fruits and vegetable (seen in Kolar, and chikkaballapur districts)

Annual Income

A great advantage of using income data is our ability to examine the sources of livelihoods, to identify the way in which these sources are related to income in rural area. In India, as in most developing economies, households derive income from a wider range of sources than is typically true in advanced industrial economies. Besides wages and salaries, farms and other businesses are important for more families in Rural India. The typical Indian household earned Rs 22,400 in 2013 (Namrata Singh, 2012); (Household income in rural India grew 11% per annum in 5 years: Report Namrata Singh, TNN | Nov 21, 2012,) half of all households earned less, and half earned more. Some households, however, earned much more. Data that were collected from 6 major mango producing districts of Karnataka is shown in the table 5

Table 5 Distributions of Sample Mango Growers by Annual Income

Income	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Less than 30000	0	0	0	0	1	0	0.29
30000-60000	33	14	11	10	48	34	42.86
60000-120000	16	12	10	19	43	16	33.14
120000-180000	5	5	3	6	14	13	13.14
180000-210000	6	1	4	2	13	1	7.71
210000 & above	3	0	0	0	5	2	2.86
Total	63	32	28	37	124	66	100.00

Source: Field Data

Table 5 shows annual income of the sample mango growers. In the study area most of the cultivators who earn annual income of Rs. 30,000 - 60,000 and it constitutes to 42.86 per cent. Followed by 33.14 per cent of the growers earn Rs. 60,000 - 1, 20,000 annually. 13.14 percent of farmers who's earning is ranging from Rs. 1, 20, 000 – 1, 80, 000. And very few farmers who earn more than Rs. 1, 80,000 and more than Rs. 2, 10,000 which constitutes about 7.71 per cent and 2.86 per cent respectively.

Thus, it is evident that the number of respondents having low annual income is more than those having high annual income.

However, when we see at micro level of income generation of the mango growers are earning their livelihood by performing various activities. But for the study we have taken only annual income generation exclusively from Mango Orchards. It is well known that income generated from mango Orchards is seasonal in a year, only once the farmer can get the earnings.

Below table shows average income generated through various sources

6 Average Income generated through various activities

Average income from various activities	Income in Rs.
Agriculture activity	28110
Horticulture activity	22300
Any other Sources	8031

Source: Field Data

Table 6 reveals that mango cultivator's earnings through other activities, one can see that majority of the income derived from horticulture activities (Mango cultivation) which recorded an average of Rs. 22300 were earn by the mango growers in the study area. While other activities like agriculture activities (cultivation of vegetables particularly in Kolar and Chikkaballapur region) which recorded an average income of Rs. 28,110 were earn by the mango growers in the study area. On the other hand some of the mango cultivator's also earn income from other activities like running travel agency, traders, commission agents and others from these activities there are earning about an average of Rs. 8, 031. Thus, it is clear that mango growers are totally dependent on the mango orchards for their livelihood. Table 6.7 which show the annual income distribution of mango growers from Mango Orchards

Table 7 Distributions of Sample Mango Growers by Annual Income from Mango Orchards

Income	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Less than 20000	17	6	6	5	21	18	20.86
20000-40000	24	13	9	19	46	27	39.43
40000-60000	8	7	6	7	23	7	16.57
60000-80000	5	2	3	1	14	3	8.00
80000-100000	6	3	1	5	13	10	10.86
100000-120000	1	0	3	0	2	1	2.00
120000 & above	2	1	0	0	5	0	2.29
Total	63	32	28	37	124	66	100.00

Source: Field Data

Table 7 shows annual income of the sample mango growers. It shows that 39.43 per cent of the growers earn annual income from mango of Rs 20,000-40,000, while 20.86 per cent of them fall under the category of less than Rs 20,000. About 16.57 per cent of the mango growers earn Rs 40,000-60,000 from mango orchards.

Some of the growers are also earns Rs 60,000-80,000 and it constitute only 8 per cent sample. 10.86 per cent of the growers whose annual incomes ranging from Rs 80,000- 1, 00,000.

Only 2 per cent of the sample growers were their earning is more than Rs. 1, 00,000 annually from mango orchards and 2.29 per cent of the growers earn more than 1, 20,000 annually. Thus, we can conclude that the numbers of mango growers are having low annual income.

Farming experience

Farming is in the DNA of the farmers from years to gather. Farming activities is right from their ancestors. Many times the farmers are good at predicting the climate and forecasting the coming yield. Following table shows the sample of Mango cultivators with their experience in mango cultivation.

An average of farming experience in the study area was 19.8 years. That shows that many of the mango cultivators are having enough experience to deal with the farming activities.

Table 8 Year wise Farming Experience of mango growers

Years	Farming Experience	Percentage
1-10	8	2%
11-20	201	57%
21-30	130	37%
31-40	11	3%
Average of Farming Experience		19.8 years

Table 8 reveals that 57% of the sample mango growers are having experience of 11-20 years in the mango cultivation. While, 37% of them is having 21-30 years of experience and 3 per cent of mango growers is having more than 31 years of experience which constitute to 11 farmers. Only 2 per cent of the mango cultivators who is new to the cultivation as there are having 1-10 years of experience in mango cultivation and it constitute to only 8 farmers.

Macro characteristics

The diverse agro-ecological conditions prevailing in the State facilitates growth of large varieties of horticulture crops covering fruits, vegetables, flowers, spices, plantations, roots and tuberous crops, aromatic crops, medicinal crops, oil palm etc. There has been a significant development in horticulture sector since the last two to three decades. There is a clear shift from Agriculture to horticulture sector which is mainly attributed to the fact that Horticulture crops are perennial in nature and are less labour oriented and highly remunerative. Of the total cultivated area of 108 lakh ha. in Karnataka, horticulture crops are grown in an area of 15.30 lakh ha. with an annual production of 118 lakh tons annually.

Landholding in Study area

Table 9 Distribution of Landholding in study area in numbers of farmers

Farmers Districts	Marginal	Small	Semi-med.	Medium	Large	Total
Bangalore (Rural)	130770	31102	13096	3580	319	178867
Ramanagara	209458	41191	16413	4111	275	271448
Kolar	159140	49321	21712	6162	520	236855
Chikkaballapur	140975	45637	20395	6676	779	214462
Tumkur	197263	113436	71070	29132	3527	414428
Dharwar	36383	49355	35123	19399	2965	143225
Total	873989	330042	177809	69060	8385	1459285
Percentage	60	23	12	5	1	
Average holding size Karnataka	0.48	1.41	2.68	5.69	14.71	1.55

Source: Karnataka Census, 2011

Table 9 reveals the number of farmers based on the landholdings, according to above table 60 per cent of the farmers are belongs to Marginal farmers and in Karnataka average holding size of marginal farmers holds 0.48 hectares. 23 per cent of the farmers in the study area are belongs to small farmers and average holding size of small farmers in Karnataka is 1.41 hectares, 12 per cent

of them are semi-medium farmer and average holding size of 2.68 hectares. On the other hand medium and larger farmers are very less there are about 5 per cent and only 1 percent in the study area. The average land holding in Karnataka is 5.69 hectares in case of medium and 14.71 hectares in case of larger farmers. The data collected for 2011 Karnataka census.

Table 10 Distribution of Landholding in study area in area in hectares

Farmers Districts	Marginal	Small	Semi-med.	Medium	Larger	Total	Percentage
Bangalore (Rural)	50653	42602	34453	19580	4746	152034	8
Ramanagara	77494	56293	42450	22366	3963	202566	11
Kolar	67350	67975	57598	33844	7156	233923	13
Chikkaballapur	60423	62820	53847	37051	12215	226356	12
Tumkur	108983	159940	192433	163534	51499	676389	37
Dharwar	21675	71641	96310	113256	40096	342978	19
Total	386578	461271	477091	389631	119675	1834246	
Percentage	21	25	26	21	6		100

Source: Karnataka Census, 2011

Table 10 shows the distribution of landholding in six districts which is having high mango production. The distribution of landholding is divided into five categories viz., Marginal, Small,

Semi Medium, Medium and Larger farmers. Of total 18, 34,246 hectares are under the agricultural activities of which 26 per cent are semi-medium farms, in Tumkur and Darward area

which is dominated by such semi-medium farms. Followed by 25 per cent are small with 4, 16,271 hectares in the study area once again Tumkur and

Darward dominates the share. 21 per cent each share by marginal and Medium farmers even in this category Tumkur and Darward dominates

Table 11 Land Size Class Wise Distributions of Sample Mango Orchards

Land size	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Below 2.5	4	1	2	1	2	2	3.4
2.5-5.0	16	15	10	8	47	33	36.9
5.01-10	30	8	7	19	36	12	32.0
10.01-25	13	7	7	8	37	18	25.7
25.01-50	0	1	2	1	2	1	2.0
Total	63	32	28	37	124	66	100.0

Source: Field Data (Area in Acre)

As mentioned earlier, mango growers in the study areas were mostly small farmers having maximum 5 Acres of land. Therefore, it can be said that farmers having control over land can have a direct effect on their ability to adopt new agricultural technology. Table 6.10 indicates categorical landholding by farmers in the study area. The data indicates that the sample respondents falling in category 2.5-5.0 Acres were 36.9 per cent. Similarly 32.0 per cent of the sample respondents were falling in category 5.01-10 Acres. 25.7 per cent of the respondent comes under the category of 10.01-25, when it comes to the large landholding 25.01-50 acre are only 2 per cent total respondent were fallen under this category. As the overall size of holding is low, therefore the people are not willing to take any risk to adopt new agricultural technology i.e., to adopt new practices and cropping patterns or experimenting new techniques in their fields. Therefore, it was concluded that small and marginal landholdings were obstacles in the adoption of new farm technology.

Housing pattern of Mango Growers

The housing conditions of the people require urgent attention of the development policy. Only 45 percent of the households live in safe houses. Shelter is a basic requirement of human life. A house not only gives privacy but also provides an identity and social status to the people. Thus, housing patterns in considered as the one of the key indicators of Macro environment characteristic in the study area to assess the

housing pattern houses are classified in to following group

Permanent houses: Houses, the walls and roof of which are made of permanent material.

Semi-permanent houses: Houses in which either the walls or the roof is made of permanent material.

Temporary houses: Houses in which both the walls and roof are made of materials that needs to be replaced frequently.

Serviceable temporary houses: Temporary houses, in which the walls are made of mud, un-burnt bricks or wood.

Non-serviceable temporary houses: Temporary houses in which the walls are made of grass, thatch, bamboo, plastic etc.

Table 11 reveals the housing pattern of the sample mango growers in which 49.43 per cent of the mango cultivators are having permanent house means which is constructed with permanent construction materials. While 25.43 per cent of the sample mango growers in the study area were living semi-permanent houses. Houses in which both the walls and roof are made of materials that needs to be replaced frequently are constitutes to 14.57 per cent in the study area particular this was seen in large number in Kolar region of 124 samples 25 of mango growers live in such settlement.

Table 12 Housing Pattern of Mango Growers in the Study Area

Land size	Bangalore (Rural)	Chikkaballapur	Darward	Tumkur	Kolar	Ramanagar	Percentage
Permanent houses	36	14	18	20	44	41	49.43
Semi-permanent houses	16	9	7	8	32	17	25.43
Temporary houses	9	3	2	6	25	6	14.57
Serviceable temporary houses	2	6	1	3	23	2	10.57
Non-serviceable temporary houses	0	0	0	0	0	0	0.00
Total	63	32	28	37	124	66	100.0

Source: Field Data

Finally, the Temporary houses in which the walls are made of mud, un-burnt bricks or wood are constitute to 10.57 per cent in the study area and it was found in large numbers in Kolar region. Thus, it can be confer that of all major mango producing districts Kolar is consider as economically weak. In the study are there were no mango growers who live in non-serviceable temporary houses.

Other Amenities

President of India Dr. A.P. J. Abdul Kalam, who had a mission to modernize the rural area by providing all facilities that are enjoyed by the urban people under the banner of PURA Providing Urban Amenities in Rural which has really made remarkable changes in the rural areas as it was observed in the study area that 100 per cent of the farmers who possess television not only the television there are also having all necessary house hold items like radio, furniture's, fan, mixer grinder and so forth. On the other hand regarding mobility mango cultivators possess bicycle (100%) motor bikes (100%) and few cars which constitutes to only 10% of the farmers.

If we consider the mango cultivators in the study area and their farm power which means the use of machineries most of the farmers are not having high technological equipments and even there are using bullock carts for transportation in some places majority of the mango growers are using tractors or truck to transport their produce. According to sample that were

collected from six districts almost all cultivator owns bullock cart that constitutes to 88.57 per cent. And only 13.71 per cent of them own tractors. Regarding agriculture equipment in the mango cultivation much of the equipment are not in use, some of the equipment that are required like power tillers usually used in few occasion in the study area only 3.14 per cent has power tillers and to maximum extent there are using sprayers and dusters. But in the sample no farmers had dusters instead only 44.29 per cent of them had sprayers which often used to spray pesticides and insecticides.

Profile of Mango Contractors

As contract farming is different from the normal farming, an effort was made to know the education and age profile of contracted farmers. This was done to find out whether age or education of farmers plays any role in opting for contract farming or not. Education and age profile of the contract farmers is presented in following Tables. It is clear from the table that the farmers who opted for contract farming were matriculate or possessing higher educational level. Highest education level was found out to be masters.. Thus study found out that adoption of contract farming and education level has very high and positive correlation. Similarly, income level of the contractors and religion also plays role in the socio-economic of contractors.

Thus, it is important to know the profile of mango contractors, as these people who will be taking the

maximum profit and at the same time there will be taking huge risk on behalf the farmers. The distribution of contract farmers (Head of the Household) in the study area is given below. Of the total 50 Contract farmers selected, small farmers constitute 8 per cent, marginal farmers 18 per cent, medium farmers 28 per cent and large farmers 46 per cent were selected and interviewed for the study area.

Age distribution of sample mango contractors.

Analysis shows that most of the farmers who opted for contract farming is relatively young and of middle age. The average age of these farmers work out to be forty-six years. Oldest among them 64 years old and youngest one is 23 years old. Further, study revealed that most of the farmers, who were above 55 years of age, took to contract farming on the insistence or advice of young members of the family or by following the young farmers of the neighborhood. Furthermore, it was found that decision of the family to opt for contract farming was also influenced by prospects of better returns. Government advertisement on television / radio / newspapers highlighting contract farming as a way-out from the present agrarian crisis also played a role while making this choice.

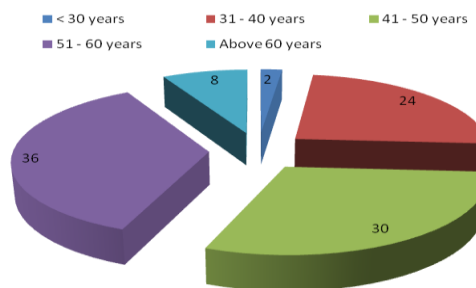


Table 13 Age Wise Distribution of Sample Mango Contractors

Age	Bangalore (Rural)	% age
< 30 years	1	2
31 - 40 years	12	24
41 - 50 years	15	30
51 - 60 years	18	36
Above 60 years	4	8
Average age (years)	46	
Total	50	100

Source: Field Data

According to below pie chart it is clearly represents that major position that was recorded in the age of group of 51 –60, while 30 per cent were in the age group of 41 – 50. Than 24 per cent belongs to the age group of 31-40, similarly, 2 per cent and 8per cent were recorded in the age group of above 30 and above 55 years respectively.

Age Wise Distribution of Sample Mango Contractors

Education level of mango contractors

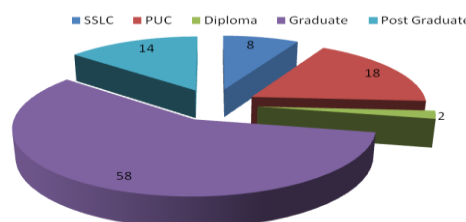
Education of farmers plays any role in opting for contract farming or not. Education profile of the contract farmers is presented in Table 6.13. It is clear from the table that 100 per cent of the farmers who opted for contract farming were matriculate or possessing higher educational level. Further, about 58 per cent of the farmers had education level up to graduation or above. Highest education level was found out to be masters, which constitutes about 14 per cent. On the other hand 18 per cent of the farmers did their pre-university certificate and 8 per cent of them have matriculation. Finally, 2 per cent of the contractors has diploma. Thus, study found out that adoption of contract farming and education level has very high and positive correlation.

Table 14 Distribution of Sample Mango contract Growers by level of Education

Row Labels	Count of Education level	% age
SSLC	4	8
PUC	9	18
Diploma	1	2
Graduate	29	58
Post Graduate	7	14
Total	50	100

Source: Field Data

Distribution of Sample Mango contract Growers by level of Education



It is obvious from the above pie chart, that education plays an important role in the adoption of improved agricultural technology and marketing practices, therefore their categorization into different literacy levels is essential to find out their educational category Most of the contract farmers have completed their graduation i.e., major position of is covered in the pie chart that constitutes to 58 per cent. Followed by 18 per cent are studied up to PUC, 14per cent of the total Sample Mango contract Growers are completed their post-graduation status. Similarly, 8 per cent and 2per cent of the sample

respondents were recorded in the categories of up to SSLC and Diploma level respectively.

Occupational Pattern

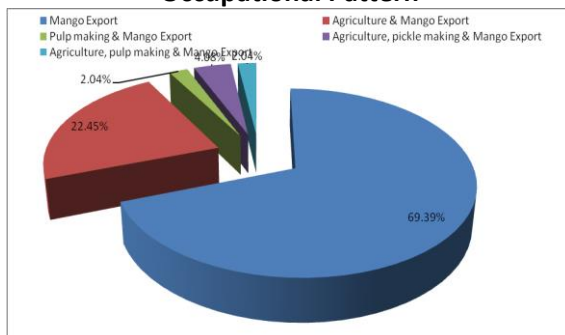
Table 15 Distributions of Sample Mango Contractors by Occupational Pattern

Row Labels	Count of Primary Occupation
Mango Export	69.39%
Agriculture & Mango Export	22.45%
Pulp making & Mango Export	2.04%
Agriculture, pickle making & Mango Export	4.08%
Others like agent, traders Commission agent	2.04%
Grand Total	100.00%

Source: Field Data

It is well known that mango is seasonal crop yearly only once it will be harvested in this context contractors cannot depend on the mango itself instead there are also engaged in other activities. Looking in to pilot survey following activities are performed in the study area like exports, mango processing and other activities like agents, traders, commission agents. Thus, the Distribution of occupational pattern of 50 Sample Mango Contractors observed that exclusive Mango Exports constituted 69.39 per cent of the total sample, followed by Agriculture & Mango Export accounting for 22.45 per cent and pulp making & Mango Export are having 2.04 per cent. Agriculture, pickle making & Mango Export and Agriculture, others 4.08 per cent and 2.04 per cent respectively. State wise the same trend is noticed.

Distributions of Sample Mango Contractors by Occupational Pattern



Annual Income

Income of the contractor as seen in the study area was considerable good their annual income is ranging from 5 to 35 lakhs. As it seen in the study area contractors are not solely depend on the mango there are also involved in other activities as seen in the table no 6.14 annual Income of the contractors. From the analysis it can be

inferred that most of the contractor are earning up to 15 lakhs annually.

Table 16 Distributions of Sample Mango Contractors by Annual Income

Row Labels	Count of Annual Household Income
5-10 lakhs	24.49%
10-15 lakhs	51.03%
15-20 lakhs	10.20%
20-25 lakhs	10.20%
25-30lakhs	2.04%
30-35 lakhs	2.04%
Grand Total	100.00%

Source: Field Data

The above table 15 shows annual income of the sample Mango Contractors. It reflects that 51.03 per cent of the respondents belong to category of Rs 10-15 lakhs and then 24.49 per cent of the respondent belongs to Rs 5-10 lakhs categories. Similarly in Rs 15-20 lakhs and 20-25 lakhs Category 10.20 per cent each, when it comes to Rs 25-30lakhs and above Rs 30-35 lakhs categories fall 2.04 per cent each respectively. Thus, it is evident that the number of contractors is having low annual income is more than those having high annual income.

Number of Years Involving in Farming.

In the study area most of the contractors are having good experiences in the mango business as the analysis reveals that average age was stood at 15.83 years in the mango business. Below table shows the details of the contract farmers and their experience in the mango business.

Table 17 Distributions of Sample Mango Contractors by Experience in Mango Business

Row Labels	Count of Experience in Mango Business	% age
1 – 5 years	14	28
6 – 10 years	6	12
11 – 20 years	21	42
20 years >	9	18
Average age (years)	15.83	
Total	50	

Source: Field Data

Table 17 reveals that most of the contractors are having more than 10 years of experience and it constitute about 42 per cent who is having experience in mango business which ranges from 11-20 years. On the other hand 28 per cent of the contractors are having 1-5 years of experience in mango business. 18 and 12 per cent of the contractors is having more than 2 years and 6-10 years of experience in mango business. Thus, we can say that most of the

contractors are well experience and this will really help to take right decision on the contractual agreement with the mango growers.

Land Holding of Mango Contractors.

In the study area most of the contractors also possess agriculture land of 50 contractors has of which maximum of 50 acre to minimum of 2.5 acre. Following table shows the distribution of sample mango contractors and their land holdings.

Table 18 Land Size Class Wise Distributions of Sample Mango Contractors

Row Labels	Count of Land holding by Mango Contractors	% age
Below 5.0	4	8
5.01-10	9	18
10.01-25	14	28
25.01-50	23	46
Total	50	100

Source: Field Data (Area in Acre)

Table 18 indicates categorical landholding by farmers in the selected area. The data indicates that the sample mango contractors falling in category below 5.0 Acres were only 8per cent. Than 18 per cent of the sample respondents were falling in category 5.01-10 Acres. Similarly 28 per cent of the respondent comes under the category of 10.01-25, when it comes to the large landholding 25.01-50 acre are 46 per cent total respondent were fallen under this category. When it comes to the average landholding s of Sample Mango Contractors are 16.32 acres. As the overall size of holding is high, therefore the Contractors are willing to take some risk to adopt new agricultural technology i.e., to adopt new practices and cropping patterns or experimenting new techniques in contracted fields they need at least 3-5 years duration, so the contracted years also play on important role when it comes to the new and modern technology adaptation in the mango cultivation. Therefore, it was concluded that small and marginal landholdings, time limitation (contract time) were obstacles in the adoption of new farm technology.

Social category

From the data on contractors, we can say that Muslim community has dominated mango business. Even we can see that because of that only in the most of the Indian mango is exported to Middle East countries particularly Arabian countries. Below table shows the social categories of contractors in the study area.

Table 19 Social Category Wise Distribution of Sample Mango Contractors

Row Labels	Count of Social Category	% age
Muslim	17	34
Vokkaliga	14	28
Lingayath	5	10
SC /ST	6	12
Brahmin	3	6
Christian	2	4
Reddy	2	4
Shetty	1	2
Rajasthani	1	2
Grand Total	50	

Source: Field Data

Mango marketing is like a family business for few Muslim community people in the state that to in Ramanagar district and Srinivasapura district, Majority of the mango growers (34per cent) belonged to Muslim religion. About 14persons of the total samples i.e 28per cent were in the category of Vokkaliga. 12per cent of the Samples growers belonging to SC /ST and minority category, when it comes to Lingayath and Brahmin community constituted 10per cent and 6per cent respectively. Reddy and Christian consisted 4per cent each, finally Shetty and Rajasthani were having 2 per cent each respectively.

Year of Contracting

One of the important economic conditions of contractors is the type of the contracting by the contractors in the study area. Many of the sample contractors prefer to short term as there are not interested to take up risk. In the study area for last two year the yield of mango was very low due to lack of rainfall. This made the contractors to go for short term contracts. Below table shows the type of contracting by sample mango contractors.

Table 20 Type of contracting by sample mango Contractors

Type of Contracting	Count	Percentage
0.5 years	26	52%
1 year	16	32%
5 years	8	16%

Source: Field Data

Table 20 reveals in the study area most of the contractors will go for short term contracts as short term contracting is not having risk, this constitute to 52 per cent in the study area. While, 32 per cent of the

contractors are having one year contract with the mango growers and only 16 per cent of the sample mango contractors has 5 years contract with the mango growers.

Mango variety and contracting

In the study area, 25 varieties of mango are cultivated. A few varieties will go for the contracting; only exportable varieties will go for contracting. Sometimes contractors will go for single variety sometimes 2 to more than 3 varieties below table shows that distribution of contractor based on mango varieties.

Table 21 Distribution of contractors based on Mango Varieties

	Count of stage of contracting	Percentage
One variety	3	6
2 varieties	24	48
3 varieties	20	40
Above 3 varieties	3	6

Source: Field Data

Table 21 reveals that 48 per cent of contractors are going with 2 varieties of mangos for contractor agreement that is 24 of 50 contractors are in such agreement. Further, 40 per cent of the contractors are going with 3 varieties of mangos that mean 20 of 50 contractors are in such agreement. On the other hand very few contractors are going with above 3 varieties and one variety and it constitute to be 6 per cent in the study area.

Nature of Contract

The nature of contract will be depend on the trust and belief among the grower and the contractors as it was seen that there is a very good bond among between the contractors and grower. Below table shows the nature of contract that is prevailed in the study area. Most of the farmer and the contractors is having verbal informal contract agreement.

Table 22 Nature of contract

Categories	Count of stage of contracting	%age
Informal - Verbal	47	94
Informal - Kutcha/ plain paper	1	2
Formal - Legal document	2	4

Source: Field Data

Table 22 reveals that 94 per cent of contractors are made the agreement verbally and informal means that mean 47 of 50 contractors are in such agreement. Only one contractor in the study area is having contractual

agreement in plain paper or kutcha informal agreement. And 2 contractors made their agreement with the mango grower in a formal way by using legal document in the study area.

Summery

The socio-economic status of the mango growers as well as mango contractors were facing similar problems of the small farmers regarding the adoption of new farm technology, it was concluded that low literacy rate and lower income of the sample respondents was the major hurdle in the adoption of new agricultural technology. Majority of the respondents were small landholders, which was one of the major obstacles towards the adoption of new technology. Majority of the sample respondents were having large families with great expenditure, which negatively affected the adoption of new agricultural technology to increase their farm yield. A small proportion of the sample respondents got information about farming from extension workers, which indicated its ineffective role in the research area. Most of the sample respondents always hired tractor and hence they were using it only for a few farm operations.

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