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SOCIO-ECONOMIC PROFILE OF BANANA GROWING FARM HOUSEHOLDS IN DIFFERENT SIZE GROUPS IN LUCKNOW DISTRICT OF UTTAR PRADESH

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Abstract: India has been predominantly an agriculture-based country and its economy largely depends upon agriculture since time immemorial. Developmental efforts over the last few decades have been doubtlessly strengthened our industrial base. However, agriculture continues to be the mainstay of our economy even today, as it occupies the central place in rural life. The contribution of agriculture towards country's Gross Domestic Product (GDP) was about 14.2 per cent in 2019-20 besides sector providing employment to 58.4 per cent of the work force. Banana plants are the largest plants on earth without a woody stem. Banana is the most delicious fruit used as subsidiary food. It is consumed as table purpose as well as culinary fruit, its leaves are universally used for serving meals in South India and chopped banana stems are used as cattle feed. Some species of banana yield fibre, which is used for making ropes. The tip of inflorescence is cooked as a vegetable in some places. It is used as raw material in industries for preparation of banana powder, chips, juices and beer. The juice of banana stem is used in making paper bond, tissue paper etc. The design of the study is a prerequisite for any scientific investigation, so this chapter seals with the material and methods adopted for conducting the present study. The present research had been taken up in Lucknow district of Uttar Pradesh. The details regarding methodology adopted in selection of location, methods of data collection in the selection of the samples, the nature and source of data, and the various statistical analytical tools and techniques employed in achieving the objectives of the study.

Keywords: Banana growers, Socio economic status, Marketed surplus, Marketing, agricultural activities, constraints.

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Introduction

India is the second largest producer of fruits (75.82 million tonnes) after China (122.184 million tonnes) and ranks first in production of mango (39%), banana (29%), papaya 38%), limes and lemon. India has made a fairly good progress in production of fruits and vegetables with a total production of 213.43 million tonnes in the year 2010-11, against 131.62 million tonnes during 2001-02. Banana is the main fruit in international trade and the most popular one in the world. In terms of volume of export, banana stands first and ranks second after citrus fruit in terms of value. The average productivity of fruits in India has increased from 10.72 million tonnes per hectare during 2001-2002 to 11.87 million tonnes per hectare during 2010-11 **(Anonymous, 2011).**

Banana (*Musa accuminata* L.) belongs to the family Musaceae. It is one of the oldest fruits known to mankind. The bananas were grown in Southern Asia even before the prehistoric periods and the world's largest diversity in banana population is found in this area. Hence, it is generally agreed that all the edible bananas and plantains are indigenous to the warm, moist regions of tropical Asia comprising the regions of India, Burma, Thailand and Indo China. India is the home for bananas and plantain and is being grown even before the Vedic times. All social, religious festivals and functions that are adorned with banana plants are considered auspicious, besides providing beauty to the occasion. It is referred as "Kalpatharu" (Plant of Virtue) due to its multifaceted uses. Banana plants are the largest plants on earth without a woody stem. Banana is the most delicious fruit used as subsidiary food. It is consumed as table purpose as well as culinary fruit, its leaves are universally used for serving meals in South India and chopped banana stems are used as cattle feed. Some species of banana yield fibre, which is used for making ropes. The tip of inflorescence is cooked as a vegetable in some places.

Methodology

The design of the study is a prerequisite for any scientific investigation, so this chapter seals with the material and methods adopted for conducting the present study. The present research had been taken up in Lucknow district of Uttar Pradesh. The details regarding methodology adopted in selection of location, methods of data collection in the selection of the samples, the nature and source of data, and the various statistical analytical tools and techniques employed in achieving the objectives of the study. Banana cultivation is practiced throughout the district. However, the large scale of cultivation of Banana is concentrated mainly in Bakshi ka talab block extending an area of 408 hectares and farming 24.8 percent of the total area under Banana in the district. Hence, Bakshi ka talab block was purposively selected for the study. The top villages having larger area under Banana cultivation were selected. The information on area under Banana cultivation and number of Banana growers from the each selected village was obtained from the respective village accountants. All together 10 per cent of respondents were selected in all the 3 size groups in

each selected village. Altogether total number of respondents were 120 viz.., 65 small size farms, 29 medium size farms and 26 large size farms respectively.

Findings

Table: Detail description of the area under Banana cultivation in different size of farms group

Number of Respondent 120

S M L = 65+ 29+ 26 =120

(Area in hectares)

SI. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Size of Farms Group (in numbers)	65	29	26	120
2	Size of the land holding (in hectare)	<1	1-2	>2	-
3	Total Average area under Banana cultivation in the study area	0.55	1.54	2.66	1.25
4	Number of Banana Suckers per hectare				
	Plant spacing (ft): 2.5 Row spacing (ft): 9.5	1500	1470	1440	1479.75

Table 4.1 shows that size of the farms group in numbers for Small, Medium, Large size farms were 65, 29, and 26 respondents respectively. Altogether 120 samples were selected for present study. Size of the land holding for small size farms were <1 ha followed by 1-2 ha for medium size farms and >2 ha for large size farms group. Total average area under Banana cultivation in small, medium and large size of farms group were 0.55 ha, 1.54 ha, and 2.66 ha respectively. Among different farms size group total number of suckers per hectare was highest in small size farms (1500 plantings/ ha) as compare to medium size farms (1470 plantings/ ha) and large size farms (1440/ha) respectively. This makes the sample average for total plantings (1479.75/ha) in different farm size groups were respectively.

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NAAS Rating: 3.77

Table: Detail description of sample Size Households/Farm Families in different Size of Farms Group

Number of Respondents = 120
S M L= 65+ 29+ 26 =120

Sl. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Average size of farm families	3.80 (100%)	3.76 (100%)	4.00 (100%)	3.83 (100)
2	Male	1.97 (51.84)	1.83 (48.67)	2.15 (53.75)	1.98 (51.49)
	Female	1.83 (48.15)	1.93 (48.67)	1.85 (46.25)	1.86 (48.51)
3.	Age composition				
	Below 15years	0.71 (18.68)	0.62 (16.49)	0.92 (23)	0.73 (19.06)
	15-50 years	1.40 (36.84)	1.38 (36.70)	1.31 (32.75)	1.38 (36.03)
	50 years and above	1.69 (44.47)	1.76 (46.80)	1.77 (44.25)	1.72 (44.90)

Note: Figures in the parenthesis indicates percentage to the total size of families

The composition of average sized farm families according to sex and age composition is shown in table 4.2. Average size of the farm families in small, medium and large size of farms groups were 3.80, 3.76 and 4.00 respectively. The sample average percentage of Male and Female for different size of farms groups was 51.49 per cent and 48.51 per cent respectively. It could also be seen from the table that age composition of different size of farms group. Highest sample average percentage of different size of farms belongs to the age composition of below 50 years and above (44.90 per cent) followed by between 15-50 years (36.03 per cent) and below 15 years and above (19.06) respectively.

Table: Detail description of Literacy in different Size of Farms Group

Number of Respondents = 120
S M L= 65+29+26=120

Sl. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Average size of farm families	3.80 (100%)	3.76 (100%)	4.00 (100%)	3.83 (100)
2	Educational status				
I	Primary	0.88 (26.31)	0.50 (13.29)	0.50 (12.50)	0.70 (18.28)
Ii	Middle High school	1.00 (26.32)	1.01 (26.86)	0.00 (0)	0.79 (20.63)
Iii	Intermediate	0.76 (20)	0.78 (20.74)	1.10 (27.5)	0.84 (21.93)
Iv	Graduation and Above	1.01 (26.58)	0.80 (21.28)	1.80 (45)	1.13 (29.50)
3	Total literacy	3.65 (96.05)	3.09 (82.18)	3.40 (85)	3.46 (90.35)
4	Total illiteracy	0.15 (3.95)	0.67 (17.82)	0.60 (15.00)	0.37 (9.66)

Note: Figures in the parenthesis indicates percentage to the total size of families

Table 4.3 shows that educational status of different sized farms groups. Literacy percentage was highest in small size farms (96.05 per cent) followed by large size farms (85 per cent) and medium size farms (82.18 per cent) respectively. This makes the sample average for different size of farms group was 90.35 per cent. Among small, medium and large size farms group literates were 29.50 per cent of farms had studied education up to graduation, 21.93 per cent of farms then studied the intermediate followed by 20.63 per cent farms studied up to middle and high school. Only 18.28 per cent of farms had studied up to primary education.

From the table 4.3 it could be seen that illiteracy percentage was highest in medium size farms (17.82 per cent) followed by large size farms (15.00 per cent) and was lowest in small size farms (3.95 per cent) respectively. Sample average was 9.66 per cent for different size of farms groups.

 ISSN: 2348-1358
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Table: Detail description of occupational distribution in different Size of Farms Group

Number of Respondents = 120

S M L= 65+ 29+ 26 =120

SL No	Particulars	Size of Farms Group			Total number €
		Small	Medium	Large	Samples
1	Size of Farms Group (in numbers)	65 (100)	29 (100)	26 (100)	120 (100)
I	One occupation (Primary occupation)	55 (84.62)	20 (68.96)	20 (76.92)	95 (79.17)
Ii	Two occupation (Secondary occupation)	08 (12.31)	07 (24.16)	05 (19.23)	20 (16.67)
Iii	Three occupation (Tertiary occupation)	02 (3.07)	02 (6.89)	01 (3.84)	05 (4.17)

Note: Figures in the parenthesis indicates percentage to the total size of families

Table 4.4 shows that size of the farms group in numbers for small, medium and large size of farms were 65, 29 and 26 respondents respectively. Primary occupation was highest in small size farms (84.62 percent) followed by large size farms (76.92 percent) and lowest in case of medium size farms (68.96 percent) respectively. This makes the sample average for primary occupation was 79.17 per cent for different farms size groups. Secondary occupation for small, medium and large size of farms group was 12.31 per cent, 24.16 per cent and 19.23 per cent respectively and the sample average for secondary occupation was 16.67 per cent among different size of farms group. Tertiary occupation for small, medium and large size of farms group was 3.07 per cent, 6.89 per cent and 3.84 per cent respectively and the sample average for Tertiary occupation was 4.17 per cent among different size of farms group.

 ISSN: 2348-1358
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NAAS Rating: 3.77

Table: Detail description of Asset position of Farms in different Size of Farms Group

Number of Respondents = 120
S M L = 65+ 29+ 26 =120
(Value in Rupees)

SI. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Land	4,01,53.00 (78.29)	6,62,068.00 (81.29)	10,38,269.00 (81.63)	4,06,707.59 (73.36)
2	Farm buildings	30,692.00 (5-99)	40,310.00 (4.95)	68,653.00 (5.39)	41,241.23 (7.44)
3	Farm machinery & equipments	50,500.00 (9.86)	62,000.00 (7.61)	90,000.00 (7.08)	61,837.50 (11 15)
4	Live stock	30,000.00 (5.86)	50,000.00 (6.14)	75,000.00 (5.89)	44,583.33 (8.04)
	Total value	5,12,345.00 (100)	8,14,378.00 (100)	12,71,922.00 (100)	5,54,369.65 (100)
5	Depreciation on farm machinery & equipment	4427.10	4116.50	5200.00	4287.13
6	Current value on farm machinery & equipment	12000.00	25000.00	28000.00	19708.33

Note: Figures in the parenthesis indicates percentage to the total size of families

Table 4.5 shows that farm assets include land, farm buildings, farm machinery and equipments and the livestock. Total value of assets in small, medium and large size of farms group was worked to be Rs.5,12,345.00, Rs. 8,14,378.00 and Rs. 12,71,922.00 respectively. This makes the sample average of all total value of assets was Rs. 5,54,369.65 among different size of farms group. Sample average percentage for land, farm buildings, farm machinery and equipments and the livestock was 73.36 per cent, 7.44 per cent, 11.15 per cent and 8.04 per cent respectively. Depreciation value of farm machinery and equipments in small, medium and large size of farms groups were Rs.4427.10, Rs.4116.50 and Rs.5200.00 respectively. Sample average for current value of farm machinery and equipments was Rs. 19708.33 in different size of farms groups.

 ISSN: 2348-1358
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NAAS Rating: 3.77

Table: Tractor and Machinery utilization of Banana in different Size of Farms Group, per hectare in Hours

Number of Respondent 120
S M L = 65+ 45+ 35 =120

SI. No	Different Farm Operations	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Land Preparation	6 (42.85)	6 (42.85)	6 (42.85)	6 (42.85)
2	Application of Manures and Fertilizers	4 (28.57)	4 (28.57)	4 (28.57)	4 (28.57)
3	Sowing/Transplanting	-	-	-	-
4	Weeding & Intercultural	-	-	-	-
5	Irrigation operation	-	-	-	-
6	Plant protection	-	-	-	-
7	Harvesting				
8	Loading, Unloading, materials and Transportation	4 (28.57)	4 (28.57)	4 (28.57)	4 (28.57)
9	Total	14 (100.00)	14 (100.00)	14 (100.00)	14 (100.00)

Note: Figures in the parenthesis indicating percentage to the total
Per day Hired Labour charges for Tractor and Machinery is Rs= 400 per hour

Table 4.7 shows that different operation wise Tractor and Machinery utilization in Banana cultivation. The table 4.7 shows that sample average per cent per hectare Tractor and Machinery utilization for Land Preparation in different size of farms group was 42.85 per cent followed by application of manures and fertilizers was 28.57 per cent and for Loading, Unloading, materials and transportation was 28.57 per cent respectively.

Table 4.8: Variable inputs used in Banana crop per hectare in different Size of Farms Group

Number of Respondent 120

S M L= 65+ 29+ 26 =120

Sl. No	Variable Inputs Utilization		Size of Farms Group			Sample Average
			Small	Medium	Large	
1	Cost of Banana Suckers					
	i	Home production	-	-	-	-
	ii	Purchased quantity	6750 (19.82)	6300 (19.13)	6000 (19.13)	6478.75 (19.62)
2	Manures and Farm Yard Manure					
	i	Home production	3000 (8.81)	2000 (6.21)		2108.33 (6.38)
	ii	Purchased quantity	5750 (16.88)	6200 (19.25)	7900 (25.19)	6324.58 (19.15)
3	Chemical fertilizer utilization					
	i	Nitrogen Fertilizers	1500 (4.40)	1300 (4.03)	1700 (5.42)	1495 (4.52)
	ii	Phosphorus Fertilizers	6550 (19.23)	6900 (21.42)	6450 (20.57)	6612.91 (20.02)
	iii	Murate of Potash	2500 (7.34)	2300 (7.14)	2600 (8.29)	2473.33 (7.49)
4		Plant Protection	6500 (19.08)	6000 (18.63)	5500 (17.54)	6162.50 (18.66)
5	Irrigation charges					
	i	Own resource	1500 (4.40)	1200 (3.72)	1200 (3.82)	1362.50 (4.12)
	ii	Hired resource	-	-	-	
	Total variable expenses		34050 (100.00)	32200 (100.00)	31350 (100.00)	33017.9 (100.00)

Note: Figure in parenthesis indicate percentage to the total

Table 4.8 shows that variable capital utilization in Banana cultivation among different farms size group. Cost of suckers in purchased quantity was highest in small size farms (Rs. 6750/ha) as $_{cor}$n pared to medium size farms (Rs.6300/ha) and lowest in large size of farms (Rs. 6000/ha). Farm yard manure utilization was the major problem in the study area. The cost of farm yard manure

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in home production and purchased quantity in small, medium and large size of farms group was j^$_s$.8750/ha, Rs. 8200/ha and Rs. 7900/ha respectively. Total cost on complex fertilizers was highest in large size farms (Rs. 10750/ha) followed by small size farms (Rs. 10550/ha) and lowest in medium size of farms (Rs. 10500/ha) respectively. The cost of irrigation charges for owned resources in small, medium and large size of farms groups were Rs. 1500/ha, Rs. 1200/ha and Rs. 1200/ha respectively.

Sample average for cost of chemical fertilizers was highest (50.69 percent) followed by cost of manures and fertilizers (25.53 percent), cost of suckers (19.15 percent), plant protection charges (18.66 percent),and irrigation charges (4.12 percent) respectively. Total sample average for total variable expenses was Rs33017.9 in different size of farms groups.

Conclusions

Human labour, machine labour and fertilizers were the major contributors to the Banana input. This indicates the importance of these inputs in Banana production. Therefore, timely supply of these quality inputs to the respondents may be ensured. Small and medium farms are not having much machine labour so the agricultural engineering department should fabricate different models of power operated machines suitable to different kind of utilities with low cost. Although majority of the respondents were educated in the study area: literacy level ranged from primary to degree indicated that more number of respondents are having primary level education, which is in real sense considered as basic education. It is noted that higher Education level helps to understand the details of any enterprises as well as new technologies; Hence, Govt, may think to link the proportion of subsidies to be extended to the stages of Education of respondents.

References

[1]. **Abel, D. A. (2011)** Farmers "Involvement in Value-Added Produce: The Case of Alabama Growers, School of Marketing, Tourism and Leisure, Edith Cowan University, Joondalup, Australia, and School of Management, University of Western Sydney, Penrith South DC, Australia, British Food Journal, Emerald Group Publishing Limited, Vol. 113 No. 2, pp 187-204.

[2]. **Adugna, G. (2009)** Analysis of Fruit and Vegetable Market Chains in Alamata, Southern Zone of Tigray: The Case of Onion, Tomato and Papaya, An MSc Thesis Presented to the School of Graduate Studies of Alemaya University.

[3]. **Ayelech Tadesse (2011)** Market chain analysis of fruits for Gomma woreda, Jimma zone, Oromia National Regional State, M.Sc thesis presented to School of Graduate Studies, Haramaya University, p110

[4]. **Bairwa, Kailash Chand, Rajesh Sharma and Taresh Kumar (2012)**. Economics of growth and instability: fruit crops of india. Raj. J. Extn. Edu. 20: 128-132,

[5]. **Baloyi, J. (2010)** An Analysis of Constraints Facing Smallholder Farmers in Agribusiness Value Chain: A case Study of Farmers in Limpopo Province. A Master thesis in Agricultural Economics submitted to University of Pretoria. pp 104.

[6]. **Gessesse A. (2009).** Analysis of fruit and vegetable market chains in Alamata, southern zone of Tigray: the case of onion, tomato and papaya. M.Sc. Thesis, Haramaya University, Ethiopia. P 55-59

[7]. **Gogoi, Moromi and Debajit (2013)**. Baseline Data on Area, Production and Productivity of Horticulture Crops in North -East and Himalayan States - A Study in Assam Borah Agro-Economic Research Centre for North-East India Assam Agricultural University. Vol 142:25-27

[8]. **Maske, M. and B.C.Jain (2011).** Constraints in production and marketing of papaya in Raipur District of Chhattisgarh. International Research Journal of Applied and Basic Sciences, Vol 2 (1):17-19

[9]. **Planing commission Govt. of India (2007)**. Report of the Working Group on Horticulture, Plantation Crops and Organic Farming for the XI Five Year Plan (2007-12). pp 6-14

[10]. **Shafi, T., L. Zemedu and E. Geta (2014)**. Market chain analysis of papaya (Carica papaya): The case of Dugda District, Eastern Shewa Zone, Oromia National Regional State of Ethiopia, Journal of Agricultural Economics and Development Vol. 3(8):120-130

[11]. **Sharma, Amod and D.C. Kalita (2008)** Trends of area, production and productivity of major fruit crops in Jammu and Kashmir. Agric. Situ. India. 66(1): 15-17.

[12]. **Swain, Mrutyunjay, Ramesh H. Patel and Manish Kant Ojha(2011).** Impact of National Horticulture Mission Scheme in Rajasthan. Agro-Economic Research Centre Sardar Patel University Vallabh Vidyanagar. Vol 142:45-48

[13]. **Teka,G.A.(2009).** Analysis of fruit and vegetable market chains in Alamata, southern zone of Tigray: the case of onion, tomato and papaya. M.Sc. Thesis, Haramaya University, Ethiopia. P 78-82

