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Production and marketing of banana in Bemetara district of Chhattisgarh: An economic analysis

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Abstract

An attempt has been made in the study to examine the production and marketing aspects of tomato in Bemetara district. The present study was conducted in the Bemetara districts of Chhattisgarh. 28 Banana growing villages and 5 banana grower from each of the selected villages selected randomly from two blocks Saja and Bemetara and categorized them into small, medium and large farmers based on their holding size. Therefore 20 small, 48 medium and 44 large farmers was selected. The results revealed that in Bemetara District the average per ha cost of cultivation of Banana was 230536.44, and average cost of production was Rs. 299.33 and an average the input-output ratio was 1:2.34. The average per ha yield of sample respondents 770.16 qt. and average net returns was Rs. 311093.98. There were three marketing channels for the marketing of Banana, which are: Channel-I: Producer → Consumer, Channel-II: Producer Commission agent → Retailer → Consumer and Producer → whole seller → Retailer → Consumer.

Keywords: cost of cultivation, Cost concepts and marketing pattern

Introduction

Banana is one of the oldest and the world's most important fruit crops cultivated by man from pre-historic times. A reference to the Banana in India frequently occurs in the Vedic literature, where mention is made of its use in religious rituals. It is a very popular fruit due to its low price and high nutritive value with rich source of carbohydrate and vitamins. All the parts of the plant are used hence, Banana is named as plant of virtues (Kalpataru). Modern edible banana varieties have been evolved from the two species *Musa accuminata* and *balbisiana*. Today it becomes leading tropical fruit in the world market with a highly organized and developed industry. The production of fruits in Chhattisgarh, Banana rank first. The total production of Banana fruits in Chhattisgarh is 6.17 lakh metric tones. It is cultivated in almost all the districts in state. The major Banana growing districts are Raipur, Bilaspur, Durg, Mahasamund Bemetara. The study is being conducted with the following specific objectives: To work out the cost and returns of Banana in the study area and find out Marketing patter of Banana in the study area.

Materials and Methods

The present study was conducted in Bemetara district of chhattisgarh two block namely Saja and Bemetara was selected purposely, because both two block covers more than half area of Banana in the district. 28 Banana growing villages from both of two blocks are selected randomly for the study purpose. Multistage sampling design was adopted in selection of respondents, 4 villages from each of selected villages hence 112 Banana grower are selected for the study purpose. Primary data was collected through well prepared schedule design with the help of questionnaire. Collected data were tabulated according to need and purpose of study Simple tabular analysis was made. To workout economics of seed production of soybean, different cost concept such as cost 'A', cost 'B' and cost 'C' were used.

Cost A1 = All actual expenses in cash and kind incurred in production by the producer. The items covered in costs on:

- i) Hired human labour, ii) Hired bullock labour, iii) Owned bullock labour, iv) Home produced/purchased seed, v) Plant protection chemicals, vi) Home produced/purchased manure,
- vii) Fertilizers, viii) Depreciation on farm machinery, equipment and farm building, ix) Irrigation, x) Land revenue, land development tax and other taxes, xi) Interest on working capital, xii) Interest on crop loan and xiii) Miscellaneous expenses.

Cost A2 = Cost A1 + Rent paid for leased-in land

Cost B1 = Cost A1 + Interest on value of owned capital assets (excluding land)

Cost B2 = Cost B1 + Rental value of owned land (net of land revenue) and rent paid for leased-in land

Cost C1 = Cost B1 + Imputed value of family labour
Cost C2 = Cost B2 + Imputed value of family labour
Cost C3 = Cost C2 + 10 per cent Cost C2

The data collected were presented in tabular form to facilitate easy comparisons. This technique of tabular presentation technique was employed for estimating the cost and return structure. The data was summarized with the aid of statistical tools like averages, percentages etc. to obtain meaningful results.

Results and Discussion

The economics of banana crop is presented in table 1. It clearly shows that the average cost of cultivation was 211410.00 on small farmers 222916.21 on medium farmers and 234821.40 in case of large categories of farmers. The higher cost of cultivation on large farmers as compared to small and medium categories of farmers because of large farmers incurred extra charges on fertilizer planting materials plant protection and hired labour. From the table it is clear that under cost of cultivation the maximum cost shared by plant (seedling) which is 55236.25 (23.95 percent) on an average basis which varies from 53149.60 at small farmer to 55524.75 at large farmers

Table 1: Cost of cultivation of Banana (Rs./ha)

S/No.	Particular	Small	Medium	Large	Overall
1.	Family labour	16360.70 (7.73)	15701.56 (7.04)	8876.94 (3.78)	11007.35 (4.77)
2.	Hired labour	17539.20 (8.29)	22019.07 (9.87)	30448.09 (12.96)	27615.59 (11.97)
3.	Machine charges	6410.30 (3.03)	6560.31 (2.94)	6663.22 (2.83)	6623.41 (2.87)
4.	Plant	53149.60 (25.14)	54897.28 (24.62)	55524.75 (23.64)	55236.25(23.95)
5.	Mannure	10592.80 (5.01)	11188.72 (5.01)	12219.23 (5.20)	11870.29 (5.14)
6.	Fertilizer	32953.50 (15.58)	33910.51 (15.21)	36995.19 (15.75)	35996.08 (15.61)
7.	Plant protection and herbicide	23114.20 (10.93)	24237.35 (10.87)	27881.18 (11.87)	26701.37 (11.58)
8.	Irrigation	6294.60 (2.97)	6478.21 (2.90)	6505.78 (2.77)	6487.25 (2.81)
9.	Propping	12617.80 (5.96)	12813.23 (5.74)	13009.90 (5.54)	12938.82 (5.61)
10.	Interest on working capital	4066.80 (1.92)	4302.61 (1.93)	4731.18 (2.01)	4586.72 (1.98)
11.	Land Revenue	12.00 (0.005)	12.00 (0.005)	12.00 (0.005)	12.00 (0.005)
12.	Depreciation	114.50 (0.05)	378.00 (0.17)	416.00 (0.17)	389.87 (0.16)
13.	Rental value of land	25038.40 (11.84)	26994.16 (12.10)	27986.2 (11.91)	27574.41 (11.96)
14.	Interest on fixed capital	3145.60 (1.48)	3423.2 (1.53)	3551.78 (1.51)	3497.03 (1.51)
	Total	211410.00	222916.21	234821.4	230536.44

Different Cost On The Basis of Cost Concept at Sample Farms-

Table 2 shows that Cost A1, which includes all actual expenses, is Rs. 194406.52 at large farms, Rs. 176797.29 at medium farms and Rs. 166865.3 at small farms. Cost A2, which includes cost A1 along with rent paid for leased in land, is same as A1, as there was no rent amount which was paid for leased in land. It is clear from the above figures that

maximum cost amount occurred in cost C3 followed by cost C2, B2, C1, B1, and A1, A2 with amounts of Rs. 253590.08, Rs. 230536.44, Rs. 219529.09, Rs. 202922.03, Rs. 191954.68 and Rs. 188457.65

respectively. The maximum cost occurred in Cost C3 which includes Cost C2 and 10% cost of C2 on account of managerial function performed by farmer.

Table 2: Cost concept of Banana at the sample farm (Rs./ha)

S/No.	Break up cost	Small	Medium	Large	Overall
1	Cost A1	166865.30	176797.29	194406.52	188457.65
2	Cost A2	166865.30	176797.29	194406.52	188457.65
4	Cost B1	170010.90	180220.49	197958.30	191954.68
5	Cost B2	195049.30	207214.65	225944.50	219529.09
6	Cost C1	186371.60	195922.05	206835.24	202922.03
7	Cost C2	211410.00	222916.21	234821.44	230536.44
8	Cost C3	232551.00	245207.83	258303.58	253590.08

Yield, Cost and Return of Banana At The Sampled Farms

The average yield per ha from the sample farms was maximum in large (774 qt) followed by medium (764 qt) and small farms (750 qt). The average price was 710, 700, 700 for small medium and large farmers respectively. cost of production per quintal is concerned, it is minimum in small farms which is Rs.281.88, followed by medium farms Rs. 291.77 and maximum in large farms with Rs. 303.30 per quintal. This resulted because of large farm size could more expend in input applications, and use of outside labours rather

than family labours, which ultimately increased cost of production. Gross return was highest in large farms (Rs. 532500.00), followed by medium and small farms with Rs. 534800.00 and Rs. 541800.00, respectively. The input output ratio is maximum for small farms, 1:2.51, followed by medium farms, 1:2.39 and minimum in large farms with ratio of 1:2.30. Increased return from input in small farms is maximum due to increased productivity aroused due to minimum cost incurred

Table 3: Yield, cost and return of Banana at the sampled farms (Rs./ha)

S/No.	Particular	Small	Medium	Large	Overall
1.	Average Yield(qt.)	750	764	774	770.16
2.	Average price (Rs./qt.)	710	700	700	703.27
3.	Cost of cultivation/ha	211410.00	222916.21	234821.4	230536.44
4.	cost of production/qt	281.88	291.77	303.38	299.33
5.	Gross return	532500.00	534800.00	541800.00	541630.42
6.	Net return	321090.00	311883.79	306978.56	311093.98
7.	Family labour income	337450.70	327585.35	315855.5	322101.33
8.	Farm business income =	365634.70	357802.71	347393.48	353172.77
9.	Farm investment income	349274.00	342301.15	338516.54	342165.42
10	Input output ratio	1:2.51	1:2.39	1:2.30	1:2.34

Marketing patten of banana

There are two marketing channel in which banana grower dispose there produce such as

Channel-I = Producer Consumer

Channel-II = Producer Commission agent Retailer Consumer

Channel-III = Producer Whole seller Retailer Consumer

The total production per farm was maximum in large farms (1243.68), overall being

701.39 qt. Small farms have more home consumption (0.95)

as compared to medium and large farms. Marketable surplus was highest in large farms 1240.18 qt./farm followed by medium 406.45q/farm and lowest in small farms as 208 qt./farm The most used channel of marketing by all three sample farms was channel-III in which produce is sold to the whole seller in field condition. Total quantity sold through channel-I, channel-II and channel-III was 7.14, 208.72 and 482.67 qt. / farm in small, medium and large farms respectively.

Table 4 Disposal pattern of Banana in the study area

Farm Size	Total production	Home consumption	Marketable surplus	Channel I	Channel II	Channel III
Small	210.00 (100)	2.00 (0.95)	208.00 (99.04)	40 (19.23)	58.00 (27.88)	110.00 (52.88)
Medium	409.05 (100)	2.60 (0.63)	406.45 (99.36)	-	131.00 (32.23)	275.45 (67.76)
Large	1243.68 (100)	3.50 (0.28)	1240.18 (99.71)	-	362.03 (29.19)	878.15 (70.80)
Overall	701.39 (100)	2.84 (0.40)	698.54 (99.59)	7.14 (1.02)	208.72 (29.87)	482.67 (69.09)

Conclusion

The results obtained under this research concluded that maximum cost under cultivation of banana occurs for planting material which needed to be reduced. The family labour income needs to be improved as in case of small farmers. cost of cultivation was maximum in large farms, this reveals the need of an efficient management of various inputs and adjust their levels in such a way that cost can be reduced and more yield can be generated, especially in cases of large farmers.

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