

Original Research Article

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Cost, Returns and Profitability of Ber Production in Solapur District of Maharashtra, India

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ABSTRACT

Keywords

Ber, Cost, Gross return, Net profit, B:C ratio and Sampling design

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Investigation was carried out during the year 2017-2018. For present study multistage sampling design was used in selection of district, tehsils, and village and ber growers. On the basis of high area under ber crop Pandharpur and Sangola tehsils were selected. From selected two tehsils 6 villages were selected purposely on the basis of highest area under ber crop. From each village 8 ber growers were selected. In this way 96 ber growers were selected for the present study. The information collected with respect to expenditures and returns were analyzed in tabular form by using cost concept like Cost –A, Cost- B and Cost – C. Data pertain to the year 2017-2018 The result revealed that Cost – A was Rs. 68694.32 in which share of Cost –B was Rs. 138245.96 while that of Cost – C was Rs. 163719.91. Gross return was found to be Rs. 316217.19 and net profit was Rs. 152497.28. The B:C ratio was 1.74.

Introduction

Ber is native of India. It is believed that the Indo-Malaysia region (South and South-east Asia) is the centre of both evolution and distribution of the genus *Ziziphus*. The major production area of ber is in the semiarid and arid parts of the country. It is widely cultivated in Punjab, Haryana, and Maharashtra. Eighteen species are found in the Indian subcontinent from the Himalayas to Capecamorin and from the Western region to the Eastern wet tropics. The increase demand may lead to increase in prices of ber and farmers may be benefited. The need was felt to answer some queries such as cost,

returns and profitability. Keeping in view of the above aspects, the present study was undertaken. The major production area of ber is in the semiarid and arid part of the country.

The total area under ber in India during 2017-2018 reported to be 49 thousand hectares & production is about 530000 million tonnes. (Source: Indiastat.com). In Maharashtra area under ber cultivation is 0.99 thousand hectare with the production of 12.26 thousand metric tonnes in 2017-18. (Source: Indiastat.com) and the Area, Production and Productivity of Ber in Solapur district is 7461 ha, 37,10,000 Qtl, 50 Qtl/hectares respectively. (Source: kvkSolapur.org.)

The main objectives of this study to estimate costs and returns in ber production.

Materials and Methods

Multistage sampling design was adopted for selection of the district, tehsil, village and ber growers. In first stage, Solapur district was purposively selected on the basis of highest area under ber crop. In the second stage, Pandharpur and Sangola tehsils were selected on the basis of highest area under ber crop. In the third stage, 6 villages were selected from each selected tehsils. In the fourth stage, from each of the selected villages, 8 ber growers were randomly selected. In this way 96 ber growers were selected for the present study. Data were collected with the help of presented schedule by personal interview method for the year 2017-2018. Data were converted to per hectare basis in tabular form; statistical tools like arithmetic mean, percentage and ratio were used for accounting the cost and returns in ber production.

The cost concept like Cost –A, Cost –B, and Cost –C were used for cost evaluation and to estimate profitability in ber production. Cost - A include the item namely, hired human labour, bullock labour, machine labour, manure, fertilizer, plant protection, irrigation, land revenue, incidental charges, interest on working capital and depreciation on assets. Cost-B comprises of the cost-A plus Amortized establishment cost, rental value of land and interest on fixed capital. Cost-C includes the cost-B plus family labour cost. The terms and concepts used in present study were as fallows. Interest on working capital included by charging interest at the rate of 13 per cent items of expenditure as hired human labour, bullock labour, machine labour, seed, fertilizers, manures, plant protection, land revenue an incidental charges for crop

duration. Depreciation is the decrease in the value of asset and 10 per cent on the present value at the beginning of the year of farm implements and machinery was taken and only the proportionate charges were taken for the estimate as $1/6^{\text{th}}$ the value of gross produce that is value of main product plus value of by product minus land revenue. Interest on fixed capital by charging interest at the rate of 11 per cent on investment on commonly used assets like wooden implements, iron implements which were distributed on cropped area.

Result and Discussion

Per hectare physical inputs used and output obtained in ber production

From the Table 1, it is revealed that at the overall level, the per hectare use of hired human labour were 40.49 man days. Per hectare use of family human labour were 56.60 man days. It is observed that, utilization of bullock labour per hectare were 2.97 pair days. On the contrary, machine labour was used as 16.42 hours on the ber farm. On an average utilization of manures per hectare was found to be 55.22 quintals. Average use of nitrogen, phosphorus and potash fertilizer was 110.48 kg, 55.48 kg and 110 kg per hectare at overall level, respectively.

Per hectare annual cost of ber cultivation

Per hectare cost of cultivation of ber was studied and depicted in Table 2. The per hectare cost of cultivation was Rs. 154772.67 in which Cost-A consist (38.01 %) and Cost-B (83.54 %) i.e. Rs. 58839.21 and Rs. 129298.72 respectively. Expenditure on rental value of land ranks first Rs.52677.86 i.e. (34.03 %).

Table.1 Per hectare physical inputs in ber production on the sample farm

Sr.No.	Particulars	Unit	Quantity
INPUTS			
1	Hired Labour	Man day	40.49
2	Bullock Labour	Pair day	2.97
3	Machine Labour	Hour	16.42
4	Manure	Qtl	55.22
5	Fertilizers	Kg	
	Nitrogen		110.48
	Phosphorous		55.47
	potassium		110
6	Family Labour	Man day	56.60
7	OUTPUT		
	Main produce	qtl	221.73

Table.2 Per hectare annual cost of ber cultivation

Sr.No	Particular	Quantity	Amount (Rs./ha)	Per cent
1	Hired human labour	40.49	18010.41	11.63
2	Bullock Pair	2.97	2079.00	1.34
3	Machine labour	16.42	6568.00	4.24
4	Manure	55.22	11045.37	7.13
5	Fertilizers			
	Nitrogen	110.48	1436.24	0.92
	Phosphorus	55.47	1385.06	0.89
	Potassium	55.74	1053.93	0.68
6	Irrigation		1500.00	0.96
7	Plant protection charges		2576.38	1.66
8	Incidental Charges		551.59	0.35
9	Repairs		450.00	0.29
10	Interest on working capital @ 13 %		11070.03	7.15
11	Depreciation on capital assets @ 10 %		987.74	0.63
12	Land revenue and other taxes		125.46	0.08
13	Cost -A (Σ item 1 to 12)		58839.21	38.01
14	Amortized establishment cost		12342.68	7.97
15	Rental value of land		52677.86	34.03
16	Interest on fixed capital @ 11 %		5438.97	3.51
17	Cost-B (Σ item 13 to 16)		129298.72	83.54
18	Family labour (man days)	56.60	25473.95	16.45
19	Cost -C (Σ item 17 to 18)		154772.67	100

Table.3 Per hectare costs and returns from ber cultivation (Rs/ha)

Sr.No.	Particular	Ber
1	Gross returns	316217.19
2	Cost-A	58839.21
3	Cost-B	129298.72
4	Cost-C	154772.6
5	Farm business income (Gross return minus cost-A)	257377.98
6	Family labour income (Gross return minus cost-B)	186918.47
7	Net profit (Gross return minus cost-C)	161444.59
8	Output-Input ratio	2.04
9	Per quintal cost of production	698.02

Next item of expenditure is family labour accounted Rs.25473.95 (16.45 %), hired human labour Rs.18010.41 (11.63 %), Amortized establishment cost 11559.77 (7.05 %), interest on working capital Rs.11070.03(7.15 %), Manure 11045.37 (7.13 %), machine labour accounted Rs. 6568.00 (4.24 %), interest on fixed capital Rs.5438.97 (3.51 %), fertilizer i.e. Rs.3875.23 (2.49 %), plant protection accounted Rs.2576.38 (1.66 %), irrigation charges Rs.1500 (0.96 %), bullock labour Rs.2079 (1.34 %), depreciation on farm assets Rs.987.74 (0.63 %), repairs Rs.450.00 (0.29 %), incidental charges Rs.551.59 (0.35 %), and land revenue and other taxes Rs. 125.46 (0.08 %). As the size of holding increases family labour shows decreasing trend.

From table 3, it was observed that the gross return was Rs. 316217.19. It was clear that per hectare farm business income, family labour income and net profit was Rs.257377.98, Rs. 186918.47 and Rs. 161444.59 respectively in ber garden. The Output-Input ratio was higher as 2.04 in ber orchard. Per quintal cost of production was Rs.698.02.

It is concluded that output- input ratio of ber was 1.74 which showed that ber fruit was found to be profitable venture in Solapur district.

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