



Research Paper

Economics of production of paddy in Gondia district of Maharashtra

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ABSTRACT : The present study was conducted in Gondia district of Maharashtra. The objective was to study the cost and return of paddy production and problems faced by farmers in production of paddy. The result pertaining to this aspect were based on the primary data collected through survey method from Gondia district for the year 2010-11. Ninety paddy growers selected were distributed according to size of land holding *i.e.* small, medium and large farmers. The study revealed that, per hectare cost of cultivation at overall basis was Rs. 38214.30. Overall per qt. cost of production of paddy growers was Rs. 1016.96. It was higher in large farmers *i.e.* Rs. 1043.18. The net return obtained on an overall basis was Rs. 5061.47. The highest net return obtained from the large farmers *i.e.* 6505.4 followed by medium farmers *i.e.* Rs. 5363.32 and Rs. 3923.87 in small farmers. The input-output ratio on overall basis was 1:1.15 which was higher in large farmers and low in small farmer. Non-availability of labour at the time of transplanting and high wages of labour were identified to be the major problems, which need the immediate attention of the policy-makers.

KEY WORDS : Paddy, Cost of return, Problems Paddy cultivators

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INTRODUCTION

The world population is increasing at the alarming rate than food production. The big question raised in front of the whole world now is how to meet the demand for food. To meet the needs of the increasing population, the production should increase. It would be an easy task to increase the production very quickly because there is very limited scope for increasing area under food grains.

Paddy is grown in Gondia district on large scale occupying about 70 per cent of the total cropped area. In view of growing demand for domestic consumption and export, various agencies recognized the urgent need for increasing the production in Gondia district. This study would help the farmers for earning money and increasing farm income from the cultivation of paddy crop, which gives continuous higher income by maintaining irrigation facilities and financial facilities. Rice yields have been increasing since the 1960s, but since the 1990s, growth in rice production

has been slower than population growth (Bathla, 2008).

MATERIALS AND METHODS

The present study was conducted in Gondia district. Three tahsil of Gondia district and three villages from each tahsil were selected for the study. Ten farmers from each village were selected. Total ninety farmers were selected from the sample area for the study. The selected farmers were grouped under different categories as small, medium and large farmers.

The primary data were collected from the selected farmers by personal interview method on different cost and return involved in production of paddy in specially designed questionnaire. The data were collected for the year 2010-2011.

The data collected were analyzed and interpreted by simple tabular method mean, average etc. The standard cost concept *i.e.* Cost A, Cost B and Cost C was used to accomplish the objectives.

Input-output ratio :

It is a ratio between the value of gross output and the cost of cultivation at different cost concepts.

Cost of production (per quintal) :

Cost of production per qt. of paddy has been worked out by total cost minus value of by produce dividing by main product in qt.

RESULTS AND DATA ANALYSIS

The findings of the present study as well as relevant discussion have been presented under following heads :

Economics of paddy cultivation :*Per ha input utilization for paddy crop:*

The degree of management of the resources can be judged for the utilization of resources, the choice and the decision-making. Beside this, it also indicates the level of technology adopted by the farmers. The farmers required to spend on various inputs like seed, manure, fertilizer, human labour and bullock labour. Therefore, it is necessary to know the pattern of expenditure on various inputs on per hectare basis.

Per hectare physical inputs in paddy production were estimated and presented in Table 1. It is seen from Table 1 that, on an overall basis per hectare human labour utilization was highest *i.e.* 172.62 human day (Rs.15521.21) followed by machine 6.51hrs. (Rs. 2932.94) and fertilizer 90.86 kg N, 37.81 kg P and 14.85 kg K (Rs.1453.78, Rs. 869.81 and Rs. 460.52, respectively).

Per hectare human labour utilized in small farmers was 170.15 human days (Rs.15290.44) and in medium and large farmers it was 168.11 (Rs.15110.12) and 176.46 (Rs.15867.96) human days. As regards the seed utilized, it was 54.35 kg (Rs.1086.90) in small farmers, 56.11 kg (Rs.1122.21) in medium farmers and 55.64 kg (Rs.1112.86) in large farmers. In study area protective irrigation was given to the crop, in large and medium farmers, Three protective irrigation was given

(Rs.264.30 and Rs.222.32) and in small farmers two protective irrigation was given (Rs.208.94). Adhikari (2011) worked on economics of organic rice production.

Cost of cultivation of paddy :

The share of each item the total cost provides necessary due to economizing costs. The cost was determined based on standard cost concept *i.e.* cost 'A', cost 'B' Cost 'C'. The different cost concepts have different utilities in research. Here, an attempt has been made to estimate the figures of cost of paddy crop in the study area and presented in succeeding tables.

Per hectare cost of production of paddy for over all 90 farmers was worked out and presented in Table 2 and 3. It was found that the total cost 'C' was worked out to be Rs. 38,214.30, out of which Cost 'A' shared for Rs. 25,814.25 (67.55 %) and cost 'B' Rs. 33,782.64 (88.40). Among the different items of cost, human labour (both hired and family) shared 40.62 per cent of the total cost followed by machine labour (7.67 %). Other input such as fertilizer, plant protection, seed and FYM shared 7.29 per cent, 6.46 per cent, 2.91 per cent and 3.51 per cent, respectively. The rental value of land worked out 18.26 per cent and depreciation was 1.79 per cent. The yield obtained was 32.60 quintal of main produce and by produce 46.98 quintal. As a result, the benefit cost ratio was 1:1.15, whereas per quintal cost of production was worked out to Rs. 1016.96.

Problems faced by paddy growers :

The farmers have various problems like low price, heavy commission charges, lack of finance, non-availability of manures, pesticides, water scarcity, lack of storage facilities, high transport cost, lack of regular payment. They were analysed with the help of ranking technique. The overall results are presented in Table 4. Kaur and Sekhon (2006), Redekar (2009), Nirmala and Muthuraman (2009), Deorukhakar *et al.* (2011), Amarchand and Varadharajan (1979) and Stantan and Futrell (1987) have also supplied some information related to

Table 1 : Per hectare input utilization patterns of selected farmers

Particular	Small		Medium		Large		Overall	
	Physical unit	Monitory unit	Physical unit	Monitory unit	Physical unit	Monitory unit	Physical unit	Monitory unit
Seed	54.35	1086.90	56.11	1122.21	55.64	1112.86	55.67	1113.44
Manure	20.57	1234.40	21.29	1277.57	23.60	1416.08	22.37	1342.62
Fertilizer								
N	88.47	1415.46	91.83	1469.20	90.68	1450.43	90.86	1453.78
P	24.73	568.75	31	719.48	45.84	1057.00	37.81	869.81
K	13.00	403.00	14	436.05	15.98	495.40	14.85	460.52
Human labour	170.15	15290.44	168.11	15110.12	176.46	15867.96	172.62	15521.21
Bullock labour	13.06	3920.74	7.91	1049.20	2.73	819.94	5.94	1785.85
Machine hrs.	1.91	1086.96	4.54	2043.70	9.10	4098.50	6.51	2932.94
Irrigation	2	208.94	3	222.32	3	264.30	3	241.93
Total		27,350.57		25,813.27		29,211.08		28,131.48

Sr. No.	Particulars	Units	Units Required	Price/Unit	Cost (Rs.)	Per cent to total	
1.	Hired human labour	Male	Days	60.24	100.00	6024.30	15.76
		Female	Days	63.31	80.01	5065.25	13.25
		Sub total	Days	123.55	89.76	11089.55	29.02
2.	Bullock labour	Hired	Days	2.13	300.46	639.98	1.67
		Owned	Days	3.81	300.75	1145.87	3.00
		Sub total		5.94	300.65	1785.85	4.67
3.	Machine hr.	Hired		3.78	450.84	1704.18	4.46
		Owned		2.73	450.10	1228.76	3.22
		Sub total		6.51	450.53	2932.94	7.67
4.	Seed	Kgs.	55.67	20.00	1113.44	2.91	
5.	Manure	Qtls.	22.37	60.02	1342.62	3.51	
6.	Fertilizer	N	Kgs.	90.86	16.00	1453.78	3.80
		P	Kgs.	37.81	23.00	869.81	2.28
		K	Kgs.	14.85	31.01	460.52	1.21
7.	Irrigation	Rs.			241.93	0.63	
8.	Plant protection	Rs.			2469.38	6.46	
9.	Repairs	Rs.			284.48	0.74	
10.	Depreciation	Rs.			685.17	1.79	
11.	Land revenue	Rs.			56.31	0.15	
12.	Incidental charges	Rs.			183.50	0.48	
13.	Int. on working capital@7%	Rs.			844.97	2.21	
14.	COST "A"	Rs.			25814.25	67.55	
15.	Rental value of land	Rs.			6976.66	18.26	
16.	Int. on fixed capital@10%	Rs.			991.73	2.60	
17.	COST "B"	Rs.			33782.64	88.40	
18.	Family human labour	Male	Days	25.15	100.00	2515.05	6.58
		Female	Days	23.95	80.03	1916.61	5.02
		Sub total	Days	49.10	90.26	4431.66	11.60
19.	COST "C"	Rs.			38214.30	100.00	
20.	Yield	Main	Qtls.	32.60	1192.57	38877.93	
		By	Qtls.	46.98	107.74	5061.47	
21.	Value of total produce	Rs.			43939.40		
22.	Per Qtl. cost of production				1016.96		

Sr. No.	Particulars	Size group			Overall
		Small	Medium	Large	
1.	Value of main produce	35214.05	37391.81	41139.06	39024.21
2.	Value of by- produce	4911.66	5035	5113.7	5061
3.	Total produce	40125.71	42426.81	46252.76	44085.21
4.	Total cost				
	Cost "A"	20167.27	24676.24	28222.75	25814.25
	Cost "B"	27454.54	32347.29	36611.80	33782.64
	Cost "C"	36201.84	37064.49	39747.36	38214.30
5.	Net return over				
	Cost "A"	19958.44	17750.57	18030.01	18270.96
	Cost "B"	12671.17	10079.52	9640.96	10302.57
	Cost "C"	3923.87	5362.32	6505.4	5870.91
6.	Input- output ratio at				
	Cost "A"	1.99	1.72	1.64	1.71
	Cost "B"	1.46	1.31	1.26	1.30
	Cost "C"	1.11	1.14	1.16	1.15

Table 4 : Problems faced by selected farmers

Sr. No.	Constraints	No. of farmers (N=90)	Percentage to total Farmers	Rank
1.	Low price to paddy	78	86.66	III
2.	Irregular supply of fertilizers	62	68.88	V
3.	High cost of fertilizers	68	75.55	IV
4.	Irregular rain fall	35	47.77	VI
5.	Non-availability of labour at the time of transplanting	81	90.00	I
6.	High wages of labour	79	87.77	II
7.	Infestations of insect and pest	39	43.33	VII
8.	High cost of pesticide	34	37.77	VIII

the present investigation.

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