

# A COMPARATIVE ECONOMIC ANALYSIS OF KHARIF AND SUMMER PADDY IN RAJNANDGAON DISTRICT OF CHHATTISGARH STATE

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Received-18.03.2015, Revised-26.03.2015

**Abstracts:** Paddy is the major staple food which can provide a Nations population with the nationally required food security minimum of 2,400 calories per person per day (FAO, 2000). It is the staple food for about 50 per cent of population in Asia, where 90 per cent of the words rice is grown and consumed.

**Keywords:** Economic analysis, Kharif, Rajnandagaon

## INTRODUCTION

India is the 2<sup>nd</sup> largest producer of rice in the world next to china. In India rice is cultivated in 43.81 million ha. with production 96.43 million tons. This crop plays a vital role in our national food security and is a mean of livelihood for millions of rural households. In India, there is growing demand for rice due to ever burgeoning population. The rice crop is grown as principal crop under rain fed condition during kharif in whole in Chhattisgarh. Chhattisgarh popularly known as “Rice Bowl of India” occupies an area around 3.60 m. ha. with production of 1.16 mt. of paddy (urkurkar et. Al.2007).The productivity of paddy in state is 1517 kg per hectare during 2010-2011. Keeping the economic importance of paddy in district economy present study was conducted with primarily objectives of calculation of cost of cultivation and analysis of profitability in paddy (kharif & summer) production in rajnandgaon district.

## METHODOLOGY

Rajnandgaon district will be selected purposively for the study. There are 9 blocks in Rajnandgaon district,

Rajnandgaon block, Ghumka village, Mohla block, Kewattola village was be selected as urban area and Mohla block, Kewattola village was be selected as Rural area purposively for represents.

The urban and rural household of Ghumka, kewattola village were categorized into two major categories i.e. farm households. Farm household are those who have land cultivation. Farm household was two categorized in Above Poverty Level (APL) and Below Poverty Level (BPL) household. There was being 60 respondents. 30 from each urban and rural area were being selected. The urban and rural respondents were be categorized, BPL Respondents were selected on the basis of possession of BPL card issued by government of Chhattisgarh the APL and BPL households. The household were further classified on the basis of income. The study pertains to agricultural year 2011-12. Simple mean and average method was applied for analysis.

## RESULT AND DISCUSSION

The result are analysed of following points like as cost of cultivation, production & profitability of kharif and summer paddy. These are:

**Table 1.** Cost of cultivation of kharif paddy for different categories of farmers (Rs./ha.)

S.N.	Particulars		Urban area			Rural area			All
			APL	BPL	Average	APL	BPL	Average	
1.	Human labour	Family labour	2457.74 (11.87)	4701.90 (30.49)	3579.82 (19.82)	3120.21 (15.81)	4815.12 (33.02)	3967.67 (23.12)	3773.75 (21.47)
		Hired labour	4558.40 (22.02)	2214.50 (14.36)	3386.45 (18.75)	3561.35 (18.05)	1802.45 (12.36)	2681.90 (15.63)	3034.18 (17.19)
2	Bullock power		0.00 (0.00)	1000.00 (6.48)	500.00 (2.77)	1000.00 (5.07)	1000.00 (6.86)	1000.00 (5.83)	750.00 (4.30)
3	Machine power		1688.47 (8.16)	0.00 (0.00)	844.24 (4.67)	1575.00 (7.98)	0.00 (0.00)	787.50 (4.59)	815.87 (4.63)
4	Seeds		1500.00 (7.25)	1000.00 (6.48)	1250.00 (6.92)	1196.66 (6.06)	1090.00 (7.48)	1143.33 (6.66)	1196.67 (6.79)
5	Manure & fertilizer		5189.82 (25.07)	2858.72 (18.54)	4024.27 (22.28)	5568.41 (28.22)	3078.09 (21.11)	4323.25 (25.20)	4173.76 (23.74)
6	Plant protection		397.33 (1.92)	133.27 (0.86)	265.30 (1.47)	246.54 (1.25)	102.67 (0.70)	174.61 (1.02)	219.96 (1.25)
7	Irrigation charge		129.25	0.00	64.63	256.67	0.00	128.34	96.49

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		(0.62)	(0.00)	(0.36)	(1.30)	(0.00)	(0.75)	(0.56)
8	Miscellaneous	1280.00 (6.18)	216.66 (1.40)	748.33 (4.14)	516.67 (2.62)	196.67 (1.35)	356.67 (2.08)	552.50 (3.11)
9	Land revenue	12.00 (0.06)	12.00 (0.08)	12.00 (0.07)	12.00 (0.06)	12.00 (0.08)	12.00 (0.07)	12.00 (0.07)
10	Interest on working capital	688.04 (3.32)	485.00 (3.14)	586.52 (3.25)	681.66 (3.45)	483.53 (3.32)	582.60 (3.39)	575.65 (3.33)
11	Rental value of land	2800.00 (13.53)	2800.00 (18.16)	2800.00 (15.50)	2000.00 (10.13)	2000.00 (13.72)	2000.0 (11.66)	2400.00 (13.63)
	<b>Total</b>	<b>20701.05</b> <b>(100.00)</b>	<b>15422.05</b> <b>(100.00)</b>	<b>18061.56</b> <b>(100.00)</b>	<b>19735.17</b> <b>(100.00)</b>	<b>14580.40</b> <b>(100.00)</b>	<b>17157.87</b> <b>(100.00)</b>	<b>17600.83</b> <b>(100.00)</b>

**Note:** Figures in parentheses indicate percentage of the total cost of cultivation.

The cost of cultivation of paddy crop is presented in Table 1. Table revealed that the total cost of cultivation of paddy in urban and rural area is found on an average Rs. 18061.55 and Rs. 17157.87 per ha. The cost of cultivation of paddy crop in both the family (APL and BPL) of urban area is estimated as Rs. 20710.05 and Rs. 15422.05. The cost incurred on different operations shows large difference in the cost between both families. The total cost incurred on family labour Rs. 2457.74 in APL family while Rs. 4701.90 in BPL family but in case of hired labour APL family incurred Rs. 4558.40 and Rs. 2214.50 per ha. by BPL family. This figure shows high price difference (50 percent) in the both urban APL and BPL family. The APL family spends more amount of total cost of cultivation on machine power, manure and fertilizer and some miscellaneous operations, accounted (40 percent) cost in APL family. Major cost incurred by BPL family on bullock power, seeds and manure and fertilizer. This three major operations accounted (31 percent) of total cost of cultivation of BPL family in urban area.

It is concluded from the table that APL family of urban area spends more amounts in the same operations of BPL family.

Similarly, cost of cultivation of paddy crop in both the family (APL and BPL) of rural area is estimated as Rs. 19735.17 and 14580.40 per ha. The costs incurred on different operations have large difference in the cost between both the families. The total cost incurred on family labour estimated Rs. 3120.20 in APL family while Rs. 4815.12 in BPL family but in case of hired labour APL family incurred Rs. 3561.35 and Rs. 1802.45 per ha. incurred by BPL family. This figure shows high price difference in the both rural APL and BPL family. The APL families spend more amount of total cost on machine power, manure fertilizer and seeds operations. This three major operations accounted (42 percent) of total cost. Cost incurred by BPL family on bullock power, seeds and manure and fertilizer operations accounted 35 percent of total cost of cultivation of BPL family in rural area.

**Table 2.** Economics of kharif paddy production under different categories of farmers

S. N.	Particulars	Urban Area			Rural Area			All Average
		APL	BPL	Average	APL	BPL	Average	
1	Input cost (Rs./ha.)	<b>20701.05</b>	<b>15422.05</b>	<b>18061.56</b>	<b>19735.17</b>	<b>14580.40</b>	<b>17157.87</b>	<b>17600.83</b>
2	Production (q/ha.)							
	a. Main product	39.96	35.66	37.81	38.86	36.85	37.86	37.84
	b. By product	21.00	20.00	20.5	21.00	19.00	20.00	20.25
3	Returns (Rs/ha.)							
	a. Main product	50000.00	44575.00	47287.50	48575.00	46062.50	47318.75	47353.13
	b. By product	630.00	600.00	615.00	630.00	570.00	600.00	607.50
4	Gross returns (Rs./q/ha.)	50630.00	45025.00	47827.50	49175.00	46632.50	47903.75	47865.63
5	Net return (Rs./ha.)	29928.95	29602.95	29765.95	29439.83	32052.10	30745.88	30264.80
6	Cost of production (Rs./q/ha.)							
	Main product	518.04	432.47	475.26	507.85	395.66	451.76	463.51
7	Input-output ratio	<b>1:2.45</b>	<b>1:1.92</b>	<b>1:2.2</b>	<b>1:2.49</b>	<b>1:3.19</b>	<b>1:2.49</b>	<b>1:2.34</b>

Economics of monsoon paddy production under different categories of farmer is presented in Table 2. The table shows that per ha. input cost on paddy cultivation on an average is estimated as Rs.18061.55 and Rs.17157.87 per ha. In urban and rural area. The perha. yield of paddy on an average was 37.81 qtls and 37.85 qtls. per ha. the total value on an average is estimated to be Rs. 47287.50 in urban and Rs.47318.75 rural area. The average gross return is observed as Rs.47287.50 per ha. which ranges from Rs.50000.00 APL family to Rs. 44575.00 in BPL

family of urban area. The average gross return is observed as Rs.47318.75 which ranges from Rs.49175 an Rs.46632.50 at APL and BPL family of rural area. It shows that there is not much difference between the gross return at rural and urban level. The value of net return is calculated quite high of rural area i.e. Rs.29765.95. The input-output ratio is worked out to on an average 1:2.2 to 1:2.49 in urban and rural area. This shows increasing trends in rural area of APL and BPL family as compared to urban area.

**Table 3.** Cost of cultivation of summer paddy at sample household (Rs./ha.)

S.N.	Particulars	Urban area	Rural area	Average
	Human labour	APL	APL	
1	a. Family labour	2247.74 (11.67)	2120.21 (11.70)	2183.98 (11.69)
	b. Hired labour	3458.40 (17.96)	3421.35 (18.88)	3439.88 (18.40)
2	Bullock power	0.00 (0.00)	1000.00 (5.52)	500.00 (2.68)
3	Machine power	1688.47 (8.77)	1575.00 (8.69)	1631.74 (8.73)
4	Seeds	1500.00 (7.79)	1196.66 (6.60)	1348.33 (7.22)
5	Manure & fertilizer	5089.82 (26.43)	5153.41 (28.44)	5121.62 (27.40)
6	Plant protection	217.33 (1.13)	186.54 (1.03)	201.94 (1.08)
7	Irrigation charge	329.25 (1.71)	316.67 (1.75)	322.96 (1.73)
8	Miscellaneous	1280.00 (6.65)	516.67 (2.85)	898.34 (4.81)
9	Land revenue	12.00 (0.06)	12.00 (0.07)	12.00 (0.06)
10	Interest on working capital	632.44 (3.28)	619.46 (3.42)	625.95 (3.35)
11	Rental value of land	2800.00 (14.54)	2000.00 (11.04)	2400.00 (12.84)
	<b>Total</b>	<b>19255.45</b> <b>(100.00)</b>	<b>18117.97</b> <b>(100.00)</b>	<b>18686.74</b> <b>(100.00)</b>

**Note:** Figures in parentheses indicate percentage of the total cost of cultivation.

Summer paddy cultivation of sample household presented in Table 3. It is noted that the only APL family both the area take summer crop of paddy due to availability of resource on their field. The total cost of cultivation summer paddy in urban area estimated Rs.19255.45 and Rs. 18117.97 in rural area. It is observed from the table that per ha. manure and fertilizer cost is worked out to Rs.5089.82 (26.43 percent) in APL family in urban area, while it is estimated as Rs.5153.41 (28.44 percent) in APL family in rural area. per ha. expenditure on family labour 2247.74 (11.67 percent) and hired labour Rs.3458.40 (17.96 percent) in urban area. In case of rural area, family labour accounted Rs.2120.21

(11.70 percent) and Rs. 3421.35 (18.88 percent) respectively. It concluded from the figure that the both the family of area spend of similar amount on human labour per ha. bullock power, machine power, seeds and miscellaneous items, observed as Rs.4467.47 (23.20 percent) in urban area, while this figure of same operations in rural area is observed as Rs.4287.33 (23.66 percent).

Rental value of land as an important fixed cost included in the cost of cultivation of paddy crop. The rental value of land is estimated as Rs.2800.00 per ha. (14.54 percent) in urban area while it is estimated as Rs. 2000.00 (11.04 percent) in rural area respectively.

**Table 4.** Economics of summer paddy production under different categories of farmers

S.N.	Particulars	Urban APL	Rural APL	Average
1	Input cost (Rs. /ha.)	<b>19255.45</b>	<b>18117.97</b>	<b>18686.74</b>
	Production (Qlts/ha.)			

2	a. Main product	38.96	37.86	38.41
	b. By product	19.00	18.00	18.50
	Returns (Rs/ha.)			
3	a. Main product	48700.00	47325.00	48012.50
	b. By product	570.00	540.00	555.00
4	Gross returns (Rs. /ha.)	49270.00	47865.00	48567.50
5	Net return (Rs. /ha.)	30014.55	29747.03	29880.76
	Cost of production(Rs./qtls)			
6	Main product	506.72	478.55	492.64
7	Input-output ratio	1:2.55	1:2.64	1:2.60

Economics of summer paddy production under different categories of farmer is presented in Table 4. The table showed that per ha. input cost on summer paddy cultivation calculated Rs.19255.45 and Rs.18117.97 per ha. in APL family of urban and rural area. The per ha. yield of paddy calculated 38.96 qtls/urban and 37.86 qtls. in rural area. The total value production on an average estimated to be Rs. 48700.00 per ha. in urban and Rs.47325.00 per ha. rural area. The gross return is observed as Rs.49270 per ha. and Rs.47865.00 per ha. In urban and rural area respectively. Net return is worked out Rs.30014.55 and 29747.03 per ha. in urban and rural. The input-output is worked out 1:2.55 to 1:2.64 in urban and rural area. It shows increasing trends in rural area of APL family as compared to urban area.

## CONCLUSION

The forgoing analysis of paddy cultivation indicates that the paddy is the important major kharif crops in the study area. The average cost of cultivation of kharif and summer paddy was estimated to be Rs. 17600.83 and 18686.74 per ha. The average gross income of kharif and summer paddy was estimated to be Rs. 47865.63 and 48567.50 per ha. The average net income of kharif and summer paddy was estimated to be Rs. 30264.80 and 29880.76 per ha

respectively at sampled farm of kharif and summer paddy growing in the study area.

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