

# Cost Structure and Magnitude of Profit in Wheat Cultivation

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## Abstract

Wheat is the second most important food grain crop after rice in India on area and production. Uttar Pradesh occupies the first position in wheat production in India. Wheat plays a vital role in the agricultural economy of the state and is a staple commodity in the diet of the people. Etah district is situated in the north-east of the Agra and bounded by Aligarh and Mainpuri districts. A two-stage stratified random sampling was used in the study for the selection of villages and wheat farmers. The findings of the research indicated that in cost A1, the expenditure on manures and fertilizers was highest in all farm categories. The overall percentage of cost A1 in total cost was 51.12 per cent. The imputed value of family labor was highest for marginal followed by small and large farm category. The total cost on an overall basis was ₹ 21763.29 per hectare. Both gross return and net return were highest for large farm group. The return per rupee was ₹ 1.191, ₹ 1.208, ₹ 1.258 and ₹ 1.214 on the limited, small, large and overall basis.

**Keywords:** Cost of cultivation, profit, wheat, farm category, cost concepts.

Wheat is the second most important food grain crop after rice in India. Indo-Gangetic plains from the most important wheat growing area of north India. On area and total production, Uttar Pradesh occupies the first position in India. The cool winters and the hot summers are very conducive to a good crop of wheat. Well-drained loams and clayey loams are considered to be good for wheat. Etah district is situated in the north-east of the Agra and bounded by Aligarh and Mainpuri districts. The area is located at the height of 146.3 meters from mean sea level. The Aliganj block is the part of Aliganj tehsil of the district Etah. Thus, it is clear that wheat plays a vital role in the agricultural economy of the district and is a staple commodity in the diet of the people. Thus, the study of cost and return is highly essential to

determine the relative profitability and economic viability of one enterprise over the others.

## Materials and Methods

The two-stage stratified random sampling technique was used for conducting the present research work. Aliganj block of Etah district (U.P) was selected purposively. In the first, five villages were chosen at random. In the second stage, a complete enumeration of the holdings in the each sample village was made. The holdings were then stratified into three size groups, i.e., marginal (0-1 hectare), small (1-2 hectares) and large (more than 2 hectares). From among the list of different categories, a sample of 40 marginal, 25 small and 20 large farmers was

selected at random. A total of 85 respondents were selected from the sample villages for the study. The data pertained to 1999-2000. The information about the sample villages, the respondents, market functionaries was obtained through a set of well thought-out and pretested questionnaires prepared before in conformity with specific objectives. General information regarding the sample villages was obtained from secondary sources such as block Office, Tehsil office, VLWs, and Census report. The Household was taken as the unit of investigation and the head of the family as the respondent. The price of wheat grain was taken as ₹ 560 per quintal and for straw as ₹ 80 per quintal.

**General Description of sample farmers:** Among the sample farmers, the average size of operational holding was 0.75 ha in case of marginal farmers, 1.55

hectares for small and 3.12 hectares for large farmers. It was found that there was no summer crop except the kharif and Rabi Crops. Paddy and Wheat occupy the key positions in cropping pattern (Singh, G.S 1994). The cropping intensity was 192.0 %, in the case of marginal farmers, 197.41 % in case of small and 199.67% in case of large farmers.

## Results and Discussion

The study of cost and return is highly essential to determine the relative profitability and economic viability of one enterprise over the other. Keeping this in view, the analysis was carried out on costs and returns of wheat as grown by sample farmers. The per hectare analysis of cost a performance of wheat under different categories of sample farmers is presented in Table 1.

**Table 1: Cost and profit in wheat cultivation**

Particulars	Marginal	Per cent	Small	Per cent	Large	Per cent	Overall	Per cent
Cost of seed	908.5	4.48	870	3.99	1090.5	4.41	940	4.32
Manures and fertilizers	2645.35	13.04	2891.75	13.26	3149.6	12.75	2836.46	13.03
Hired labour	2080.32	10.26	2308.35	10.58	3136	12.69	2395.78	11.01
Bullock labour	1990.54	9.81	1492.8	6.84	981.1	3.97	1606.63	7.38
Tractor power	1031	5.08	1517.2	6.95	2008.6	8.13	1404.02	6.45
Irrigation	720.1	3.55	710.2	3.25	1112.15	4.5	809.44	3.72
Plant protection chemicals	183.2	0.9	226.6	1.03	290.45	1.17	221.2	1.02
Misc. expenditure	111.6	0.55	161.75	0.74	210.65	0.85	149.66	0.69
Interest on working capital	652.76	3.22	700.55	3.21	808.58	3.27	703.5	3.23
Cost A1	10323.37	50.92	11079.2	50.81	12787.63	51.77	11125.49	51.12
Rent paid for leased - in land	340	1.67	135.55	0.62	0	0	26.37	1.2
Cost A2	10663.85	52.6	11214.75	51.43	12787.63	51.77	11325.37	52.04
Interest on fixed capital	852.85	4.2	1260.18	5.77	1446.84	6.66	1112.42	5.11
Rental value of owned land	6038	29.78	6586.6	30.21	6782.77	27.46	6374.59	29.29
Cost B	17554.22	86.59	19061.53	87.4	22205.47	89.9	19091.96	87.73
Imputed value of family labour	2716.8	13.4	2741.14	12.57	2493.12	10.09	2671.33	12.27
Cost C	20271.02	100	21802.67	100	24698.59	100	21763.29	100
Gross return	24152.01		26346.4		31084.01		26428.48	
Net return	3880.99		4543.73		6385.42		3488.72	
Cost benefit ratio	01:01.2		01:01.2		01:01.3		01:01.2	

The analysis of the Table reflects that in cost A1, the expenditure on manures and fertilizers is highest followed by the expenditure of hired labor, bullock power, tractor power, seed cost, irrigation and plant protection chemicals. The spending on manures and fertilizers is ₹ 2645.35, ₹ 2891.75 ₹ 3149.60 and ₹ 2836.46 on marginal, small, large category and overall basis respectively. The share of human labour is also higher in total cost (Kumar, 2009).

The percentage of cost A1 in total cost comes to 50.92 per cent, 50.81 per cent, 51.77 per cent and 51.12 per cent on marginal, small, broad category and overall respectively. The large farmers do not have leased-in land, so, the rent paid for leased-in land is not shown for large farm size group. The imputed value of family labour is highest in case of marginal followed by small and large farm category. On an overall basis, the imputed value of family labour comes to 12.27 per cent of total cost. The total cost or cost C is highest for large farm group. The cost C for marginal, small, large and

overall is ₹ 20271.02, ₹ 21802.67, ₹ 24698.59 and ₹ 21763.29 respectively.

The cost A1, Cost A2, Cost B and Cost C for overall average were found as ₹ 11125.49, ₹ 11325.37, ₹ 19091.96 and ₹ 21763.29 respectively. The percentage of cost A1, Cost A2 and Cost B in total cost (Cost C) for overall average was 51.12, 52.04 and 87.73 % respectively. The Gross return for marginal, small, large and overall average is found as ₹ 24152.01, ₹ 26346.4, ₹ 31084.01 and ₹ 26428.48 per hectare. The Gross return is highest for large farm size category followed by small and marginal. The category wise difference in return is due to the use of different levels of inputs (Jain, K.K. (1993).

The net return for marginal, small, large and overall average is found as ₹ 3880.99, ₹ 4543.73, ₹ 6385.42 and ₹ 3488.72 per hectare (Figure 1). The net return is considered low for all categories of farmers that confirms the finding of Singh *et al.* (1998). It is because of high cost of inputs.

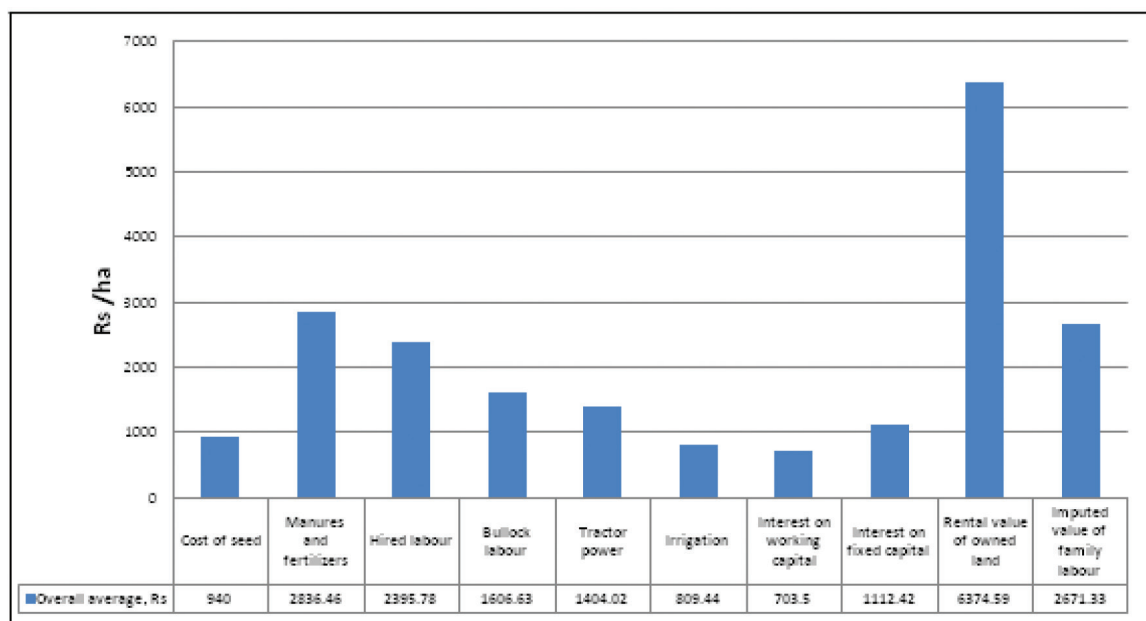


Fig. 1: Share of inputs in total cost

The net return is also highest for large farm group. It shows that higher investment inputs lead to higher performance too. The return per rupee is ₹ 1.191, ₹ 1.208, ₹ 1.258 and ₹ 1.214 for limited, small, large and overall basis.

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