Cost Structure and Magnitude of Profit in Wheat Cultivation

Vikas Kumar¹*, Arun Yadav², H.C. Pandey³, Mahendra Singh⁴ and P.C. Meena⁵

¹²³ Indian Grassland and Fodder Research Institute, Jhansi, India
² Sam Higginbotom Institute of Agriculture, Technology & Sciences, Allahabad, India
³ Central Agroforestry Research Institute, Jhansi, India
⁴ National Academy of Agricultural Research Management, Hyderabad, India

*Corresponding author: vikaskumar@gmail.com

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 or 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.
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 \text Rs \ 560 per quintal and
for straw as \text Rs \ 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>
<thead>
<tr>
<th>Particulars</th>
<th>Marginal</th>
<th>Per cent</th>
<th>Small</th>
<th>Per cent</th>
<th>Large</th>
<th>Per cent</th>
<th>Overall</th>
<th>Per cent</th>
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<tr>
<td>Cost of seed</td>
<td>908.5</td>
<td>4.48</td>
<td>870</td>
<td>3.99</td>
<td>1090.5</td>
<td>4.41</td>
<td>940</td>
<td>4.32</td>
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<td>Manures and fertilizers</td>
<td>2645.35</td>
<td>13.04</td>
<td>2891.75</td>
<td>13.26</td>
<td>3149.6</td>
<td>12.75</td>
<td>2836.46</td>
<td>13.03</td>
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<td>Hired labour</td>
<td>2080.32</td>
<td>10.26</td>
<td>2308.35</td>
<td>10.58</td>
<td>3136</td>
<td>12.69</td>
<td>2395.78</td>
<td>11.01</td>
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<td>Bullock labour</td>
<td>1990.54</td>
<td>9.81</td>
<td>1492.8</td>
<td>6.84</td>
<td>981.1</td>
<td>3.97</td>
<td>1606.63</td>
<td>7.38</td>
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<tr>
<td>Tractor power</td>
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<td>5.08</td>
<td>1517.2</td>
<td>6.95</td>
<td>2008.6</td>
<td>8.13</td>
<td>1404.02</td>
<td>6.45</td>
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<tr>
<td>Irrigation</td>
<td>720.1</td>
<td>3.55</td>
<td>710.2</td>
<td>3.25</td>
<td>1112.15</td>
<td>4.5</td>
<td>809.44</td>
<td>3.72</td>
</tr>
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<td>Plant protection chemicals</td>
<td>183.2</td>
<td>0.9</td>
<td>226.6</td>
<td>1.03</td>
<td>290.45</td>
<td>1.17</td>
<td>221.2</td>
<td>1.02</td>
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<td>Misc. expenditure</td>
<td>111.6</td>
<td>0.55</td>
<td>161.75</td>
<td>0.74</td>
<td>210.65</td>
<td>0.85</td>
<td>149.66</td>
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<tr>
<td>Interest on working capital</td>
<td>652.76</td>
<td>3.22</td>
<td>700.55</td>
<td>3.21</td>
<td>808.58</td>
<td>3.27</td>
<td>703.5</td>
<td>3.23</td>
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<td>Cost A1</td>
<td>10323.37</td>
<td>50.92</td>
<td>11079.2</td>
<td>50.81</td>
<td>12787.63</td>
<td>51.77</td>
<td>11125.49</td>
<td>51.12</td>
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<td>Rent paid for leased – in land</td>
<td>340</td>
<td>1.67</td>
<td>135.55</td>
<td>0.62</td>
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<td>0</td>
<td>26.37</td>
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<td>52.6</td>
<td>11214.75</td>
<td>51.43</td>
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<td>4.2</td>
<td>1260.18</td>
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<td>5.11</td>
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<td>6586.6</td>
<td>30.21</td>
<td>6782.77</td>
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<td>6374.59</td>
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<td>Cost B</td>
<td>17554.22</td>
<td>86.59</td>
<td>19061.53</td>
<td>87.4</td>
<td>22205.47</td>
<td>89.9</td>
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<td>87.73</td>
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<td>Imputed value of family labour</td>
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<td>13.4</td>
<td>2741.14</td>
<td>12.57</td>
<td>2493.12</td>
<td>10.09</td>
<td>2671.33</td>
<td>12.27</td>
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<tr>
<td>Cost C</td>
<td>20271.02</td>
<td>100</td>
<td>21802.67</td>
<td>100</td>
<td>24698.59</td>
<td>100</td>
<td>21763.29</td>
<td>100</td>
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<tr>
<td>Gross return</td>
<td>24152.01</td>
<td>100</td>
<td>26346.4</td>
<td>100</td>
<td>31084.01</td>
<td>100</td>
<td>26428.48</td>
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<tr>
<td>Net return</td>
<td>3880.99</td>
<td>100</td>
<td>4543.73</td>
<td>100</td>
<td>6385.42</td>
<td>100</td>
<td>3488.72</td>
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<td>Cost benefit ratio</td>
<td>01:01.2</td>
<td>100</td>
<td>01:01.2</td>
<td>100</td>
<td>01:01.3</td>
<td>100</td>
<td>01:01.2</td>
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</tbody>
</table>
Cost structure and magnitude of profit in wheat cultivation

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](image)

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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References


