

# An Economic Analysis of Wheat Production in Auraiya District of Uttar Pradesh

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## ABSTRACT

One of the major cereals grown in India is Wheat that plays a crucial role in providing food security as well as offering an avenue of livelihood to farmers. The economic aspect of the Wheat crop in study area in respect to different farm-size groups in district of Auraiya, Uttar Pradesh was studied during agricultural year 2024-25. A sample of 60 Wheat growers was drawn from five villages of Ajitmal block of Auraiya district. They were classified into three groups of farms such as marginal, small and medium according to farm sizes of the holdings. Primary data were collected from the selected farmers by personal interviews with the help of pre tested schedules. The average farm size was 0.966 ha of overall farms whereas it varied from 3.142 ha, 1.329 ha, 0.508 ha to different farm-size groups, i.e medium, small, and marginal, etc. Overall the investment on farm assets found to be as on average Rs. 2,62,139.19 per hectare. Cost of Wheat cultivation on an average was found to be Rs. 70,963.32 per hectare, whereas average gross income and net income per hectare were estimated at Rs. 99,846.63 and 28,883.31 respectively. Highest per hectare net income observed Rs. 30092.17. on small farms followed by Rs. 28966.65 and Rs. 27953.76 on marginal and medium farms respectively. Average gross produce (yield) per hectare was found to be 41.42 qt per hectare, while for different groups it varied from 41.81, 42.48 and 40.31qt per hectare.. Similarly ratio of gross returns over cost 'C3' was 1:1.40 for overall farmers and for different groups, was 1:1.40, 1:1.41 and 1:1.40 (Cost 'C3' based) respectively. The finding reveals that wheat cultivation is profitable even after high input costs in the study area, so efforts should be done to promote for increase in its returns through use of best technologies.

**Keywords:** Wheat cultivation, Cost of cultivation, Farm income, Net return, Profit

## INTRODUCTION

Agriculture contributes in a huge part in Indian economy. It offers meals, job stability as well as the financial assistance of people over huge quantities from the section. Because of rapid industrialization and financial development across the world, Indian agricultural fields are still very important resources regarding earnings for agrarian families. Amongst the big food grain crops in India, wheat (*Triticum aestivum* L) possesses a dominant spot in relation to its contribution to country wide nutritional security along with meal. The country's escalating inhabitants also causes enhanced the request of food crops (Ashkra and Khan, 2024). So, maintaining of self-reliance in crop production becomes most required. To fulfill requirement for the meals as soon as, wheat becomes the most important grain after rice both in relation of coverage also growth inside India, being a second largest important cereal crops. India produces above 110 MT of wheat and contributes more or less 34.5% of the overall of country's foods grain production (APEDA, 2026). Uttar Pradesh accounts regarding 14% from the production and also around 16.5% regarding the nation's total area devoted to the wheat manufacturing with production 38.72 MT from area 94.13 lakh

hectares at productivity 3.94 t/ha (Balaganesh *et al.*, 2029).

In Auraiya district, wheat crops cultivated upon coverage of 103.01 thousand hector which produces 429.54 thousand tonne in normal 4.17 t/ha and average yield 41.70 quintal/ha and is a significant crops for making good income for the growers (Kushwaha *et al.*, 2018). Though a substantial yield and revenue might be earned from these plants through improved method and management practices, it significantly depends on production costs of these crops. In many regions wheat is among the highly remunerative plants grown and farmer is making it's best uses for the earning of a handsome margin, yet cost of cultivation associated with increasing use of the costly imputes like Seeds, fertilizer, manures, pesticides, machinery, irrigation, labour human labour and etc and a concern to low return due to some factors as compared to the expenditure of production (Yadav *et al.*, 2013; Yadav *et al.*, 2014).

Raising food products requirement owing to massive growing world population and their subsequent demands has

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always prompted the development related to enhanced technology along with optimum utilization involving farming inputs in farming. In spite of various efforts, wheat generation within Asia may face few threats in connection with development associated with improved farm technologies in addition to cost in addition to return of it's manufacturing in various part. Hence the economic investigation involving farming related to wheat is extremely required to know more and more details on the cost-return aspect in Wheat creation under different farm size classes (Tripathi *et al.*, 2018). So the main objective of this study was to evaluate the economic efficiency of wheat crop by analyzing the economics of cultivation in wheat based regions.

Wheat is one of the important crops grown in Auraiya district and contributed high share in revenue to farmers. Due to importance of the crop at national and district level it becomes imperative to study the economics of production at farmer level so that policy makers can be provided adequate data which would enable to frame the policies for the farmer in better way (Kushwaha *et al.*, 2018; Balaganesh *et al.*, 2019). However at farmers level many factors are responsible to affect costs and returns of wheat crop like the use of input, technique used and farm size. Therefore the economic analysis of wheat production on various farm size groups is taken for the present study. Keeping in view, present study was carried out with the objectives: to study the farm structure and investment in various farm size groups, to analyze cost of cultivation and gross return from wheat cultivation on various farm size groups and to calculate the net return and input-output on various farm size groups.

## MATERIALS AND METHODS

### Selection of Sample

The district Auraiya was selected purposely from western zone of Uttar Pradesh which is a leading wheat producing state of the country. In Auraiya district Ajitmal block was selected randomly .Five villages were selected from Ajitmal block where highest area was under wheat cultivation. Then a list of 60 wheat cultivators was prepared and they were divided into three groups, namely marginal (<1.0 ha), small (1-2 ha) and medium (2-4 ha). Ultimately 42 from marginal, 11 from small and 07 from medium farms were selected randomly which constitute the sample size of 60 farms. Cost of Cultivation was calculated as the sum total of all the expenses incurred by a farmer for cultivation and harvesting of wheat crop in a hectare. Returns over and above the costs of cultivation will give the profit per ha. Gross return per ha was calculated as total yield of wheat multiplied by the price of wheat per ha. Net return per ha will be the gross return per ha minus the cost of cultivation per ha. The returns were computed on the basis of prevalent prices of wheat, input cost and their utilization at the farm level during the year 2024-25.

### Methods of Enquiry

Data on various aspect of wheat cultivation were collected

directly from sample farmers through well-structured and pre-tested questionnaires and interview by personal contact. The necessary data relating to cost and returns, farm size, inputs used, and other relevant information were recorded carefully. The primary data was collected in the field during the month of June, 2024. Data analysis Statistical methods, such as means, totals, average and percentage, were employed in the analysis of data collected from farmers.

## RESULTS AND DISCUSSION

Structure of Farms and investment on the farms refers to the overall condition of the farm in terms of land holding, capital investment on fixed capital (land, buildings, implements and machinery etc.) on farms. This structure has significance as it helps in determination of resource use pattern in farm

### Average size of holdings

The study covers a sample of 60 farmers, which are divided in size groups namely marginal (below 1ha), small (1-2ha), and Medium (2-4a & above) with respect to cropped area. The average se of holdings on various group of sample farms are presented in table 1.

Table-1 reflects that out of total sample farms (60) 42 marginal, 11 small and 07 medium farms were selected for the study. It is also observed that the average size of holding of marginal, small, and medium farms were 0.508 ha 1.329 ha and 3.142 ha, respectively. Overall average size of sample farms was found to be 0.966 hectare.

**Table 1:** Average size of holding on different size group of farms

S.N.	Size of farms group	No. of sample farm	Net cultivated area (ha)	Average size of holding (ha)
1.	Marginal	42	21.36	0.508
2.	Small	11	14.62	1.329
3.	Medium	07	22.00	3.142
<b>Total/overall average</b>		<b>60</b>	<b>57.98</b>	<b>0.966</b>

### Farm assets Structure

Per hectare farm assets such as farm building, implements, and livestock on marginal, small and medium farms and overall average farms are presented in Table 2.

Table 2 presents per hectare overall average investment on farm assets i.e., farm building, livestock, Miner implement and major implement accounted for 06.05, 46.73, 06.90 and 40.45 %, respectively of the total farm assets. Overall per hectare value of farm building, Livestock, Miner implement, major implement came to Rs. 15879.95, Rs. 122519.83, 1809.10 and Rs. 106050.36, respectively. Overall, per hectare value of total farm assets was found Rs. 262139.19 out of which highest per hectare value of total farm assets was found Rs.294019.82 on marginal farms followed by Rs. 245491.98 on medium

farms and Rs. 241593.24 on small farms. No relationship was observed between size-group of farms and value of farm assets in the study area.

**Table 2:** Per hectare investment on different size group of sample farm in the study area (Rs./ha)

Particulars	Size of farms							
	Marginal	%	Small	%	Medium	%	Over All	%
1. Farm building	16081.45	06.18	13186.72	04.48	16227.27	06.61	15879.95	06.05
A. Kachcha	3441.01	01.42	5047.19	01.71	2060.00	00.83	3785.09	01.44
B. Pacca	12640.44	05.23	9452.21	01.54	15227.27	06.20	12094.86	04.61
2. Live stock	196769.66	81.44	138625.17	47.14	70590.90	28.75	122519.83	46.73
3. Minnor implement	2290.82	00.94	1757.18	00.59	1722.72	00.70	1809.10	06.90
4. Major implement	26451.31	01.09	125950.75	42.83	155909.09	63.50	106050.36	40.45
Total	241593.24	100.00	294019.82	100.00	245491.98	100.00	262139.19	100.00

### Per hectare cost components of wheat cultivation

The per hectare cost on various input factors in wheat cultivation was worked out. The details of input costs are shown in table 3.

**Table 3:** Per hectare cost of different inputs used in wheat crop on different size group of sample farms (Rs./ha)

S.N.	Particulars	Size of sample farms			Over All Average
		Marginal	Small	Medium	
1	Human Labour	6326.59	5385.99	5452.36	5758.94
A	Family Labour	2287.60	2441.65	2097.06	2256.96
B	Hired Labour	4038.99	3125.26	4235.38	3874.83
2	Tractor Charge	8802.22	8976.66	8901.73	8884.30
3	Seed Cost	3369.77	2906.19	3089.09	3145.62
4	Manure and Fertilizers	6384.24	7802.96	8394.65	7496.65
5	Irrigation Charge	4265.35	4793.53	4811.26	4604.47
6	Plant Protection	2019.49	1229.8	1808.86	1736.74
7	Total working capital	31167.66	31095.13	33338.03	31952.70
8	Interest on working capital	623.35	621.90	666.76	639.05
9	Rental value of owned land	18000	18000	18000	18000
10	Depreciation	2415.93	2940.19	2434.49	2558.72
11	Interest on owned fixed capital	4831.86	5880.39	4868.98	5117.44
12	Rental value of leased in land	8237.42	7181.32	3594.96	6244.18
13	Sub - Total	65276.22	65718.93	62903.22	64512.11
14	Managerial cost @10% of sub total	6527.62	6571.89	6290.32	6451.20
15	<b>Grand total</b>	<b>71803.85</b>	<b>72290.82</b>	<b>69193.54</b>	<b>70963.32</b>

Table 3 indicates that Overall per hectare cost of cultivation of wheat was work out Rs. 70963.32 in which highest operational cost was found on tractor charge i.e. Rs. 8884.30 followed by manures & fertilizer and human labour

i.e. Rs. 7496.65, and Rs. 5758.94 respectively. On an average the highest cost of cultivation of wheat was found Rs. 72290.82 on small farms followed by Rs.71803.85 on marginal farms and

Rs. 69193.54 on medium farms. Higher cost on small farms was found mainly due to more expenditure on fixed capital than other farms. A similar finding was also obtained by Kumar *et al.* (2025).

**Per hectare measures of costs and returns of wheat crop**

It is observed from table 4, that overall average, cost A<sub>1</sub>, cost A<sub>2</sub>, cost B<sub>1</sub>, cost B<sub>2</sub>, cost C<sub>1</sub>, cost C<sub>2</sub> and C<sub>3</sub> were found Rs. 32893.39 Rs., 39137.65, Rs. 38010.97, Rs. 62254.97, Rs. 29156.83, Rs

64512.11 and Rs 70963.32 respectively. An overall average gross income was found Rs. 99846.63. It was estimated Rs.100770.50, Rs. 102383.00 and Rs.97147.30 on marginal, small, and medium farms, respectively. Overall per hectare net income came to Rs. 28883.31, which was highest on small farms Rs. 30092.17 followed by marginal farms Rs. 28966.65, and medium farms 27953.76. A similar finding was also reported by Singh (2006) and Patel *et al.* (2011).

**Table 4:** Per hectare measures of cost and return of wheat crop (Rs. /ha)

S. No.	Particulars	Size group of farms			Overall average
		Marginal	Small	Medium	
1.	Cost A1	31919.00	32215.63	34342.22	32893.39
2.	Cost A2	40156.60	39396.95	37937.18	39137.65
3.	Cost B1	36751.21	38096.02	39211.2	38010.97
4.	Cost B2	62988.12	63277.34	60806.16	62254.97
5.	Cost C1	9038.82	40537.67	41308.26	29156.83
6.	Cost C2	65276.22	65718.93	62903.22	64512.11
7.	Cost C3	71803.85	72290.82	69193.54	70963.32
8.	Yield Qtl./ha	41.81	42.48	40.31	41.42
9.	Straw By Product	42.65	43.10	40.33	41.90
10.	Gross income	100770.50	102383.00	97147.30	99846.63
11.	Net Income	28966.65	30092.17	27953.76	28883.31
12.	Family labour income	35758.28	39105.66	36341.14	36841.99
13.	Farm investment income	31510.10	33530.91	30725.68	31743.49
14.	Farm business income	68851.10	70167.37	62805.08	66953.09
15. I.	Cost of production (Grain)	1710.12	1694.60	1709.40	1705.83
15.II	Cost of production (Straw)	712.54	706.08	712.25	710.75
<b>16</b>	<b>INPUT- OUTPUT RATIO</b>				
I.	A1 basis	1:3.15	1:3.10	1:2.82	1:3.09
II.	A2 basis	1: 2.50	1:2.59	1:2.56	1:2.51
III.	B1 basis	1: 2.74	1:2.68	1:2.47	1:2.60
IV.	B2 basis	1: 1.59	1:1.61	1:1.59	1:1.56
V.	C1 basis	1: 2.58	1:2.52	1:2.35	1:2.45
VI.	C2 basis	1: 1.54	1:1.55	1:1.54	1:1.58
VIII	C3 basis	1: 1.40	1:1.41	1:1.40	1:1.40

On overall average, family labour income, farm investment income and farm business income were worked out Rs. 36841.99, Rs. 31743.49 and Rs 66953.09 respectively. Family labour income was highest on small farms Rs. 39105.66 followed by marginal Rs. 37782.3 medium Rs. 36341.14. Farm investment income was highest on small farms Rs. 33530.91

followed by marginal Rs. 31510.10 medium Rs. 30725.68. Farm business income was found highest on small farms Rs. 70167.30 followed by marginal Rs 68851.10 and medium farm Rs. 62805.08, results followed by Udhayan *et al.* (2023) and Meshram *et al.* (2018).

Cost of production of grain was calculated on overall

average came to Rs.1705.83. Highest cost of production observed on marginal farms i. e. Rs. 1710.12 followed by medium farms Rs. 1709.40 and small farms Rs. 1694.60 respectively. On overall average, input-output ratio was work out to be 1:3.09, 1:2.51, 1:2.60, 1:1.56, 1:2.45, 1:1.58 and 1:1.40, on Cost A1, Cost A2, Cost B<sub>1</sub>, Cost B2, Cost C<sub>1</sub>, Cost2, and Cost C3 basis respectively. The input-output ratio was higher on small farms 1:1.41 on cost C3 basis as compared to small and medium farms, 1:1.40 and 1:1.40, respectively. On an overall average per hectare yield was found 41.42 quintal, it was observed to 41.81, 42.48, 40.31 quintal on marginal, small, and medium farms, respectively. The yield per hectare was higher on small farms as compared to marginal and medium farms. Results was coinciding with the results of study conducted by Singh et al. (2008) and Thakur et al. (2022).

### CONCLUSION

The present investigation aimed at studying the economics of wheat cultivation on different classes of farms of Auraiya district of Uttar Pradesh. Results indicated that wheat cultivation is quite economical and remunerative undertaking in the study area. Average cost of cultivation, gross income and net income were Rs 70,963.32, Rs 99,846.63 and Rs 28,883.31 per hectare respectively. Wheat yield was 41.42 quintals per hectare. Small farm size was comparatively better over that of medium and marginal farms regarding output per hectare of wheat, net income and input output ratio (Cost 'C3'). Small farmers accounted for highest net income and input output ratio as Rs 30,092.17 and 1:1.41 per hectare respectively of wheat respectively and performed comparatively better than that of the other classes of farms, indicating that farmers utilize their available resources more efficiently in production and can obtain much good economy from the production of wheat. Despite producing reasonably good returns across all class of farms, it has also been found that increasing input prices for hired labour, Machinery inputs, fertilizers, and for other items have resulted in reducing economy from the wheat production. Thus, policy recommendations on reducing cost of production through best management of input use efficiency will boost the economy of the farmers cultivating the wheat. Hence policy can be taken into account to boost up their returns. It is recommended that there is a need to implement and popularize cost reducing techniques and effective use of resources by improving production management. Timely and ready availability of desired inputs should also be looked into so as to minimize possible loss in yield due to one or other reason.

### REFERENCES

APEDA. (2026). Wheat, Ministry of Commerce and Industry, GoI. Available at: <https://apeda.gov.in/Wheat>

- Ashkra K J and Khan A A. 2024. An economic analysis of wheat production in the light of climate change in India. *The Journal of Research ANGRAU* 51(4): 159–168. <https://doi.org/10.58537/jorangrau.2023.51.4.18>.
- Balaganesh G, Makarabbi G and Ramadas S. 2019. Tracking the performance of wheat production in Uttar Pradesh. *Indian Journal of Economics and Development* 15(2): 216–224.
- Kumar R, Jaulkar A M, Sahu M and Soni A. 2025. Economic assessment and profitability analysis of wheat cultivation in Gwalior district, Madhya Pradesh, India. *Journal of Experimental Agriculture International* 47(11): 86–93.
- Kumar S, Bhargava H, Singh P, Singh J and Verma S K. 2023. Economic analysis of marketing channel of wheat production in Hardoi district of Western Uttar Pradesh, India. *Asian Journal of Agricultural Extension, Economics & Sociology* 41(10): 140–148
- Meshram A V, Ganvir B N and Nannaware N P. 2018. Economics of production of wheat in Wardha district. *International Journal of Chemical Studies* 6(4): 3055–3058.
- Patel R H, Patel A A and Bhatt B K. 2011. An economic analysis of production and marketing of wheat (unirrigated) in Bhal region of Ahmedabad district, Gujarat. *Indian Journal of Agricultural Research* 45(2): 122–127.
- Singh A. 2006. Economic analysis of wheat production across cropping system in North-West. *Indian Journal of Agricultural Research* 40(3): 171–177
- Singh A, Singh S and Singh S. 2008. Economic analysis of production constraints in wheat crop: case of North-Western India. *Agricultural Situation in India*, 65(3): 145–149.
- Thakur V, Gauraha A K and Pathak H. 2022. An economic analysis of wheat production in Seoni district of Madhya Pradesh. *International Journal of Science and Research* 11(8): 718–721.
- Tripathi A K and Singh J P. 2018. An economic analysis of production and marketing of wheat in Ghazipur district of Eastern Uttar Pradesh. *Journal of Pharmacognosy and Phytochemistry* 7(1): 1686–1688.
- Udhayan N, Naik A D and Hiremath G M. 2023. An economic analysis of wheat cultivation in North Karnataka, India. *International Journal of Plant & Soil Science* 35(20): 939–945.
- Yadav H, Singh G P and Singh K K. 2013. Efficiency of resources used in wheat cultivation. *Journal of Rural and Agricultural Research* 13(1): 24–25.
- Yadav H, Singh S K, Singh G P and Singh K K. 2014. An economic analysis of wheat cultivation in Etawah districts of Uttar Pradesh, India. *Plant Archives* 14(1): 393–399.
- Kushwaha R R, Mourya K K, Verma R R, Singh B, Maurya S K, Kumar N and Kumar S. 2018. Resource use efficiency on wheat cultivation in Auraiya district of western Uttar Pradesh, India. *Int J Curr Microbiol Appl Sci* 7(6): 1054–1060.

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