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An economic analysis of production and marketing of wheat in Ghazipur District of Eastern U.P.

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Abstract
The analysis reveals under cost of cultivation of wheat, maximum cost was incurred on machinery expenses. Per hectare gross income and net returns decreased with increase in farm size except small farms. Three chief marketing channels were identified i.e. channel-I: Producer-Consumer, channel —II: Producer- Village trader- Retailer - Consumer and channel- III: Producer- Village trader- Wholesaler-Retailer- Consumer. The producer's share in consumer's rupee encountered were 98.99 per cent, 90.07 per cent and 73.89 per cent under Channel-I, Channel-II and Channel-III, respectively.

Keywords: economic, marketing, wheat

Introduction
Wheat is staple food crop in our country and plays an important role in Indian economy. Most of the area under rice and wheat rotation is concentrated in the belt known as Indo- Gangetic Plains. Wheat is the second most important cereal crop after rice. It is grown in most of the country, but nearly 70 per cent lies in northern plain and 20 per cent in central India. More than 90 per cent wheat area is sown to bread wheat, which is grown throughout of the country. The cost of cultivation is an important economic indicator and wide variations have been noticed in the cost of cultivation of crops. It varies from region to region and even from farmer-to-farmer of a given region. The study of cost and returns provides the idea of profitability and could be a yard stick to planners and policy makers.

The growth in the marketable surplus determines the pace of economic developments. An increase in the production must be accompanied by an increase in the marketable surplus for the economic development of country. Marketing margins and cost are important, for they reveal many facets of marketing and price structure as well as the efficiency of the system. Regular monitoring of marketing margins of different markets at regional levels is essential for the formulation as successful implementation of marketing and price policies.

Production, processing and marketing are three pillars of farm economy. The farm production may be increased by the improved methods of cultivation and optimal use of resources, but farmer would not gain much, if there is no proper arrangement of his produce. Keeping in view of above highlights the study is to explore examine analysis of production and marketing of wheat in Ghazipur district. The specific objectives of the study are:

i. To work out the cost of cultivation and input-output relationship on sample farms, and
ii. to identify the marketing channels and analyse their marketing costs, margins and price spreads.

Methodology
Ghazipur district was purposively selected in order to avoid operational inconvenience. Multi-stage sampling technique was used for selection of respondents. 100 respondents were randomly interviewed for the purpose of collecting the data. Sufficient number of village trader, commission agents, wholesalers and retailers were randomly selected from market for assessing imperfections prevailed in wheat marketing.

Simple tabular analysis was carried out. The weighted mean was used for the presentation of data pertaining to costs and returns. Data pertained for year 2006-07. The cost incurred in wheat production was Cost A_1, Cost A_2, Cost B_1, Cost B_2, Cost C_1 and cost C_2 used.

Cost A_1 included all actual expenses in cash and kind incurred in production i.e. wages of hired human labour, charges of owned and hired bullock labour, value of seed, value of manure, value of fertilizers, value of insecticides and pesticides, irrigation charges, hired machinery charges, imputed value of owned machinery charges, depreciation charges, interest on working capital, interest on fixed capital; Cost A_2 included cost A_1 plus rent paid for leased

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in land; Cost B_1 included cost A_1 plus interest on value of owned fixed capital assets (excluding land); Cost B_2 included cost B_1 plus rental value of owned (not land revenue) and rent paid for leased in land; Cost C_1 included cost B_2 plus imputed value of family labour, and Cost C_2 included cost C_1 plus imputed value of family labour. Net profit over Cost A_1, Cost A_2, Cost B_1 Cost B_2, Cost C_1 and Cost C_2 were worked out to know the profitability in wheat production.

Results and Discussion

On all farms, per hectare maximum expenses of wheat cultivation was machineries (Rs. 3419.45) followed by human labour in (Rs. 2758.62). The machinery charges were maximum under large Rs. 4274.07 followed by medium, small and marginal farms witnessed Rs. 3672.09, Rs. 3552.16 and Rs. 3253.65, respectively. In respect of human labour (family +hired) cost was maximum under marginal farms (Rs. 2943.12) followed by small (Rs. 2648.96), medium (Rs. 2500.96) and large (Rs.1674.32). The share of family labour was maximum under marginal (9.90 per cent) followed by small (8.68 per cent), medium (2.86 per cent) and large farms (1.50 per cent). The value of bullock labour was maximum on marginal farms followed by small and medium farms being Rs.248.60, Rs.97.40 and Rs.95.92, respectively. It is interestingly noticed that large farmers spent less on human labour and bullock labour, whereas favorably more on machine use charges as compared to marginal, small and medium farmers. Due to prevailing more number of family labours subjected to work on farm specially on marginal farms as compared to small, medium and large farms. Obviously the fact corresponded that as the size of farm increased with increase in number of hired labour. On an average, use of human and bullock labour declined with the increase in farm size. It is pertinent that small farms were more labour intensive as compared to other farms categories.

The total cost of cultivation was more on marginal farms (Rs.19785.71) followed by medium (Rs.19431.34), small (Rs.18844.45) and large farms (Rs.18010.42). This is the higher overhead charges per unit on marginal farms.

Table-2 indicated that per hectare gross return was found to be higher for small farmers (Rs.28132.90) followed by marginal farms (Rs.27137.60), medium farmers (Rs.26586.30) and large farmers (Rs. 24394.20). This is due to attained higher productivity by small farmers, as corresponded better management, efficient cultural operations. Per hectare the net return over cost C_2 was found to be higher (Rs. 9288.45), for small farmers as compared to marginal farmers (Rs. 7351.89). The input -output ratio on cost B_1, cost B_2, cost C_1 and cost C_2 was found to be higher for small farmers.

The marketing costs, margins and price spreads, of wheat under different channels are presented in Table- 3.

Under Channel- I (producer- consumer) the producer's share in consumer's rupee was 98.99 per cent whereas, marketing cost was 1.00 per cent. The producers received the high price of wheat as sold through this channel.

Channel - II (Producer - village trader - consumer). The producer's share in consumer's rupee estimated was 90.07 per cent. Whereas, marketing costs and margins of the village trader were 3.60 per cent and 6.13 per cent.

In Channel-III (Producer-village trader- wholesaler-retailer-consumer) the producer's share in consumer's rupee was 73.89 per cent. Trader, wholesaler and retailer earn the margin having 4.27 per cent 2.43 per cent and 3.60 per cent, respectively.

Conclusion and Policy Implications

The average cost of cultivation and productivity of wheat were Rs. 19450.70 / ha. and Rs. 798.52 /q. Highest net price received in Channel-I as compared to Channel-II and Channel-III.

Suggestive policy implications to overcome the production and marketing constraints of wheat:

1. To establish sound irrigation facilities, bio-fertilizer hub at farm level, ensure optimum electricity supply, H.Y.V. of seeds to be used along with timely sowing and improved agricultural implements at cheap rate should be accessible.
2. Liquidity through crop loan and kisan credit card be available without delaying practices..
3. Co-operative marketing and processing should be encouraged in order to get credit input, disposal of surplus produce, establishing infrastructure facilities and required a urgent need of metalled link village road with a view to avail speedy means of transportation.
4. Farmers to be trained through designated extension agency services by participation directly or availing demonstration at their own farm in order to update latest farming technology of wheat.

Table 1: Per hectare input costs on different size of sample farm of wheat

| S.No. | Components of investment | Cost imputed to various components | | | | Average |
		Marginal	Small	Medium	Large	
1.	Human labour	2943.12 (14.87)	2648.96 (14.06)	2500.96 (12.87)	1674.32 (9.29)	2758.62 (14.18)
a.	Family labour	1959.02 (9.90)	1636.96 (8.68)	557.05 (2.86)	271.05 (1.50)	1653.49 (8.50)
b.	Hired labour	984.10 (3.96)	1012.00 (5.37)	1943.91 (10.00)	1403.24 (7.79)	1105.12 (5.68)
2.	Bullock labour	248.60 (1.25)	97.40 (0.52)	95.92 (0.49)	-	188.72 (0.97)
3.	Machinery charges	3253.65 (16.44)	3552.16 (17.26)	3672.09 (18.89)	4274.07 (23.73)	3419.45 (17.58)
4.	Seed	1541.18 (7.79)	1603.29 (8.50)	1628.05 (8.38)	1663.75 (9.24)	1569.38 (8.07)
5.	Manure & fertilizers	2033.53 (10.27)	2353.88 (12.49)	2389.80 (12.29)	2433.72 (13.51)	2154.47 (11.08)
6.	Irrigation	1651.44 (8.35)	1498.79 (7.95)	2020.37 (10.39)	1487.22 (8.26)	1644.14 (8.45)
7.	Plant protection	16.40 (0.08)	33.18 (0.17)	48.62 (0.25)	187.97 (1.04)	34.49 (0.18)
8.	Land revenue	_	_	39.39 (0.20)	39.39 (0.21)	6.30 (0.03)
9.	Interest on working capital	340.51 (1.72)	355.27 (1.88)	412.95 (2.13)	400.74 (2.22)	354.05 (1.82)
10.	Interest on fixed capital	3457.28 (17.47)	2401.52 (12.74)	2323.19 (11.95)	1549.24 (8.60)	3021.37 (15.53)
11.	Rental value of owned land	4300.00 (21.73)	4300.00 (22.81)	4300.00 (22.13)	4300.00 (23.87)	4300.00 (22.10)
	Total	19785.71 (100.00)	18844.45 (100.00)	19431.34 (100.00)	18010.42 (100.00)	19450.70 (100.00)

Table 2: Measure of per hectare cost and farm profit of wheat (Values in rupees)

S.No.	Particulars	Cost and farm profit				Average
		Marginal	Small	Medium	Large	
1.	Cost A_1/A_2*	10069.41	10505.97	12251.10	11890.10	10476.15
2.	Cost B_1	13526.69	12907.49	14574.29	13439.34	13497.21
3.	Cost B_2	17826.69	17207.49	18874.29	17739.34	16467.21
4.	Cost C_1	15085.71	14544.45	15131.34	13710.42	14890.70
5.	Cost C_2	19785.71	18844.45	19431.34	18010.42	19450.70
6.	Gross income	27137.60	28132.90	26586.30	24394.20	27085.05
a.	Main product	22776.20	24261.40	22616.40	21037.20	22922.27
b.	By-product	4361.40	3871.50	3969.90	3357.00	4162.78
7.	Net return over cost C_1	12051.89	13588.45	11454.96	10683.78	12194.34
8.	Net return over cost C_2	7351.89	9288.45	7154.96	6383.78	7634.34
9.	Family labour income	9310.91	10925.41	7712.01	6654.86	9287.84
10.	Farm investment income	15109.17	15989.97	13778.15	13006.97	15009.58
11.	Farm business income	17068.19	17626.93	14335.20	12504.10	16608.89
	12. Cost of production (Rs./q.)					
a.	Cost C_1	622.60	563.52	628.90	612.62	606.11
b.	Cost C_2	816.58	730.12	807.62	804.76	798.52
	13. Input-output ratio					
a.	On the basis of cost A_1	1:2.69	1:2.68	1:2.17	1:2.05	1:2.59
b.	On the basis of cost A_2	1:2.69	1:2.68	1:2.17	1:2.05	1:2.59
c.	On the basis of cost B_1	1:2.00	1:2.18	1:1.82	1:1.81	1:2.00
d.	On the basis of cost B_2	1:1.52	1:1.63	1:1.40	1:1.38	1:1.52
e.	On the basis of cost C_1	1:1.79	1:1.93	1:1.75	1:1.78	1:1.81
f.	On the basis of cost C_2	1:1.37	1:1.49	1:1.36	1:1.35	1:1.39

* Cost A_1 and A_2 are same because of no leased land involved.

Table 3: Price spread of wheat under different marketing channel. (Rs./q.)

S.No.	Particulars	Channel-I	Channel-II	Channel-III
1.	Net price received by producer	939.98 (98.99)*	912.31 (90.07)	906.50 (73.89)
2.	Total price received by producer	949.57 (100.00)	912.31 (90.07)	906.50 (73.89)
3.	Expenses incurred by the producer	9.59 (1.00)	-	-
4.	Producer's selling price/village trader purchase price	-	912.31 (90.07)	906.50 (73.89)
	Expenses incurred by village trader	-	36.49 (3.60)	58.45 (4.76)
	Village trader margin	-	63.97 (6.31)	52.34 (4.27)
5.	Village trader selling price/wholesaler's purchase price	-	-	1017.29 (82.92)
6.	Expenses incurred by wholesaler	-	-	88.92 (7.25)
	Wholesale's margin	-	-	29.86 (2.43)
7.	Wholesaler's selling price/Retailer purchase price	-	-	1136.07 (92.60)
	Expenses incurred by the retailer	-	-	46.42 (3.78)
	Retailer's margin	-	-	44.20 (3.60)
8.	Gross marketing margin	9.59 (1.00)	100.45 (9.91)	320.10 (26.09)
9.	Consumer's price	949.57 (100.00)	1012.80 (100.00)	1226.76 (100.00)

Note: Figures in parentheses show the per cent to corresponding total

References
1. Birader RD. Marketing costs, margins and price spread of selected agricultural commodities in kolhapur district, Maharastra, Indian Journal of Agricultural Marketing. 1996; 11(4):60-61.
2. Dash JK, Singh RP, Pandey RK. Economic analysis of summer rice production in Bahargora block of Singhbhum district, Bihar-a case study. Journal of Research, Birsa Agriculture University 1995; 7(2):131-135.
3. Garg S, Kumar A, Sharma P. Efficiency of the Regulated Market of Wheat in Bikaner District of Rajasthan, Indian Journal of Agril. Marketing. 2004; 18(3):70-71.
4. Goel RC, Gangwar AC. Marketing costs and margins of rice in Kurukshetra district, Agricultural Situation in India 1978; XXXIII(5):279-301.
5. Karwasara JC, Arora VPS. A study of farm-retail price spread of wheat and rice in India, Indian Journal of Agricultural Marketing, 1995, 12-16.
6. Kumar A, Singh R, Jagshoran. Constraints analysis of wheat cultivation in eastern India, Indian J Agric. Res. 2007; 41(2):97-101.
7. Legesse D, Basavaraja H. Production and marketing of wheat in Dharwad district-An Economic Analysis, Indian Journal of Agricultural Marketing 2004; 18(1):75-79.
8. Mahapatra SC, Mishra SN, Pradhan PN. Marketing strategies of rice in Orissa: a case study, Bihar Journal of Agricultural Marketing 1998; 6(1):50-54.
9. Malik DP, Singh SN, Rai KN. Factors affecting the marketed and marketable surplus of wheat and paddy in Kurukshetra district of Haryana, Agricultural Marketing 1992; 35(2):21-23.
10. Raghuwansi CG, Awasthi AJ, Sharma D. Resource use efficiency in wheat cultivation in Madhya Pradesh, Indian Journal of Agricultural Research. 1999; 33(1):67-71.