

Economic analysis of wheat marketing in Vindhyan plateau of Madhya Pradesh

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ABSTRACT

The present study was an attempt to work out the marketable surplus, marketed surplus, factor affection of marketed surplus, marketing cost, marketing margin, price spread and producer share in consumer's wheat using different marketing concepts at different size of farms in Vindhyan plateau of Madhya Pradesh. The study is based on primary data collected from 132 cultivators belonging to three categories namely, small farms (63), medium farms (47) and large farms (22). The marketable surplus of wheat was found to be highest on large size of farm while marketed surplus was highest on medium size of farm. The distance from mandi and family size showed negative impact on marketed surplus. The marketing cost, marketing margin, price received by the farmer and price spread were found to be highest in channel second as compared to channel first and channel third while producer's share in consumers rupees was found to be highest in channel third as compared to other channels.

KEY WORDS : Marketable surplus, Marketed surplus, Marketing cost, Price spread, Producer share

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An efficient marketing system guarantees to the farmers better prices for farm products and induces them to invest their surpluses in the purchase of modern inputs so that productivity and production may increase. At present the major problem in wheat production is stagnant trend in productivity in the country in general and Madhya Pradesh in particular. Beside this, other problems in wheat production are poor resource base of the farmers and non-adoption of techniques of production. In the wake of technological advancements in agriculture, the endeavours are to increase the productivity, profitability, adoptability, stability and sustainability of the farm business. The reason

is that an increase in agriculture output is essential for meeting the rising demand of various agriculture products in an expanding economy because of rising income, increasing population, urbanization and globalization. It is also supplemented by rising demand for agricultural raw material on the part of agro-based industries. Agricultural production in India has made a great strides but the increased production of agricultural commodities is not only the satisfaction of the producer, unless it is supplemented by the efficient marketing to get his proper share in production. The area of wheat is about 4.28 million hectare and production of 8.41 million tones which is 15.03 per cent area and 10.41 per cent production of India with average productivity of 1723 kg/ha which is far below than the average productivity of India of 2907 kg/ha (GOI 2010-11). The present study is an attempt to work out the marketable surplus, marketed surplus and factor affecting marketed surplus on different farms size, marketing cost, marketing margin, producer's share in consumer rupees and analyzed the price spread in different marketing channels.

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METHODOLOGY

The study was confined to Vindhyan plateau agro-climatic region of Madhya Pradesh, which covers six districts namely, Bhopal, Sehore, Raisen, Vidisha, Sagar and Damoh. On the basis of homogeneity with respect of agro-climatic development, Vidisha district was randomly selected for this study. Three stage random sampling design, *i.e.* block, village and wheat growers, was followed for sample selection for the study. Vidisha block of the district was selected randomly and five villages of this block were further randomly selected for collection of primary data from wheat cultivators. A list of all the wheat growers of these five selected villages was prepared and categorized into small (< 2 ha), medium (2 to 4 ha) and large (> 4 ha) based on the operational holding (Prasad, 1975). Further, 10 per cent of wheat growers were selected from each category. Thus, ultimately sampling unit comprised of 132 total farmers and divided 63 small farmers 47 medium farmers and 22 farmers large from each size group. The complete list of wholesalers and retailers were collected from record of regulated market, 10 whole sellers, 5 flour millers and 10 retailers were selected. The data were collected through pre-tested interview schedule from sample cultivators, wholesalers and retailers for the agricultural year 2009-10. The marketable surplus, marketed surplus, factor affection of marketed surplus, marketing cost, margin, price spread and producer share in consumer's were worked out

using different marketing concepts.

ANALYSIS AND DISCUSSION

The marketable and marketed surplus, marketing channels, marketing cost and marketing margin in different marketing channels of wheat are taken into consideration.

Marketable and marketed surplus:

The marketable and marketed surplus of wheat of Vidisha district of Vindhyan plateau of Madhya Pradesh was worked and is presented out in Table 1. The retention of wheat for seed purposes varied from 5.76 to 7.29 per cent of the total production depending upon the categories of the farms. The overall retention of seed purpose on different farm of respondents was found to be 5.82, 5.76 and 7.29 per cent on small, medium and large size of farms, respectively. An average wheat growers produced 25.67q/ha in their farm, which showed increasing trend from 23.38 to 27.28 quintal per hectare. The highest production was observed in case of medium size of farm (27.28 q/ha) as compared to large (26.35 q/ha) and small size of farm (23.38 q/ha).

The average marketable surplus was less (74.87%) as compared to marketed surplus (76.33%), similarly the marketable surplus for small and medium categories of farms was less as compared to marketed surplus. The marketable surplus for large categories of farms was found to be more

Table 1: Marketable and marketed surplus of wheat at different size of farms

Sr. No.	Particular	Size of farms			(qt/ha)
		Small	Medium	Large	Average
1.	Total production	23.38(100)	27.28(100)	26.35(100)	25.67(100)
2.	Retention for consumption	5.35(22.88)	1.85(6.78)	0.92(3.49)	2.71(10.54)
3.	Retention for seed	1.36(5.82)	1.57(5.76)	1.92(7.29)	1.62(6.30)
4.	Total retention	7.63(32.63)	6.33(23.20)	5.21(19.77)	6.39(24.89)
5.	Marketable surplus	15.57(66.60)	20.95(76.80)	21.14(80.23)	19.22(74.87)
6.	Marketed surplus	16.62(71.09)	21.59(79.14)	20.57(78.06)	19.59(76.33)

Figures in parentheses indicate the total production

Table 2: Factor affecting marketed surplus

Sr. No	Particulars	Size of farms			Average
		Small	Medium	Large	
	Constant (a)	3.44	13.93	6.95	8.11
1.	Size of holding (X ₁)	1.00(1.00)	0.001(2.00)	0.001(2.00)	0.33(1.67)
2.	Production (X ₂)	1.00**(0.001)	1.00**(0.001)	1.00**(0.001)	1.00(0.00)
3.	Distance from Mandi (X ₃)	-0.048(0.089)	-0.745(0.519)	-0.470(1.669)	-0.42(0.76)
4.	Productivity (X ₄)	0.014(0.072)	0.584(0.432)	0.669(0.879)	0.42(0.46)
5.	Size of family (X ₅)	-1.02(0.14)	-1.01(0.66)	-6.00(2.00)	-2.68(0.93)
6.	Expected area (X ₆)	0.16(0.50)	0.75(4.00)	1.601.836)	0.84(2.11)
	R ² %	99	78	57	78
	N=132	62	47	22	

*and ** indicate significance of values at P=0.01 and 0.05, respectively, Figures in parenthesis indicate the standard error of regression co-efficient

(80.23%) as compared to marketed surplus (78.06%). Out of total production, the average farmer retained 6.30 per cent for seed purpose and remaining 74.87 per cent was available as marketable surplus. The large farmers have retained highest quantity for seed (7.29%) as compared to small (5.82%) and medium (5.76%) farmers. Rathi *et al.* (1986) studied the marketable and marketed surplus and price received by the different categories of farmers in Haryana. It was found the marketable surplus of wheat was 43.72 per cent, 70.87 per cent and 83.05 per cent of the total wheat production on small, medium and large farms respectively during 1980-81 to 1981.

Factors affecting marketed surplus:

The marketable as well as marketed surplus differs from region to region, within the same region from crop to crop and farm to farm. On a particular farm, the quantity of marketable surplus depends on the factors like distance from mandi, production, size of land holding, productivity of farms, size of family, requirement of seed and feed. To identify the factors, which affect the marketed surplus of wheat, a multiple regression model was used and outcome related to these are presented in Table 2. The R^2 value was 78 per cent indicating that the best fit of the function. The results of this regression analysis clearly indicated that the production of wheat was given to be positive influence and significantly related to marketed surplus (Table 1).

The size of operational holding, productivity expected area under wheat was positive impact but non-significant related with marketed surplus. The family size and distance from mandi were found to be negative and non-significant impact on marketed surplus. The family size would be large so that marketed surplus would be less as well as long distance from mandi would be reason of less marketed surplus (Table 2).

Marketing channels:

The three marketing channels were identified in the study area for marketing of wheat (Table 3).

Channel I- Farmer to wholesalers (regulated market) to retailer to consumer,

Channels II- Farmer to wholesaler (regulated market) to flour mills to retailer to consumer and

Channel III-Farmers to consumer. Out of the all three marketing channels, the farmers disposed off their more produce through channel – I and channel – II (85%).

Marketing cost:

The marketing cost, marketing margin, price spread and producer share in consumer's rupees are presented in Table 3. The marketing cost includes all the expenses, which are incurred in marketing of wheat in different marketing channels.

Table 3 : Marketing cost, margin, price spread and producer share of wheat in different marketing channels (Rs./q)

Particular	Channel		
	I	II	III
Charges paid by producer			
Cost of bag	10.00	10.00	10.00
Hammali charge	4.50	4.50	4.50
Transportation	20.00	20.00	-
Weighing	1.50	1.50	1.50
Bagging	1.00	1.00	1.00
Other	2.00	2.00	-
Marketing cost	39.00	39.00	17.00
Sale price	1279.00	1279.00	1275
Charges paid by whole seller			
Cost of bag	30.00	30.00	-
Hammali charge	2.15	2.15	-
Transportation	15.00	15.00	-
Weighing	1.50	1.50	-
Mandi fees	28.14	28.14	-
Bagging	1.00	1.00	-
Storage	3.00	3.00	-
Other	5.00	5.00	-
Marketing cost	85.79	85.79	-
Purchasing price	1279.00	1279.00	-
Total pay by wholesaler	1364.79	1364.79	-
Selling price	1450.00	1450.00	-
Margin of wholesaler	85.21	85.21	-
Charges paid by four miller			
Cost of bag	-	15.00	-
Hammali charge	-	2.00	-
Transportation	-	18.00	-
Weighing	-	2.00	-
Bagging	-	1.00	-
Storage	-	4.00	-
Processing charges	-	25.00	-
Other	-	8.00	-
Marketing cost	-	75.00	-
Purchasing price	-	1450.00	-
Total pay by four miller	-	1525.00	-
Selling price	-	1650.00	-
Margin of millers	-	125.00	-
Charges paid by retailer			
Cost of bag	30.00	30.00	-
Hammali	2.15	2.15	-
Weighing	1.50	1.50	-
Municipal fees	5.00	-	-
Transportation charge	15.00	15.00	-
Other charges	20.00	20.00	-
Marketing cost	73.65	68.65	-
Purchase price	1450.00	1650.00	-
Total pay by retailer	1523.65	1718.65	-
Selling price	1600.00	1800.00	-

Table 3: Contd.....

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Margin of retailer	76.35	81.35	-
Total marketing cost (A+B+C)	198.44	268.44	17.00
Marketing margin	161.56	291.56	1275.00
Selling price to consumer	1600.00	1800.00	1275.00
Price receipt by farmer	1279.00	1279.00	1258.00
Price spread	321.00	521.00	-
Producer's share in consumers rupees %	77.50	68.89	98.66

The marketing charges paid by the producers, whole sellers and retailers were found to be Rs. 39.00, 85.79 and Rs. 73.65 per quintal, respectively in the channel I. The marketing charges paid by the producers, whole seller, flour miller and retailer were found to be Rs. 39.00, 85.79, 75.00 and 68.65 per quintal, respectively in channel –II. In channel III, the marketing charges incurred by the farmers were found to be Rs. 17.00 only per quintal because farmers disposed off their produce at village level.

The maximum marketing charges paid by wheat cultivators were found to be Rs.39.00 per quintal in channel –I and channel –II and minimum in channel – III (Rs.17.00/q). The flour miller involved in channel-II. The marketing cost paid by flour miller was found to be Rs 75.00/q. The marketing charge paid by whole seller was found to be 43.23 per cent to the total marketing cost in channel –I, similarly 31.96 per cent to the total marketing cost in channel – II. The maximum cost of marketing was noticed in channel – II (Rs. 268.44/q) followed by channel I (Rs. 198.44/q) and channel III (Rs. 17.00/q). It was clear from the table that the produce passes through more number of intermediaries, so the cost of marketing increased, or other words, as the number of intermediaries in the channel increased, the cost of marketing also increased and *vice versa*. The transportation charges were more paid by producer, which he paid Rs. 20.00/qt. The retailer paid only Rs.15.00/qt in the area under study. In the channel –I, the maximum marketing cost paid by whole seller were found to be Rs. 15.00/qt on transportation followed by cost of bag (Rs.30/q), storage (Rs. 3.00/q), Hammali charge (Rs. 2.15/q), weighing charges (Rs. 1.50/q) and bagging charges (Rs. 1.00/q). The cost of bag, Hammali, weighing, establishment charge, transportation, cost of storage and other charges were found to be Rs. 30.00, Rs. 2.15, Rs. 1.50, Rs. 6.00, Rs. 28.14, Rs. 15.00 and Rs. 3 per quintal, respectively under the channel

– I. The similar study of soybean was also conducted by Ahirwar *et al.* (2005).

Marketing Margin and producer share:

The marketing margin and producer's share in consumer rupees are also presented in Table 3. The marketing cost and marketing margin were found to be Rs. 198.44/q and Rs. 161.56/qt, respectively in channel –I. In channel –II, these were found to be Rs. 268.44/q and Rs. 291.56/q in case of marketing cost and marketing margin, respectively. The marketing cost was found to be Rs. 17.00/qt in channel –III. The price spread was found to be Rs. 321.00 and Rs. 521.00, in channels –I and channel –II, respectively. As regards to producer share in consumer's rupees, the producer got maximum share in consumer's rupees in channel-III (98.66%) followed by channel- I (77.50%) and channel-II (68.89%). Channel- II provided more employment to market and more price spread as compared to channel-I. The similar study was conducted in West Bengal by Sain (1981).

Conclusion:

The marketable surplus of wheat was found to be highest on large size of farm (80.23%) followed by medium (76.80%) and small size of farm (66.60%) while marketed surplus was highest on medium size of farm (79.14%) as compared to large size of farm (78.06%) and small size of farm (71.09%). The distance from mandi and family size showed negative impact on marketed surplus. The marketing cost, marketing margin, price received by the farmer and price spread were found to be highest in channel second as compared to channel first and channel third while producer's share in consumers rupees was found to be highest in channel third as compared to other channels.

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