

Economic Analysis of Marketed and Marketable Surplus of Wheat Production in Gwalior District of Madhya Pradesh

Shailendra Sharma¹, Rahul Singh², D.U.M. Rao³, R. Roy Burman⁴ and Mukesh Singh⁵

ABSTRACT

The study on marketed and marketable surplus of wheat was conducted in Gwalior district of Madhya Pradesh. The study revealed that maximum (nearly 68 percent) farmers (in all categories of small, medium and large) preferred Channel IV, *i.e.*, regulated markets for marketing wheat. Even among small farmers the preference for regulated market channel is a positive indicator for farmers' prosperity. However, some farmers preferred to sell their marketed surplus through channels I and II, *i.e.*, through village merchants. The study further revealed that the total marketable surplus was estimated 77.74 per cent. In case of small farms, the percentage of marketable surplus was 46.74 per cent. The marketable surplus increased as the increased size of farms increases. It was estimated at 62.56 percent in medium farms and 85.62 percent in large farms.

Keywords: Marketed surplus & marketable surplus

INTRODUCTION

Agriculture sector assumed great significance in our economy as it contributes around 17 percent to the gross domestic product of India and also contributes to about 10 percent of Indian exports according to Economic Survey, 2017-18. (Sunder, 2018) Wheat being major cereal crop in North India has contributed about 34.6 percent of total food grain production in the country. Many research studies have focussed their attention on efficacy of newly released wheat varieties over local checks (Singh *et al.*, 2010) in Madhya Pradesh. The technological gap in adoption of recommended production practices were observed (Soni and Thakur, 2011), constraints analysis (Tiwari and Pathak, 2014), yield gap analysis of wheat (Kumar *et al.*, 2014), preference of salt-tolerant wheat varieties (Nikam *et al.*, 2016). While adequate number of research studies focussed on marketing (Lal *et al.*, 2003; Kumar *et al.*, 2013, Kajale, 2013; and Sharma,

2015), no studies have been found to clarify the actual amounts of wheat marketed through different marketing channels.

Hence, a research study was planned to ascertain the marketing channels preferred by wheat growers for disposing their surplus wheat and to estimate the extent of marketable surplus and marketed surplus of wheat in different sized of farms.

METHODOLOGY

The study was undertaken in Gwalior district, which was purposively selected from Pearlmillet-Wheat zone of Madhya Pradesh. Three-stage-stratified random sampling was used. At first stage, Morar block was selected having highest area (1150 ha.) under wheat crop in the district. At the second stage, five villages, *viz.*, Badegaon, Padampur-kheria, Bilheti, Berja and Mohanpur were selected randomly from

the selected blocks. A list of farmers of each selected village was prepared separately and further categorized into three groups of farmers, according to their land holdings size *viz.*, small (up to 2.00 ha.), medium (2.01-4.00 ha.) and large (more than 4.00 ha.). At the third stage, six farmers from each land-size-group were selected at random from each selected village. Thus the total sample included 90 farmers from five villages of Morar block of Gwalior district of Madhya Pradesh. Data were collected using a pre-tested interview schedule and the collected data were classified & tabulated as per the objectives of the study. Simple average and percentage were used for the estimation of marketable surplus and amount of wheat disposed through different marketing channels.

Marketable surplus is measured using the formula: $MS = P - C$

Where,

MS = Marketable surplus

P = Total Production and

C = Total requirements (family consumption, farm needs, payment to labour, artisans, landlords and payment for social and religious work.)

Marketed surplus is measured as the actual quantity of wheat sold in the market.

Marketing channels: Channels preferred by farmers for marketing wheat.

RESULTS AND DISCUSSION

The study focused on the marketing channels used by farmers, the amount of marketable surplus and actual amounts of marketed surplus through different marketing channels. The details of the results are presented and discussed here. First, the marketing channels preferred by farmers for selling wheat were recorded and the final list of marketing channels is presented in Table 1 below.

Farmers have sold varying quantities of their marketable surplus of wheat through different marketing channels. The details are given in Table 2 below.

It was observed that among the wheat growers, large size group having large size of farm sold their maximum produce through channel IV, *i.e.*, through commission agents at regulated markets (67.81%) followed by channel III, *i.e.*, through cooperative society of farmers (10.28%), Channel II, (2.49%) and channel I (6.07%) through village merchants. Accordingly, channel IV (regulated markets) was more popular in all the size of farms. The farmers sold their produce *i.e.* 51.26%, 58.93% & 64.76 marketed surplus produce in small, medium and large size groups respectively through channel IV (through commission agents at regulated markets). The small farmers also sold their surplus produce through channel IV (51.26%) (through commission agents at regulated markets) followed by channel III (18.51%) through

Table1: Marketing Channels of Wheat preferred by sample farmers of the study area

1. Channel I:	Producer – Village merchant – Whole seller – Retailer- Consumer.
2. Channel II:	Producer – Village merchant- Regulated mandi – Whole seller –Retailer – Consumer.
3. Channel III:	Producer – Co-operative society – processor – Consumer.
4. Channel IV:	Producer – commission agent – whole seller at regulated market – Processor – Retailer – Consumer.

Table 2: Disposal of farm produce in different farm size through different marketing channels (quintals of wheat)

Marketing Channels	Small farmers	Medium farmers	Large farmers	Average
Channel – I	1.16(11.61)	0.96(8.19)	0.64(3.73)	0.92(6.07)
Channel – II	1.86(18.61)	1.40(11.96)	1.64(9.61)	1.47(9.69)
Channel – III	1.85(18.51)	2.45(20.92)	3.67(21.51)	2.49(16.42)
Channel – IV	5.12(51.26)	6.90(58.93)	11.12(64.76)	10.28(67.81)
Marketed Surplus	9.99(100.00)	11.71(100)	17.07(100)	15.16(100)

cooperative society, channel II (18.61%) and channel I (11.61%) through village merchants.

Thus channel IV (through commission agents at regulated markets) was more popular among majority (67.81%) of wheat growers followed by channel III (16.42%) through cooperative society. The channels of marketing involving village merchants were found to be least preferred by wheat growers (channel II: 9.69%, and channel I: 6.07%). It is proved that producer's marketed surplus having a positive relationship with size of landholding and again it is observed that maximum wheat growers had sold their surplus produce through regulated market channels.

Marketable surplus and marketed surplus of wheat (sample farm)

In small size group, the total production of wheat was 504.64 quintals. Of this 37.50 per cent quantity of wheat was used for home consumption purpose and 4.66 percent grain was kept for seed purpose for the next year's production. The produce used as animal feed was 7.33 percent respectively. The marketed surplus of wheat in small group was 39.70 and marketable surplus was 46.74 percent of the total quantity of wheat production. Small farmer sold their 84.94 per cent of their marketable surplus respectively.

In medium size group, the selected farmers produced 928.65 quintals. The farmers kept 22.53 per cent grain for home consumption and kept 4.60 percent grains as a seed for the next year's production.

Nearly 5.17 per cent of wheat production was kept for animal feed respectively. About 5.14 percent of the produce was given to labour as kind wages. The marketable surplus of wheat was estimated to be 62.56 percent. It also reveals from the table that medium farmers sold their 72.38 percent of their marketable surplus respectively (Table 3).

The total production of wheat in large size group was 3779.57 quintal. The farmers of this group kept 5.66 per cent grains for home consumption and kept 4.33 per cent grains as a seed for the next year's production. The marketed surplus of wheat in this group was 53.92 per cent of the total produce. Large farmers sold their 62.98 per cent of their marketable surplus respectively.

The overall picture of production and disposal of wheat showed that an 11.75 per cent grain was used as home consumption and it was 2.94% used as animal feed animal feed of the total production. The marketed surplus of wheat was 51 per cent. The overall selected farmers sold their 65.60 per cent of their marketable surplus, respectively.

It was observed that the quantity in quintal of marketed surplus increased as the size of farms increased. It was lowest in small group and highest in large group. Similar trend was observed in the case of wages given to labour. In case of home consumption, the trend was opposite. The quantity of produce kept for home consumption was maximum in small group and lowest in large size group.

Table 3: Marketable and marketed surplus of wheat of different categories of farmers

Size of Holding	Total Production (Quintals)	Reserve for seed	Home Consumption	Kind wages to labour	Used for animal feed	Marketable surplus	Marketed surplus	% of marketed surplus to total production
Small (1-2ha.)	504.64 (100.00)	23.53 (4.66)	189.25 (37.50)	19.00 (3.77)	37.00 (7.33)	235.86 (46.74)	200.35 (39.70)	84.94
Medium(2-4ha.)	928.65 (100.00)	42.69 (4.60)	209.25 (22.53)	47.76 (5.14)	48.00 (5.17)	580.95 (62.56)	420.47 (45.28)	72.38
Large (4to above ha.)	3779.57 (100.00)	163.70 (4.33)	214.00 (5.66)	98.00 (2.59)	68.00 (1.80)	3235.87 (85.62)	2037.84 (53.92)	62.98
Over all	5212.86 (100.00)	229.92 (4.41)	612.5 (11.75)	164.76 (3.16)	153.00 (2.94)	4052.68 (77.74)	2658.66 (51.00)	65.60

Cropping pattern of sample farmers

The main crops grown by the sample farmers of Morar Block in Gwalior district were bajra, paddy, urd and arhar in *Kharif* and wheat, gram, Lentil, Pea and *etc.* in *Rabi* season. The areas under these crops are given in Table 4. The area under wheat was highest in all the size groups. The overall gross cropped area of the sample farms was 514.88 ha. Of this, 34.05 per cent are (175.31ha.) was under wheat followed by pea (7.91 per cent), gram (10.37 per cent), bajra (14.26 per cent), Paddy (8.05 per cent), arhar (3.78 per cent), urd (2.31 per cent), other crops like Vegetable *etc.* (1.14 per cent) and lentil (0.76 per cent). In small farmers group, *Kharif* crops occupied 37.54 per cent area and *Rabi* crops occupied 62.56 per cent area of farmers the gross cropped area.

Similarly, in medium group, the area occupied by *Kharif* crops was 21.01 per cent and *Rabi* crops was 78.99 per cent. Among the large farmers, 28.41 per cent area was under *Kharif* crop and remaining 71.59 per cent area was under *rabi* crops. The Cropping pattern of Gwalior district was *Rabi* crops dominated and wheat was the major crop of this district which occupied highest area in cropping pattern (Table 4).

CONCLUSION

It was observed that marketable surplus depends upon the volume of production, which ultimately increases with the increase in farm size. Since family

requirement, irrespective of farm size usually remains the same, large farm owners have more surpluses to offer for sale in the market in comparison to others. Higher marketable surplus on the farms can be achieved by raising productivity level of wheat. It is well known fact that productivity level is higher on the farms operating with higher technology and mechanization which generally is true for large farm. The total marketable surplus was estimated 77.74 per cent. In the case of small farms the percentage of marketable surplus 46.74 per cent. The marketable surplus increases as the size of farms increases. It was estimated at 62.56 per cent in medium farms and 85.62 per cent in large farms.

Paper received on : May 11, 2018

Accepted on : May 24, 2018

REFERENCES

- Kajale, J. and Shroff, S. (2013). Assessment of Marketable Surplus and Marketed Surplus of Major Food Grains in Maharashtra. *Agro economics Research Centre*, Gokhale Institute of Politics and Economics, Pune.
- Kumar, J., Singh, Y.P. and Rana, D.K. (2014). Yield and Gap Analysis of Wheat Productivity in NCR of Delhi. *Indian Journal of Extension Education*, 50(1&2), 56-58.
- Kumar, P., Eluamalai, K., and Kedar, V. (2013). Assessment of Marketable and Marketed Surplus of

Table 4: Cropping patterns of the sample farmers

Size of holding	Area share and the crop (proportion to GCA) per cent										
	Crops										
	Bajra	Paddy	Urd	Arhar	Wheat	Mustard	Gram	Pea	Lentil	Other crops	Gross cropped area (in ha.)
Small	13.19 (28.75)	2.66 (5.80)	0.67 (1.46)	0.70 (1.53)	20.04 (41.68)	5.18 (11.29)	2.05 (4.47)	1.17 (2.55)	0.19 (0.41)	0.03 (2.06)	45.88 (100)
Medium	10.33 (10.82)	5.15 (5.39)	3.67 (3.84)	3.78 (3.96)	35.91 (37.60)	18.23 (19.09)	10.08 (10.55)	7.34 (7.68)	0.45 (0.47)	0.57 (3.60)	95.51 (100)
Large	49.90 (13.36)	33.67 (9.01)	7.54 (2.02)	15.01 (4.02)	119.36 (31.96)	66.02 (17.68)	41.25 (11.04)	32.21 (8.62)	3.27 (0.88)	5.26 (1.41)	373.49 (100)
Total Area	73.42 (14.46)	41.48 (8.05)	11.88 (2.31)	19.49 (3.78)	175.31 (34.05)	89.43 (17.37)	53.38 (10.37)	40.72 (7.91)	3.91 (0.76)	5.86 (1.14)	514.88 (100)

Figure in parenthesis indicates percentage to gross cropped area.

Major Food Grains in Karnataka. *Agriculture Development and Rural Transformation centre, Institute for Social and Economic Change*. Bangalore, Karnataka.

Lal, R.C., Singh, J., Sharma, A. And Tyagi, D.B. (2003). Marketable Surplus and Marketing Behaviour of the Farmers-A case study of Wheat Growers in Agra District of Uttar Pradesh. *Indian Journal of Agriculture Marketing*, 17(2), 106-110.

Nikam, R.V., Chinchmalatpure, Anil and Kad, Sanjay. (2016). Farmers Perception about Salt Tolerant Wheat Varieties in Saline areas of Gujarat. *Indian Journal of Extension Education*, 52(1&2), 61-64.

Sharma, R. (2015). Economics of Production, Marketing and Processing of Mustard in Morena District (M.P.). Thesis (Unpublished), RVSKVV, Gwalior (M.P.).

Singh, A. K., Pandey, H. N. and Singh, Y. (2010). Yield and Profitability of New Wheat Varieties in Madhya Pradesh. *Indian Journal of Extension Education*. 46(1&2), 132-136.

Soni, S. N. and Thakur, S.S. (2011). Technological Gap in adoption of recommended wheat production practices. *Indian Journal of Extension Education*. 47(1&2), 117-119.

Sunder, S. (2018). India Economic Survey 2018. Farmers grain as agriculture mechanization Speeds up, but more R&D needed. *Financial Express*. Published on Janaury 29, 2018, 3.05 pm.

Tiwari, A.K. and Pathak, Jagannath. (2011). Constraints faced by Rice-Wheat growers in training improved by KVKs. *Indian Journal of Extension Education*. 47(3&4), 82-85.