



## Marketing pattern of rapeseed-mustard of three categories of farmers in Morena district of Madhya Pradesh

Shailendra Sharma, Rahul Singh, DUM Rao and Lakhan Singh\*

ICAR-Indian Agricultural Research Institute, New Delhi-110012, India

\*Corresponding author: lakhanextn@gmail.com

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### Abstract

Rapeseed-mustard is an important edible oilseed crop in India, being cultivated predominantly in the states of Rajasthan, Madhya Pradesh, Haryana, Uttar Pradesh, West Bengal and Gujarat. The present study was undertaken to study the marketing pattern of rapeseed-mustard in Morena district of Madhya Pradesh, India. The sample of farmers included 75 farmers each of small, medium and large farmer categories, amounting to 225 farmer respondents. The study found that the marketable and marketed surplus of rapeseed-mustard ranged from 92.4% (small farmers), 95.6% (medium farmers) and 97.8% (large farmers) out of their total production. But their income varied greatly as small farmers sold away 84.7% in the first two months; even when the prices were lower, to meet urgent farm and family obligations. But medium and large farmers did not resort to 'distress sale', but reaped better returns by storing, watching the market prices, and selling at higher prices in later months. Timely market information, storage and credit facilities may help small farmers reap better returns.

**Key words:** Distress sale, rapeseed-mustard, marketing pattern, marketable surplus

### Introduction

India is one of the largest producers of rapeseed-mustard in the world and contributing about 16 per cent with acreage of 7.31 million hectares (Anonymous, 2014). Rapeseed-mustard is the second most important edible oilseed crop in India after groundnut. In our country, the states producing Indian mustard (*Brassica juncea*) are Rajasthan, accounting more than 48 per cent of its production, followed by Madhya Pradesh, contributing about 11.33 percent in 2013-14. In Madhya Pradesh, this crop is mainly cultivated in Morena, Bhind, Sheopur, Gwalior, and Shivpuri districts of Gird region. Peak arrival period for rapeseed-mustard seed in markets is between February and May. Thereafter, their arrival starts declining and goes down to the least in the month of October. The actual trade of rapeseed-mustard in particular is mainly in the hands of middlemen with producers playing a secondary role. Farmers resort to selling marketable surplus of rapeseed-mustard in different months as market

prices vary from month to month depending on arrivals in markets, thereby resulting in variable incomes for farmers. Keeping these aspects in mind, present study was undertaken with the objectives of studying the pattern of Marketing and prices of rapeseed-mustard in Morena District of Madhya Pradesh.

### Materials and Methods

Morena district of Madhya Pradesh was purposively selected for the present study because it is one of the major rapeseed-mustard growing districts of Madhya Pradesh, India. A sample of 225 rapeseed-mustard growing farmers, comprising 75 large farmers, 75 medium farmers and 75 small farmers, were selected randomly from three blocks (Morena, Porsa and Kailaras) of Morena district. The primary data were collected using pre-listed question schedule through survey method. The data that were collected included farm size of rapeseed-mustard crop, total rapeseed-mustard produced in their farms, amount of rapeseed-mustard kept for home

consumption including seed for oil, seed for sowing in next season. From among the farmer's marketable surplus, data on amount of rapeseed-mustard seed sold by each farmer in each month were also collected. Data on market arrivals and average wholesale market price for every month from March 2013 to February 2014 were collected from APMC market of Morena district, where farmers sold their rapeseed-mustard crop produce. The total incomes from selling varying quantities of rapeseed-mustard at varying market prices were also computed for all categories of farmers.

### Results and Discussion

Extent of marketable and marketed surplus of rapeseed-mustard from different size of farm holdings was examined to assess the quantity which is available and actually marketed. Small farmers, medium farmers and large farmers have grown rapeseed-mustard crop in varying farm sizes. First, the average farm size of small farmers was computed by taking an average of total land cropped under rapeseed-mustard by all the 75 small farmers. Similarly the average farm size of medium farmers and large farmers was computed. The average farm sizes were 1.2 ha, 3.0 ha and 5.6 ha for small, medium and large farmers respectively. The average production for each farm size of three categories of farmers were computed, including their amounts of rapeseed-mustard kept for seed and home

consumption and their average marketable surplus. These results are presented in Table 1.

The data presented in Table 1 shows that the per-farm total production of rapeseed-mustard was 52.6 quintal. Out of the total production, only 3.3 per cent of the produce was retained by the producers for meeting their family and farm obligations. Out of the total quantity retained by the producers, 3.00 per cent was used for consumption as raw rapeseed-mustard and for oil crushing. The total marketable and marketed surplus was 50.8 quintals, which accounts for 96.7 per cent of the total production. Marketable and marketed surplus in absolute and percentage terms was directly related with the size of farm holding. Zala and Darji (2011) found, in the study on marketing of red gram (pigeon pea) that marketable surplus was positively and significantly related with cropped area (farm size) and average productivity.

But the total quantity retained was inversely related with the size of farm holdings. Thus the extent of marketable and marketed surplus was more or less similar, with small farmers selling 92.37 percent, medium farmers selling 95.61 percent and large farmers selling 97.77 percent of their total rapeseed-mustard production. But their selling behaviour was found to be quite interesting as they sold at different prices in different months.

Table-1: Marketable and marketed surplus of rapeseed-mustard on different size groups of holdings

S. Particulars No.	Farmers			
	Small(75)	Medium(75)	Large(75)	Overall(225)
1. Average farm size (ha)	1.2	3.0	5.6	3.267
2. Average production per farm (q/ha)	15.2 (100.00)	42.13 (100.00)	100.4 (100.00)	52.57 (100.00)
3. Average amount of rapeseed-mustard kept for seed for next season (q)	0.1 (0.66)*	0.2 (0.47)	0.21 (0.21)	0.17 (0.32)
4. Average amount of rapeseed-mustard kept for Home consumption (q)	1.06 (6.97)	1.65 (3.92)	2.03 (2.02)	1.58 (3.00)
5. Average total quantity retained (3+4)	1.16 (7.63)	1.85 (4.39)	2.24 (2.23)	1.75 (3.33)
6. Average marketable & marketed (q) (2-5) surplus	14.04 (92.37)	40.28 (95.61)	98.16 (97.77)	50.82 (96.67)

\*Figures in parentheses show the percentage to total production

The market prices at Morena APMC market were procured for 12 months from March 2013 to February 2014 in order to calculate the actual earnings of farmers from the sale of rapeseed-mustard in every month. The data were analysed and the results of average incomes of three categories of farmers are presented in Table 2.

The data in the Table 2 reveals the selling behaviour of rapeseed-mustard growers in Morena district. Selling of rapeseed-mustard usually starts immediately after harvest of the crop by most of the farmers during the months of April and May. Then they are well dried and stored properly before the onset of monsoons. Hence during the rainy season months of June, July and August no sales occur. After the withdrawal of monsoon in the month of September, farmers open their storehouses, as sowing season starts in September-October-November. After sowing rapeseed-mustard, farmers

would again resort to sale of their excess marketable surplus in October, November and December, when the prices would be high.

Farmers were found to possess a very high degree of economic motivation and sell their rapeseed-mustard according the fluctuating prices: selling when prices are reasonably higher and storing away when prices fall and waiting for increase in prices. The selling behaviour of the three categories of farmers is discussed here based on the amounts of rapeseed-mustard sold by the farmers in different months as can be seen from the data presented in Table 2.

**Small Farmers**

As can be seen from the data in the Table, on an average, small farmers have sold away 52.3 quintals of rapeseed-mustard in the month of April and 33.4 percent of their marketable surplus in May. Thus

Table 2: Average income of the three categories of farmers growing rapeseed-mustard

Categories of farmers		Small farmers (75)		Medium farmers (75)		Large farmers(75)	
Average farm Size of farmers		1.2 ha		3.0 ha		5.6 ha	
Months	Prices (Rs./Q)	Amount (q)	Amount (Rs.)	Amount (q)	Amount (Rs.)	Amount (q)	Amount (Rs.)
Total (average) marketed amounts of rapeseed-mustard		14.04 (100.0)		40.3 (100.0)		98.16 (100.0)	
March	3150	-	-	-	-	-	-
April	3230	7.34 (52.3)	23708.2	1.2 (3.0)	3876.0	2.03 (2.1)	6556.9
May	3200	4.55 (32.4)	14560.0	23.5 (58.4)	75328.0	34.3 (34.9)	109696.0
June	3165	-	-	3.2 (8.0)	10254.6	-	-
July	3175	-	-	-	-	-	-
August	3240	-	-	-	-	-	-
September	3250	1.28 (9.1)	4160.0	1.85 (4.6)	6012.5	6.63 (6.8)	21547.5
October	3300	-	-	6.4 (15.9)	21186.0	22.3 (22.7)	73458.0
November	3400	-	-	3.3 (8.2)	11254.0	14.3 (14.6)	48620.0
December	3300	0.87 (6.2)	2871.0	0.7 (1.8)	2376.0	11.8 (12.1)	39072.0
January	3170	-	-	-	-	1.80(1.8)	5706.0
February	3000	-	-	-	-	5.0 (5.1)	15060.0
Total (Average) Income (Rs.)	45299.2	-	130287.1	-	319716.4	-	-
Average Income per hectare	37749.3	-	43429.0	-	57092.2	-	-

Note: July and August being monsoon months, the rapeseed-mustard is stored away for sale after monsoons

small farmers have sold away 11.9 quintals (84.7 percent) of their marketable surplus in the first two months after harvest when the prices ranged from Rs.3230 and Rs.3200 per quintal.

Thus it can be concluded that the small farmers have resorted to 'distress sale' at much lower prices. This is what happens, usually with small farmers (with meagre resources) who resort to 'distress sale' due to poverty conditions at home. Usually, by this time, last years' wheat grains might have exhausted and farmers after selling away rapeseed-mustard and buy & bring back some wheat grains for their home consumption.

These small farmers would continue to be poor as they have only 2.2 quintals (15.3 percent) of marketable surplus left in their homes. They have sold away 1.3 quintals (9.1 percent) of their marketable surplus at Rs. 3250 per quintal in September and the rest 0.87 q (6.2 percent) of rapeseed-mustard at Rs. 3300 per quintal. Thus it is evident that small farmers had only nearly 2 quintals of rapeseed-mustard for sale when the prices have risen and they have earned very poor real incomes. Thus they continue to be poor. In order to ameliorate this condition, the case for increasing productivity of rapeseed-mustard in the fields of small farmers has gained significance. Small farmers are large suppliers of agricultural crops during harvest time and they sell their crops to meet their cash obligation even when prices are low. Small farmers are worse off because of the seasonal sales pattern and price variation (Alam and Afruz, 2002).

### **Medium Farmers**

Medium farmers were found to sell only 1.2 quintals (3.0 percent) of rapeseed-mustard in the month of April at Rs.3230 per quintal, earning an amount of Rs.3876.0 only. Then in May they sold away 23.5 q (58.44 percent) of rapeseed-mustard at Rs. 3200 per quintal, and earned Rs. 75328.0 only. Then in June, medium farmers have sold away 3.24 quintals (8.04 percent) of rapeseed-mustard at Rs. 3165 per quintal and earned Rs. 10254.6. Thus they have earned only Rs. 89458.6 by selling 28.0 quintals (69.46 percent) of their marketable surplus. Thus they have only 12.30 quintals (30.5 percent) of

marketable surplus of rapeseed-mustard left for further sale.

Then the medium farmers, on an average were found to sell their rapeseed-mustard at higher prices in the four months (September to December) and could earn Rs. 40828.5 only. Thus the medium farmers could not earn more as they have also resorted to 'distress sale' in case of selling rapeseed-mustard. Thus they have incurred losses as they have sold away nearly 70 percent of their marketable surplus before the onset of monsoon and even before the prices started rising in the market. The selling behaviour of medium farmers is not better than the small farmers. This finding is supported by Alam and Afruz (2002) who reported that small farmers resort to 'distress sale' to meet their cash obligations. Medium farmers also did the same in this study and became victims of seasonal price variations.

### **Large Farmers**

On an average, large farmers had a land size of 5.6 hectares (average of 75 sampled large farmers) and had a marketable surplus of 98.16 quintals of rapeseed-mustard. Large farmers have sold away only 2.0 quintals (2.1 percent) of rapeseed-mustard in April at Rs. 3230 per quintal and sold away 34.3 quintals (34.9 percent) of rapeseed-mustard in May at Rs. 3200 per quintal. Thus they have sold 36.31 quintals (37.0 percent) of rapeseed-mustard and earned Rs. 116252.9 only. Then during the monsoon season they have stored well their surplus produce of rapeseed-mustard.

Large farmers have thus stored away 61.9 quintals (63.0 percent) and sold away 55.0 q (56.1 percent) of rapeseed-mustard after rainy season when the prices were rising during the next four months (September to December) and earned Rs. 182697.5 at prices ranging from Rs. 3250 – 3400 – 3300 per quintal. Then during the months of January and February, when prices were falling, they sold away 6.82 q (6.94 percent) of rapeseed-mustard at Rs.3170 and Rs.3000 per quintal and earned Rs. 20766.0 only. Thus the large farmers have earned a total of Rs.319716.4 from sale of rapeseed-mustard. Thus large farmers have earned more than small and medium farmers. This finding is supported by Alam and Afruz (2002) who reported that large

Table 3: Comparison of economy of the three categories of farmers growing rapeseed-mustard

Categories of farmers	Small farmers (75)	Medium farmers (75)	Large farmers (75)
Average farm Size of farmers	1.2 ha	3.0 ha	5.6 ha
Average production per farm	15.2 q	42.1 q	100.4 q
Total (average) marketed amounts of rapeseed-mustard	14.0 q	40.3 q	98.2 q
Amount of rapeseed-mustard sold away immediately after harvest (' <i>distress sale</i> ')	11.9 q (84.7%)	28.0 q (69.5%)	36.3 q (37.0%)
Amount of rapeseed-mustard stored	2.2 q (15.3%)	12.3 q (30.5%)	61.85 q (63.0%)
Total (Average) Income	Rs. 45299.2	Rs. 130287.1	Rs. 319716.4
Comparable picture			
Average production per farm (q/ha)	12.7 q	14.0 q	17.9 q
Average marketed surplus per hectare	11.7 q	13.4 q	17.5 q
Average Income per hectare (Rs./ha)	37749.3	43429.0	57092.2

farmers received the highest prices because of their relatively strong bargaining capacity with the market intermediaries.

A cursory look into the total earnings of all farmers revealed that their earning ranged from Rs. 45299.2 (small farmers), Rs. 130287.1 (medium farmers) and Rs. 319716.4 (large farmers). Average earnings per hectare of rapeseed-mustard ranged from Rs. 37749.3 (small farmers), Rs. 43429.0 (medium farmers) and Rs. 57092.2 (large farmers). Thus, the profit margins of large farmers were much higher than those of medium and small farmers (Table 3). Large farmers, being resourceful could wait for rise in prices and sold their stored rapeseed-mustard at profitable prices.

Thus it can be concluded that the selling behaviour of the three categories of farmers differed considerably resulting in losses or profits depending on the time of sale and at different prices. Large farmers exhibited a higher degree of economic motivation and business acumen and gained considerable profits as against medium and small farmers. Small farmers continued to be poorer as they could not avoid '*distress sale*'. Medium farmers were found to be slightly better off than the small farmers.

Further comparison of the economy of rapeseed-mustard growers was attempted and the data were further analysed and the results are presented in

Table 3 to have an overview of their economy. The results revealed the comparative picture. The average productivity of three categories of farmers was at 12.7, 14.0 and 17.9 quintals per hectare. While the productivity of rapeseed-mustard progressed with increase in land size of farmers, their selling behaviour had adversely affected their real incomes as small farmers and medium farmers have resorted to '*distress sale*' immediately after harvest although the prices were at the lowest. This selling behaviour of small and medium farmers had gravely differentiated them from large farmers.

As the average productivity of three categories of farmers varied, their average per hectare incomes too varied. Small farmers could earn Rs. 37749.3 per hectare; medium farmers could earn Rs. 43429.0 per hectare; large farmers could earn Rs. 57092.2 per hectare. The incremental income of medium farmers over that of small farmers was up to Rs. 5679.7, while large farmers have earned Rs. 19342.9 over small farmers and earned Rs. 13663.2 over medium farmers.

### Conclusions

Here, in this study it was found that among the rapeseed-mustard growing farmers and extent of marketable and marketed surplus was more or less similar among sample farmers of three categories: small, medium and large farmers, which ranged from 92.37 percent to 97.77 percent. In general,

marketable surplus of crops reflect farmer's well-being. But this well-being is directly dependent on the selling behaviour of farmers, the seasonal pattern of sales and seasonal variation in prices. This study had amply proved that mere possessing a good amount of marketable surplus is not enough for attaining prosperity of farming community.

The Study found that just after harvesting of produce, maximum quantity was marketed by the rapeseed-mustard producers for want of money to meet farm and family obligations. It is interesting to note that as the size of holding increased, the percentage disposal of rapeseed-mustard produce during the months of April-May got decreased (about 84 percent by small farmers and about 70 percent by medium farmers). Again among large farmers, this distress disposal further decreased to nearly 37 percent. Later large farmers had withheld the produce due to their strong financial resource base and sold at higher prices during the lean period. It was also noted that quantity marketed during lean period (October - December) was higher on large farms (nearly 50 percent) as compared to medium size group of farms (nearly 26 percent) and dismally low in case of small rapeseed-mustard producers (only 6 percent), when the rapeseed-mustard prices were at Rs.3300-Rs.3400 per quintal.

This adverse condition can be ameliorated through setting up warehouses where small farmers can store their produce during the monsoons, get a receipt, which can be used as financial instrument for getting small loans to meet their urgent farm and family obligations. Such credit facilities may help small farmers in realising the well-being built in higher production and more marketable surpluses. In addition, farmers may be provided timely information on arrivals and market prices on a daily basis from a reliable source so that they benefit from appropriate selling behaviour, resulting in better farm incomes to rapeseed-mustard growers.

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