

Marketing and Price Spread of Rice in Hanumangarh District of Rajasthan

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Abstract – The present study was conducted in Hanumangarh district of Rajasthan state which has highest production under rice cultivation. This study is based on the data collected from 60 rice-producers in Rajasthan in 2012-13. The rice producers were using two marketing channels for the disposal of rice. Channel-I Producer- village trader-wholesaler - miller- retailer- consumer while Channel-II was having Producer- wholesaler- -miller-retailer- consumer. The total marketing cost in Channel-I and II was estimated to be ₹816.08 and ₹749.25 per quintal, respectively. The marketing cost has been found to be higher in Channel-I due to involvement of more number of middlemen as compared to Channel-II. The producer's share in the consumer's price was estimated to be 62.50 and 66.41 per cent in Channel-I and II, respectively. Price spread was maximum in channel-I (24.76 per cent) followed by channel-II (21.87 per cent).

Keywords – Marketing Channels, marketing cost, margins, price spread, Rajasthan

I. INTRODUCTION

Rice is the world's single most important food crop and a primary food for more than a third of the world's population. Rice is grown worldwide over an area of 161 million hectare with an annual production of 678 million tonnes. It is cultivated in 114 of the 193 countries of the world. However, more than 90 percent of the rice is produced and consumed in Asia, China and India account for about 50 percent of the world's rice area and 56 percent of the production. India has the world's largest area devoted to rice cultivation, and it is the second largest producer of rice after China. Over half of its rice area is irrigated, contributing 75% of the total production. Notably, this area also consumes 50-60% of the nation's finite freshwater resources. Of the country's 1.15 billion inhabitants, 70% rely on rice for at least a third of their energy requirements Thiyagarajan and Gujja, (2013). The country's rice production declined to 89.13 million tonnes in 2009-10 crop years (July-June) from record 99.18 million tonnes in the previous year due to severe drought that affected almost half of the country. India could achieve a record rice production of 106.54 million tonnes in 2013-14 crop years on the back of better monsoon this year. Directorate of economics and statistics (2013-14). Rajasthan, covering a land area of 3,42,239 sq km is the largest state constituting 10.41 per cent geographical area of India and is situated in the north western part of the country. The rice is cultivated in Rajasthan on small area, and its triennium average productivity of the Rajasthan in 2013-14 is 2147 kg/ha which is much below the national average productivity 4195kg/ha in Hanumangarh [1]. The low yield is probably contributed due to adoption of old

traditional varieties and lack of irrigation facilities. The coverage under high yielding varieties is less than 30% and the area under irrigation is about 50% in the State [1]. Hanumangarh district ranks first in production and second in area of rice. Marketing is regarded as important multiplier and effective engine of development. Due to inefficient marketing system, the farmers share in consumer rupees is very low. A significant share of consumer rupee is forfeited by intermediaries. An efficient system of marketing of rice will result in reduction of marketing cost and middlemen profit, thereby, increasing farmers share in consumer's rupee. Therefore, the present investigation was taken up with the marketing cost and price spread in different marketing channels of rice.

II. RESEARCH METHODOLOGY

Rice crop was purposively selected for the detailed study because this crop has a good place among the cereal crops and certain problems are faced by the rice cultivators in that area Rajasthan is low rice producing, trading and consuming state in the country. Hanumangarh district having first place in terms of area and production of rice in the state was purposely selected for the study. Then, one tehsil — Tibbi of Hanumangarh district was selected and from these tehsil, based on the criteria of maximum production and sale of rice, two villages falling under the command area of Krishi upaj mandi Samti, Hanumangarh were selected. A list of the rice-growing farmers from these villages was prepared and a total of 60 farmers [(17 marginal <1 ha), 14 small (1- 2 ha), 12 semi-medium (2-4 ha) 16 medium (4-10 ha) and 7 large (> 10 ha)] were selected randomly in proportion to their total number in each farm- size group. Primary data were collected for the study. For study, primary data relating to the agricultural year 2012-13 [2]. The primary data were collected from the selected rice cultivators, using personal interview method. The primary data regarding various aspect of marketing such as marketing channels, marketing costs, and margins in marketing of rice were collected through discussion with farmers, village traders, wholesaler-cum-commission agent, miller and retailers by actual spot observations. Simple tabular analysis was done for analysis of data so collected to draw the inference in accordance with the objectives. The brief account which given as under:

Total Cost of Marketing:

The total cost incurred on marketing of rice crop by the farmers and the intermediaries involved in the process of marketing was calculated as:

$$C = C_F + C_{m1} + C_{m2} + C_{m3} \dots\dots\dots + C_{mn}$$

Where,

C = Total cost of marketing

C_F = Cost borne by the producer-farmer in marketing of rice crop; and

C_{mi} = Cost incurred by the ith middlemen in the process of marketing

Absolute Margin:

The absolute and percentage margins of middleman involved in the process of marketing were calculated as:

$$\text{Absolute margin of } i^{\text{th}} \text{ middleman} = P_{Ri} - (P_{pi} + C_{mi})$$

$$\text{Percentage margin of } i^{\text{th}} \text{ middleman} = \frac{P_{Ri} - (P_{pi} + C_{mi})}{P_{Ri}} \times 100$$

Where,

P_{Ri} = Sale price of the ith middleman

P_{pi} = Purchase price of the ith middleman; and

C_{mi} = Marketing cost incurred by ith middleman

Price Spread:

The price spread refers to the difference between the price paid by the ultimate consumer and the price received by the producer i.e., seller, it includes cost of performing various marketing functions and margins of different agencies involved in marketing.

Producer's Share:

It represents the percentage share of producer in the price paid by the consumer.

$$P_s = \frac{P_f}{P_c} \times 100$$

Where,

P_s = Producer's share in consumer's rupee

P_f = Price of the produce received by the farmer; and

P_c = Price of the produce paid by the ultimate consumer

III. RESULTS AND DISCUSSION

Marketing Channels

Two marketing channels were identified in coriander marketing in the study area.

Channel-I: Channel - I Producer → village trader → wholesaler → miller → retailer → consumer

Channel-II: Producer → wholesaler → miller → retailer → consumer.

The results presented in Table 1 that 70 and 30 percent of rice was transacted through Channel-II and I, respectively. The further split of data revealed that 29.41 and 70.59 per cent of the marginal farmers disposed of their produce in Channel- I and II, respectively. The corresponding figures for small, semi-medium, medium and large were estimated to be 28.52 and 83.33, 41.67 and 58.33 and 40 and 60 and 100 percent in above said channels, respectively. This indicated that as the farm size increases the farmers prefer to dispose of their produce in regulated market rather than to the village traders as they get competitive prices in the regulated market as the produce is sold through open auction [4].

A. Marketing channels

The producer- farmers sell rice in the study area both in the village sale as well as in the nearby regulated market. The marketing channels identified in the sale of rice at these places are presented in the Table.1.

Table 1: Distribution of producer farmers adopting different marketing channels

Marketing channel	Size of group					
	Marginal	Small	Semi-medium	Medium	Large	Total
Producer- village trader- wholesaler - miller- retailer consumer	5 (29.41)	4 (28.57)	5 (41.67)	4 (40.00)	-	18 (30.00)
Producer- wholesaler- - miller-retailer- consumer	12 (70.59)	10 (83.33)	7 (58.33)	6 (60.00)	7 (100.00)	42 (70.00)
Total	17	14	12	10	7	60

Figures in parenthesis represent the percentage of the column totals

Marketing cost, Margins and Price Spread

It was found that farmers adopted following two channels in marketing of rice. The marketing costs in both the channels were worked out and are presented below:

Costs of rice marketing in incurred in Channel-I in Hanumangarh district of Rajasthan

(Channel -I Producer → Village trader → Wholesaler → miller → Retailer → Consumer)

In this channel, rice moved from producer farmers to village traders and then to wholesalers through miller and then to retailer and finally to consumer. The perusal of

Table 2 that shows that the total marketing costs were estimated to be `816.08 per quintal in Channel-I. Out of this `54.75 (6.71 per cent), `82.15 (10.07 per cent), `393.25 (48.14 per cent), ` 263.25 (32.26 per cent) and `20.88 (2.56 per cent) were incurred by the producer farmers, village traders, wholesalers, miller and retailer, respectively. It was noticed that the wholesalers had borne highest amount due to the payment of the value added tax (`170), commission charges (`85) and mandi fee (` 68). The farmers share in the consumer rupee was 62.50 per cent in channel-I/[5] &[6].

Table 2 Marketing costs of Rice at Village sale (channel- I) in Hanumangarh district of Rajasthan during 2012-13 (₹/qtls)

Particulars	Charges paid by						Total marketing cost
	Producer	Village Trader	Wholesaler	Miller	Retailer	Consumer	
Transportation	8 (14.61)	38.40 (46.74)	18.30 (4.63)	22 (8.36)	11.63 (55.70)	-	98.33 (12.05)
VAT	-	-	170 (43.03)	-	-	-	170 (20.83)
Commission Charges	-	-	85 (21.52)	-	-	-	85 (10.42)
Mandi Fee	-	-	68 (17.21)	-	-	-	68 (8.33)
Loading Charges	6.5 (11.87)	5.5 (6.70)	5.5 (1.39)	5.5 (2.09)	5.5 (26.34)	-	28.50 (3.49)
Unloading charges	4.75 (8.68)	3.75 (4.56)	3.75 (0.95)	3.75 (1.42)	3.75 (17.96)	-	19.75 (2.42)
Weighing charges	3.5 (6.39)	2.5 (3.04)	2.5 (0.63)	-	-	-	8.5 (1.04)
Grading	-	-	5 (1.27)	-	-	-	5 (0.61)
Cost of gunny bags*	30 (54.79)	30 (36.52)	30 (7.59)	30	-	-	120 (14.70)
Sutli	2 (3.65)	2 (2.43)	2 (0.51)	2 (0.76)	-	-	8 (0.98)
Cleaning	-	-	5 (1.27)	-	-	-	5 (0.61)
Processing	-	-	-	200 (75.97)	-	-	200 (24.51)
Total Cost	54.75 (6.71)	82.15 (10.07)	395.05 (48.14)	263.25 (32.26)	20.88 (2.56)	-	816.08 (100.00)

Figures in parentheses are the percentages of respective column totals.
 Figures in square brackets are the percentages by total marketing costs.

Channel-II (Producer → Wholesaler → Miller → Retailer → Consumer)

The producer farmers took the produce to the *Krishhi Upaj Mandi* and sold it to the wholesalers through commission agents in the local regulated market. The marketing cost incurred in movement of the produce through this channel is presented in Table 3. Average marketing costs were turned out to be ₹749.88 per quintal in Channel-II. The results revealed that ₹70.07, ₹395.05, ₹263.25 and ₹20.88 were incurred by the producer-farmer

and the wholesaler-cum- commission agent, miller and retailer, respectively which accounted for 9.43, 52.68 and 35.10 and 2.78 percent of the total costs of marketing. The processing (₹200), value added tax (₹170), cost of gunny bag (₹90) Commission charges (₹85), transportation charges (₹77.25) and mandi fee (₹68) were the main items of cost for marketing of rice which, together accounted for 92.12 per cent of the total costs of marketing. These cost items individually accounted for 26.69, 22.69, 12.01, 11.34, 10.31 and 9.08 percent, respectively [5] & [6].

Table 3 Marketing costs of Rice at Mandi sale (channel- II) in Hanumangarh district of Rajasthan during 2012-13 (₹/qtls)

Particulars	Charges paid by					Total marketing cost
	Producer	Wholesaler	Miller	Retailer	Consumer	
Transportation	25.32 (36.14)	18.30 (4.63)	22 (8.36)	11.63 (55.70)	-	77.25 (10.31)
VAT	-	170 (43.03)	-	-	-	170 (22.69)
Commission Charges	-	85 (21.52)	-	-	-	85 (11.34)
Mandi Fee	-	68 (17.21)	-	-	-	68 (9.08)
Loading Charges	5.5 (7.85)	5.5 (1.39)	5.5 (2.09)	5.5 (26.34)	-	22.00 (2.94)
Unloading charges	4.75 (6.79)	3.75 (0.95)	3.75 (1.42)	3.75 (17.96)	-	16.00 (2.14)
Weighing charges	2.5 (3.57)	2.5 (0.63)	-	-	-	5.00 (0.67)
Grading	-	5 (1.27)	-	-	-	5 (0.67)
Cost of gunny bags*	30 (42.81)	30 (7.59)	30 (11.40)	-	-	90 (14.70)
Sutli	2 (2.78)	2 (0.51)	2 (0.76)	-	-	6 (0.80)
Cleaning	-	5 (1.27)	-	-	-	5 (0.67)
Processing	-	-	200 (75.97)	-	-	200 (26.69)
Total Cost	70.07 (6.71)	395.05 (48.14)	263.25 (32.26)	20.88 (2.56)	-	749.25 (100.00)

Figures in parentheses are the percentages of respective column totals.

Figures in square brackets are the percentages by total marketing costs.

Price spread in marketing of rice in Hanumangarh district of Rajasthan

Price spread in rice in both the marketing channels is discussed below:

Channel -I (Producer → Village trader → Wholesaler → miller → Retailer → Consumer)

The price spread in marketing of coriander by the producer farmer at village level to the village trader and then to the wholesaler-cum-commission agent and retailer are presented in Table 4. Producer got ₹. 4000 per quintal of rice out of a price ₹ 6400 per quintal paid by consumers. As such the producers share in the consumer's rupee in this channel was 62.50. The marketing cost incurred by the producer, village trader, wholesaler, miller and retailer were 0.85, 1.28, 6.17, 4.11 and 0.33 per cent of the price paid by consumers. These marketing costs together accounted to 12.74 per cent of the consumer price. Retailer

being the only middleman got 0.33 per cent of the consumer rupee. Thus, it can be inferred that the margin earned by the wholesaler is conspicuously towards the higher side. The marketing margins of village trader, wholesaler, miller and retailer in absolute terms were ₹ 184.96, ₹ 521.80, ₹ 559.92 and ₹ 318.90 respectively. Agency-wise break-up of gross margins revealed that village trader, wholesaler and retailer got 2.89, 8.15, 8.74 and 4.98 per cent of the consumer's price respectively. Share of middleman in the total margins has been higher for wholesaler and retailer. Price spread in this channel was ₹ 2000. The small producer farmers preferred to sell rice in village to the village traders because of their poor economic condition as well as small quantity of produce available with them [5] & [6].

Table: 4 Price spread in marketing of rice in channel-I in Hanumangarh district of Rajasthan

S.No	Particulars	₹/quintal	Share in consumer's rupee (in percent)
1.	Producer's net share	4000.00	62.50
2.	Costs incurred by		
	(a) Producer	54.75	0.85
	(b) Village trader	82.15	1.28
	(c) Wholesaler	395.05	6.17
	(d) Miller	263.25	4.11
	(e) Retailer	20.88	0.33
	Total costs	816.08	12.74
3.	Margins earned by		
	(a) Village trader	184.96	2.89
	(b) Wholesaler	521.80	8.15
	(c) Miller	559.92	8.74
	(d) Retailer	318.90	4.98
	Total margins	1585.58	24.76
4.	Consumers price	6400.00	100.00
5.	PRICE SPREAD	2000.00	

Channel -II (Producer → Wholesaler → miller → Retailer → Consumer)

The price spread in the marketing of rice in channel-II is presented in Table 5. In this channel, producer-farmers directly sold the produce in the mandis to the wholesalers. The producer's net share in consumer's price on the sale of rice through the channel-II was ₹4250 (66.41 per cent). The producer farmer has incurred on an average ₹70.07 per quintal of rice before selling it to the wholesaler at an average price of ₹4715.12 per quintal. In this channel, the producer-farmer and the wholesaler has incurred on an average ₹70.07 and ₹395.05 per quintal, respectively in the disposal of rice. The wholesaler received a net margin of ₹521.80 per quintal. This accounted for 8.15 percent of the consumer's price. The miller purchased rice at an average price of ₹5500.17 per quintal and sold it to the consumers at ₹6400 per quintals. The retailer purchased rice at an average price of ₹6080.97 per quintal and sold it to the consumers at ₹6400 per quintals. The margin of retailer in this process was estimated to be ₹318.90 per quintal of rice. Among the three market functionaries involved in Channel-II miller retained the highest margin. The total marketing costs incurred by various intermediaries constituted 11.71 percent of the consumer's price. The price spread in absolute terms in Channel-II was estimated to be ₹1750 [5] & [6].

Table: 4 Price spread in marketing of rice in channel-II in Hanumangarh district of Rajasthan

S. No.	Particulars	₹/quintal	Share in consumer's rupee (in percent)
1.	Producer's net share	4250.00	66.41
2.	Costs incurred by		
	(a) Producer	70.07	1.10
	(b) Wholesaler	395.05	6.17
	(c) Miller	263.25	4.11
	(d) Retailer	20.88	0.33
	Total costs	749.25	11.71
3.	Margins earned by		
	(a) Wholesaler	521.80	8.15
	(b) Miller	559.92	8.74
	(c) Retailer	318.90	4.98
	Total margins	1400.00	21.87
4.	Consumers price	6400.00	100.00
5.	PRICE SPREAD	1750.00	

The price spread of rice with respect to various marketing channels has indicated that the producers' share in consumer rupee has an inverse relationship with the number of intermediaries. The net price received by the producers was relatively higher in the channels in which the produce is directly sold to the regulated markets as they receive competitive price therein. Total costs in sale of rice have been ₹816.08 per quintal at village and ₹749.25 per quintal at mandi. Marketing margins accounted to 24.76 and 21.87 per cent of consumer's price in village and mandi sale channel. Miller got higher margins in sale of rice in both village and mandi sale compared to the wholesaler. Producer share in consumer's rupee was 62.50 per cent in sale of rice at village and 66.41 per cent at regulated market of Hanumangarh. Farmers selling their rice in the regulated market got 3.91 per cent higher share. The producer used different channels for the disposal of rice keeping in mind price elasticity of demand by doing so they were acting as rational economic agents.

IV. POLICY IMPLICATIONS

1. Wide gap existed in price of rice seed in village and regulated market. Prices were much lower in village markets for the same quality of rice seed compared to the regulated market. There is a need for development of village markets as sub-yards or as kisan mandis for providing reasonable prices to all

farmers in general and more specifically to the small sized farmers, having small produce for disposal.

- Higher margin of miller among all the functionaries is an important cause of concern for the government to check it for the benefit of the producer farmers.

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