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Costs and Margins of Marketing of Rape Seed and Mustard in Haryana

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Abstract

Retailer's share in consumer's rupee was highest which ranged from 5.06 to 5.53% followed by oil-miller (3.59 to 3.61%), oil-expeller (2.94 to 3.0%) and commission agent (1.78%). In channel-II the retailer's share in consumer's rupee was maximum (5.33 to 5.48%) followed by oil-miller (3.38 to 4.01%), oil-expeller (2.53 to 2.84%), commission agent (1.74 to 1.75%) and wholesaler (1.27 to 1.30%) in both the markets. In channel-I cost of oil expeller was maximum ranging between Rs 164 to Rs 167 and minimum for retailer as Rs 5.25 in channel-II. While the cost of wholesaler was maximum ranging between Rs 87.99 to Rs 88.81 and minimum for retailer Rs 5.25. Bhiwani market was found to be more efficient in both the channels compared to Charkhidadri market.
Key words : Costs, Margins, Rapeseed, Mustard.

The production of rape seed and mustard in India decreased from 6.7 million tones to 5.9 million tones during the period from 1996-97 to 2003-2004. while the production of total oilseeds increased from 24.4 million tones to 25.0 million tones during the same period. Haryana occupies the eighth position in the production of rape seed and mustard. The area under crop has increased from 198.0 thousand hectares to 619.2 thousand hectares during 1966-67 to 2003-04, while the production increased from 80 thousand tones to 965.0 thousand tones. It shows that the production in the state has been growing over the years with the highest area covered in Bhiwani district followed by Mahendragarh, Rewari, Gurgaon and Hisar. In 2002-03 the Bhiwani district occupied 177.5 thousand hectares under rape seed and mustard with the production of 277 thousand tones during the same year. In the present era of crop diversification and commercialization of agriculture, rape seed and mustard will serve as a suitable alternative. Moreover, higher imports and domestic requirements make it desirable to study the marketing pattern, price behaviors, marketing costs, margins, processing pattern and problems associated with the marketing and processing of rape seed and mustard (1—3).

Methods

The selection of districts forms the first stage of sampling. Out of main rape seed and mustard growing districts in the state Bhiwani district was selected purposively for the present study based on higher average area and production under rape seed and mustard for the last three years.

A list of all the markets of the selected district was obtained from the office of the market committees and two main markets from the selected district i.e. Bhiwani and Charkhidadri were selected. From each selected market 15 numbers each of wholesaler, retailers and commission agents were selected randomly. In all 30 commission agents, 30 wholesalers and 30 retailers were selected and hence total 180 market functionaries were selected from all the four markets.

The marketing of repe seed and mustard was studied for 2004-05 and the data collected from the different marketing functionaries were analyzed to estimate the marketing cost and margins through important marketing channels prevailing in the study area. Producer's share in consumer's rupee was worked out for all the four selected markets separately. All the marketing costs and the margins of the intermediaries were also calculated as per cent of the consumer's purchase price of the produce.

The students *t* distribution test was performed, on the data, procured from the different markets. The *t* values were worked out at 5% of significant level at

Table 1. Price spread of rape seed and mustard in Bhiwani and Charkhidadri under channel-I in oil-mills. *Significant ar 5% level of significance.

		Bhiwani		Charkhidadri	
	Particulars	(Rs/q)	Percentage to consumer's rupee	(Rs/q)	Percentage to consumer's rupee
I (a)	Net price received by farmer	1571.91	81.95	1578.56	81.99
(b)	Total expenditure incurred by farmer	14.07	0.73	13.25	0.68
1	Transportation charges	12.00	0.63	11.25	0.58
2	Unloading charges	0.82	0.043	0.82	0.04
3	Cleaning and dressing charges	1.25	0.07	1.18	0.06
4	Wastages	6.37	0.33	6.39	0.33
II (a)	Price received by farmer/purchase price of oil miller	1592.35	83.02	1598.2	83.04
(b)	Total expenditure incurred by oil miller	154.39	8.05	149.60	7.77
1	Filling and placing the unit on balance/platform	0.87	0.04	0.89	0.05
2	Weighing charges	0.62	0.03	0.58	0.03
3	Stitching and sutli charges	0.52	0.03	0.48	0.02
4	Loading and unloading charges	1.65	0.09	1.70	0.09
5	Market fees	31.84	1.70	31.96	1.66
6	Commission of commission agent (2.15% of produce)	34.23	1.78	34.36	1.78
7	Transportation charges	1.70	0.09	1.57	0.08
8	Brokerage	2.55	0.13	2.56	0.13
9	Processing cost and wastages of oil miller	66.40	3.46	62.50	3.25
10	Gunny bag charges	14.00	0.73	13.00	0.68
11	Margin of oil miller	68.88	3.59	69.53	3.61
III (a)	Selling price of miller/purchase price of retailer	1815.62	94.66	1817.33	94.39
(b)	Total expenditure incurred by retailer	5.25	0.27	5.25	0.27
1	Transportation charges	5.25	0.27	5.25	0.27
2	Retailer's margin*	97.13*	5.06	102.62*	5.33
IV	Selling price of retailer/purchase price of consumer	1918.00	100	1925.19	100

$(n_1 + n_2\text{-}2)$ degree of freedom to find out the significance of difference between mean marketing margins in the different channels.

$$t_{cal} = \frac{\bar{x} - \bar{y}}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Follows t-distribution with $n_1 + n_2 - 2$df
where s^2 is called pooled sample variance and is given by

$$s^2 = \frac{1}{n_1 + n_2 - 2}\left[(n_1 - 1)\, s_1^2 + (n_2 - 1)\, s_2^2\right]$$

The t_{cal} values were compared with t_0.

Where, n_1 and n_2 are sample size, $\bar{x}$ is mean of n_1 sample, $\bar{x}_2$ is mean of n_2 sample, t_0 is 5% value of t for $n_1 + n_2 - 2$ df.

To study the marketing efficiency amongst two markets under both channels. Acharya's modified measure was used.

$$MME = FP \div (MC + MM)$$

Where, MME is modified measure of marketing efficiency, FP is net price received by farmer. MC is total marketing cost and MM is total net margins of intermediaries.

Results and Discussion

The following two marketing channels which

Table 2. Price spread of rape seed and mustard in Bhiwani and Charkhidadri under channel-II oil-mills. *Significant at 5% level of significance.

	Particulars	Bhiwani (Rs/q)	Bhiwani Percentage to consumer's rupee	Charkhidadri (Rs/q)	Charkhidadri Percentage to consumer's rupee
I (a)	Net price received by farmer	1561.95	80.37	1564.64	80.11
(b)	Total expenditure incurred by farmer	14.07	0.72	13.22	0.68
1	Transportation charges	12.00	0.62	11.25	0.58
2	Unloading charges	0.82	0.04	0.82	0.04
3	Cleaning and dressing charges	1.25	0.06	1.15	0.06
4	Wastages	6.33	0.32	6.34	0.32
II (a)	Price received by farmer/purchase piece of wholesaler	1582.35	81.43	1584.2	81.11
B	Total expenditure incurred by wholesaler	87.24	4.49	86.18	4.41
1	Filling and placing the unit on balance/platform	0.87	0.04	0.89	0.04
2	Weighing charges	0.62	0.03	0.58	0.03
3	Stitching and sutli charges	0.52	0.03	0.48	0.02
4	Loading and unloading charges	1.65	0.08	1.70	0.09
5	Market fees (@2% of produce)	31.647	1.62	31.68	1.62
6	Commission of commission agent (@ 2.15% of produce)	34.02	1.75	34.06	1.74
7	Transportation charges	1.70	0.09	1.57	0.08
8	Brokerage	2.71	0.14	2.71	0.14
9	Gunny bag charges	13.50	0.69	12.50	0.64
10	Wholesaller's margin	24.61		25.42	
III (a)	Selling price of wholesaler/purchase price of oil miller	1694.20	87.18	1695.80	86.83
(b)	Total expenditure incurred by oil miller	70.66	3.64	66.52	3.40
1	Loading and unloading charges	1.47	0.08	1.47	0.08
2	Transportation charges	2.79	0.14	2.55	0.13
3	Processing cost and wastages of oil miller	66.40	3.42	62.50	3.20
4	Margin of oil miller*	65.62*	3.38	78.49*	4.02
IV (a)	Selling price of oil miller/purchase price of retailer	1830.48	94.19	1840.81	94.25
(b)	Total expenditure incurred by retailer	5.25	0.27	5.25	0.27
1	Transportation charges	5.25	0.27	5.25	0.27
2	Retailer's margin	107.56	5.53	107.04	5.48
V	Selling price of retailer/purchase price of consumer	1943.3	100	1953.09	100

accounted for the maximum share of marketing business of the rape seed and mustard were studied to estimate the percentage share of different intermediaries.

Price Spread Under Different Marketing Channels

Different marketing channels are as follows : Producer-Commission agent-Processor-Retailer-Consumer; and Producer-Commission agent-Wholesaler-Processor-Retailer-Consumer. Price spread through the these channels during March-June 2004-05 in the two markets Bhiwani, Charkhidadri, for rape seed and mustard is given in the Tables 1 to 4. In these markets more than 75% of total arrivals were purchased by commission agents.

Price Spread Under Marketing Channel-I. The producer's share in consumer's rupee (was 81.95 and 81.99% in Bhiwani and Charkhidadri markets respectively in channel-I Table 1). This shows that the producer's share in consumer rupee is almost same in both the markets. Though it is slightly higher in Charkhidadri market. The net marketing margin by the

Table 3. Price spread of rape seed and mustard in Bhiwani and Charkhidadri under channel-I oil-expellers. *Significant at 5% level of significance.

	Particulars	Bhiwani (Rs/q)	Bhiwani Percentage to consumer's rupee	Charkhidadri (Rs/q)	Charkhidadri Percentage to consumer's rupee
I (a)	Net price received by farmer	1571.91	81.96	1578.56	81.99
(b)	Total expenditure incurred by farmer	14.07	0.73	13.25	0.69
1	Transportation charges	12.00	0.63	11.25	0.58
2	Unloading charges	0.82	0.04	0.82	0.04
3	Cleaning and dressing charges	1.25	0.07	1.18	0.06
4	Wastages	6.37	0.33	6.39	0.33
II (a)	Price received by farmer/purchase price of oil expeller	592.35	83.02	1598.20	83.01
(b)	Total expenditure incurred by oil expeller	166.66	8.69	164.00	8.52
1	Filling and placing the unit on balance/platform	0.87	0.04	0.89	0.05
2	Weighing charges	0.62	0.03	0.58	0.03
3	Stitching and sutli charges	0.52	0.02	0.48	0.02
4	Loading and unloading charges	1.65	0.08	1.70	0.09
5	Market fees	31.85	1.66	31.96	1.66
6	Commission of commission agent (@2.15% of produce)	34.23	1.78	34.36	1.78
7	Transportation charges	1.70	0.09	1.57	0.08
8	Brokerage	2.55	0.13	2.56	0.13
9	Processing cost and wastages of oil expeller	78.67	4.10	76.9	3.99
10	Gunny bag charges	14.00	0.72	13.00	0.67
11	Margin of oil expeller*	56.36*	2.94	57.78*	3.00
III (a)	Selling price of oil expeller/purchase price of retailer	1815.37	94.65	1819.98	94.53
(b)	Total expenditure incurred by retailer	5.25	0.27	5.25	0.27
1	Transportation charges	5.25	0.27	5.25	0.27
2	Retailer's margin	97.38	5.08	99.96	5.19
IV	Selling price of retailer/purchase price of consumer	1918.00	100	1925.19	100

commission agent was 1.78%. The oil-expeller's margins were more in Charkhidadri market (3.00%) followed by Bhiwani (2.94%) respectively in channel-I. Similarly the oil-miller's margins were 3.59 and 3.61% under channel-I in Bhiwani and Charkhidadri market, respectively.

The retailer's net margins were 5.06 and 5.33% under channel-I in Bhiwani and Charkhidadri market, respectively. On the other hand, the total cost incurred by the farmers was 14.07 and 13.25% in Bhiwani and Charkhidadri market, respectively.

It means the total cost was more in Bhiwani market as compared to Charkhidadri market. It was because of higher transportation charges and cleaning and dressing charges as compared to Charkhidadri market. The marketing cost incurred by processor i.e. oil-expeller was highest followed by oil-miller, producer and retailer, respectively.

Price Spread Under Marketing Channel-II. The producer's share in consummer's rupee was 80.38 and 80.11% in Bhiwani and Charkhidadri markets, respectively (Table 5). This shows that the producer's share in consumer rupee is almost same in both the markets. The net marketing margins by the commission agent were 1.75 and 1.74% in Bhiwani and Charkhidadri, markets respectively. The oil-expeller's margins were more in Charkhidadri market (2.84%) followed by Bhiwani (2.53%) market. Similarly the oil-miller's margins were 3.38 and 4.01% under channel-II in Bhiwani and Charkhidadri merket, respectively.

The retailer's net margin was 5.54 and 5.48% in Bhiwani and Charkhidadri market, respectively, which is higher in Bhiwani market. The wholesaler's margin under channel-II was 1.27 and 1.30% in Bhiwani mar-

Table 4. Price spread of rape seed and mustard in Bhiwani and Charkhidadri under channel-II oil-expellers. *Significant at 5% level of significance.

		Bhiwani		Charkhidadri	
	Particulars	(Rs/q)	Percentage to consumer's rupee	(Rs/q)	Parcentage to consumer's rupee
I (a)	Net price received by farmer	1561.95	80.38	1564.64	80.11
(b)	Total expenditure incurred by farmer	14.07	0.72	13.22	0.68
1	Transportation charges	12.00	0.62	11.25	0.57
2	Unloading charges	0.82	0.04	0.82	0.04
3	Cleaning and dressing charges	1.25	0.06	1.15	0.06
4	Wastages	6.33	0.33	6.34	0.32
II (a)	Price received by farmer/purchase piece of wholesaler	1582.35	81.42	1584.2	81.11
(b)	Total expenditure incurred by wholesaler	88.81	4.57	87.99	4.50
1	Filling and placing the unit on balance/platform	0.87	0.04	0.89	0.04
4	Weighing charges	0.62	0.03	0.58	0.03
3	Stitching and sutli charges	0.52	0.03	0.48	0.02
4	Loading and unloading charges	1.65	0.08	1.70	0.09
5	Market fees (@2% of produce)	31.65	1.62	31.68	1.62
6	Commission of commission agent (@2.15% of produce)	34.02	1.75	34.06	1.74
7	Transportation charges	1.70	0.09	1.57	0.08
8	Brokerage	2.5318	0.13	2.53	0.13
9	Gunny bag charges	15.25	0.78	14.5	0.74
10	Wholesaler's margin	23.04	1.18	23.60	1.20
III (a)	Selling price of wholesaler/purchase price of oil expeller	1694.2	87.18	1695.8	86.83
(b)	Total expenditure incurred by oil expeller	82.93	4.27	80.92	4.14
1	Loading and unloading charges	1.47	0.08	1.47	0.08
2	Transportation charges	2.79	0.14	2.55	0.13
3	Processing cost and wastages of oil expeller	78.67	4.05	76.9	3.94
4	Margin of oil expeller*	49.21*	2.53	55.48*	2.84
IV (a)	Selling price of oil expeller/purchase price of retailer	1826.33	93.98	1832.20	93.81
(b)	Total expenditure incurred by retailer	5.25	0.27	5.25	0.27
1	Transportation charges	5.25	0.27	5.25	0.27
2	Retailer's margin	111.71	5.75	115.64	5.92
V	Selling price of retailer/purchase price of consumer	1943.30	100	1953.09	100

kets, respectively. Whereas the marketing costs incurred by the wholesaler in Bhiwani market (88.81%) was higher than Charkhidadri (87.99%). Further in wholesaler, it is market fee and commission to commission agent which form the major item of marketing cost. On the other hand the total cost incurred by the farmers was 14.07 and 13.22% in Bhiwani and Charkhidadri markets respectively.

Thus the total cost was more in Bhiwani market as compared to Charkhidadri market. It was because of higher transportion charges as compared to latter market. The marketing cost incurred by wholesaler was highest followed by processor i.e. oil-expeller, oil-miller, producer and retailer, respectively.

In channel II, in Bhiwani and Charkhidadri market significant difference was observed in margin of oil-expeller and oil-miller.

The share of producer in consumer rupee can further be increased and that of intermediaries can be decreased by adopting the following methods : The producers and oil-millers should form the co-operative society so that the number of intermediaries such as wholesaler and retailers may be reduced. Thus, the processing cost can be lowered down by reducing the margin of intermediaries and the producer's share in consumer's rupee can be increased. The transpor-

Table 5. Share of farmer and different marketing functionaries in consumer's Rupee in different marketing channels. Channel-I : Farmer-Commission agent -oil miler/expeller-retailer-consumer. Channel-II : Farmer-Commission agent-Wholesaler-Oil miler/expeller-Retailer-Consumer.

Particulars	Channels	Share in consumer's rupee in different markets	
		Bhiwani	Charkhidadri
Producer	I	81.95	81.99
	II	80.38	80.11
Wholesaler	I	–	–
	II	1.27	1.30
Oil expeller	I	2.94	3.00
	II	2.53	2.84
Oil miller	I	3.59	3.61
	II	3.38	4.01
Commission agent	I	1.78	1.78
	II	1.75	1.74
Retailer	I	5.06	5.33
	II	5.54	5.48

tation costs should be reduced by the farmers which can be done by bringing the produce to the market in larger quantity through co-operatives and hence the producer's share in the consumer's rupee can be increased to a great extent because by doing so malpractices are also avoided. The government should provide to the farmer ware-housing facilities so that there may not be slump in the rape seed and mustard prices during the peak marketing period. The oil-miller and oil-expeller owners should be allowed to purchase the mustard directly from the farmers which eliminate the share wholesaler and thereby increasing the producer's share in consumer's rupee. The sale of retailers can be reduced if the oil and oil-cake are sold through co-operative societies developed by the producer and oil-miller to the consummers through the fair prices shop or if the consummers are allowed to purchase directly from the oil-miller. There should be grading and standardization of rape seed and mustard so that the producers may get actual price of his produce depending upon the quality of his produce.

Table 6. Marketing efficiency of different channels in selected markets.

Market	Marketing channels	Value of the product marketed (Rs/q)	Marketing cost and margins (Rs/q)	Marketing efficiency
1. Bhiwani	I	1571.91	339.72	4.63
	II	1561.95	375.02	4.16
2. Charkhidadri	I	1578.56	340.25	4.64
	II	1564.64	382.11	4.09

Market Efficiency

Market efficiency depends on the extent the marketing agencies are able to move the goods from producer to the ultimate consumers at the minimum cost with maximum service facilities. In this study, marketing efficiency was calculated by using Acharya's modified measure of marketing efficiency. The marketing efficiency calculated for all four markets is presented in Table 6. It shows that Bhiwani market is more efficient in both the channels.

Conclusion

From the analysis of marketing costs and margins, it is clear that the margins of intermediaries are quite high. Although, the market structure is not the crucial bottleneck, there is scope for improving the marketing efficiency by providing more physical facilities in and outside the market. Bhiwani market is more efficient.

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