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Price Spreads of Paddy in Punjab

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ABSTRACT

In Punjab, paddy is primarily assembled by the farmers themselves and both private and public agencies are involved in the marketing of rice. The price spreads of paddy (rice) through private channel for the year 2015-16 revealed that producer's share in consumer's price was 71.25 per cent. Total expenses incurred by a farmer were Rs. 33.02 which was 1.65 per cent of the consumer's price. The wholesaler and the retailer's margin were 1.25 and 5.51 per cent, respectively of the consumer's price. The miller's margin was about 1.50 per cent. The price spreads of paddy through government channel for the year 2015-16 showed that the farmer's sale price was Rs. 1450 per quintal for paddy which was 68.23 per cent of economic cost to FCI. Total expenses incurred by the farmer were Rs. 33.02 which was 1.55 per cent of economic cost to FCI. The total marketing cost through public agencies was Rs. 650.22 per quintal of paddy. These marketing costs were found to be 30.60 per cent of economic cost to FCI. Price spread was higher in public channel at Rs. 708.24 per quintal as compared to the private channel due to higher marketing cost in this channel. Private channel was found to be economical to the farmer since the price spread was lesser at Rs. 573.75 per quintal but the constraint was that very small proportion (2.66 % only) of the total produce in the market passed through this channel during 2015-16 marketing year. The marketing efficiency in private channel was higher at 2.48 as compared to 2.00 in the government agency channel. This is because of higher inefficiency found in the public channel as its marketing costs were much higher than that of private channel.

Key Words : Price Spreads, Margin, Cost, Channel, Marketing, Paddy

INTRODUCTION

The sequence of markets and intermediaries, through which paddy/rice move from the primary producer to the ultimate consumer is called marketing channel and it varies significantly from region to region. The marketing channel to be adopted by a producer depends upon his volume of marketed surplus, distance to be covered, means of transport and communication available, how and where paddy is to be processed into rice and the constraints and interventions by the Central and State Governments. Both the private and public agencies are involved in the procurement and distribution of rice in India.

In the state of Punjab, paddy is primarily assembled by the farmers themselves and both private and public agencies are involved in the marketing of rice. Up to the mid 1980's, the private rice millers were the major buyers of paddy *i.e.* up to 80 per cent was purchased by the millers. The Food Corporation of India (FCI) – a central procurement agency and the state government agencies *viz.* Pungrain (Food Department), the Punjab State Cooperative Supplies and Marketing Federation (Markfed), the Punjab State Civil Supplies Corporation (PUNSUP), Punjab Argo Food grains Corporation (PAFC) and the Punjab State Warehousing Corporation (PSWC) are also present in the market to provide price support to the crop. Before the harvest of paddy, the Government of India announces the Minimum Support Price (MSP) for procurement on the basis of the recommendation of the Commission of Agricultural Costs and Prices (CACP), which along with other factors, takes into consideration the cost of various agricultural inputs and the reasonable margin for the farmers for their

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produce. However, in the recent years, the purchase by government agencies have increased. The private dealers/millers process the purchased paddy into rice and deliver the fixed levy in terms of rice to the government at fixed prices under the Punjab Rice Procurement (levy) Order, 1983. Up to 2014-15 year, the private millers had to deliver 75 per cent of the processed rice to the public agencies as levy rice. However, since 2015, the levy on rice has been abolished. It is because the FCI had comfortable stocks of food grains for Public Distribution System (PDS) and the role of private dealers/millers in rice procurement has declined to only 2 to 3 per cent of total arrivals.

The paddy purchased by FCI and the state public agencies is got milled in rice mills owned by these public agencies or through custom milling by private rice millers. As the state agencies buy paddy on behalf of FCI, all the state procurement agencies deliver whole of the milled rice to FCI which is nodal agency for procurement of food grains in the country. In the absence of large-scale purchases by the Government agencies, it would have been very difficult for the Punjab farmers to sell their produce in the market at a remunerative price. The rice purchased by these state agencies and FCI are transferred to the FCI account for the central pool of food grains for public distribution through fair price shops. It may be mentioned here that our public distribution system (PDS) with the network of more than 5.13 lakh fair price shops (FPSs) is perhaps the largest distribution network of its type in the world.

In the marketing of paddy/rice in the state of Punjab, two marketing channels are involved which are listed below:

Public Channel:

Producer (Farmer) → Public Procurement Agency → Processor/Miller → Public Procurement Agency→ Fair Price Shop → Consumer

Private Channel:

Producer (Farmer) → Commission Agent→ Processor/Miller → Wholesaler → Retailer→ Consumer

These two channels are regular channels. They involve the use of regulated markets and commission agents and are interlinked with each other. Besides, there is unrecorded sale of paddy/rice through irregular channel. In the latter channel, the unscrupulous traders and rice millers usually avoid the payment of the Market Fee, Rural Development Fund (RDF), Sales tax etc., levied on the sale and purchase of paddy in regulated markets. The main intermediaries or agencies involved in these channels are producers, commission agents, processors/ millers, public procurement agencies, wholesalers, retailers, fair price shops and consumers and a brief description of them is given below:

Producer:

The producer (farmer) brings his produce to the market according to his own suitability in terms of nearness, better facilities or old relations with the commission agents through which he sells his produce to the buyer. He has to incur some expenses in marketing his produce by way of transportation, unloading and cleaning charges in the market.

Commission Agent:

Commission agents in Punjab are considered to be an important link between the rice growers and the buyers. Commission agents are of two types *i.e. Kaccha arhtiyas* and *Pucca arhtiyas* in the state of Punjab. *Kacchaarhtiyas* work on the behalf of farmer/seller to protect his interests in the marketing of his produce in the market. He charges commission for his services from the buyer as per Punjab Agricultural Produce Markets Act, 1962. He undertakes all market operations *i.e.* from unloading of the crop up to the stitching of filled bags and its loading. He arranges the labour for all these activities and collects the fixed incidental charges for these operations both from the buyers as well as the sellers. As per Markets Act, the producer/seller has to pay for unloading of the produce and its cleaning. For other market operations, the payment has to be paid by the buyer. They also get the payments of the produce from public procurement agencies and then transfer it to farmer/seller bank account. Many times, they provide advance money to the farmers on the condition that the produce will be disposed off through them only.

Pucca arhtiyas are those who buy the produce on their own account and makes the payment to farmer/ seller. They undertake the activity for earning profit in this process. They also purchase the crop for wholesalers/ traders in other parts of the country.

Processor/Miller:

Processor/Miller is the most essential and important intermediary involved in the marketing of paddy/rice because before consumption, the paddy has to be converted into rice. In case of private traders mostly a single person performs both the functions of purchasing and milling/processing. He purchases the produce from the market, takes it to the sheller and after processing sells the produce in the open market. The government agencies preferred custom milling as they don't have sufficient milling capacity of their own. These government agencies, both the central and the state, pay fixed processing charges to the processor. In addition, the millers get the by-products from processing like husk, rice bran, rice *tota* etc. In case of custom milling, the expenditure incurred on the transportation of paddy from the premises of government to the mill and delivery of rice (after processing) from mill to the government premises is met by the agency. Processors prefer more of custom milling rather than buying and making own investment, because of better economics in this process.

Public Procurement Agencies:

The public procurement agencies play a crucial role in marketing of paddy as they undertake procurement, processing and final distribution of rice through public distribution system. The public procurement agencies are Food Corporation of India (Central Agency) and PUNSUP, MARKFED, Punjab State Warehousing Corporation (PSWC), Punjab Agro-Industries Corporation (PAIC) and Pungrains (Food Department of Punjab Government) are state agencies. The public distribution of rice is the responsibility of the FCI which delivers rice to fair price shops through state agencies, keeping in view the demand put up by the state governments.

Wholesaler:

The intermediary who gets the product from processor and delivers it to the retailers is known as wholesaler. He deals in bulk and doesn't sell significant quantities to ultimate consumers. In case of paddy many a times, the private traders themselves perform the functions of purchaser, processor and the wholesaler. Similarly, FCI performs a number of functions itself. The state agencies like DFSC and PUNSUP also act as wholesaler to help FCI in releasing the rice for retail purposes for which they get commission.

Retailer:

Retailer buys the product for the consumer from the wholesaler. Retailers are the last chain of intermediaries and are the closest to consumers in the marketing channels. Retailers and fair price shops play almost the same role as their functions being to serve the consumers. The only difference is that fair price shops serve the poor lot of population, whereas retailers serve the total population. There is big gap between the prices at fair price shops and retail shops as the fair price shops are highly subsidized by the Government of India.

Earlier, a large proportion of paddy in Punjab was purchased by private traders/millers mainly above the fixed procurement prices. The role of public agencies was limited. For Public Distribution System, public agencies were dependent on the levy rice received from private trade. The percentage of paddy passing through public and private channel varied from year to year depending upon the procurement price of paddy, price of levy rice, stock of food grains with the government and open market price of rice in the consuming centres. In the recent years, bulk quantity of paddy is purchased by public procurement agencies at support price and their share has increased significantly (Chahal and Rangi, 1996).

METHODOLOGY

This study is based on the primary data collected for the year 2015-16. Ludhiana and Patiala districts were selected randomly from the top five rice growing districts of Punjab. A list of millers, wholesalers and retailers was prepared with the consultation of officials of Market Committee of Ludhiana and Patiala districts. The final sample consisted of 20 millers, 20 wholesalers and 20 retailers which was drawn randomly from the above mentioned list. Information pertaining to the quantity purchased, the prices paid to the farmers, incidental charges paid for performing different market operations, market fee and the other statutory taxes paid, transportation expenses, milling cost and other expenses incurred in the processing of paddy into rice were collected from all the market intermediaries through personal interviews using pre-tested schedules. Cost incurred and margin retained at all levels of marketing *i.e.* wholesale and retail level of the marketing system were also collected.

Tools of the Analysis :

The marketing margins, marketing costs and price spreads of paddy/rice are calculated for the year 2015-

16 for two marketing channels of paddy in Punjab *i.e.* public and private channels. The price spreads have been worked out by using the Mode method. Marketing Margin refers to the difference between the price paid and price received by a particular marketing agency such as retailer, wholesaler or by any combination of marketing agencies in marketing sequence.

The total marketing cost is calculated as under:

$$C = C_f + C_{m1} + C_{m2} + C_{m3} + \ldots\ldots + C_{mn}$$

where,

C = Total marketing cost

C_f = Cost borne by the farmers in the marketing of their produce

C_m= Costs incurred by the intermediaries in the process of buying and selling

i = 1, 2, 3…n

n is the number of intermediaries involved in the channel.

The producer's share in the consumer's rupee has been calculated as:

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

Where,

P_s = Producer's share in consumer's rupee

P_f= Net price received by the farmer

P_c = Price paid by the final consumer.

Price spread is a good indicator for examining the producer's share in consumer's rupee. Price spread is defined as difference between the price paid by the consumer and the net price received by the producer for an equivalent quantity of farm produce. It involves various costs incurred by the various intermediaries and their margins. It is generally expressed as percentage of consumer's price. The efficiency of a marketing system can be assessed by magnitude of price spreads.

For measuring marketing efficiency of alternate market channels, Acharya's approach or measure has been followed:

$$ME = \frac{FP}{(MC + MM)}$$

where,

ME = Marketing Efficiency

FP = Farmer/Producer Price

MC = Total Marketing Costs

MM = Net Marketing Margins

RESULTS AND DISCUSSION

Price spreads for Grade 'A' paddy have been calculated as 90 per cent of the total produce of rice in Punjab falls under this group. Calculations have been made for one quintal of rice or equivalent to 150 kg of paddy since recovery of rice is about 67 per cent of paddy processed. The price spreads of paddy (rice) through private channel for the year 2015-16 as given in Table 1 revealed that the farmer's sale price was Rs. 1455 per quintal for paddy as against Minimum Support Price (MSP) *i.e.* Rs. 1450 per quintal. According to Punjab Market Rule, the private traders/millers can purchase paddy only if they offer higher price to the farmers than Minimum Support Price (MSP) fixed by the government. After deducting the transport, unloading and cleaning charges, the farmer's net price worked out at Rs. 1421.98 per quintal which was 71.25 per cent of the consumer's price. Total expenses incurred by a farmer were Rs. 33.02 which was 1.65 per cent of the consumer's price. The wholesaler and the retailer's margin were 1.25 and 5.51 per cent respectively of the consumer's price. The miller's margin was about 1.50 per cent. In addition to this margin, the miller also got by-products from milling of paddy like husk, rice bran, broken rice etc. which have economic values in the market. The item of expenses were marketing charges (Rs. 190.22), interest charges (Rs. 28.52), storage loss and driage (Rs. 20), processing charges (Rs. 25) per quintal of rice. The miller had to bear transportation cost of Rs. 5 per quintal for sale of produce to wholesalers. Retailers incurred only cost of transportation, labour, grading and packing etc. of Rs. 50 per quintal of rice. The consumer's purchase price was Rs.1995.74 while producer/farmer get Rs. 1421.98 per quintal of paddy and producer's share in consumer's price was 71.25 per cent. Therefore, this study supported that the gap/difference between the producer price and the consumer price is index of exploitation of the producer.

The price spreads of paddy through government channel for the year 2015-16 as given in Table 2 showed that the farmer's sale price was Rs. 1450 per quintal for paddy which was 68.23 per cent of economic cost to FCI. Total expenses incurred by the farmer were Rs. 33.02 which was 1.55 per cent of economic cost to FCI. The total marketing cost included procurement cost which was estimated to be Rs. 190.22 per quintal. This procurement cost consisted of incidental and market charges *i.e.* weighing and filling, stitching, loading, market fee, RDF, infrastructure development cess, sales tax and

Table 1 : Price Spread of Paddy/Rice in Ludhiana and Patiala Districts Markets through Private Channel, 2015-16

Sr. No.	Particulars		Rs./Qtl	%age share of Consumer Price
1.	**Net Price received by the farmer**		**1421.98**	**71.25**
	(a) Expenses borne by the farmer			
	(i) Transport	17.5		
	(ii) Unloading	5.6		
	(iii) Sieving/Cleaning	9.92		
2.	**Total expenses borne by farmer (i + ii + iii)**		**33.02**	**1.65**
3.	**Miller's purchase price/Farmer's**			
	Sale price		**1455**	
	(a) Incidental Charges			
	(i) Weighing and filling	15.60		
	(ii) Stitching	3.44		
	(iii) Loading	4.33		
		23.47		
	(b) Market Charges			
	(i) Market fee @ 2%	29.00		
	(ii) Rural Development Fund @2%	29.00		
	(iii) Sales tax @ 4%	58.00		
	(iv) Infrastructure dev. cess @ 1%	14.50		
	(v) Commission to Arhtiya @ 2.5%	36.25		
	Total Market Expenses (a+b)	190.22		
	(c) Other Expenses			
	(i) Labour and Transport	10		
	(ii) Storage Charges	3		
	(iii) Storage loss and driage	20		
	(iv) Processing Charges	25		
	(v) Interest charges for 60 days @ 10% p.a.	20		
	Total Milling Expenses	86.52		
	(d) Expenses borne by the Miller for sale of Rice:			
	(i) Cost of gunny bags	25		
	(ii) Storage cost	5		
	(iii) Transportation cost	5		
		35		
4	**Miller's Total Expenses (a +b + c +d)**		**311.74**	**15.62**
5	**Miller's net Margin**		**30**	**1.50**
6.	**Wholesaler's purchase price/Miller's sale price**		**1796.74**	
	Expenses borne by the Wholesaler:			
	(i) Storage and transportation		**3**	
	(ii) Labour charges		**3**	
	(iii) Miscellaneous expenses		**3**	
7.	**Total Expenses borne by Wholesaler (i + ii + iii)**		**9**	**0.44**
8.	**Wholesaler's net margin**		**25**	**1.25**
9.	**Retailer's purchase price and Wholesaler's sale price**		**1830.74**	
10.	**Total expenses incurred by Retailer**			
	(i) Transportation, labour, grading and envelops etc.		**55**	**2.76**
11.	**Net margin of the Retailer**		**110**	**5.51**
12.	**Consumer's purchase price and Retailer's sale price**		**1995.74**	**100.0**

Source: Field Survey, 2015-16

Table 2 : Price Spread of Paddy/Rice in Ludhiana and Patiala Districts Markets through Government Channel, 2015-16

Sr. No.		Particulars		Rs./Qtl	%age share of Economic Cost to FCI
1.	**Net Price received by the farmer**			**1416.98**	**66.67**
	(a)	Expenses borne by the farmer			
		(i) Transport	17.5		
		(ii) Unloading	5.6		
		(iii) Sieving/Cleaning	9.92		
2.	**Total expenses borne by farmer (i + ii + iii)**			**33.02**	**1.55**
3.	**Public Procurement agencies's Purchase price/Farmer's Sale price**			**1450.00**	**68.23**
		Incidental and Market Charges			
		(i) Weighing and filling	15.60		
		(ii) Stitching	3.44		
		(iii) Loading	4.33		
		(iv) Market fee @ 2%	29.00		
		(v) RDF @ 2%	29.00		
		(vi) Sales tax @ 4%	58.00		
		(vii) Infrastructure Dev. Cess	14.50		
		(viii) Commission to	36.25		
	(a)	Total Procurement Cost	190.22		
	(b)	Milling Charges	10.00*		
	(c)	Storage, distribution, gunny bags, Overhead charges etc. (FCI)	423.00**		
	(d)	Expenses incurred by State Procurement agencies	27.00*		
4.		**Total Marketing Costs (a + b + c + d)**		**650.22**	**30.60**
5.		**Margin of Fair Price Shops**		**25.00***	**1.17**
		Consumer Price (Issue Price)		**200.00***	**9.41**
		Subsidy		**1925.22**	**90.59**
		Total Economic Cost (FCI) (3 + 4 + 5)		**2125.22**	**100.00**

Source: Field Survey, 2015-16
***Source:** Department of Food Civil Supplies and Consumer Affairs, Punjab, Chd.
****Source:** Price policy for *Kharif* Crops (2017-18), CACP, GOI, New Delhi.

commission to *arhtiyas* through which government procured this paddy. In addition to this, storage, distribution, cost of gunny bags and overhead charges incurred by FCI were found to be Rs. 423 per quintal of paddy. The custom-milling charges were Rs. 10 per quintal of paddy. The costs incurred by state agencies had been estimated at Rs. 27 per quintal of paddy. The total marketing cost through public agencies was Rs. 650.22 per quintal of paddy. These marketing costs were found to be 30.60 per cent of economic cost to FCI. The margin of fair price shops was Rs. 25 which was 1.17 per cent of economic cost to FCI. This margin of fair price shops includes handling of food grains, rent of shops, wages, electricity charges, stationery and other miscellaneous expenses. In this channel, consumer price *i.e.* issue price by FCI which had been charged through fair price shops was Rs. 3 per kg of rice which was equivalent to Rs. 200 per quintal of paddy. The remaining difference between economic cost to FCI and price charged by fair price shops from weaker sections of society was Rs. 1925.22 per quintal of paddy which was subsidy provided by Government of India under National Food Security Act, 2013. These results are found to be in uniformity with the estimates of price spread obtained by Singh and George (1970), Chauhan and Tomar (1994), Mohapatra (1998), Sekhon and Rangi (2001), Mohammad *et al.* (2004) and Shelke *et al.* (2009).

Price Spreads in both the channel of distribution *i.e.* Private and Public channel has been presented in Table 3. A market channel is said to be efficient where the price spread is minimum. Less price spread leads to the increase in the producer's share (Singh *et al.*, 2016).

It can be inferred from the Table 3 that price spread was higher in public channel at Rs. 708.24 per quintal as compared to the private channel due to higher marketing cost in this channel. Private channel was found to be

Table 3 : Price Spread in Private and Public Channel (Rs./qtl)

Particulars	Channel I Private Channel	Channel II Public Channel
Producer/Farmer's Price	1421.98	1416.28
Net Marketing Margins	165.00	25.00
Total Marketing Costs	408.75	683.24
Consumer's Price/ Economic Cost to FCI	1995.73	2125.22
Price Spread	573.75	708.94

Source: Field Survey, 2015-16

Table 4 : Marketing Efficiency in Private and Public Channel (Rs./qtl)

Particulars	Channel I Private Channel	Channel II Public Channel
Producer/Farmer's Price (F.P.)	1421.98	1416.28
Total Marketing Costs (M.C.)	408.75	683.24
Net Marketing Margins (M.M.)	165.00	25.00
Marketing Efficiency (M.E.)	2.48	2.00
M.E.= F.P./(M.C.+M.M.)		

Source: Field Survey, 2015-16

economical to the farmer since the price spread was lesser at Rs. 573.75 per quintal but the constraint was that very small proportion (2.66 % only) of the total produce in the market passed through this channel during 2015-16 marketing year.

Marketing efficiency analysis has been worked out for both these two channels of distribution. The marketing system is said to be efficient if goods can be moved from the producer to ultimate consumer at the lowest cost and minimum of economic wastes consistent with the provision of services the consumer desire (Ramu, 2011). Reductions in the cost, maintaining the same standard of service, represent clear case of marketing efficiency (Madhappa, 2007).

For the calculation of marketing efficiency, producer/farmer's price, total marketing costs and net marketing margins have been examined for both the channels separately and presented in Table 4. It shows that the marketing efficiency in private channel was higher at 2.48 as compared to 2.00 in the government agency channel. This is because of higher inefficiency found in the public channel as its marketing costs were much higher than that of private channel. This shows that there is scope to increase the efficiency of the public procurement agencies by reducing the operational cost of public distribution system of food grains.

Conclusion:

There are two main marketing channels of paddy in Punjab *i.e.* private and government channels. The price spreads of paddy (rice) through private channel for the year 2015-16 revealed that the farmer's sale price was Rs. 1455 per quintal for paddy. After deducting the transport, unloading and cleaning charges, the farmer's net price worked out at Rs. 1421.98 per quintal which was 71.25 per cent of the consumer's price. The price spreads of paddy through government channel for the year 2015-16 shows that the farmer's sale price was Rs. 1450 per quintal for paddy which was 68.23 per cent of economic cost to FCI.

Private channel was found to be economical to the farmer since the price spread was lesser at Rs. 573.75 per quintal but the constraint was that very small proportion (2.66 %) of the total produce in the market passed through this channel in 2015-16. Price spread was higher in public channel at Rs. 708.24 per quintal due to higher marketing costs involved in this channel. Private channel was also operating more efficiently than government channel as marketing efficiency was found to be higher in this channel *i.e.* 2.48 as compared to 2.00 in the government agency channel. This is because of marketing costs which were much higher in public channel. This shows that there is scope to increase the efficiency of the public procurement agencies by reducing the operational cost of public distribution system of food grains.

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