



Rice marketing system, profitability and middlemen's role in two districts of Bangladesh

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ABSTRACT

The study attempts to identify the rice marketing channels, market actors and their marketing functions in Bogura and Gaibandha districts in Bangladesh. The paper also examines the rice marketing cost and margin and highlight major obstacles of market actors. Primary data were collected from 25 middlemen by using pretested semi-structured interview schedule in 2017. Rice millers, wholesalers and retailers were the major market's actors in the study areas. Most of the rice millers buy paddy directly from the farmers by using their agent. After processing rice, rice millers sell rice to the wholesalers, and retailers. Rice millers marketing costs were higher in the Bogura district (Tk.569.8/40kg) than Gaibandha district (Tk.526.0/40kg). However, retailers' marketing costs were higher in Gaibandha district (Tk.43.0/40kg) than Bogura district (Tk.39.1/40kg). Among all intermediaries, marketing margins was highest for rice millers which were Tk. 227.5/40kg. Middlemen have no sufficient capital for investment. Therefore, Government, Non Government Organizations and other institutional credit should be available to them at the reasonable interest rate.

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Introduction

Rice is the important cereal crop in the world. Rice is mainly grows in Asia, Europe, America and Africa continents in the world (Bapari, 2016). The second largest consumed cereal crop in the world is rice (Inuwa *et al.*, 2011). About 80% of the people live on rice in Asia continent (Noonari *et al.*, 2015). Rice production holds an extremely important position in agriculture and the national economy in Bangladesh (Hasan *et al.*, 2017). Bangladesh is an agrarian country. Rice is the staple food for 160.8 million people of the country. About 58% of the people live in rural areas, and most of the people are involved in agriculture (BBS, 2016). About 75.1% of agricultural land use to grow rice, of which 42.4% was employed in *Boro* rice production (Sujan *et al.*, 2017). Agriculture contributes 14.79% of the gross domestic product (GDP) of Bangladesh (MoF, 2017).

Although rice was considered as the main crop in Bangladesh and the country was ranked as the fourth largest rice producer in the world (International Rice Research Institute, 2009). According to BBS (2017), Bogura district was 7th and Gaibandha district was 15th position in rice producing among different districts in Bangladesh and those two districts are famous for rice production. In the year 2016-2017, total paddy

production of Bangladesh in the *Aus*, *Aman* and *Boro* season were 2,133.60, 13,656.0 and 18,411.8 thousand ton respectively. In the year 2016-2017, total production of paddy in Bogura and Gaibandha district were 702,727 M.T and 467,756 M.T respectively (BBS, 2017). In the study areas, marketing activities were dominated by the middlemen such as rice millers, wholesalers, and retailers. There are some studies about rice marketing in Bangladesh (Uddin, 1997; Islam, 1998; Miah, 1999; Zaman *et al.*, 2000; Khan, 2005; Rajagopal, 1980; Ravallian, 1986; Tasnoova *et al.*, 2006). There was no previous study about rice market actors, marketing margin and their marketing problems in the selected area. For this reason, the present study is important to accomplish different issue related to rice business in the selected districts. The overall objective of the research is to identify major rice market actors, their characteristics and their marketing margins.

The specific objectives of the study are:

(i) to identify the major rice market actors and their characteristics, (ii) to know the market actor's marketing practices, (iii) to explore the existing rice marketing channels, (iv) to examine market actor's marketing margin, and (v) to discover potential obstacles of rice marketing and possible suggestion to overcome this problem by the market actors.

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Materials and Methods

The present study was conducted in two rice producing districts namely Bogura and Gaibandha and purposive sampling was used for study area selection. Sonatola and Nondigram Upazila were selected in Bogura district and Gobindagonj Upazila in Gaibandha district was chosen purposively for this study. In the Sonatola Upazila, Boro bazar was selected purposively for the selection of market actors. In the Nondigram Upazila, Nondigram Bazar was purposively selected for the selection of market actors. In the Gobindagonj Upazila, *Fakira hat* was purposively selected for the selection of market actors. In the *Boro* season, farmers generally produced BRRI dhan 28 in both districts and therefore, BRRI dhan 28 was selected for the present study. A semi-structured pre-tested interview schedule was used for collecting data from the market actors from November to December, 2017. Total 25 market actors were purposively selected. Among them, 13 market actors from Bogura and 12 market actors from the Gaibandha district were selected for the study. In Bogura district, there are three rice millers, five wholesalers, and five retailers were selected. On the other hand, two rice millers, five wholesalers and five retailers were selected from Gaibandha district. Supply chain was used to show the flow of transformations and transactions from the production point, to further processing, to marketing and to the final sell of rice. Farmers were the pioneer of the supplier's chain of paddy. Traditionally farmers sold their paddy at their home or at the village local market. Bepari and rice miller bought paddy at the local market. Sometimes rice miller bought paddy in the village market by appointed their agent. Rice millers were converted the paddy into rice and make it usable for final consumer. The study examined rice market actors marketing activities and marketing margins. Descriptive analysis was used to analyze and present the data. The costs and margins of rice market actors were calculated by the following indices. These indices were previously used by [Hasan and Bai \(2016\)](#).

- (i) Total revenue of rice millers = Sales price of rice + sales price of rice husk
- (ii) Total revenue of wholesalers and retailers = Sales price of rice
- (iii) Total marketing costs = Transportation related costs + Market related costs + Fixed costs + Other expenses
- (iv) The margin of market actors = Purchase price – sales price – total marketing cost

Results and Discussion

Major market actors

The study found that rice millers, wholesalers, and retailers were the major market actors, both in Bogura, and Gaibandha district. [Khan \(2005\)](#) found different types of market actors in Sherpur district and they were Bepari, local rice Aratdar, Aratdar-cum-wholesaler, wholesaler-cum-retailer and retailer.

Major characteristics of market actors

[Table 1](#) shows the characteristics of rice market actors. The average age of rice millers was 51.5 years and educational level was 14.4 years in two districts. They sold 3.9 varieties of rice and all of them were the member of the trade association. Rice millers took the opportunity of trade association and they had strong business position in rice marketing. Wholesaler's average age was 47.4 years and their average education level was 9.3 years in all areas. They sold 4.1 varieties of rice and 76.5% of them were the member of the trade association. Retailer's average age was 45.3 years and average education was 6.5 years in all areas. They sold 3.7 varieties of rice and 59.5% of them were the member of the trade association. Rice millers handle 229,225.9 kg rice in a year, which was higher than wholesalers (48,400.0 kg) and retailers (2,200.0 kg). Rice miller's educational level and volume of business was higher than wholesalers and retailers in the study area.

Table 1. Characteristics of intermediaries

Particulars	Bogura district	Gaibandha district	All areas
<i>Rice millers (no.)</i>	(3)	(2)	(5)
Age (years)	54.0	49.0	51.5
Educational level (years)	14.7	14.0	14.4
Variety of rice sell (no.)	4.3	3.5	3.9
Volume of Business (Kg)	1,87,731.8	2,70,720.0	229,225.9
Member of trade association (%)	100.0	100.0	100.0
<i>Wholesalers (no.)</i>	(5)	(5)	(10)
Age (years)	48.4	46.4	47.4
Educational level (years)	10.0	8.6	9.3
Variety of rice sell (no.)	4.2	4.0	4.1
The volume of Business (Kg)	50,000.0	46,800.0	48,400.0
Member of trade association (%)	80.0	73.0	76.5
<i>Retailers (no.)</i>	(5)	(5)	(10)
Age (years)	43.5	47.0	45.3
Educational level (years)	6.5	6.5	6.5
Variety of rice sell (no.)	3.8	3.5	3.7
Volume of Business (Kg)	2,200.0	2,200.0	2,200.0
Member of trade association (%)	64.0	55.0	59.5

Marketing channels of rice

The marketing channels of rice were identified in the study areas are shown in Figure 1 and Figure 2. Rice

marketing channels started from the farmer and farmers are the grower of paddy.

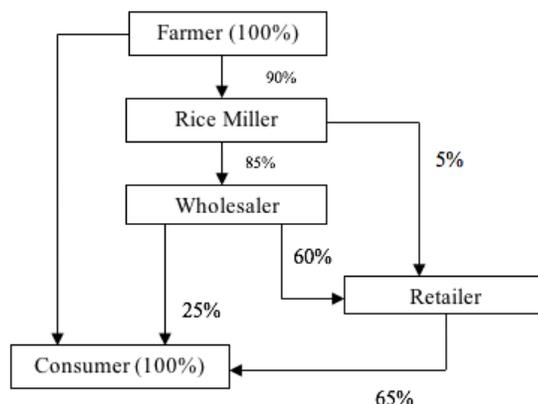


Fig. 1 Marketing channels of rice in Bogura district

In Bogura district, farmers sold 90.0% paddy to the rice millers and farmers kept 10.0% paddy for their own consumption. Wholesalers (85%) purchased rice from rice millers. Retailers (5.0%) purchased rice from rice millers and retailers purchased 60.0% rice from wholesalers. Finally, consumers purchased (25.0%) rice from wholesalers and 65.0% from retailers. In Gaibandha district, farmers sold 85.0% paddy to the

rice millers and farmers kept 15.0% paddy for their own consumption. After processing, rice millers sold 68.0% rice to wholesalers and 17.0% to retailers. Wholesalers sold 48.0% rice to the retailers and 20.0% rice to the consumers. Finally, retailers sold 65.0% rice to the local consumers and consumers were the last actors in the supply chain.

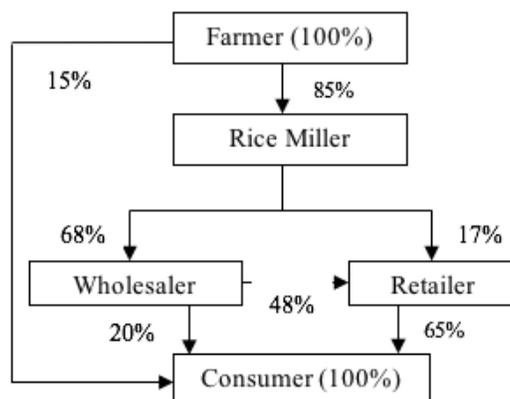


Fig. 2 Marketing channel of rice in Gaibandha district

Marketing functions of intermediaries

Table 2 shows the marketing functions of intermediaries. Generally, rice millers and wholesalers grade their rice into A, B and C categories in the same variety. Most of the middlemen graded their rice because grading facilitates for sell and ensure high prices. Grade A, was the high quality of rice, grade B was medium quality and grade C was the lower quality of rice. All the rice millers graded their rice in both districts. In Bogura district, 70.0% wholesalers graded their rice whereas in

Gaibandha district 80.0% wholesalers graded their rice. The storage facilities of rice were not well developed in the study areas. All rice millers and wholesalers in the study areas stored their rice. The millers had exclusive grain storage facilities usually buildings or tin sheds. Wholesalers used their shops for storing rice. Wholesalers rent a store house or another shop for storing rice. About 50.0% retailers in Bogura and 30.0% retailers in Gaibandha district stored their rice. Retailers used their retail shops for storing their purchased rice and they do not store their rice for a long time. The wholesalers transported their rice by mini truck,

rickshaw, van and votvoti. The retailers carried their rice by rickshaw and van. But the rice millers mostly used truck for carrying their paddy and rice. Khan (2005) found that different intermediaries were involved

varieties of functions such as transportation, storage, grading, financing, market information and pricing.

Table 2. Marketing functions of intermediaries

Particulars	Bogura district		Gaibandha district	
	Yes (%)	No (%)	Yes (%)	No (%)
<i>Rice millers (no.)</i>		(3)		(2)
Grading	100.0	0	100.0	0
Storage	100.0	0	100.0	0
Transportation	100.0	0	100.0	0
<i>Wholesalers (no.)</i>		(5)		(5)
Grading	70.0	30.0	80.0	20.0
Storage	100.0	0	100.0	0
Transportation	100.0	0	100.0	0
<i>Retailers (no.)</i>		(5)		(5)
Grading	0	100.0	0	100.0
Storage	50.0	50	30.0	70.0
Transportation	100.0	0	100.0	0

Source: Market Survey, 2017

Marketing cost of different intermediaries

Table 3 shows the marketing cost of different Intermediaries. Total marketing costs incurred by the rice millers was Tk. 569.8/40 kg rice in Bogura district and Tk. 526.0 in Gaibandha district. Total marketing cost of wholesaler was Tk. 22.7/40 kg rice in Bogura district and Tk. 13.8 in Gaibandha district. Total marketing cost of retailers was Tk. 39.1/40 kg rice in Bogura district and Tk. 43.0 in Gaibandha district. In all areas, rice millers total marketing cost was Tk. 547.9/40 kg of rice which was highest among all other intermediaries. Wholesalers and retailers total marketing cost was Tk. 18.3 and Tk. 41.0/40 kg rice respectively. Among all other cost, transportation related cost also highest for rice millers which were Tk. 176.1/40 kg rice. The storage cost of rice millers and wholesalers was Tk. 27.4 and Tk. 1.3/40 kg rice respectively. Among all intermediaries, shop rent was highest for rice millers (Tk. 35.9) and lowest for wholesalers (Tk. 1.6). Interest on loan of rice millers was Tk. 6.8/40 kg rice. Mobile bill incurred by rice millers was highest (Tk.4.2) and lowest by retailers (Tk.1.4/40 kg rice). Among all intermediaries, total marketing cost was higher the rice millers than wholesalers and Retailers. Rice millers were processing the paddy into rice and finally they marketed the rice.

Marketing margins of different intermediaries

Table 4 shows the marketing margins of different market actors in the study areas. Purchase price of paddy incurred by rice millers was higher in Gaibandha (Tk. 1,135.0 per 60 kg) than Bogura district (Tk. 1,110.0 per 60 kg). Wholesalers purchase price of rice was higher in Bogura (Tk. 1,880.0) than Gaibandha district (Tk.

1,812.0/40 kg). The retailers purchase price of rice was Tk. 1,920.0/40 kg in Bogura and Tk. 1,840.0/40 kg in Gaibandha district. Selling price of rice by the rice millers was highest in Bogura (Tk. 1850.0) than Gaibandha district (Tk. 1,795.0 /40 kg). Selling price of rice by wholesalers was highest in Bogura (Tk. 1,926.7) than Gaibandha district (Tk. 1,842.0/40 kg). Selling price of rice by retailers was Tk. 1,992.0/40 kg in Bogura and Tk. 1918.0/40 kg in Gaibandha district. Selling price of rice husk by rice millers was Tk. 93.2/40 kg in Bogura district and Tk. 57.7/40 kg in Gaibandha district. Total marketing costs incurred by the millers was Tk. 569.8 and Tk. 526.0/40 kg in Bogura and Gaibandha district respectively.

Total marketing cost of wholesaler was Tk. 22.7/40 kg in Bogura and Tk. 13.8 in Gaibandha district. Total marketing cost of retailers was Tk. 39.1/40 kg in Bogura and Tk. 43.0 in Gaibandha district. Marketing margin of rice millers was Tk. 263.4 in Bogura and Tk. 191.7 in Gaibandha district. In the all areas, marketing margin of rice millers was Tk. 227.5/40 kg. Marketing margin of wholesalers was highest in Bogura (Tk.24.0) than Gaibandha district (Tk. 16.2). In the all areas, marketing margin of wholesaler was Tk. 20.0/40 kg. Marketing margin of retailers was higher in Gaibandha (Tk.35.0) than Bogura district (Tk. 32.9). In all the areas, marketing margin of retailers was Tk. 34.0/40 kg. Among all intermediaries marketing margins was highest for rice millers which were Tk. 227.5/40kg. Rice miller's volume of business was larger than other market actors and this may be the one reason for highest marketing margins for the rice millers.

Table 3. Marketing cost of different Intermediaries

Cost Items (Tk.)	Average cost (Tk./40 kg)								
	Rice millers (5)			Wholesalers (10)			Retailers (10)		
	Bogura	Gaibandha	All areas	Bogura	Gaibandha	All areas	Bogura	Gaibandha	All areas
Transportation related costs									
Labor cost	158.0	165.5	161.7	5.9	2.0	3.9	1.9	2.0	1.9
Transportation cost	18.9	10.0	14.4	11.5	5.6	8.5	6.4	3.6	5.0
Total transport. related cost	176.9	175.5	176.1	17.3	7.6	12.5	8.3	5.6	6.9
Market related costs									
Processing	65.0	61.0	63.0	-	-	-	-	-	-
Storage	28.3	26.5	27.4	1.1	1.4	1.3	0.0	0.0	0.0
Grading	5.0	8.0	6.5	-	-	-	-	-	-
Packaging	12.0	12.0	12.0	-	-	-	-	-	-
Salary of employee	153.4	124.1	138.8	-	-	-	-	-	-
Electricity bill	7.5	5.6	6.5	0.2	0.2	0.2	5.7	8.4	7.0
Tax	30.2	28.8	29.5	-	-	-	-	-	-
Fixed Costs									
Machinery and tool	42.6	38.4	40.5	-	-	-	-	-	-
Shop rent	36.6	35.2	35.9	1.4	1.8	1.6	22.8	26.2	24.5
Interest payment on loan	7.1	6.5	6.8	-	-	-	-	-	-
Other Costs									
Personal expenses	0.9	0.5	0.7	0.9	0.8	0.8	1.2	1.2	1.2
Mobile bill	4.3	4.0	4.2	1.8	2.0	1.9	1.1	1.6	1.4
Total Marketing cost	569.8	526.0	547.9	22.7	13.8	18.3	39.1	43.0	41.0

Source: Market Survey, 2017

Table 4. Marketing margins of different intermediaries

Items	Taka/60 kg for paddy and Taka/40 kg for rice			Taka/40 kg					
	Rice millers (5)			Wholesalers (10)			Retailers (10)		
	Bogura	Gaibandha	All areas	Bogura	Gaibandha	All areas	Bogura	Gaibandha	All areas
Purchase price of paddy (Taka/60 kg)	1110.0	1135.0	1122.5	-	-	-	-	-	-
Purchase price of rice (Taka/40 kg)	-	-	-	1,880.0	1,812.0	1,846.0	1,920.0	1,840.0	1,880.0
Sales Price of rice (Taka/40 kg)	1850.0	1795.0	1822.5	1,926.7	1,842.0	1,884.3	1,992.0	1,918.0	1,955.0
Sales price of rice husk (Taka/40 kg)	93.2	57.7	75.4	-	-	-	-	-	-
Marketing cost	569.8	526.0	547.9	22.7	13.8	18.3	39.1	43.0	41.0
Marketing Margin	263.4	191.7	227.5	24.0	16.2	20.0	32.9	35.0	34.0

Source: Market Survey, 2017

Marketing problems of different intermediaries

Table 5 showed the rank of problems which different intermediaries faced in rice marketing. Lack of credit was the first problem of all intermediaries. Lack of transportation facility and unstable price of rice were the second problem of rice millers. According to rank order, lack of storage facility and low price were third and high storage cost and high transportation cost were the fourth problem of rice millers. Lack of transportation facility, lack of storage facility, high transportation cost and low price of rice were the second rank order problem of wholesalers. Lack of transportation facility was second ranked problem of retailers. Islam (1998) found that major marketing problems of intermediaries were low price, lack of capital, poor communication and transportation system, inadequate credit facilities, etc. Khan (2005) found that intermediaries' major problems

were price fluctuation and low price, lack of capital, poor communication and lack of transportation, lack of storage facilities and higher marketing cost.

Possible solutions suggested by intermediaries

Table 6 shows different suggestions mentioned by the market intermediaries, according to their problems. Rice millers and retailers suggested that the available credit facility was the first solution to solve their problems. On the other hand, wholesalers suggested that reduction of transportation cost was the first solution to solve their problems. Reduction of storage cost and reduction in transportation cost was a second rank order solution of rice millers. A stable price of rice is the second ranked suggestion of wholesalers. On the other hand, retailers suggested that a stable price of rice and reductions in transportation cost was the second solution to solve their

problems. Khan (2005) found that different intermediaries suggested reducing the price fluctuation and getting a fair price, provision of loan, improvement

of transportation and communication facilities, improvement of storage facilities and reduction of market toll, etc.

Table 5. Marketing problems of different intermediaries

List of problems	Rice miller (%)	Rank order	Wholesalers (%)	Rank order	Retailers (%)	Rank order
Lack of transportation facility	66.7	2 nd	40.0	2 nd	50.0	2 nd
Lack of storage facility	58.3	3 rd	40.0	2 rd	25.0	3 rd
High storage cost	41.7	4 th	30.0	3 rd	0.0	5 th
High transportation cost	41.7	4 th	40.0	2 nd	16.7	4 th
Lack of credit	100.0	1 st	70.0	1 st	100.0	1 st
Low price of rice	58.3	3 rd	40.0	2 nd	25.0	3 rd
Unstable price of rice	66.7	2 nd	20.0	4 th	16.7	4 th
Excessive raining	41.7	4 th	10.0	5 th	16.7	4 th

Source: Market Survey, 2017

Table 6. Possible solutions suggested by intermediaries

Items of suggestions	Rice millers (%)	Rank order	Wholesalers (%)	Rank order	Retailers (%)	Rank order
Improvements in transport facilities	54.2	4 th	56.5	4 th	44.8	5 th
Available storage facility	45.8	5 th	43.7	5 th	55.2	4 th
Reduction of storage cost	83.3	2 nd	68.7	3 rd	65.6	3 rd
Reduction of transportation cost	83.3	2 nd	100.0	1 st	79.7	2 nd
Available credit facility	100.0	1 st	68.7	3 rd	100.0	1 st
Stable price of rice	62.5	3 rd	75.0	2 nd	79.7	2 nd

Source: Market Survey, 2017

Conclusion

This study finds out major rice market actors and their marketing activities. The paper also examines the marketing cost, marketing margin, marketing channels and problems faced by the intermediaries of rice marketing in Bogura and Gaibandha districts. It is found that rice millers are grading their rice, but retailers are not grading their rice in the study area. Rice millers and rice wholesalers, store their rice. Among all the intermediaries, highest marketing cost, and the margin are found by the rice millers. The most common problem of intermediaries is the lack of credit. To solve this problem, attention is needed to the agricultural policy by providing soft loan to the rice traders.

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