

Functions of “Bepari/Local Paddy Assembler” in the Paddy/Rice Marketing System of Bangladesh -A case study of Brahmanbaria District-

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Abstract: Agriculture is the largest producing sector of Bangladesh economy since 80% people are directly or indirectly attached in this sector. Marketing of paddy is playing a significant role in shaping the total economy. Large amount of paddy/rice distributed all over Bangladesh through a very complex distribution channel. Different types and large number of paddy/rice traders are involved in the marketing system such as Bepari/Local Paddy Assembler (LPA), Paddy Aratdar/Local Paddy Broker (LPB), Paddy Aratdar-cum wholesaler/Paddy wholesaler (PW) and Rice Miller (RM), Rice Aratdar/Local Rice Broker, Wholesaler and Retailer. Among these traders, “Bepari/LPA” is the main selling destination for farmers as 64.3% of paddy distributed through them. “Bepari/LPA” performs important functions and they have much influential power over paddy farmers for their ability. Farmers usually do not get a fair profit or benefits for lack of facility and equipment. In that regards, if farmers can accumulate facility more, they can negotiate strongly to obtain right price of paddy with Bepari/LPA. If farmers cannot arrange the capital to build up the facility, then they need to organize a farmer’s co-operative society. In addition to, the central government have to introduce a rice wholesale market and wholesale market law to set right price of paddy.

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Key words: Bepari / Local Paddy Assembler, Rice Marketing System, Facility of farmers, Bangladesh.

1. Introduction

In Bangladesh, paddy/rice productivity per hectare increased from 1991 to 2014 by the adoption of modern varieties of rice and rice consumption increased due to the population swelling at a rate of 1.6% yearly. The production area, however, has not increased significantly (figure 1), and domestic production cannot cover the increased demand. The main factor contributing to this problem is the high margin of different paddy/rice traders. Different types and a large number of paddy/rice traders, such as Bepari/Local Paddy Assembler (LPA), Paddy Aratdar/Local Paddy Broker (LPB), and Paddy Aratdar-cum Wholesaler (PW), Rice Miller (RM), Rice Aratdar/Local Rice Broker (LRB), Wholesaler and Retailers are engaged in the paddy/rice marketing channel. Due to this long paddy/rice-distribution channel, farmers get a very small profit from selling their product. Inadequate storage facility is another reason why farmers have to sell their paddy/rice hurriedly after harvest at a low price.

Farmers are not getting right price for their paddy. There are two main discussion groups. One group is discussing about high cost of production and second group is discussing about the functions of traders specially Bepari/LPA in the paddy/rice marketing system.

The main factors contributing to this problem are as follows; after the introduction of high yield varieties, the costs of production and management rose as the cost of chemical fertilizer, high-quality seed, and irrigation has increased. These high-quality inputs mostly have imported from outside the country. In response to the high cost of production, Bangladesh government import rice from India. The cost of imported rice was lower than that of domestically produced rice. As a result, local farmers are not getting right prices for their paddy. Finally, for the functions of Bepari/LPA farmers cannot get high price of paddy.

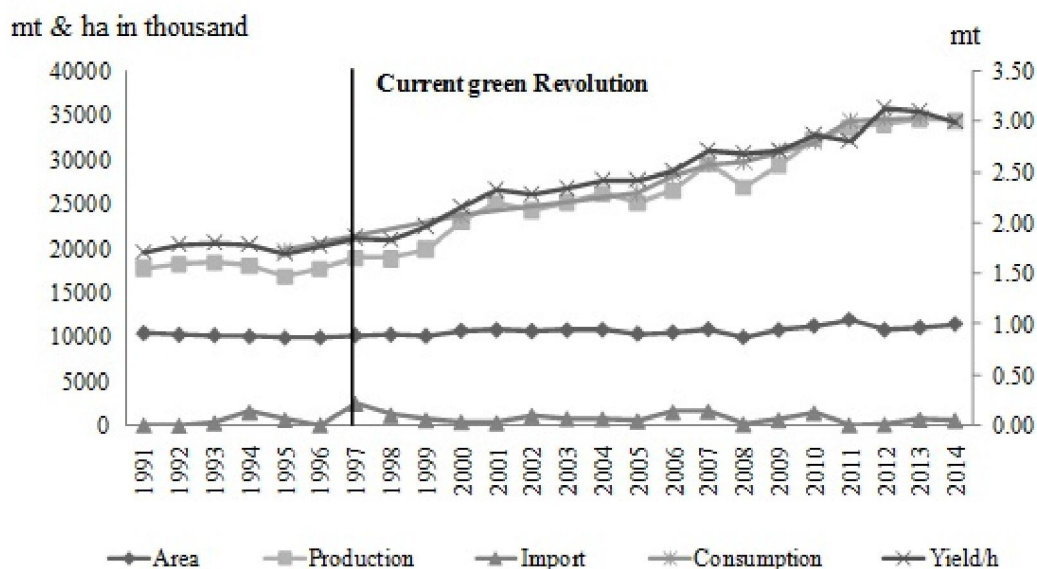


Figure 1: Paddy cultivation area, production, import, rice consumption and yield in Bangladesh
Source: Bangladesh Bureau of Statistics (BBS) and USDA

2. Materials and Methods

Characteristics of survey area

We selected the Brahmanbaria district for the survey area. The district is situated in east-central Bangladesh, and is 115 Km away from Dhaka (the capital city). Two villages from the Sarail and Ashugonj upazilla of Brahmanbaria were selected for an investigation of the influence of floods on paddy production and the power of paddy/rice traders. More than 70% of rice demand in the area was covered by local production, while rest comes from outside the district or is imported. Meanwhile, more than 55% of households are primarily engaged in paddy/rice production.

There are many paddy/rice traders and distributors around the Ashugonj River port of the Brahmanbaria district, as it is well connected by river, roads, and highways with different districts of Bangladesh. Different traders can transport rice to Ashugonj river port by boat and roads. For that reason, there are 404 established semi-automatic and automatic rice mills in this area. There are also many paddy/rice traders like Bepari/LPA, Paddy Aratdar/Local Paddy Broker (LPB), Rice Miller (RM), Aratdar-cum Wholesaler, Wholesaler and Retailer. This is why the area has become the second largest paddy/rice distribution area in Bangladesh.

Objectives of survey

The paddy growers and traders in the study area were the object of this study. Primary data were collected through face-to-face interviews in the two villages of Brahmanbaria district. The survey was

administered to 76 farmers in Shahjadapur (Hamlet 1) and 38 farmers' in Shohagpur (Hamlet 2). More than 45% of the participating farmers' had less than 1 hectare of paddy land, and more than 76 % of total farmer's livelihood depended on income comes from paddy/rice selling only. The farmer's family consumed about 17.7% of produced paddy/rice (see figure 3).

We also collected data from 44 different intermediaries, including eight Bepari/LPA, six Paddy Aratdar/LPB, 17 Rice Miller/RM, one Paddy Aratdar/PW, eight Wholesalers and four Retailers, during the period January 2015 to March 2016. The secondary data was collected from Bangladesh Bureau of Statistics (BBS), the Export Promotion Bureau of Bangladesh (EPB), the Directorate of Agricultural Marketing (DAM), the Food and Agricultural Organization (FAO), and the Statistics Department of Bangladesh Bank, as well as from newspapers and Internet files.

Literature Review:

A literature review revealed that there have been many studies of these problems in Bangladesh. Not all of the studies are entirely relevant to our present study. However, their findings, methodology of analysis and suggestions have a great influence on my study (see References). "(Tasnoova, S and Iwamoto, 2006)"studied the marketing system of Kataribhog rice to estimates marketing costs and margins as well as marketing problems of probable solutions. They found that Retailers' marketing costs were the lowest, but their net margin was higher among other Traders.

“(Alam and Palash, 2006)” studied the existing marketing channel and to estimate marketing costs, margins, price spread and farmers share in consumer taka. They found that traders incurred huge transport costs, resulting in higher retail prices and a lower share for producers. “(Raha and Akbar, 2010)” studied cost, margins, and the farmers share in retail price paid by consumers. They considered “Faria” as the main distribution channel, but this trader has already disappeared.

In this connection our present study focuses on why farmers sell their product to different paddy/rice traders, especially Bepari/LPA, as they are not necessarily getting a right price for their paddy. The study clarifies four main points: (1) the per-hectare revenue of farmers and management costs; (2) the paddy/rice marketing channel structure and functions of the Bepari/LPA, the main selling destination of farmers in the survey area; (3) the marketing facility conditions of farmers in the paddy/rice marketing system; and (4) government interventions that seek to resolve farmers’ problems regarding the paddy/rice marketing structure and also Bepari/LPA.

3. Results and discussions

Classification of farmers based on gross revenue

The management cost of farmers is material costs excluding family labour cost. Per hectare, the management cost of farmers was 49,845 Tk in 2010. However, this cost had increased in 2015 (see figure 2). The figure illustrates each farmer’s revenue per hectare and average management costs of farmers in 2015 and in 2010. Based on per-hectare revenue, farmers were divided into three groups: Group A—68.4% of total farmers whose revenue increased from 2010 to 2015; Group B—20.2% whose revenue decreased from 2010 to 2015, and; Group C—Constant, 11.4% (within this group, 4.4% did not sell their product).

(1) Increasing Group A also had two subgroups: Group (A-1) was comprised of 69.2% of the farmers in Group A who could cover their average management costs; meanwhile Group (A-2) was the remaining 30.8% of farmers in Group A who could not cover their average management cost.

(2) Decreasing Group B also had two subgroups: Group (B-1) was comprised of 21.7% of the farmers in this group who could cover their average management costs; Group (B-2) was the remaining 78.3% of farmers in Group B who could not cover their average management costs (see figure 2). Group (A-1) received the most revenue per hectare, and Group (B-2) were the most deprived of revenue.

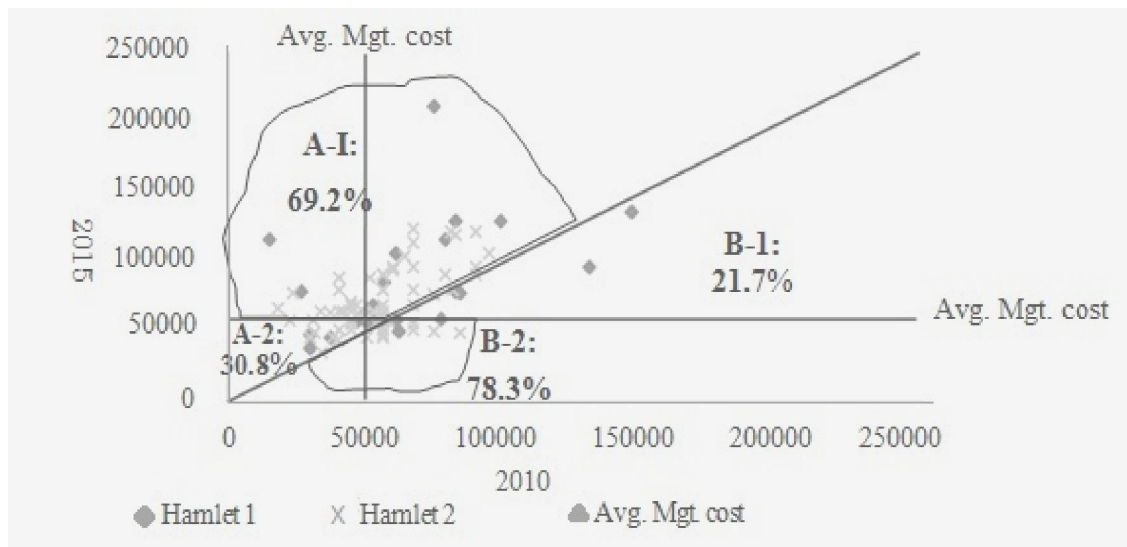


Figure 2: Per-hectare revenue and average management cost

Source: Survey Data of 2016

Notes:

- 1) Management Cost = Material costs of paddy excluding family labour cost.
- 2) Tk denotes Bangladeshi currency; 1 Tk = 1.385 JPY.
- 3) Increasing Group A 68.4%; decreasing Group B 20.2%; Constant and online Group C 11.4%.
- 4) Food expenditure in Bangladesh has increased over times. According to Household Income Expenditure Survey (HIES) 2010, average expenditure of Bangladeshi people has increased from 4,881 Tk in 2000 to Tk 11,200 in 2010 and average monthly consumption increased from Tk 4,337 in 2000 to Tk 11,003 in 2010.

Table 1: Behavioural differences between Group (A-1) and Group (B-2)

Selling channel	Group (A-1)	Group (B-2)
LPA	80%	< 94%
Rice Miller	15.4%	> 6%
LPA and Rice Miller	3.8%	
Consumer	0.8%	
Total	100%	100%
Average per kg paddy price (Tk)	19.7	> 14.1
Stage of sale paddy		
After harvest	78.9%	< 94%
After storage	20.3%	> 6%
After processing	0.8%	
Total	100%	100%

Source: Survey data 2016

Group (A-1) could cover their average management costs, while Group (B-2) could not. From the classifications in (figure 2), we identified the two main groups of farmer as Group (A-1) and Group (B-2). Group (A-1) gained the most revenue per hectare, and Group (B-2) were the most deprived of revenue.

There were some distinct characteristics between two groups, as presented in Table 1. Among the four farmer groups, Group (A-1) was in the best position and Group (B-2) was the worst. Table 1 illustrates the behavioural differences between Groups (A-1) and (B-2).

Group (B-2) sold 94% of paddy to Bepari/LPA, whereas Group (A-1) sold only 80% to this trader. On the other hand, Group (B-2) sold 6% of paddy to RM, less than Group (A-1) at 15.4%. Therefore, Group (A-1) received an average price for paddy of Tk 19.7 per kg. On the other hand, Group (B-2) got Tk.14.1.

In terms of selling strategy, 94% of Group (B-2) and 78.9 % of Group (A-1) sold their paddy at a low price immediately after harvest. Meanwhile, 20.3% of Group (A-1) and 6% of Group (B-2) sold at a higher price after storage; 0.8% of Group (A-1) sold their rice after processing, but none of Group (B-2) did. Group (A-1) had better conditions than Group (B-2) in all aspects. As a result, Group (A-1) farmers obtained more agricultural income and could cover their average management costs.

Complicated paddy/rice distribution channel in the Brahmanbaria district

The paddy/rice distribution channel is the process that paddy/rice goes on its way from the producer to the consumer. In this channel, the producer receives a very low price for their product. Meanwhile, traders perform the functions necessary to move the farmers' produce to consumers and achieve the market objectives of the channel. In our study

area, there was a long paddy distribution channel before paddy processed as rice, with a large number of traders in the system. Figure 3 reveals that there were four main traders involved in the market to distribute paddy: Bepari/LPA, Paddy Aratdar/LPB, Paddy Aratdar-cum wholesaler/PW and RM. Another five traders Rice Aratdar, Rice Aratdar cum wholesaler, Wholesaler, Wholesaler cum Retailer, and Retailer were involved in distributing rice.

According to (figure 3) 64.3% was traded through Bepari/LPA, which was the farmers' main selling destination. Paddy was also distributed through RM (12.4%); Paddy Aratdar/LPB (3.1%), and Paddy Aratdar-cum Wholesaler (2.4%). Only 0.1% was sold directly to the consumer.

Due to various limitations (see Table 3), farmers were forced to sell their paddy to Bepari/LPA: (1) the most important reason of farmer's to select Bepari/LPA was that the transport was easy. Bepari came to farmer's house and brought paddy. Bepari/LPA used mostly rental transport facilities; (2) the second most important reason of farmers selected Bepari/LPA was they were able to get cash immediately for their paddy. This money could then be used for different needs as well as to repay their loans; (3) farmers could select a specific Bepari from many Bepari/LPA who would give them better price for paddy, but they cannot sell to that Bepari/LPA because farmers do not know whether highest payer Bepari/ LPA will come to farmers' yard or not to buy the paddy; (4) Bepari/LPA will provide transport facility to farmers to carry their paddy, so that farmers could easily sell their product; (5) as Bepari/LPA bought paddy at the farmer's house or fields, farmers did not need to do any processing activity before selling; (6) as less than 15% of farmers had adequate storage facility, farmers needed to sell their paddy to Bepari/LPA as soon as possible; and finally (7)

Bepari/LPA sometimes provided credit to farmers for different needs.

Therefore, farmers sold to Bepari/LPA. As the Bepari/LPA set the price of the paddy, they can offer lower prices than other traders. Nevertheless, farmers are bound to sell their product to Bepari/LPA due to their limited facility and they cannot cover management costs.

Behaviour of Bepari/LPA on paddy trade

LPA bought paddy from farmers 1,025 kg to 1 ton, but then sold it to Paddy Aratdar/LPB as 950 kg to 1 ton as a business custom. LPA thus gained 75 kg at 22.2 Tk per kg for a 1- ton weight. Therefore, LPA’s margin was Tk 1,665 from 1- ton paddy in

weight difference for buying and selling. LPA bought paddy from farmers at Tk 18,986 per ton and sold to LPB at Tk 22,206 per ton. Again, LPA secured a selling margin of Tk 3,220 per ton. In total, LPA get a monetary benefit of Tk.4, 885= (1,665+3,220) per ton. From this computation, we can say that LPA get benefits from both sides, weight balance as well as selling margin and they handle 247.85 ton per year. Bepari/LPA gets a double benefit, but farmers cannot get any benefit as they have less power to negotiate. High margin of different paddy/rice traders engaged in the paddy/rice marketing system and the inadequate distribution system caused higher marketing charges.

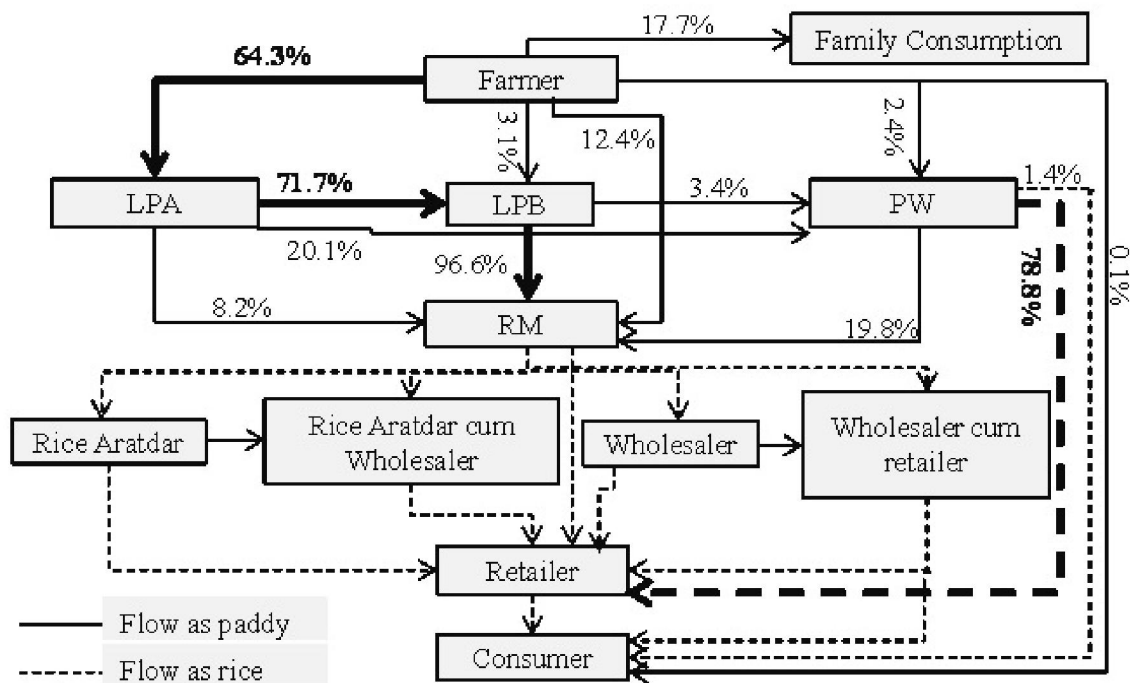


Figure 3: Marketing channel for paddy/rice in Brahmanbaria District

Source: Survey Data, 2016

Table 2: Buying price of paddy/rice for different traders and consumer from farmer

Particulars	LPA	LPB	RM	Consumer
Buying price of paddy/rice (Tk / ton)	18,986	21,831	25,500*	26,282
Buying place	Farmer’s yard	Trader’s yard	Trader’s yard	Market
Transportation cost	Not incurred	Incurred	Incurred	Incurred
Average Distance travelled (km)	0	7	15	3

Source: Survey data, 2016

Note: *(62.34% of rice from 1 ton paddy).

Tk denotes Bangladeshi currency and 1 Tk = 1.538 JPY.

LPB and RM buy paddy at a higher price than LPA that pays farmers directly (see Table 2). However, farmers sold only 3.1% of their product to LPB, and only 12.4% to RM for the following

reasons: (1) LPB and RM could not buy paddy in cash from farmers; (2) farmers did not have the ability to transport paddy to LPB and RM yards, as they would have had to travel 15 km to sell to RM, and 7 km to

sell to LPB; (3) LPB and RM also did not have the facility to carry paddy from farmers' yards. The result was that LPB and RM obtained their required paddy from LPA.

Facility conditions of farmers for paddy selling

Farmers do not have adequate storage facilities, transportation, or processing equipment (see Table 3). (1) Only 7.0% of farmers had tractor that could transport paddy from the field to the farmer's yard. Therefore, the majority of farmers could not carry their paddy to traders by themselves; (2) only 14% of farmers had storage facility, and the size was not enough often for their product. As a result, most of the farmers had to sell their paddy as soon as possible. If they were able to store paddy, they could sell in the off-season and obtain a higher price; (3) although 21.9% of farmers had steam equipment, they did not use it to prepare their product for sale. Farmers did not have sufficient places to dry the paddy, as only 31.6% had a yard facility; (4) while 73.7% of farmers possessed an information and communication tool like a mobile so they could get information from different sources on paddy prices; they could not sell to Bepari/LPA at the highest price. Farmers were bound to sell paddy to Bepari/LPA, mainly at a low price, and could not get a right price for paddy.

Bepari/LPA was the main selling destination of farmers. Table 4 shows the functions that Bepari/LPA

performed for farmers. They were as follows: (1) at the time of paddy pricing, 64.9% of farmers sold at a Bepari/LPA's decided price; (2) 63.2% of farmers get price information from Bepari/LPA on their mobile; (3) farmers can analyze and gather paddy prices information from other traders and decide the price with considerations of production costs; however; (4) farmers cannot negotiate with the selected Bepari/LPA, they had to sell at Bepari's/LPA's offered price. Farmers had the option to select a good Bepari/LPA by gathering information from many Bepari/LPAs. However, they did not know whether their chosen Bepari/LPA would come to buy paddy from them or not. They were bound to sell to Bepari/LPA due to their pitiable facility and equipment.

Processing of paddy/rice is necessary to obtain added value. Only 3.3% of farmers boiled and dried the paddy prior to selling to Bepari/LPA (see Table 3) notes. However, 39.6% of farmers performed primitive practises to abolish other substances from the paddy. 34.0 % of farmers dried the paddy, and only 23.1% tied it up in bags after drying. Their facilities were such that they could not do more processing activity. Moreover, farmers could not get a better price for paddy with fewer value-added activities.

Table 3: Farmers' facilities and equipment

Particulars	Hamlet 1 (N= 76)	Hamlet 2 (N=38)	Total N=114
1. Transportation			
i. Truck	1.3%	-	0.09%
ii. Tractor	9.2%	2.6%	7.0%
iii. Van	2.6%	2.6%	2.6%
2. Storage:			
Store	14.5%	13.2%	14.0%
3. Information			
i. Radio	6.6%	5.3%	6.1%
ii. TV	19.7%	15.8%	18.4%
iii. Mobile	75.0%	71.1%	73.7%
4. Processing			
i. Steam equipment	26.3%	13.2%	21.9%
ii. Yard	34.2%	26.3%	31.6%
iii. Milling facility	-	2.6%	0.09%

Source: Survey Data of 2016

Notes:

Primitive processing activities by the farmer towards Bepari/LPA are as follows:

- (1) 39.6% clear other substances from paddy;
- (2) 34% only dried the paddy;
- (3) 23.1% tied it up in bags after dry and
- (4) 3.3% boiled and dry the paddy.

Table 4: Pricing strategy of farmer towards Bepari/LPA

Particulars	%
A. Pricing strategy of farmer when sold paddy to Bepari/LPA	%
i. Asking about paddy price to other Bepari/LPA when selling	20.8%
ii. At a Bepari's decided price	64.9 %
iii. Sell at a market price	14.3%
B. Sources of paddy price information of farmer	
i. Rice agency (Paddy Aratdar)/LPB	25.9%
ii. Mobile	63.2%
iii. Bazaar	9.8%
iv. Extension officer	1.1%
C. Farmers can analyze paddy price is different in the market	
i. Yes	72.5%
D. Farmers can consider production costs in pricing	
ii. No	57.1%
E. Farmers opportunity to negotiate with Bepari/LPA	
ii. No	68.1%

Source: Survey data 2016

Notes: Transport by Bepari/LPA from farmers: (1) Hired car, 80.5%; (2) Own transport, 13.9%; (3) Public transport, 2.8%; and (4) By-cycle 2.8%

Transportation is a very important function of Bepari/LPA; for moving paddy from farmers to traders. 13.9% of Bepari/LPAs used their own transport, however. About 80.5 % of Bepari/LPA hired a car to transport the paddy from farmers (see Table 4 notes). Bepari/LPAs borrowed funds for paddy collection from local moneylenders and Paddy Aratdar/LPB. Therefore, they must share their profit margin with the local moneylender and LPB. Then they must sell their paddy to that LPB. As a result, Bepari/LPA negotiates very strictly when buying paddy from farmers due to their limitations, and buys paddy at a low price.

4. Results and Considerations

From our empirical study, we clarified the following points:

(1) Paddy/rice can become a profitable crop if proper initiatives will take to reduce marketing problems. Without a well-organized paddy/rice marketing system, farmers cannot get right and reasonable price for paddy.

(2) Paddy production area has not changed notably in the last three decades. This has caused higher management costs, the government's import from India, and Bepari/LPA's functions in the paddy/rice marketing system of Bangladesh.

(3) There is a very complex distribution system in the paddy/rice marketing channel. Traders do not maintain any formal rules and they practice a closed pricing strategy. Trader's margins and marketing costs affect farmers' agricultural income severely. Government interventions are not formal, and

information about paddy prices is inaccessible among farmers and traders.

(4) Farmers do not have adequate facilities for storage, transportation, and processing. That is why farmers sell their produce immediately after harvest. Farmers sell directly to four main traders: Bepari/LPA, Rice miller/RM, Paddy Aratdar/LPB, and Paddy Aratdar cum wholesaler/WS. Among these four, Bepari/LPA collects 64.3% of paddy from farmers and plays immense role in the distribution channel of the paddy/rice marketing system in Bangladesh.

(5) We attempted to discover the agricultural income conditions of farmers, and classified farmers into an income-increasing Group A (68.4%), and an income-decreasing Group B (20.2%), based on gross revenue per hectare. Among the increasing Group (A-1), 69.2% of farmers could cover their average management costs; among decreasing Group (B-2), 78.3% farmers could not cover their average management costs,

(6) If farmers could accumulate more facilities, then they could negotiate more strongly with Bepari/LPA and other traders, as well as get a right price for their paddy.

Considerations:

Farmers usually trade paddy with Bepari/LPA at a price decided by the LPA. For this reason, farmers' negotiating power should be improved. If farmers could obtain more facility and equipment, they could negotiate with Bepari/LPA and other traders more strongly. Distribution facilities will be accumulated

through farmers' community investment, joint enterprise, and concerted operations together. In the near future, it will be necessary for farmers to organize a co-operative society to enhance their negotiation power in each village.

Different government interventions are indispensable for farmers, as well as for Bepari/LPA. The following important matters should be considered: (1) setting a right price for paddy through an efficient marketing system; (2) setting stability in paddy prices; (3) constructing good roads for smooth transportation; (4) providing timely and correct information, so farmers can make good decisions; (5) expanding storage facilities for long-term stockpiling of paddy; (6) creating more milling facility for farmers so that they can easily sell paddy to RMs and get a better price. Government will need to introduce a rice wholesale market for fair trade of paddy and wholesale market laws.

Notes:

(1) Bepari/LPA: Bepari/LPA is a regular or full-time paddy assembler. They generally purchased paddy at a farmer's house and sell to the Paddy Aratdar/LPB. Bepari/LPA borrows funds for paddy collection from local moneylenders, or paddy Aratdar/LPB. They mainly rent boats to collect paddy from farmers. Farmers cannot negotiate strongly with Bepari/LPA. They have to sell at Bepari's decided price.

(2) Paddy Aratdar/LPB: Paddy Aratdar/LPB is another big paddy assembler or broker. Paddy Aratdar/LPB gains 15-Tk commissions per Mound (40 kg) paddy from Bepari/LPA. After purchase, Paddy Aratdar sell paddy directly to Rice Miller. Some Rice Aratdar/LPB has mill. LPB is a bridge between Bepari/LPA and Rice Miller. They can negotiate with each other.

(3) Rice Miller (RM): Rice Millers are licensed processors and traders. There are two kinds of mill in this area, automatic and semi-automatic. RMs has invested large amounts of money to build-up an infrastructural framework for their mills. They purchase paddy from paddy Aratdar/LPB on a large scale. They employ permanent labour or contract labour. After processing the rice, the RM sells it to Rice Aratdar/Rice Broker, Wholesalers and outside Wholesalers all over Bangladesh, and negotiates strongly with them.

(4) Paddy Aratdar_cum Wholesaler/Paddy Wholesaler (PW): Paddy Aratdar-cum wholesaler is also a rice assembler. Their scale of business is smaller than Paddy Aratdar/LPB, but they have much power among rice traders. They buy rice from Rice Miller in large amounts and supply it to local and outside wholesalers in different districts of Bangladesh.

(5) Retailer: Retailer is the last channel in the paddy/rice marketing system. Retailers have permanent shops in the market and are engaged in the rice business. They purchase mainly from wholesalers, sometimes a bit from Millers. They sell rice to the final consumer, end user, or purchaser. Retailers sell rice at the market price.

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