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# The Benefits of Market Participation and the Rice Marketing Systems in Bangladesh:

A Case Study

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## Summary

The main objective of this paper is to identify the manner in which farmers participate in the paddy/rice market. The volume of rice marketed and the marketing systems of surpluses are also studied in this paper. The analysis shows that small farmers benefit the least from open market participation and the price support program.

The two main marketing systems identified are direct selling from the home and selling at a local market. We observed different marketing channels for different groups based on farm size in the research area. Rice millers are the dominant rice traders in the surveyed area. To conclude, we point out the need to increase surpluses in order to improve the ability of small farmers to participate in the market.

## 1 Introduction

Increasing farmers' participation in the paddy/rice market is an important issue of price support program in Bangladesh. Different categories of farmers (namely small, medium, large) sell their surplus production of the paddy/rice they produce in a crop season either from their home or at the market; this we call farmers participation in the market. More than 70% of the farmers belong to the category of small group, and they hold only 29% of the total farmland. It is debated that the members of this category are the least beneficiaries from the purpose of the price support program. The present research is an attempt to identify the farmers participation in the paddy/rice market on different farm size categories and to know the beneficiaries of the government price support program.

Farmers' participation in the market mainly depends on the volume of surpluses which the farmer produces during a crop season. Therefore, to identify the farmers' participation in the market according to different farm strata, we

also need to know the volume of gross and net surpluses produced by the different farm size groups in subsistence agriculture like Bangladesh. The surplus production is marketed through different channels to the ultimate consumers, therefore, the marketing channel of paddy/rice will also be discussed in this paper. Paddy/Rice is traded through two different systems. One is controlled by the government, which is known as the Public Food Distribution System (PFDS) and the other is the private sector. The PFDS sector distributes less than 20% of the domestically produced rice, while the private sector distributes the rest of the surpluses that entered the market. Realizing the importance of the private sector's marketing system in the country, it will be the only marketing system highlighted in this paper.

Primary data was collected for this research. The survey was held in Nakla thana of Sherpur district of Bangladesh, which is one of the rice surplus areas of Bangladesh. In the survey village, among the total agricultural family, about 49% farm families belong to the group

of small (29%), medium (18%) and large (2%) farm families, and rests (51%) are belong to the group of marginal and landless farm families. Among the 30 sample farmers, 12 (40%) from the small farm groups, 14 (47%) from medium farm groups and 4 (13%) from large farm groups were selected for this research. Although the sample structure might not represent the whole village structure, but this would reflect the pattern of aman paddy marketing among the sample farmers of the surveyed village at least. Sample farmers from three different categories (small, medium, and large) were interviewed directly during the period of January to February of 1998. They were asked on the different aspects of marketing systems of aman paddy. Data for different intermediaries were collected through personal contact. Since the data was collected during the harvesting time of aman paddy, therefore, the entire discussion will deal here with aman paddy only. Three types of paddy are produced in Bangladesh in three different seasons. These are aman (winter), boro (spring) and aus (summer). Among these three major paddy, aman occupies about 57% of rice acreage, 50% of total production and generates about 52% surpluses for marketing.

This paper consists of five sections. Following the introduction, the second section presents the basic information on the sample farmers that included production and yield of aman paddy, sales and re purchase of paddy/rice, and volume of gross and net surplus of paddy. Third section examines the market participation and the beneficiaries of the price support program among the sample farmers. The next section deals with the marketing method of paddy/rice and finally conclusion is made in the last section.

## 2 States of the Farmers in the Surveyed Area

### 2.1 Basic Information of Farm Household

The basic information of the farm studied

is summarized in Table 1. All of the sample farmers in the survey area were involved in aman paddy cultivation. The average size of the farm household was higher than five persons, varying between 4.8 and 7.0 per family among the farm size groups. Large farm households had the highest number of family members. As described at the footnote of table, numbers of child and female are converted to adult male person.

More than 75% of farmers in the research area were found as owner operator and the rest were owner-cum tenants and pure tenant operators. According to the farm size category, a positive relationship was observed between the farm size and owner operator. All the large farmers were the owners operators while for small farmers just 66.7% were found as so. Twenty five per cent of the small farmers and 21.4% of the medium farmers were found as owner-cum tenant operators. Eight per cent of the small farmers were pure tenant operators. The per capita operated land was 0.3ha, presumably the highest for large farm strata (0.6ha) followed by the medium farm size group (0.4ha).

Total area planted for the aman paddy was 44.4ha, which was lower than the total operated land (48.5ha). Between the farm size groups, the medium farm size groups had the highest planted area of aman crops. The average planted area of aman crops was 1.5ha, which is lower than the average operated area. Current fallow land was 4.1ha and the medium farm size groups have the highest share of fallow land.

According to Table 1, the total production of aman paddy was 89 tons among the surveyed farmers. Though the yield per hectare does not vary significantly between the farm size groups (it varies from 1.9ton to 2.2tons), the large farmers had the better yield position compared to medium and small farm size groups. In all, yield per hectare was calculated 2.0tons among the surveyed farmers, which is quite consistent with the national yield level.

Table 1 : General Characteristics of the Sample Farmers

	Small	Medium	Large	All
Farm Studied (No.)	12	14	4	30
Farm Producing Aman Paddy (No.)	12	14	4	30
*Adult Person (No.)	58	67	28	153
*Average Size of the Family (No.)	4.8	4.8	7.0	5.1
Total Operated Land (ha)	7.5	24.2	16.8	48.5
Average Operated Land (ha)	0.6	1.7	4.2	1.6
Per Capita Operated land (ha)	0.1	0.4	0.6	0.3
Total Area Planted for Aman (ha)	6.8	21.6	16.0	44.4
Average Area Planted for Aman (ha)	0.6	1.5	4.0	1.5
Current Fallow during Aman (ha)	0.7	2.6	0.8	4.1
Per Capita Aman Paddy Land (ha)	0.1	0.3	0.6	0.3
Owner Operator (%)	66.7	78.6	100.0	76.7
Owner cum Tenant (%)	25.0	21.4	—	20.0
Pure Tenant (%)	8.3	—	—	3.3
Total Production (ton)	13.4	40.9	34.7	89.0
Yield (ton/ha)	2.0	1.9	2.2	2.0
Average Output/Farm (ton)	1.1	2.9	8.7	3.0
Per Capita Output (ton)	0.2	0.6	1.2	0.6

Note i) Adult person calculated as: Male=1, Female=0.9, Child=0.5 (for details please see Quasem 1987)

ii) Operated land = (own land + rented in land + leased in land + mortgaged in land) - (rented out land + leased out land + mortgaged out land)

iii) Small Farmer means who holds <1.01 ha land, Medium Farmer means who holds between  $\geq 1.01$  and  $\leq 3.03$  ha land and Large Farmers means who holds >3.03 ha land.

\* including children

Source: Field Survey, January-February, 1998

## 2.2 Gross and Net Surplus of Paddy

Farmers usually sell some quantity of the paddy immediately after the harvest, leaving the rest for home consumption. Twenty eight farmers (93.3%) made bulk sales of their aman crops immediately after the harvest, with this ratio varying from 92 to 100% between the different farm size groups. However, they often have to re purchase or buy back paddy/rice in the lean seasons. It is normally found higher in the lower farm strata. Due to cash requirements, small cultivators are compelled to sell more paddy than they can spare and to buy it back during the lean seasons. It was Nadkarni who paid attention to this behavior of buying back food grains among small cultivators. Taking this behavior of the farmers, the gross surplus is the actual quantity sold, i.e., the quantity

produced minus home requirement for consumption, seed requirement, kind payment, animal feed, etc. [1]. Since we do not have the information on these quantity except home requirement, we therefore modified the definition of gross surplus as the actual quantity sold, i.e., total production minus requirement for home consumption. On the other hand, net surplus is defined here as the gross surplus minus re purchase or buy back.

According to the above definition, the gross surplus in the survey area was calculated as 59.7% of total production (Table 2). Here, total production includes those obtained from own land and net shares received from others for using his/others' land through share cropping systems. The net surplus was calculated as 55.4% of the total production. Both the gross and net surplus increased with the farm size.

Table 2 : Sales, Re-purchase, Price and Per Capita Consumption of Paddy by Different Farm Size Groups

	Small	Medium	Large	All
No. of Farms Making Bulk Sales	11	13	4	28
% of Farms Making Bulk Sales	91.7	92.9	100.0	93.3
Volume of Bulk Sale/Gross Surplus (ton)	4.3	24.3	24.4	53.1
Per Farm those Making Bulk Sales (ton)	0.4	1.9	6.1	1.9
Total Production (TP)	13.4	40.9	34.7	89.0
Gross Surplus as % of TP	32.1	59.4	70.3	59.7
Repurchase (ton)	2.3	1.4	—	3.7
Repurchase as % of Gross Surplus	53.5	5.8	—	7.0
No. of Farms Repurchased	7	4	—	11
% of Farm Repurchased	58.3	28.6	—	36.7
Net Surplus (ton)	2.0	22.9	24.4	49.3
Net Surplus as % of Gross Surplus	46.5	94.1	100.0	93.0
Net Surplus as % of TP	15.0	56.0	70.3	55.4
*Per Capita Consumption of Paddy (ton)	0.19	0.23	0.37	0.26
Average Sale Price (Tk/ton)	8362.0	8415.0	8549.0	8396.0
Average Re-purchase Price (Tk/ton)	9616.0	9644.0	—	9630.0
Purchase Price as % of Sale Price	114.9	114.6	—	114.7

Note i) Gross Surplus=(Total Production-Requirement for Consumption)

ii) Net Surplus=(Gross Surplus-Re-purchase)

iii) \*Per capita Consumption=(Total production-Gross Sale+Re-purchase)/Family Members or (Average Output-Average Sale+Average Re-purchase)/Average Family Size

Source : Field Survey, January-February, 1998

Large farmers have the highest share of gross surplus among the sample farmers (70.3%), followed by the medium farmers (59.4%). Compared to large and medium groups, we observed small volume of gross surplus for small farm households (32.1%). The share of net surplus to total production was found as 15% for small farmers, while for medium and large farmers the same was calculated as 56% and 70% respectively. The estimate of gross and net surplus suggests that the degree of commercialization be here found to increase with the size of the farm [4].

Since the volume of net surplus largely depends on the volume of re purchase, the net surplus for small farmers was found very low in the survey area. Table 2 shows that 58.3% of the small farmers and 28.6% of the medium farmers re purchase paddy/rice. Large farmers did not buy back paddy/rice due to their higher production and yield achievement. We need further study on the impacts of re purchase among the farmers.

### 2.3 Sales and Re Purchase of Paddy/Rice

Table 2 shows the sale price and re purchase prices of paddy by different farm sizes. The analysis indicates that the large farm size groups sell at the highest price which is higher than the small farm group by Taka 187 per ton, i. e., by about 2.2%. This can be explained by the reason that the large farmers have direct access to the rice mill<sup>1</sup> as we will observe in the section 4.

So far we observed that small farmers received lower price of the paddy sales. They are also adversely affected by purchase price because they have to buy back during their need for consumption even when higher prices prevail in the market. As reported in Table 2, the small farmers bought back 53.5% of the sales while the medium farmers purchased 5.8% of their gross sales. Such re purchases result deficit in their incremental income<sup>2</sup>. We found that farmers on average purchase at a higher price by 14.7%. Small farmers are more adversely affected compared to other farm groups because their rate

of re purchase is higher than others. The higher rate of re purchase also affects the incremental income of the small farmer.

It may be noted here that the difference between sales and re purchase price on the market would appear to be reasonable even after the production was hampered due to the pest attack and drought. When crops are affected by natural calamities and other factors, the price differences are observed more in those years [7]. Quasem (1987) found 10% differences between the sales and re purchase price, while Islam et al. (1985) in their survey found this difference ranging between 3 to 27% in different months [7]. We, however, need more through study.

Along with the information of per capita rice consumption, data for per capita wheat consumption by farm size could have been useful to show the economic condition of the farmers. Due to the limitation of information on such issue, we only have showed the per capita rice consumption by farm classes. According to Table 2, the per capita paddy consumption for small farm is found as 0.19 ton, which is equivalent to 343<sup>3</sup> grams of rice per day. This quantity is below the FAO recommendation<sup>4</sup>. Although the inclusion of per capita wheat consumption by farm size would have increased the food grain consumption level of the small farmers, this would still be found below the FAO recommendation. The per capita wheat consumption is only 35grams in the rural areas of Bangladesh.

Table 3 provides an idea of the use of bulk

**Table 3 : Reasons for Bulk Sale by Multiple Answer (in percentage)**

	Small	Medium	Large	All
Lack of Storage Facilities	18.1	7.7	—	10.7
Immediate Need for Cash	72.7	84.6	—	67.9
Repayment of Loan	—	15.4	—	7.1
Purchase of Agr. Inputs	18.2	23.1	75.0	28.6
Social Obligations	54.6	92.3	50.0	71.4
Labor Payment	18.2	—	—	7.1

Note: Social Obligations means, marriage of respondents' son or daughter, participation in different religious and social functions etc.

Source: Field Survey, January-February, 1998

sale income. Though this income normally used in various purposes, some uses were found dominated in the research area. These were immediate need for family uses, purchase of agricultural inputs, repayments of lend, labor payments, lack of storage facilities, etc. Among the reasons, social obligations (marriage of daughters or son, participation in different religious and social functions etc) were the most dominating factor of bulk sale followed by the immediate need for cash. For farm size group, small farmers noticed that because of the need of money they sell bulk of their product immediately after the harvest, while for medium farmers, social obligations was the main reason for bulk sell of the paddy.

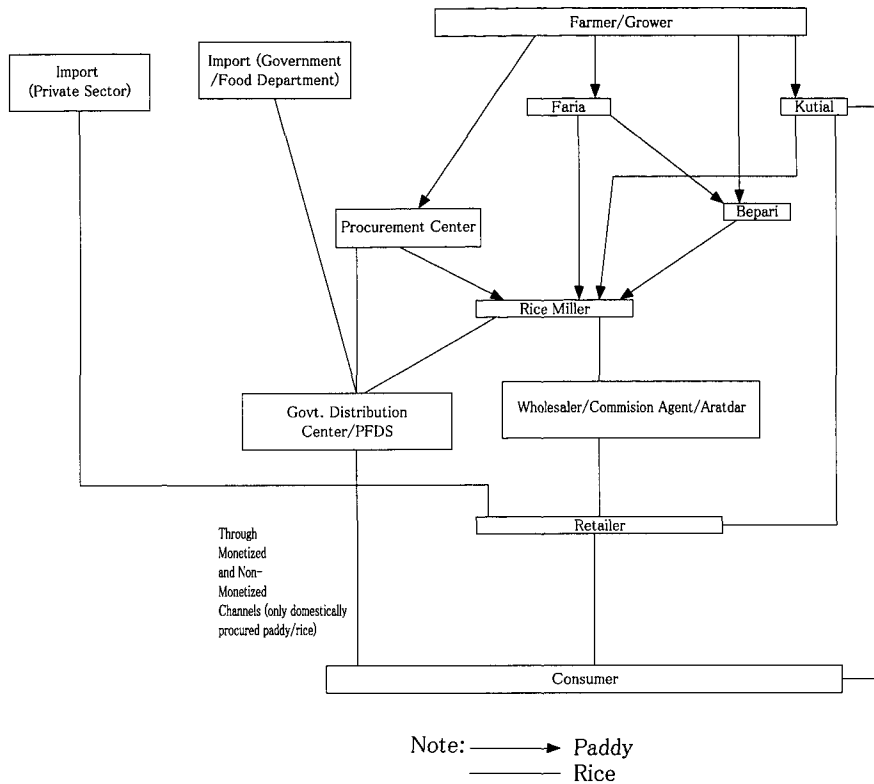
Purchase of agricultural inputs was ranked as third among the reasons for bulk sale. About 29% of the respondents replied that they purchase agricultural inputs from the income of the bulk sale. For the farm size category, 75% of large farmers chose this reason, while the percentages of medium and small farmers who chose it were 23.1% and 18.2% respectively. It implies that small land holding groups use very little for further agricultural production from the income of the bulk sale.

### 3 Market Participation of Farmers and Price Support Program

#### 3.1 Market Participation of Farmers

Figure 1 shows the general rice-marketing channel of Bangladesh. However, this does not tell the real picture of the rice marketing systems of the country. Therefore, to know the true marketing system of rice, we have included the discussion about market participation of different categories of farmers here. Both selling from the home and selling at the market have been defined as market participation.

To identify the actual participation of farmers in the market we classified the seller as exclusive sellers, surplus sellers and deficit



Source: Field Survey 1998, S. Begum 1997

Figure 1 : General Paddy/Rice Marketing Channel Practiced in Bangladesh

sellors. Based on the classification, we tried to identify the actual participation and beneficiaries among the market participants. In our analysis, we considered both exclusive sellers, who only sells and do not re purchase, and farmers whose sale was found higher than the re purchase as surplus participants, while the farmer whose sale was lower than the re purchase was considered here as deficit participants. Thus, the farmers' participation in the paddy market as calculated is presented in Table 4. We observed a notable difference between the farm size and farmers participation in the paddy market.

Although the market participation among the paddy producers was higher, for small farmers such participation was less, about 50%. Clearly the market participation was largely

dependent on the volume of surpluses in the survey area. We found a positive relationship between the market participation and net surplus, that is, the higher was the net surplus the higher was the participation in the market or vice-versa. Net surplus on the other hand was again dependent on the size of the farm and production of paddy as seen before. It was observed that market participation is correlated with net surplus, farm size and production of the paddy.

### 3.2 Market Participation and Price Support Program

The output price support is launched for various purposes, of which encouraging increased production, guaranteeing fair price for food crops to the growers, price stabilization, providing rea-

Table 4 : Beneficiaries Among the Market Participants by Farm Size Group

	Exclusive Sellers (No.)	% of Total Sellers	Sales is Higher than purchase (No.)	% of Total Sellers	Surplus Participants (No.)	% of Total Sellers	Sales is lower than purchase (No.)	Deficit Participant % of Total Sellers	Surplus Participant as % of Total Farmer
Small	4	36.4	2	18.2	6	54.5	5	45.5	50.0
Medium	9	69.2	2	15.4	11	84.5	2	15.4	78.6
Large	4	100.0	—	—	4	100.0	—	—	100.0
All	17	60.7	4	14.3	21	75.0	7	25.0	70.0

Note : Exclusive Sellers are those who only sell and do not re purchase.

Surplus Seller = Whose sales is higher than repurchase

Surplus Participants = Exclusive Sellers + Sales is higher than re purchase

Deficit Participants = Sale is lower than purchase

Source : Field Survey, January-February, 1998

sonable farm income to the growers from market returns, increasing farmers participation in the market are important. Among the three varieties, government purchases aman and boro from the farmers as well as traders at a fixed price through the procurement center every year. During the 1997-98, about 3% of aman paddy were procured throughout the country. Although the farmers were willing to sell paddy to the government procurement center because of higher prices offered by the government<sup>5</sup>, but for various reasons such as, troublesome transaction, non-payment of cash, small quantity of saleable paddy, lower price received for selling at the procurement center the farmers were discouraged from selling paddy/rice at the procurement center. Moreover, due to some mismanagement, paddy procurement in the survey area was stopped immediately after the procurement center started its functioning. None of the sample farmer sold paddy at the procurement center for the above reasons. They sold the surplus either at the nearby village market or at the thana markets.

Farmers can be benefited for selling their surplus in two ways, firstly by selling at the higher price and secondly by selling large volume of surpluses. In our analysis, we observed that even the market price of aman paddy (Table 2) was found higher during the survey period but due to the small volume of surpluses and re purchase of paddy, small farmers neither get the benefit from the market participation nor from the price

support.

All the farmers in the survey area were the aman paddy producers. Table 2 reveals that on the farm size basis 8.3per cent in small and 7.1per cent in the medium farm groups did not sell the paddy at all. The whole non-sellers' group can not gain any benefit from the state procurement program. The price support program is, thus, meant for remaining farmers who participated in the paddy markets [7]. Table 4 shows that 75% of all participants gained benefit from the price support program when it was effective. Remaining 25% of farmers whose sales were lower than purchase may be called deficit participants. They earn benefit but to a lesser extent depending on the price difference and the quantity marketed [7].

Among the farm size groups the proportion of market participants were the highest in large farm strata (100%) followed by the medium farm size (78.6%) and small farmers (50%). The findings suggest that higher farm groups are gaining the benefit of the price support program. It is important to note here that of all farms, 70% were surplus market participants who could be the net gainers from the price support program. When we viewed the participation rate according to the size of the farm, it could be told that in terms of per cent of participants and incremental income small farmers were the least beneficiaries both from the market participation and state procurement program.



## 4 Marketing Method of Paddy/Rice

### 4.1 Storage of Paddy

To store paddy/rice, the respondents in the survey area use various types of storage devices, among which the major types were macha, gola, motka, doles etc. Dole and gola are cylindrical or square shaped boxes made of bamboo plastered with mud and/or cow dung. The motka is a larger and usually pitcher shaped clay pot [5]. The macha is a bamboo made storage devices. Table 5 shows the types of storage used by different categories of farmers in the surveyed area. Macha was found as the main storage devices in the survey area. In all, more than 83% of the farmers stored their paddy in macha. By macha system, farmers can store 10 to 12 thousand kilograms of paddy in about 4-5 months period. Some of the small farmers stated that this capacity is not enough for storing paddy.

Ten per cent of the respondents uses dole as storage device in the survey area and it was the highest for large farmers (25%). Since macha has been the main storage device, the uses of other storage devices were found minimum. Moreover, use of different storage devices might also depend on other factors like production of crops. Therefore, since the large farmers have been the maximum producers of the aman crop, uses of dole were also found dominant among the large farmers. The capacity of dole is 280 to 600 kilograms. Islam et. al. (1985) showed that jute bag method was the dominant storage method in the coastal belt. Dole and motka methods were commonly used for paddy storage in other parts of the country.

**Table 5 :** Types of Storage Practiced by Different Farm Size Categories (in percentage)

	Small	Medium	Large	All
Macha	83.3	85.8	75.0	83.4
Dole	8.3	7.1	25.0	10.0
Gola	—	7.1	—	3.3
Motka	8.4	—	—	3.3

Source : Field Survey, January-February, 1998

### 4.2 Transportation

Transportation plays an important role in the marketing of agricultural products and is the key factor of efficient marketing systems. When farmers move their foodstuffs to the market, they use a variety of methods of transportation [5], which included head load, rickshaw and van in the survey area. The major methods of transportation system were rickshaw and head load (Table 6). In the case of farm size strata, head load was the dominant transportation method for the small farmers while rickshaw or van played the dominant role for large farm size groups. Head load is the traditional method of transportation in Bangladesh. Most of the farmers use this method because farmers do not have to bear cash cost. Islam et al. (1985) showed that head load was the main means of transportation for more than 70% farmers in Bangladesh. In their study 'Socioeconomic Impact of Roads in Rural Areas', Bangladesh Unnayan Parishad (1994) found that in the Sherpur district 22% of the farmers used head load as the main means of transportation in the wet season. In the Baliakandi-Narua road it was 43% in the same season. In very limited cases respondents in those areas used rickshaw or van for transportation. Present findings imply that the road's communication systems have shown a significant improvement in the village area of Bangladesh.

**Table 6 :** Transportation System Prevails in the Survey Area (in percentage)

	Small N=9	Medium N=9	Large N=1	All N=17
Head Load	55.6	33.3	—	35.3
Rickshaw	44.4	55.6	100.0	58.8
Van	—	44.4	100.0	29.4

Note : Due to multiple answer percentage exceeded 100. Farmers of the survey area do not sell their products at a time. They sell in different time and due to that, different transportation system can be used. Thus the percentage calculated exceeded 100.

Source : Field Survey, January-February, 1998

### 4.3 Where and To Whom Farmers Sell Their Paddy

The following two items were the major routes of paddy distribution practiced in the research area. They were: i) to sell directly from home to local faria, bepari, or the rice miller, ii) to transport the product to the nearby village or thana markets and sell their products to local itinerant, rice miller and consumer.

As stated earlier, although there is a government procurement center in the thana, sample farmers did not sell their paddy to the nearby procurement center for various reasons. Table 7 shows that sales at the market were the dominant route of paddy distribution, which varies between the farm size groups. Almost 82% of the small farmers sold their paddy at the village market followed by the medium farm size strata. There exists an inverse relationship between the farm size groups and sales at the market. In case of large farm size, sale at home was dominant (75%). Local itinerants, visiting buyers, or rice millers are usually willing to buy large volume of paddy at a time. Therefore, the traders go to the farmer's home directly and buy large quantity of paddy from the large volume sellers. Thus, selling at home was found higher for the large farmers.

Table 7 : Place of Sale and Quantity Sold from Different Places (in percentage)

		Small N=11	Medium N=13	Large N=4	All N=28
Place	Home	18.2	30.8	75	32.1
	Market	81.8	69.2	25.0	67.9
Quantity	Home	26.0	58.0	63.2	57.8
	Market	74.0	42.0	36.8	42.2

Note: Home includes sell to the rice miller also. It is also important to note here that small farmers in the survey area did not sell paddy to the rice miller but other categories farmers sometimes sold paddy directly to the rice miller (Figure 3 and 4) this information is included in the Home category for medium and large farmers. For details see Figure 2,3 and 4.

Source: Field Survey, January-February, 1998

Although majority of the respondents sold rice at the market, in terms of volume of selling, larger volume of paddy was sold from home (57.8%). There exists a positive relation between the farm size and the volume of selling at home. According to the farm size scale, large farm size groups sold highest volume of paddy at home.

### 4.4 State of the Private Rice Marketing Channel

#### 4.4.1 Functions Performed by the Intermediaries

This section is mainly based on the field survey and Begum, S (1997). There are various functionaries in the paddy markets as follows:

**Farias** are non licensed part time traders operating mainly in the village market, handle a volume of 6-20 tons of paddy and supply it to the local and district rice mills. They also buy paddy from the farmers home. Farias are usually landless or small farmers having no full time work in the farm. Farias are mostly self financed and enter the business when capital available.

**Beparis** are almost regular and full time traders and they work in the thana market. The Beparis has own business premises in the thana market area. Usually they buy paddy directly from the market and from the farmers home through their agent. They supply their purchased paddy to the local and district rice mill. The beparis in the study area do not have license.

**Dalals** are the commission agents. They do not buy the paddy directly from the farmer nor from the other traders. Instead, they act like an intermediary between the buyer and seller. They always charge a fixed commission from both the parties for providing the services.

**Kutials** area are the small traders. They purchase the paddy from the farmers at the village markets, then parboil and dried the purchased paddy at their home. The dried paddy is then taken to the nearby small rice mills for milling. Kutials sell the milled rice to the local consumers during the daily and weekly bazaar. For milling the paddy, rice millers charged Taka

16 per quintal from the kutials. Kutials are usually landless farmers and rickshaw or van pullers. They also work for faria for loading and unloading of paddy baggage during the shipment. These small itinerants do their business seasonally.

**Rice millers** are the dominant rice traders in the study area. The millers buy the paddy from faria, bepari, dalal and directly from the farmers. They process the paddy and convert it into rice, then sell it to the wholesalers or aratdars, who deals with their business in the metropolitan and urban markets.

**Wholesalers / Aratdars** are operating largely in the larger assembly and metropolitan markets. Sometimes wholesalers act as aratdar and commission agents in the metropolitan markets. They have their premises and act as agent of both buyers and sellers and provide temporary storage facilities to them. They charge commission for their services from the buyers and sellers [3]. They also purchase rice from millers and sell it to retailers.

**Retailers** are the last channels of the marketing systems. They are found to operate with permanent shops in the urban and metropolitan areas. They mostly buy rice from the wholesalers and sell it to the urban and metropolitan residents, the ultimate consumers.

#### 4.4.2 Private Marketing Channel in the Surveyed Area

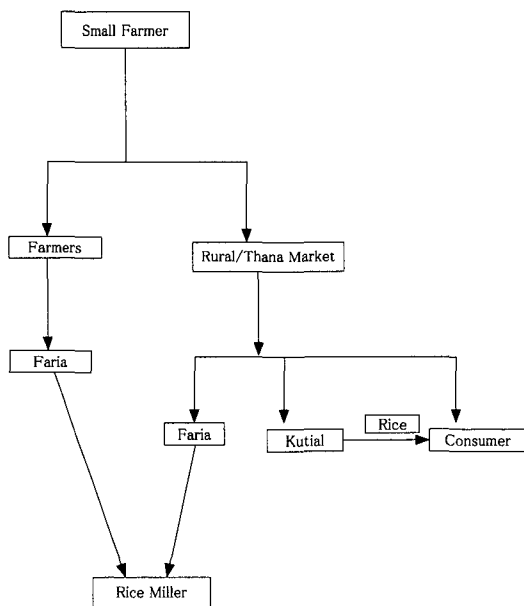
Table 8 and Figure 2 to 4 give an idea on the paddy marketing channels at the different farm size level. It is observed in Table 8 that sample farmers of the research area followed different marketing channels during the survey period. The table reveals the relative importance of the different channels in the total marketing systems. Broadly speaking the choice lies selling indirectly through the faria. More than 85% of the farmers were observed selling paddy through the faria. In the case of farm size categories, it was observed that the majority of the medium and small farmers sold paddy through the faria.. Though other channels were also used,

**Table 8 : Paddy Sale through Different Channels in the Survey Area (in percentage)**

	Small N=11	Medium N=13	Large N=4	All
Sale through Faria	90.9	92.3	50.0	85.7
Sale through Bepari	—	—	25.0	3.6
Sale through Rice Mill	—	38.5	50.0	25.0
Sale through Dalal	—	7.7	25.0	7.1
Sale through Kutial	9.1	7.7	—	7.1
Sale Directly to Consumer	27.3	30.8	—	25.0

Note: Due to multiple answer percentage exceeded 100. Farmers of the survey area do not sell products at a time. They sell their product during necessity, as a result one farmer can sell to different buyers thus the percentage calculated cexeded 100.

Source: Field Survey, January-February, 1998

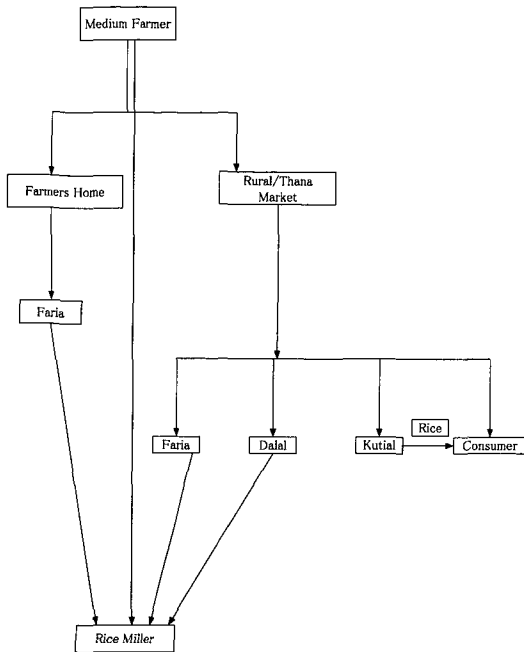


Source: Field Survey, January-February, 1998

**Figure 2 : Paddy Marketing Channels for Small Farmers in the Survey Area**

their use was very little compared to selling through the faria.

The second dominating channels were selling to the rice miller and direct sale to the consumer. Large farmers preferred selling paddy through the faria and the rice miller. Other than the faria, medium farmers in the survey area were also sold paddy to the rice millers and the consumer directly. For small farmers their sec-



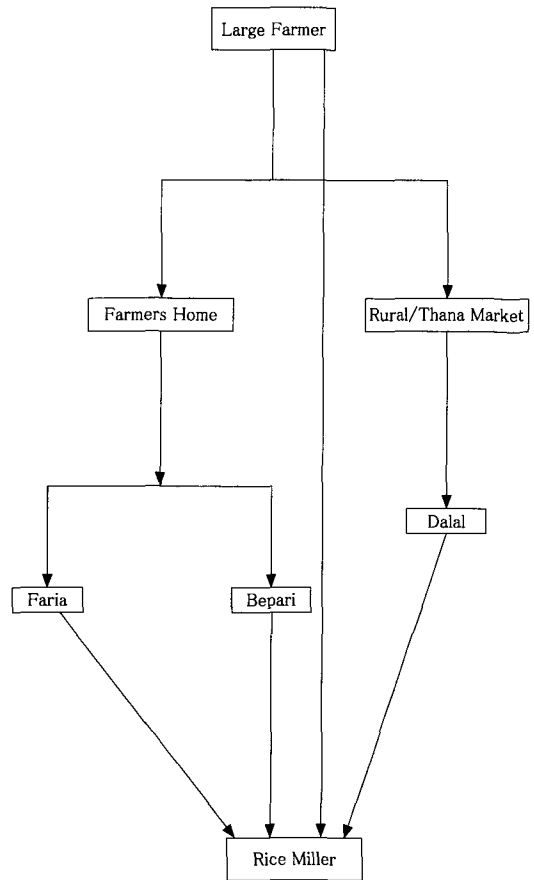
Source: Field Survey, January–February, 1998

Figure 3 : Paddy Marketing Channels for Medium Farmers in the Survey Area

ond best choice was to sale directly to the consumers. It is important to note here that the small farmers usually sell small volume of paddy in the market. On the other hand consumers prefer to buy small quantity of paddy for consumption, thus, sale directly to the consumers found second best choice for the small farm size. Large farmers in the study area did not sale the paddy directly to the consumers.

Figure 2 to 4 shows that the marketing channel for large farm groups was different from the other two strata. Involvement of fewer number of itinerants made the channel smoother. They have direct access to the rice mill. The important characteristic of the survey area was the involvement of large number of the rice mill in the marketing of paddy and rice. Due to the presence of large number of rice millers, the paddy wholesaler / aratdar did not have access in paddy or rice trading in the research area.

Rice millers buy the paddy from different itinerant especially from faria, dalal and local



Source: Field Survey, January–February, 1998

Figure 4 : Paddy Marketing Channels for Large Farmers in the Survey Area

bepari. Besides, they buy paddy directly from the farmers. Sometimes rice millers have tacit understanding with the large farm strata. Based on the understanding large farmers supply the surplus paddy to the rice miller with the condition that the rice miller could be asked for money during the need of the farmer. This may be called as credit sells of paddy. Both the farmers and the rice miller acknowledged are benefited by the system. In one way, it was helping the rice miller to operate their mill smoothly without worrying for the supply of the paddy. On the other way, farmers were benefited in the sense that they could sell the surplus to a single party without worrying for the market. Both the

parties acknowledged that this procedure does not create problems in money transaction.

## 5 Conclusion

It is concluded that small farmers in the research area had the lowest participation in the market and, because of small quantity of surplus, they were the least beneficiaries both of the private marketing system and government price support program. The government price support program would work well only for exclusive sellers or surplus participants. Therefore, it can be argued that only the price support program is not enough to increase the market participation of the small farm households, also increased surpluses is an important factor to enhance the market participation of the small farmers.

### Notes

1. Among the different marketing channels (Table 8), farmers received highest gross price & net price for selling directly to the rice miller (Taka 8442 and Taka 8375 per ton respectively) during the survey period followed by selling to the faria (Taka 7960 and Taka 7852 per ton) and directly selling to the consumer (Taka 7906 and Taka 7812 per ton).
2. Incremental income is defined here as quantity sold multiplied by price. According to this definition, large farm groups had the highest income (Taka 208,596) followed by the medium farm groups (Taka 204,489) and small farmers (Taka 35,955). When re purchase is considered, this income for small farmers decreased to Taka 14,800 and for medium farmers the same is decreased to Taka 191,646. Therefore, due to lower volume of surplus the small farmers were the least benefited from the market participation.
3. Rice is consumed by farmers therefore, the quantity of paddy was converted to equivalent quantity of rice by multiplying with the paddy-rice ratio 0.66. Thus the calculated rice quantity was obtained (125 kilogram). In order to calculate the per day consumption, total rice quantity was divided by 365 days. Thus we get the per day consumption of small farmers (343 gram).
4. FAO recommendation of food grain consumption is 397 gm per day and the average level of rice consumption for small farmers is 343 gm (for details see Quasem 1979).
5. During the 1997-98 year aman season the output support price (procurement price) was Taka 7,000 per ton for paddy and Taka 10,000 per ton for rice.

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