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**THE DOMESTIC RICE PROCUREMENT
PROGRAM IN BANGLADESH
- AN EVALUATION**

**QUAZI SHAHBUDDIN
K.M. NABIUL ISLAM**

SEPTEMBER 1999

FMRSP Working Paper No. 13

FMRSP Bangladesh
Food Management & Research Support Project
Ministry of Food, Government of the People's Republic of Bangladesh

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* Research Director, BIDS and Consultant, FMRSP

** Research Fellow, BIDS and Consultant, FMRSP

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EXECUTIVE SUMMARY

Foodgrain procurement, especially the rice procurement program, has a fairly long history in the region comprising Bangladesh. However, price support is of more recent origin. For a long time, the primary objective of the procurement program was to secure enough foodgrain to feed the Public Foodgrain Distribution System (PFDS). Since 1975, price support became an important objective, although feeding PFDS remained an important concern.

The objective of this study is to make an evaluation of the domestic rice procurement program currently in place. However, no attempt has been made here to analyze the economic justification of the program, its budgetary implications or the choice of appropriate criteria for fixing the procurement price. The study, on the other hand, examines the nature and degree of participation by different groups such as farmers, traders and millers and the problems faced by them in the process of both paddy and rice procurement. Also, the study makes specific policy recommendations for improving the effectiveness of the current program on the basis of the information collected through field surveys in three selected districts (Bogra, Dinajpur and Naogaon) of Rajshahi division of northern Bangladesh, where more than 80 percent of national rice procurement takes place. In fact, the procurement survey was carried out in the 1998 Boro season at and around ten Local Storage Depots (LSDs), where farmers, traders, millers, sellers at LSDs and LSD officials as well as other government officials were interviewed. In total, 340 people were interviewed, of whom 160 were farmers of different categories, 60 were traders, 50 were sellers at LSDs, 50 were millers and 40 were LSD as well as other government officials.

The major findings from the field survey are summarized below:

- (a) Participation of farmers, especially small and medium farmers, is negligible. Only 10 percent of sample farmers participated in the 1998 Boro procurement program, of whom 5 percent were small, 13 percent were medium, and 22 percent were large farmers.
- (b) The villagers far off from the LSDs are less interested in the procurement program compared to those located nearer the LSDs. Some villagers, especially belonging to distant locations, advocated the re-introduction of Thana Procurement Committees (TPCs) at the union level. In that case, they felt the participation of farmers would potentially increase.
- (c) For *farias* and traders, however, sales at LSDs appear to be relatively easy. For farmers, on the other hand, there exist many formalities. Some farmers reported that they had waited three to four days with their paddy and ultimately sold it to traders present at the LSD premises.
- (d) The millers are observed to play a key role in the procurement of both rice and paddy. They engage *farias* and other traders to procure paddy from the village farmers.
- (e) "Unofficial payments" at various stages of procurement have now become an open secret and are a source of major disincentives for farmers' participation.
- (f) The time spent in the process of procurement is extremely valuable for farmers as they have to remain busy in harvest and post-harvest activities at this time.
- (g) Farmers have little knowledge about the Fair Average Quality (FAQ), the quality of paddy with specified moisture content (14 percent), which needs to be maintained for paddy brought for sale at LSDs.
- (h) Farmers have the problem of drying paddy after harvest as very few have drying places (*Chatals*) at their premises. During the Boro season, rainy days pose an additional problem for drying and storage.
- (i) There is no guarantee that the paddy brought by farmers to LSDs will be accepted without any hindrance. So there are risks of incurring transport cost and theft of

paddy due to lack of facilities at LSD premises for guarding the paddy. If one becomes a victim, the news spreads across the whole village, which creates widespread disincentive for other farmers to participate in the procurement program.

- (j) Procurement would appear to be largely controlled by the political elites, Union Parishad (UP) Chairpersons, UP members and traders. The sellers' list is largely fake and a considerable number of the sellers are fraudulent.
- (k) Most of the millers were observed to not be satisfied with the size of the quota received for Boro rice in 1998. This would indicate that the existing capacity of the most of the mills remain unutilized given the total target of rice procurement, presumably after meeting the requirement of rice processing in the private sector.

On the basis of the above study findings, the following specific policy recommendations are made for improved effectiveness of the program in general, and to encourage farmers' participation in the procurement program in particular.

- (a) The determination of procurement price at the level of price support is a critically important task in order to ensure adequate production incentives to farmers. One can think of introducing some flexibility in the fixation of procurement price.
- (b) In order to encourage farmers' participation at LSDs, the following specific suggestions are made:
 - to reorganize the procurement system at LSDs so that "unofficials payments" to both officials/staff as well as to laborers are kept to a minimum, if complete elimination is considered not feasible at least in the short run
 - to ensure that the card/slip distribution process is fair through formation of an appropriate committee

- to create the *chatal* (drying) facility for farmers through provision of appropriate credit
- to take steps for creation of temporary storage at the LSD premises so that the paddy brought by the farmers is not damaged due to inclement weather
- to minimize harassment and loss of time at LSDs, since the loss of person days during the harvest and the post-harvest period is critical for the farmers
- to reintroduce TPCs at the union level since this would make a positive contribution towards increased farmers' participation in the procurement program
- to initiate the procurement program soon after the harvest
- to minimize irregularities in weighing, if not eliminate it completely.

(c) Excessive imports and lack of effective storage capacity serve as a hindrance for smooth operation of the procurement program.

(d) The existing procedure of distribution of quota to agreement millers may be reviewed in view of the dissatisfaction of the millers about the size of the quota received.

1. BACKGROUND OF THE STUDY

Foodgrain procurement programs, especially domestic procurement of rice, have a fairly long history in the region now comprising Bangladesh. For a long time the primary objective of the procurement program was to secure enough foodgrain to feed the Public Food Distribution System (PFDS). Since 1975, however, price support became an important objective, although feeding PFDS remained an important concern. The price support program has itself evolved in two phases. Initially, the idea was to guarantee a floor price, which used to be announced just before the harvesting season. More recently, the whole system has been geared towards guaranteeing an incentive price. The procurement price is now consciously related to the cost of producing HYV foodgrain and is announced before the sowing season.

While evaluating the success of the program towards achieving its objectives, one faces some tricky problems in the choice of criteria. There was simple enough criterion when feeding the PFDS was the sole concern – one had only to compare the volume of procurement with the specified target. Although this criterion retains its popularity even now, it is no longer the only relevant yardstick in the changed context of ensuring an incentive price. In this context, the success of the program is sometimes judged by the relationship between procurement price and market price during the harvest season. To be more specific, the criterion of successful incentive scheme would be the ability to keep market price in the vicinity of guaranteed price in years of good harvest.

By the above criterion, the price support program in Bangladesh has not been particularly successful. Table 1.1 shows that during 1981/82 to 1995/96 period, growers' costs have remained below procurement price two-thirds of the time (20 out of 30 cases) during the main harvest months (November – December for Aman, and May – June for Boro). This should be largely attributed to the fact that domestic procurement by the

government has almost always been a small proportion of domestic production – hardly exceeding 2.5 percent – which amounts to no more than 6 to 7 percent of the marketed surplus, and is, therefore, unlikely to have a significant impact on market prices.

The trend in domestic procurement of foodgrain can be observed in Table 1.2. The amount procured fluctuated largely from year to year. After a record procurement of 1.03 million tons in 1980/81, the amount fluctuated from 200,000 tons to 400,000 tons till 1988-89. Domestic procurement picked up again during 1989/90, 1990/91 and 1991/92 due to record Boro harvest after the flood in 1988 and good Aman harvests in 1989, 1990 and 1991 due to favorable weather conditions.

A number of factors contributed to the unsatisfactory performance of the domestic procurement program in the past. Excessive commercial imports, particularly in good harvest years (even in some flood years) used up effective storage capacity, resulting in the abandonment of the domestic procurement program in the midst of the harvest. In general, when import requirements are over-estimated, leading to excessive commercial imports and public stocks, this results in a failure in the procurement program in the next harvest and lower market price.

A comparison of the achievement with the specified target (rice equivalent) over the 1984/85 – 1997/98 period indicates that the program was not very successful in terms of procuring enough grain to feed the PFDS (Table 1.3). Although the picture is encouraging in the case of Boro procurement (in the sense that, on an average, about 90 percent of the target was achieved), the situation is quite dismal in the case of procurement during the Aman season. Not only was the average shortfall from the target more than 50 percent, the target was achieved in only 2 out of 13 years considered here.

Clearly, there are shortcomings in the procurement system, which tend to limit the access of the farmers so that they are obliged to sell to the private traders at a lower price. These limitations are well known and have been widely documented. Shortcomings include:

1. An inadequate number of procurement centers for a comprehensive coverage of the production areas
2. Limited financial resources of the government
3. Institutional impediments to speedy purchase from and payment to small sellers
4. Collusion between traders and officials, which enables the traders to capture the margins between the market price and the procurement price.

It was against this background that a decision was taken to examine the effectiveness of the domestic procurement program mainly in terms of the participation of farmers in the process of paddy as well as rice procurement. This study, it may be emphasized, does not examine the economic justification for the procurement program in Bangladesh. It examines the nature and degree of participation in the program by different groups, especially by farmers, traders and millers, and the problems they faced in the process of both paddy and rice procurement. In light of the information collected through field surveys from relevant groups, the study makes specific policy recommendations for improving the effectiveness of the current program. The specific objectives of the study are as follows:

- (a) To examine the determinants of farmer and trader participation in the system of paddy/rice procurement currently in place
- (b) To analyze the possible role of government procurement in market price support and market development
- (c) To make specific policy recommendations.

The design of the field survey, including the sampling procedure and survey instruments, is discussed in Chapter 2. Chapter 3 presents the major findings of the farmers' survey, with background information and more importantly, different aspects related to evaluation of the procurement program. This is followed by an analysis of the major findings of the survey involving the four other groups, namely, traders, sellers,

millers and Local Storage Depot (LSD) officials, as well as other officials interviewed in this survey. The findings for traders, sellers, millers and LSDs, as well as other officials, are presented in Chapters 4, 5, 6 and 7 respectively. The concluding observations and specific policy recommendations are made in Chapter 8.

SECTION 1 TABLES

Table 1.1 — Trend in Grower's and Procurement Prices During the Aman and Boro Seasons

Year	Aman Season			Boro Season		
	Procurement Price (Tk./md)	Grower's Price (Tk./md)		Procurement Price (Tk./md)	Grower's Price (Tk./md)	
1981/82	November	124	117	May	124	136
	December	124	114	June	124	122
1982/83	November	135	131	May	135	140
	December	135	137	June	135	140
1983/84	November	144	137	May	144	158
	December	144	149	June	144	169
1984/85	November	165	187	May	165	149
	December	165	184	June	165	147
1985/86	November	170	171	May	175	175
	December	170	171	June	175	166
1986/87	November	175	181	May	200	189
	December	175	178	June	200	189
1987/88	November	200	192	May	200	160
	December	200	195	June	200	165
1988/89	November	210	203	May	210	193
	December	210	202	June	210	190
1989/90	November	220	207	May	220	206
	December	220	207	June	220	206
1990/91	November	220	241	May	240	230
	December	220	241	June	240	230
1991/92	November	243	246	May	243	232
	December	243	246	June	243	232
1992/93	November	223	191	May	223	164
	December	223	191	June	223	164
1993/94	November	228	198	May	228	194
	December	228	198	June	228	184
1994/95	November	265	279	May	265	244
	December	265	279	June	265	244
1995/96	November	272	286	May	272	211
	December	272	286	June	272	211

Source: World Bank (1990), and the author's calculations for the recent period (1988/89 to 1995/96)

Note: 1 Mound = 37.324 kg

Table 1.2 — Domestic Procurement of Foodgrain During 1980/81-1997/98 Period

Year	Rice	Wheat	Total Foodgrain Procurement	Total PFDS Offtake	Procurement as percent of Offtake
1980/81	854	179	1033	1546	66.8
1981/82	289	13	302	2069	14.5
1982/83	168	24	192	1936	9.9
1983/84	148	122	270	2051	13.2
1984/85	134	210	344	2578	13.3
1985/86	219	130	349	1540	22.6
1986/87	128	53	181	2123	8.5
1987/88	289	86	375	2503	15.0
1988/89	359	52	411	2944	14.0
1989/90	919	43	962	2164	44.5
1990/91	727	56	783	2371	33.0
1991/92	940	77	1017	2345	43.4
1992/93	278	5	283	1112	25.4
1993/94	149	17	166	1376	12.1
1994/95	123	41	164	1490	11.0
1995/96	272	69	341	1795	19.0
1996/97	581	103	684	1326	51.5
1997/98	393	217	610	1270	48.0

Source: FPMU, Ministry of Food, Government of Bangladesh.

Table 1.3 — Domestic Procurement Target and Achievement During 1984/85–1997/98 Period

Year	Aman (Rice)			Boro (Rice)			Total Rice		
	Target	Achieve-ment	Achieve-ment as percent of Target	Target	Achieve-ment	Achieve-ment as percent of Target	Target	Achieve-ment	Achieve-ment as percent of Target
1984/85	200	193	96.5	50	110	220.0	250	303	121.2
1985/86	200	23	11.5	100	28	28.0	300	51	17.0
1986/87	120	49	40.8	200	145	71.5	320	192	60.0
1987/88	250	48	19.2	200	361	180.5	450	409	90.9
1988/89	250	438	175.2	525	333	63.4	775	771	93.5
1989/90	425	163	38.4	400	500	125.0	825	663	80.4
1990/91	550	363	66.0	500	566	113.2	1050	929	88.5
1991/92	200	141	70.5	500	506	101.2	700	647	92.4
1992/93	200	8	4.0	133	1	0.8	333	9	2.7
1993/94	-	-	-	250	160	64.0	250	160	64.0
1994/95	200	42	21.0	300	167	55.7	500	209	41.8
1995/96	250	201	80.4	420	417	99.3	670	618	92.2
1996/97	300	1	0.3	250	243	97.2	550	244	44.4
1997/98	250	-	-	400	245	61.3	650	245	37.7
Average	242.5	119.3	49.2	302.0	270.0	89.4	544.5	389.3	71.7

Source: FPMU, Ministry of Food, Government of Bangladesh.

2. DESIGN OF THE FIELD SURVEY

INTRODUCTION

The food procurement program has a potentially important bearing on the country's food security. Boro procurement in 1998 was especially important because of the unprecedented 1998 flood that caused huge loss to the standing Aman crop.¹

The 1998 Boro procurement target was set at 203,000 tons of paddy and 282,000 tons of rice, which together amounts to 416,000 tons in rice equivalence. However, about 76,000 tons of paddy and 214,000 tons of rice had actually been procured throughout the country during the 1998 Boro season, which together amounts to 265,000 tons in rice equivalence. The total achievement then fell short of the total target by 36 percent although the shortfall is much more pronounced in the case of paddy (63 percent), as compared to rice (24 percent). Therefore, a survey was carried out on various aspects of Boro procurement, focusing, among others, on the reasons of the non-performance. The survey was carried out during October-November, 1998.

AIMS AND OBJECTIVES OF THE SURVEY

The major objectives of the Boro Procurement Survey (1998) were as follows:

- (a) To evaluate the performance of the 1998 Boro procurement
- (b) To examine the determinants of farmers'/traders'/millers' participation in the system of Boro paddy/rice procurement currently in place
- (c) To make policy recommendations for improved future grain procurement in general and Boro procurement in particular.

In this context, various constraints and flaws of the procurement program, presumably resulting in widespread non-participation, have particularly been explored.

¹ See RRA report on Aman loss due to 1998 flood, presented in Appendix A.

SELECTION OF DISTRICTS

Rajshahi Division constitutes the major rice procurement area in Bangladesh. About 86 percent of the total procurement in the country during 1998 was carried out in Rajshahi Division (Table 2.1). Three districts were, therefore, purposively selected from Rajshahi Division. The selection of districts was made in such a way that (1) the districts represented major procurement areas, and (2) the cost of resources (e.g., travel, time and logistics) was kept to a minimum. Thus, Bogra, Dinajpur and Naogaon districts were selected. Combined procurement of these three districts constituted 41 percent of the total country's procurement and 48 percent of that of Rajshahi Division in 1998. Dinajpur district is by far the largest procurement district in the country. Two other districts, Naogaon and Bogra, located in the central part of Rajshahi Division, were also among the large procurement districts in the division.

SELECTION OF LSDS

Table 2.2 gives the number of existing Thanas and LSDs in the three selected districts. The three districts have 35 Thanas, which have 64 LSDs. On an average, thus, each Thana has 1.8 LSDs. The current procurement survey is centered on LSDs, where farmers, traders, millers and sellers were to be investigated. Hence, the selection of LSDs is important.

In fact, given the objectives of the study and the fact that rigorous statistical tests and analysis were not under the purview of this study, the sampling procedure was not necessarily absolutely random. The cost-effective and time saving procedure of purposive sampling should suffice.

Our task was to select 10 LSDs, which could be done following two approaches.

The sampling frame of the Thanas and LSDs in the three districts was readily available. Thus, Approach 1 involved selecting the Thanas first and then the LSDs through the simple random sampling procedure. In this approach, 10 Thanas could be

selected at random from 35 Thanas of the three districts, with the probability proportional to size, using the random number table. After that, 10 LSDs could randomly be selected from 10 selected Thanas.

Since the sampling frame of the Thanas for each of the three districts was available, an alternative approach involved selecting Thanas directly from the frame through systematic sampling procedure. The approach involved identifying and arranging the Thanas (within the selected districts) first, systematically on a Bangladesh map in order of location, from say, south-central to northwest. The next step was to assign serial numbers to these Thanas and then select 10 Thanas, resorting to the systematic sampling procedure.

The selection of LSDs followed, which was easily done in the case of Thanas with a single LSD. In the case of Thanas having more than one LSD, the selection of LSDs was done based on criteria such as (1) volume of procurement, (2) accessibility, and (3) availability of the list of sellers (to LSDs).

The two approaches have their merits and demerits. The former approach involves resorting to simple random sampling while the latter approach involves resorting to the systematic sampling procedure.

Given that the sampling frame of the population was available, a systematic sampling procedure was considered more appropriate. Besides, the systematic sampling technique is administratively easier and quicker, often yielding higher precision than simple random sampling. Such a technique has the additional advantage that the selected samples become spread over the population, although in such a sampling procedure the order of the LSDs is assumed to follow a random pattern. The selection procedure involved choosing every k -th subsequent unit after the first sample is chosen at random, where $k = N/n$, N = population size, n = sample size. The procedure with a 'random start' was adopted without replacement.

The current study adopted the second approach in selecting the Thanas. The selected Thanas and LSDs are shown in Table 2.3.

The three selected Thanas in Bogra are Gabtali, Dupchanchia and Adamdighi. Three LSDs, one from each Thana, were to serve as our survey areas.

There are three LSDs in Gabtali. These are Sukunpukur, Gabtali Sadar and Shabekpara. All the LSDs in Gabtali were visited before the final selection was made. In Sukunpukur LSD, the complete list of the sellers was not available. The list was there but without any identification address or father's name. In the Gabtali Sadar LSD, although the sellers' addresses were not initially available, the LSD officials were very cooperative in identifying the sellers with the help of WQSC records. Hence the Sadar LSD was selected in Gabtali Thana.

The second Thana was Adamdighi. From two LSDs in this Thana, Nasratpur was selected on the basis of the volume of procurement. The third Thana was Dupchanchia. Fortunately, the Thana has only one LSD, Talora. Hence, no problem of LSD selection arose.

The four study Thanas in Dinajpur were Birganj, Kaharole, Dinajpur Sadar and Nawabganj. Four LSDs, one from each Thana, were to serve as our survey areas.

There were two LSDs in Birganj Thana. The Birganj LSD was selected as this had the higher volume of procurement. The selection of Kaharole and Dinajpur Sadar was automatic as each of these Thanas had only one LSD. In Nawabganj Thana, the LSD at Bhaduria was selected on the basis of larger volume of procurement.

A complete list of sellers (with identification address) was available for each of the LSDs in Dinajpur.

The three study Thanas in Naogaon were Dhamoirhat, Mahadevpur and Raninagar. Three LSDs, one from each Thana, were to serve as our study areas. Raninagar Thana had only one LSD. One LSD from each of the other two Thanas was

selected on the basis of higher volume of procurement. These were LSDs at Dhamoirhat and Mahadevpur respectively (Table 2.3).

VILLAGE SELECTION

Two villages were selected purposively from within the jurisdiction of the 10 selected LSDs. The basis of selection was that one village was close to the LSDs and rice markets and also had relatively good market access, while the other village was far from both the LSD and rice markets and also had relatively poor market access. This was expected to help control the effect of distance and accessibility to LSDs and rice markets on rice procurement more precisely.

FARMERS' SURVEY

Once the villages were selected, a complete list of all the farm households was prepared with the help of, among others, local Union Parishad officials. The farm households were classified in to two categories: (a) small and medium (less than five acres), and (b) large (more than five acres). Eight farm households were selected from each selected village. The sample of farm households had to cover two categories, with probability proportional to size. Roughly, the sample included six farmers from the first category and two from the second category.

MARKET SELECTION AND TRADERS' SURVEY

Two village markets were purposively selected. One was selected from within or around the remote villages selected for the farmers' surveys. The other was selected from areas close to the LSDs. The list of traders in each market was obtained before three traders were selected from each market for investigation. Care was taken to ensure that one of the sample traders was also a seller to the LSDs.

SELLERS' SURVEY

As the list of sellers (to LSDs) was available, 5 sellers were selected from each of the 10 selected LSDs, adopting the systematic sampling procedure. The provision of an

extra number of sellers was kept in order to cover non-existence or non-response of any sellers.

MILLERS' SURVEY

Three millers were selected at random from a list of millers procured beforehand from LSD officials. Care was taken so that sample millers included units of different sizes, small and large.²

LSD AND OTHER OFFICIALS' SURVEY

One LSD official, preferably the Officer-in-Charge (OC), was interviewed in each of the LSDs. Besides, other officials such as the District Controller of Food (DC, Food), the Deputy Director, Agriculture, and the Statistical Officer of the Bangladesh Bureau of Statistics, were interviewed.

Table 2.4 presents the sample size in each of the categories. Altogether, 340 samples were selected for investigation.

SURVEY INSTRUMENTS

Structured but separate questionnaires were administered to each of the sample categories. In addition to the questionnaire survey, an effort was made to capture some qualitative information.

The investigators were given suitable training before they were sent to the fields. The questionnaires were pre-tested for each of the categories of sample units, for example, farmers, traders, millers, sellers and LSD officials. In the process, we identified several deficiencies in the draft questionnaires, for example, sequence and the order of the questions, inadequacies and lapses, which were later corrected.

² Size is referred to in terms of godown capacity: broadly, small mill represents a capacity of up to 2500 maunds, followed by a medium unit of 2500-5000 maunds and a large unit above 5000 maunds.

SECTION 2 TABLES

Table 2.1 — Boro Procurement (1998) in Rajshahi Division and Bangladesh

(In metric tons)

Area	Paddy	Rice	Total (Rice equivalent)	Percent of Rajshahi Division	Percent of Bangladesh
Bogra	6,684	24,065	28,476	12.5	10.8
Dinajpur	14,829	38,442	48,229	21.2	18.2
Naogaon	10,790	24,236	31,357	13.8	11.9
Sub-total	32,303	86,743	108,063	47.6	40.8
Rajshahi Division	64,458	184,458	227,000	100.0	85.8
Bangladesh	76,259	214,263	264,594	-	100.0

Table 2.2 — Three Selected Districts by Number of Thanas and LSDs

Districts	Number of Thanas	Number of LSDs
Bogra	11	21
Dinajpur	13	24
Naogaon	11	19
TOTAL	35	64

Table 2.3 — Selected Thanas and LSDs

Districts	No. of selected Thana	Name of selected Thanas	Name of selected LSDs
Bogra	3	Gabtali	Gabtali Sadar
		Adamdighi	Nasaratpur
		Dupchanchia	Talore
Dinajpur	4	Birganj	Birganj
		Kaharole	Kaharole
		Dinajpur Sadar	Dinajpur Sadar
		Nawabganj	Bhaduria
Naogaon	3	Dhamoirhat	Dhamoirhat
		Mahadevpur	Mahadevpur
		Raninagar	Raninagar

Table 2.4 — Size by Category

Category	Sample categories	Total sample
Farmers	10 LSDs x 2 villages x 8 Farmers	= 160
Traders	10 LSDs x 2 Markets x 3 Traders	= 60
Sellers	10 LSDs x 5 Sellers	= 50
Millers	10 LSDs x 3 Millers	= 30
LSD/Other officials	10 LSDs x 4 Officials	= 40
TOTAL		=340

3. MAJOR FINDINGS OF THE FARMERS' SURVEY

BACKGROUND INFORMATION

Introduction

The Foodgrain Procurement Survey consisted of five components: farmers', traders', sellers', millers' and LSD officials' survey. The Farmers' Survey formed the major component of the study. This chapter on the Farmers' Survey is organized in two major sections along the major theme of the study: evaluation of the foodgrain procurement program with particular reference to 1998 Boro procurement. The first section provides some background and supporting information relating to foodgrain production and marketing in different sampling areas. The second section provides some insight into various aspects related to evaluation of the government procurement program.

A few words on the salient features of the farmers' survey may be in order before we present the background information related to foodgrain production and marketing in the survey areas.

Farmers' Survey and Sample Size

The farmers' survey refers to 1998 Boro procurement and was carried out in 20 villages centered on 10 LSDs. Table 3.1 presents the distribution of sample farmers by categories in terms of operated land in three districts. Table 3.2 presents the distribution of sample farmers by categories in terms of owned land in the same three districts.

Small farmers were defined to be those with landholdings of less than 2.5 acres, medium farmers with landholdings between 2.5 and 5.0 acres and large farmers with landholdings greater than 5.0 acres. The sampling of farmers was performed in terms of owned land. In total, 160 farm households were interviewed. Eight farm households

were selected from each of the 20 villages, taking approximately 6 from the small and medium category and 2 from the large category. However, data was analyzed on the basis of farmers categorized according to operated land. As is evident from Table 3.1, 54 percent of the total farmers interviewed were of the small, 29 percent of the medium and 17 percent of the large category in terms of operated land. In terms of owned land, however, 45 percent farmers were of the small, 33 percent were of the medium and 22 percent were of the large category.

Of the total 160 farmers interviewed, 64 were in Dinajpur and 48 each in Bogra and Naogaon districts.

Acreage and Yield of Boro

As background information, data was collected on acreage and yield of Boro paddy for the years, 1997 and 1998. Table 3.3 presents a comparison of acreage and yield of Boro between 1997 and 1998 by district while Table 3.4 presents a similar comparison by farmers' category.

The most striking feature was that both acreage and yield had declined 1.6 and 1.9 percent respectively in the sample villages. This is, however, not in conformity with the national figures; the change in acreage and yield in 1998 over 1997 at national level were both positive, namely, 3.8 percent and 4.6 percent respectively. This is somewhat difficult to explain. It may be mentioned however, that the size of sample in the study villages (for example, eight from each village) was too small to represent national averages. Incidentally, the study averages could have also been distorted by some extreme sample, particularly in the case of Naogaon where both acreage and yield had experienced a considerable decline. The other feature, as is evident from Table 3.4, was that in the case of small and large farmers, both acreage and yield had declined, while in the case of medium farmers, acreage had increased, although yield had experienced a decline in 1998 compared to 1997.

Cost and Return for Boro Production

An estimate of cost and return for production is considered to be important in the context of the evaluation of domestic foodgrain procurement. Tables 3.5 and 3.6 present cost and return for 1998 Boro production. Gross returns were estimated using market prices (farmgate/harvest price of coarse variety) shown in Table 3.10. It can be observed that, on an average, gross return (per acre) was estimated to be Tk. 12,802 with an average cost of production (per acre) of Tk. 10,036. Therefore, an average farmer earned a net financial return of Tk. 2,766 per acre at current (1998) prices, in our sample.

There were considerable variations in net returns observed across the three districts. For example, the net return was estimated as Tk. 3,855 in Bogra, followed by Tk. 3,074 in Dinajpur and Tk. 2,313 in Naogaon.

There were also some variations in net returns across farm size. Small farms were observed to be more efficient in terms of net return than the medium and large ones. Small farmers were observed to earn the highest net return of Tk. 2,777 per acre, followed by Tk. 2,736 per acre in case of large farms. At Tk. 2,610, the net return per acre was the lowest for medium farms. It may be mentioned that the medium farms received the lowest market price for paddy (Tk.240.3/maund) and the large farms received the highest market price for paddy (Tk.255.0/maund) (See table 3.10).

Paddy Output and Marketed Surplus

Paddy is both a subsistence and a cash crop for farmers in Bangladesh. The farmers are in need of cash money immediately after harvests as they need to pay off wages and debts, buy food and other basic necessities.

Data was collected to estimate output, consumption and current stock of Boro paddy. These estimates have a close bearing on the volume of procurement. Tables 3.7

and 3.8 present paddy (Boro) output per household by use, the former presented by district and the latter by farmers' category.³

As is evident from Table 3.7, on an average, a farm household produced output (Boro) amounting to 165 maunds (1 maund = 37.324 kg). Boro output per farm household was the highest in Dinajpur (188 maunds), followed by in Bogra (163 maunds) and Naogaon (137 maunds).

Of the total output produced, sales accounted for approximately 64 percent, followed by consumption, accounting for 38 percent. Current stock accounted for 2 percent of the total output.

As is evident from Table 3.8, an average small farm household produced 78 maunds, followed by 165 maunds by a medium farm and 448 maunds by a large farm household. The proportion of sales and current stock (to output) were observed to have progressively increased, while the proportion of consumption (to output) progressively decreased as farm size increased.

Most farmers interviewed reported that they had sold Boro paddy, keeping some stock for the future. About 80 percent of the farmers reported that they had some carry-over from this year's Boro harvest (not shown in table).

Average current stock of Boro paddy per household (at the time of interviews during October-November) was estimated to be 0.8 maund and 1.5 maunds for small and medium farmers respectively, while that for large farmers was estimated to be around 13 maunds. Altogether, per household current stock of Boro paddy was estimated to be around three maunds. The proportion of current stock (to output) was more or less the same for small and medium farmers (one percent), while it was estimated to be around three percent for large farmers.

³ Total output includes those from sharecropping, rented-in land and so on. Others include labor payment (in kind), flood losses and gifts.

Marketing of Paddy

Table 3.9 presents quantity of paddy (all varieties) marketed and marketing costs and price thereof by district, while Table 3.10 presents the same information by farmers' category.⁴

As is evident from Table 3.9, an average farmer sold nearly 90 maunds of paddy in five transactions. There were considerable variations in quantity of sales per households across both districts as well as farm size. Highest average sale was recorded in Dinajpur (111 maunds), followed by Bogra (87 maunds) and Naogaon (64 maunds). At the time of the interviews (October-November, 1998), small and medium farmers sold more than the large farmers. On an average, small and medium farmers sold paddy to the extent of 35 and 98 maunds respectively while an average large farmer sold 253 maunds (Table 3.10):

Place and Number of Paddy Transactions

Table 3.11 shows the distribution of farmers by number of paddy transactions during the Boro season by district, while Table 3.12 shows that by farm-size category.⁵ In all, 150 (out of 160) farmers have made paddy transactions during the season. The average number of transactions during the 1998 Boro season was 3.2.

As is evident from Table 3.12, of the total number of transactions, the highest number took place in Haats/Bazaars (74 percent), followed by at homesteads (15 percent) and at the mills (11 percent).

⁴ The information presented was based on five transactions at homesteads, Haats and mills in various times over the year. Other costs include loading, unloading, etc.

⁵ The above information related to five transactions of Boro paddy, irrespective of the volume of turnover, made by farmers in the primary market other than LSDs.

Place of Transactions by Quantity

Table 3.13 presents quantity of Boro paddy marketed by farmers around the year in different locations by district. Table 3.14 presents similar information by farmers' category.⁶ The sales quantity has been distributed by locations, namely homesteads, Haats/Bazaars and mills. As in the number of transactions, as is evidenced from Table 3.13, the major place of sales, in terms of quantity, were Haats/Bazaars, to the extent of about 57 percent of total quantity of sales, followed by homesteads (24 percent), and mills (19 percent). Not much variation in sales proportions from homesteads was observed across those districts. As is evident from Table 3.13, however, there were considerable variations in sales proportions in Haats/Bazaars and in mills across districts. The sales proportion in Haats/Bazaars was the highest in Naogaon district (78 percent), followed by 54 and 50 percent in Bogra and Dinajpur district respectively. The higher sales in Haats/Bazaars in Naogaon district (78 percent) could be attributed to no sales in mills in the district. There were also considerable variations in sales in mills across districts. The sales proportion in mills in Dinajpur was the highest (27 percent), followed by about 20 percent in Bogra. The sample households in Naogaon district, however, made no sales to the mills.

As is evident from Table 3.14, the proportion of sales at homesteads was the highest in case of large farmers (34 percent) and the lowest in case of medium farmers (14 percent). However, small and medium farmers have sold in larger proportion in Haats/Bazaars than large farmers, to the extent of 73 and 70 percent respectively. The proportion of sales by large farmers in Haats/Bazaars was the lowest, 41 percent, while sales to the mills was the highest, 25 percent.

⁶ The quantity of sales was also based on a maximum of five transactions over the Boro season.

Roads and Mode of Transport Used for Paddy

Tables 3.15 and 3.16 give the distribution of farmers by type of roads normally used for transporting paddy to LSDs, the former presenting information by district and the latter by category of farmers. The question on the type of roads related to all sample (160) farmers who normally use roads for transporting paddy to LSD.

A large majority of farmers (60 percent) normally use *kutchha* roads for transporting paddy to LSDs, with the remaining 40 percent using either *pucca* or semi-*pucca* roads. There were considerable variations in the use of road types across both districts and farmers' category.

Tables 3.17 and 3.18 present the distribution of farmers by mode of transport normally used (for carrying paddy to LSD), the former presented by district and the latter by category.

As evidenced from Table 3.17, nearly 61 percent of the farmers normally use vans as the mode for transporting paddy, while 26 percent use carts and only 12 percent use trucks and other modes of transport. The use of boats as a mode of transport is few and far between.

There was much variation in the modes of transport used across districts and across farmers' categories. As is evident from Table 3.17, there were very few farmers who used carts in Bogra (2 percent), while the use of carts in Dinajpur and Naogaon was 31 and 45 percent respectively. The use of vans was the most in Bogra district (83 percent), compared to 55 and 47 percent in Dinajpur and Naogaon districts respectively. The percentage of truck users ranged from 9 percent in Naogaon district to about 15 percent in Bogra district. As can be observed from Table 3.18, smaller farms have the tendency to use vans (68 percent) compared to other transport. The use of carts and trucks seemed to be more pronounced in the case of medium and large farms.

Transport Cost

Table 3.19 presents potential cost of transport (from households to LSDs) perceived by all the (160) sample farmers. It is evident that, on an average, TK. 5.30 was the potential cost of transporting paddy (per maund) to LSDs. The transport cost (per maund) was observed to be highest in Naogaon district (TK. 5.81), followed by Bogra (TK. 5.31) and Dinajpur (TK. 4.91). No systematic variations in transport costs were observed across farm size. The transport cost (per maund) was observed to be highest in case of small farmers (TK. 5.44), followed by large farmers (TK. 5.26) and medium farmers (TK. 5.05).

Estimates of per km (per maund) potential cost of transport show that there was not much variation in transport costs across either districts or farmers' categories. Potential transport cost per km (per maund) was estimated as Tk. 0.77, Tk. 0.80 and Tk. 0.84 for Dinajpur, Bogra and Naogaon respectively. The estimates were Tk. 0.80, Tk. 0.79 and Tk. 0.80 per km (per maund) for small, medium and large farmers respectively.

Price

Tables 3.20 and 3.21 present market price of paddy during 1998 Boro season by location, the former presented by district and the latter by category. It needs to be mentioned here that prices were based on a maximum of five transactions. Incidentally, our sample farmers at Naogaon did not sell paddy to mills at all.

As is evident from Table 3.21, there were much variation in the market prices by both districts and locations of selling paddy. The market price (per maund) was the highest (TK. 261) in Bogra and the lowest in Dinajpur (TK. 239). The price was TK. 251 in Naogaon.

Surprisingly, the market price (per maund) was the highest at homesteads (TK. 262). The lowest price was at mills (TK. 226). Paddy was sold at TK. 248 per maund at Haats/Bazaars.

As is evident from Table 3.21, small and medium farmers generally sold paddy at lower prices than larger farmers. For example, the market price (per maund) obtained by large farmers was TK. 255, followed by TK. 245 and TK. 240 for small and medium farmers respectively.

ASPECTS OF EVALUATION OF THE PROCUREMENT PROGRAM

In the preceding section, we have presented some background information relating to paddy production and marketing in the survey areas. In this section, we attempt to provide some insights into different aspects relating to evaluation of the government procurement program, with particular reference to 1998 Boro procurement. Most of the information presented in this Section relates to 160 farmers participated in the 1998 Boro procurement.

Distance of LSD from Households

Tables 3.22 and 3.23 show distance of LSDs from households of participating farmers (in Boro season, 1998), the former presented by districts and the latter by farmers' categories. These two tables relate only to the participating 16 farmers, while Tables 3.24 and 3.25 show similar distribution, based on perceptions of all the sample (160) farmers.

As is evident from the Tables, about 69 percent of the participating farmers were within 2 km distance from households and the remaining 31 percent at a distance ranging from 2 to 10 km. None of the participating farmers were beyond a 10 km distance. In the case of total sample farmers, about three-fourths of the farmers were at a distance up to 10 km while about one-fourth of them were located beyond 10 km.

Table 3.26 presents average distance of LSDs from households by district and by farmers' category. It is evident that smaller farm households were located at a somewhat

greater distance (from the LSDs) than the large farm households. For example, average distance of LSDs from households was 6.8 km for small farm households, followed by 6.4 km and 6.2 km for medium and large farm households respectively. The average distance over the total sample was 6.6 km.

Access to LSDs

Table 3.27 presents access to LSDs by farmers' category and by district.⁷ In all, 70 (out of 160), that is, 44 percent of the households reported LSDs as accessible.

Smaller farms were observed to have less access to LSDs than larger ones. For example, 41 percent of small farmers had access to LSDs, while 46 percent medium and 48 percent large farmers had access to LSDs.

Farmers in Naogaon had somewhat better access (50 percent) compared to those in Bogra (46 percent) and Dinajpur (38 percent).

Market and Procurement Price

Tables 3.28 and 3.29 present a comparison between market and procurement price for paddy during the 1998 Boro season, the former presented by district and the latter by farmers' category.

As far as market prices were concerned, Boro procurement was feasible only in the months of May and June, 1998. In these two months, market prices were lower than the procurement price, by Tk. 32 and Tk.18 per maund respectively. In July and August, market prices were higher than the procurement price, by Tk. 12 and Tk. 42 per maund respectively.

During the survey, estimates of desired price difference between the market and the procurement price were sought from sample farmers. The price difference (per

⁷ The term access refers to a ready accessibility to LSDs, in terms of road communication (from households to LSDs) and transport facilities.

maund) of Tk. 48 was desired by farmers between the market and the procurement price in order to have adequate incentive to participate in the procurement program. The price difference (per maund) desired by farmers was the highest Naogaon (Tk. 52) and the lowest in Bogra (Tk. 42). The price difference desired by farmers in Dinajpur district was Tk. 50.

The distribution of market prices across farmers' categories (Table 3.29) also shows that Boro procurement for all categories of farmers was feasible only in the months of May and June, 1998. The market prices obtained in July and August by all categories of farmers were higher than the procurement price.

There was no considerable variation in price differences across districts or farmers' categories, except across farmers' categories for May, 1998.

Quantity of Paddy Sold to LSDs and "Effective" Price Obtained by Farmers

Table 3.30 presents average quantity of paddy sold to LSDs and "effective" price obtained by farmers by district. An average farmer sold nearly 35 maunds of paddy to LSDs. The average quantity of sales appears to be much higher in Bogra (42 maunds) compared to what was observed in Dinajpur (26 maunds) and Naogaon (32 maunds).

Farmers reported that some extra paddy was required by LSDs while weighing. Average difference in weights taken by farmers and required by LSDs was 0.38 maunds for an average sale of 35 maunds. This amounted to an average extra weight of 0.41 Kg per maund. The extra paddy per maund as required by LSDs was the lowest in Dinajpur (0.30 Kg per maund) and the highest in Naogaon (0.52 Kg per maund), compared to what was estimated in the case of Bogra (0.41 Kg per maund).

Table 3.31 presents the same distribution by category and shows that there were some variations in the extra weight required across farmers' categories. For example, small farmers had to give 0.44 Kg extra paddy per maund, followed by medium farmers,

who had to give 0.42 Kg extra per maund and large farmers, 0.35 Kg extra paddy per maund.

Due to the requirement of extra weight by LSDs, the procurement price was reduced to Tk. 279 per maund, which may be called the "effective" price received by farmers. As expected, not much variation was observed in the "effective price" received by farmers across both districts and farm categories.

Cost of Selling Paddy

In addition to potential transport costs presented in Table 3.19, data was collected on actual expenditure in selling paddy incurred by 16 participating farmers. Tables 3.32 and 3.33 present actual costs of selling paddy to LSDs by district and by farmers' categories respectively. The expenditure under "Employees, Laborers and Kayals" was reported to be mostly unofficial payment. Miscellaneous expenses included pocket expenditure, etc.

On an average, farmers incurred LSD-related costs of selling paddy to the extent of Tk. 11.5 per maund, of which the major cost (54 percent) was on account of "employees and laborers", which included mostly unofficial payments. Transport costs also constituted a significant part (27 percent).

The total LSD-related cost was the highest (Tk. 14.4 per maund) in Dinajpur, followed by Naogaon (Tk. 11.5) and Bogra (Tk. 10). The higher LSD-related costs in Dinajpur could be attributed to greater unofficial payments in the district (Tk. 8.91), as compared to the other two districts (Naogaon and Bogra) surveyed (Tk. 5.59 and Tk. 5.43 respectively). There were some systematic variations in total costs across farmers' categories. Total costs were observed to have progressively increased as the farm size increased -- the larger the farm size, the higher was the costs.

Farmers' Participation

Table 3.34 presents the number of farmers who participated in the Boro procurement program by district and by farmer category.

It is readily observed that only 10 percent of our sample farmers had participated in the 1998 Boro procurement program. As far as the sample farmers were concerned, the participation rate was the highest in Bogra (15 percent), followed by Naogaon (10 percent) and Dinajpur (6 percent). The participation rate was observed to have progressively increased as farm size increased. Of those who participated, 5 percent were small, 13 percent were medium, and 22 percent were large farmers.

With regard to the participation rate, it may be mentioned here that a study was conducted earlier by Osmani and Quasem (1990).⁸ The study observed that while 58 percent of the sample growers sold some paddy, only 5 percent of them participated in the Aman procurement program. The participation rate was 0.5, 1.5 and 16.5 percent for small, medium and large farmers respectively. As far as our present study on Boro procurement program was concerned, the participation rate (10 percent) appeared to not have significantly improved, although nearly 94 percent of the farmers (150 out of our 160 sample farmers) had sold some paddy in the market (Table 3.12).

Reasons for not Selling to LSDs

During the field survey, attempts were made to identify reasons for not selling to LSDs. Table 3.35 presents percentage distribution of reasons for not selling to LSDs by district, as reported by farmers.⁹ The distribution of major reasons (for not selling paddy to LSDs) shows that loss of time (15 percent of total responses), misbehavior of laborers (9.7 percent), failure to procure slips (9.3 percent), non-acceptance of paddy by LSDs (9.1

⁸ See, for details, Osmani, S R and Quasem M A (1990). Pricing and Subsidy Policies for Bangladesh Agriculture, Research Monograph 11, BIDS, Dhaka

⁹ The distribution of reasons related to the five major reasons mentioned by farmers during the survey.

percent) and higher market prices (8.1 percent) were the five major reasons.

Other important reasons were delay in launching the procurement program (6.9 percent), deception in weight (6.5 percent) and higher transport costs (6.4 percent).

Table 3.36 presents the similar distribution of reasons (for not selling to LSDs) by farmers' category. It is interesting to note that among all the five major reasons (loss of time, misbehavior of laborers, failure to procure slips, non-acceptance of paddy by LSDs and higher market prices), there was systematic variation in the reasons across farmers' categories. In other words, the larger the size of the farms, the lower was the incidence of the factors/reasons.

Experience of Participating Farmers

This section presents findings on the experience of participating farmers, particularly related to behavior of laborers and employees at LSDs.

Behavior of Employees at LSD

Tables 3.37 and 3.38 present behavior of LSD employees with farmers during procurement by district and by category.

About 50 percent of the farmers reported that the behavior of LSD employees was moderate, while the remaining 50 percent reported it as either good or not good. None, however, reported the behavior as bad.

Behavior of Laborers at LSD

Tables 3.39 and 3.40 present behavior of LSD laborers with farmers during procurement by district and by farmers' category. The findings were similar to what was observed in the case of LSD employees (Tables 3.37 and 3.38). About 44 percent of the farmers reported that the behavior of LSD laborers was moderate, while the remaining 56 percent reported it as either good or not good. As in the case of behavior of LSD employees, none reported the behavior as bad.

Specific Experience

Table 3.41 presents specific experience of participating farmers with LSDs in selling paddy by district, while Table 3.42 presents the same information by farmers' category. It may be recalled that the total number of sellers (to LSDs) was 16.

A majority of the participating farmers, e.g. 81 percent, reported that they were deceived in weight, while 75 percent of farmers were happy with the time taken for payment of paddy sold.

However, the farmers were mostly (94 percent) reluctant in disclosing that there were some underhand arrangements with *kayals*.

Overall Experience

Table 3.43 presents overall experience of participating farmers with LSDs in selling paddy by district, while Table 3.44 presents the same information by farmers' category.

Generally, farmers were observed to be hesitant in responding to this question, especially if their experience were bitter. However, 50 percent of the farmers reported that their overall experience as good, with the remaining 50 percent reported it as either moderate, not good or bad.

Irregularities in Card/Slip Distribution

Cards/slips, required for farmers' identification and distributed by the local authorities, were treated as a requirement for selling paddy to LSDs. Tables 3.45 and 3.46 present information on irregularities in card/slip distribution by district and by farmers' category respectively. It may be mentioned that of the 160 farmers interviewed, 88 responded to this question. Of them, 75 respondents (85 percent) reported irregularities. A total of 13 farmers reported no irregularities in card/slip distribution.

In Naogaon, the percentage of farmers reporting irregularities was the highest (91 percent) while this percentage was 88 percent and 74 percent in Dinajpur and Bogra respectively.

About 88 percent of the farmers reported nepotism in card/slip distribution, while about 49 percent reported political bias, and about 29 percent reported bribes being required in procuring cards. Nearly 50 percent of the respondent farmers alleged that their applications for card/slip were either refused or rejected repeatedly.

Incidence of Transfer and Price of Slips

A slip is for one-time use only, for sale of two to five tons of paddy to LSDs. Tables 3.47 and 3.48 show incidence of transfer and price of slips by district and by farmers' category respectively. It needs to be mentioned that a total of 128 farmers responded to this question.

About 43 percent of the farmers surveyed mentioned that LSD slips were transferred or sold to others in their locations. The incidence of selling was relatively high in Naogaon.

There was clearly a market for buying and selling of cards/slips. The average price of a slip was estimated to be Tk. 153. The price was relatively higher at Naogaon (Tk. 192), compared to Tk. 125 and Tk. 107 in Bogra and Dinajpur respectively.

As evident from Table 3.48, considerable variations in the incidence of transfer of slips and price thereof were observed across farmers' category. Both the incidence of transfer and price of slips were high in case of the medium farmers, compared to those of the small and large farmers.

Opinion of Farm Households in Evaluating Paddy Buyers

Opinions were sought from all sample farm households as to how they evaluated different paddy buyers, namely LSDs, Haats/Bazaars and mills with respect to some selected criteria.

The distribution of opinion of farm households in evaluating various paddy buyers with respect to factors such as payment, price and weight have been presented by district in Table 3.49. Table 3.50 presents similar distribution by farmers' category. These tables related to all 160 farmers and were based on multiple responses. In all, 950 responses were obtained from the farmers.

About 39 percent of the total farmers opined that among three type of paddy buyers considered, LSDs were the most unfavorable, followed by Haats (35 percent) and mills (26 percent). It was observed that the farmers of all three categories also evaluated LSDs as the most unfavorable (Table 3.50).

Opinion on Type of Sellers Participated in Boro Procurement

Opinions from sample farm households on the participation rate of different paddy sellers to LSDs, namely farmers, millers, traders and others were also sought. The information was based on perceptions of the sample farmers.

Table 3.51 presents percentage of sellers participating in Boro procurement in 1997 and 1998, as assessed by our sample farmers. Others include the local elite, political leaders, students, middlemen and *mastaans*.

The proportion of various categories of farmers participating in the procurement program had dropped in the 1998 Boro procurement (as compared to those in 1997). The drop was from 16 percent to 10 percent in case of large farmers and from 10 percent to 5 percent in case of small as well as medium farmers.

Not only did millers and traders dominate in terms of participation as sellers at LSDs, but their proportion was also reported to have increased from 69 percent in 1997 to 79 percent in 1998. The proportion of groups such as the local elite, middlemen and *mastaans* was also reported to have slightly increased, from five percent in 1997 to seven percent in 1998.

Occupation Groups Benefited from Boro Procurement

Opinions were also sought from sample farm households as to which occupation groups had benefited most from Boro procurement. Table 3.52 presents these findings. In all, 152 responses were obtained; some gave multiple responses. An overwhelming proportion (about 93 percent) of the sample farmers opined that the traders and the millers were the occupation groups benefitting most from 1998 Boro procurement. About six percent opined that the local elite and political leaders and only two percent opined that the large farmers benefited most from the 1998 Boro procurement program.

Farmers' Interest in Selling Paddy to LSDs in the Future

Table 3.53 shows farmers' interest in selling paddy to LSDs in the future by farmers' category and by district.

The proportion of farmers participating in the 1998 Boro procurement was 10 percent, compared to 23 percent who had participated in any past procurement program.

If conditions were favorable, about 83 percent farmers reported that they would be willing to participate in any future procurement.¹⁰ If conditions did not improve and remained the same, only 16 percent of farmers reported that they might participate in any future procurement program.

¹⁰ 'Favorable' refers to conditions such as early launching of the procurement program, good margin from procurement, easy and prompt payment procedure, etc.

SECTION 3 TABLES

Table 3.1 — Size of Sample Farmers by Categories (In Terms of Operated Land) by District

District	No of LSDs in each district	No of villages surveyed	Number of farmers (in terms of operated land) in categories			Total
			Small	Medium	Large	
Bogra	3	6	27	12	9	48 (30.0)
Dinajpur	4	8	30	22	12	64 (40.0)
Naogaon	3	6	30	12	6	48 (30.0)
Total	10	20	87 (54.4)	46 (28.8)	27 (16.8)	160 (100.0)

Note: Categories of farmers:
 Small: < 2.5 acres
 Medium: 2.5 -- 5.0 acres
 Large: > 5.0 acres

Table 3.2 — Size of Sample Farmers by Categories (In Terms of Owned Land) by District

District	No of LSD in each district	No of villages surveyed	Number of farmers (in terms of owned land) in categories			Total
			Small	Medium	Large	
Bogra	3	6	29	8	11	48 (30.0)
Dinajpur	4	8	24	26	14	64 (40.0)
Naogaon	3	6	19	19	10	48 (30.0)
Total	10	20	72 (45.0)	53 (33.1)	35 (21.9)	160 (100.0)

Note: Categories of farmers:
 Small: < 2.5 acres
 Medium: 2.5 -- 5.0 acres
 Large: > 5.0 acres

Table 3.3 — A Comparison of Acreage and Yield of Boro between 1997 and 1998

District	No. of sample farmers	Average Boro Acreage (per household)			Boro Yield (maunds per acre)		
		1997	1998	percent change	1997	1998	percent change
Bogra	48	3.29	3.23	- 1.8	53	51	- 3.8
Dinajpur	64	3.21	3.26	1.6	53	53	-
Naogaon	48	2.84	2.65	- 6.8	52	50	- 3.8
Total	160	3.12	3.07	- 1.6	53	52	- 1.9

Table 3.4 — A Comparison of Acreage and Yield of Boro between 1997 and 1998

Farmer's category	No. of sample farmers	Average Boro Acreage (per household)			Boro Yield (maunds per acre)		
		1997	1998	percent change	1997	1998	percent change
Small	87	1.50	1.42	-5.3	53	52	-1.9
Medium	46	3.07	3.17	3.3	52	51	1.9
Large	27	8.33	8.12	-2.5	52	51	1.9
Total	160	3.12	3.07	-1.6	53	52	-1.9

Note: Farmers are categorized according to operated land.

Table 3.5 — Cost and Return for Production (Boro) at Current Price by District

District	Per acre gross return (Tk.)	Per acre cost of production (Tk.)	Per acre net return (Tk.)
Bogra	13,729	9,894	3,835
Dinajpur	12,720	9,646	3,074
Naogaon	12,613	10,300	2,313
Total	12,802	10,036	2,766

Note: Gross returns are estimated by use of market prices shown in Table 10.

Table 3.6 — Cost and Return for Production (Boro) at Current Price by Farmer's Category

Farmer's category	Per acre gross return (Tk.)	Per acre cost of production (Tk.)	Per acre net return (Tk.)
Small	12,761	9,984	2,777
Medium	12,198	9,588	3,610
Large	13,089	10,353	2,736
Total	12,802	10,036	2,766

Note: Farmers are categorized according to operated land. Gross returns are estimated by use of market prices shown in Table 3.10.

Table 3.7 — Paddy (Boro) Output by Use by District: 1998

District	Quantity (in maunds) per household used as					Per household total output (maunds)
	Seed	Consumption	Sales	Others	Current stock	
Bogra	3.04 (1.9)	40.92 (25.1)	99.68 (61.2)	13.02 (8.0)	6.21 (3.8)	162.87 (100.0)
Dinajpur	3.94 (2.1)	33.55 (17.8)	133.07 (70.7)	16.23 (8.6)	1.48 (0.8)	188.27 (100.0)
Naogaon	1.99 (1.5)	41.93 (30.6)	74.72 (54.6)	16.48 (12.0)	1.73 (1.3)	136.85 (100.0)
Total	3.09 (1.9)	38.28 (23.2)	105.55 (63.8)	15.34 (9.3)	2.97 (1.8)	165.23 (100.0)

Note: Total output includes those from sharecropping, rented in, etc.
Others include labor payment (in kind), flood losses and gifts.
Figures in parentheses denote percentages of total output.
Sales include only market transactions.

Table 3.8 — Paddy (Boro) Output by Use by Farmer's Category: 1998

Farmer's category	Quantity (in maunds) per household used for					Per household total output (maunds)
	Seed	Consumption	Sales	Others	Current stock	
Small	1.51 (1.9)	28.97 (37.1)	38.07 (48.7)	8.76 (11.2)	.79 (1.0)	78.1 (100.0)
Medium	3.08 (1.9)	40.60 (24.6)	101.83 (61.8)	17.76 (10.8)	1.46 (0.9)	164.73 (100.0)
Large	8.19 (1.8)	64.33 (14.4)	329.33 (73.7)	32.45 (7.3)	12.59 (2.8)	446.89 (100.0)
Total	3.09 (1.9)	38.28 (23.2)	105.55 (63.8)	15.34 (9.3)	2.97 (1.8)	165.23 (100.0)

Note: Total output includes those from share cropping, rented in land etc.
Others include labor payment (in kind), flood losses and gifts.
Figures in parentheses denote percentages of total output.
Sales include only market transactions.

Table 3.9 — Quantity, Price and Cost of Selling Paddy in Haats/Bazaars by District: Boro Season 1998

District	Average sale of paddy per household (maunds)	Average sale of paddy per transaction (maunds)	Average market price of paddy (Tk. per maunds)	Marketing cost of paddy (per maund in Tk.)		
				Transport cost	Other costs	Total costs
Bogra	87.27	17.5	260.9	2.60 (1.0)	0.66 (0.25)	3.26 (1.25)
Dinajpur	111.49	22.69	239.1	2.16 (0.90)	0.53 (0.22)	2.69 (1.12)
Naogaon	63.51	12.70	251.2	2.66 (1.06)	0.65 (0.26)	3.31 (1.32)
Total	89.9	18.12	248.4	2.39 (0.96)	0.59 (0.24)	2.98 (1.20)

Note: The above information relates to five transactions at homesteads, Haats and mills in the Boro season. Paddy includes all varieties. Other costs include loading and unloading etc. Figures in parentheses denote percentage of market price.

Table 3.10 — Quantity, Price and Cost of Selling Paddy in Haats/Bazaars by Farmer's Category: Boro Season 1998

Farmer's category	Average sale of paddy per household (maunds)	Average sale of paddy per transaction (maunds)	Average market price of paddy (Tk. per maunds)	Marketing cost of paddy (per maund in Tk.)		
				Transport cost	Other costs	Total costs
Small	34.6	6.92	245.3	2.77 (1.13)	0.97 (0.40)	3.74 (1.53)
Medium	98.3	19.67	240.3	2.79 (1.16)	0.66 (0.27)	3.45 (1.43)
Large	253.4	51.60	255.0	1.96 (0.77)	0.39 (0.15)	2.35 (0.92)
Total	89.9	18.12	248.4	2.39 (0.96)	0.59 (0.24)	2.98 (1.20)

Note: The above information was based on five transactions at homesteads, Haats and mills in Boro season. Other costs include loading and unloading etc. Figures in parentheses denote percentage of market price.

Table 3.11 — Place of Paddy Transactions by District

Place of transaction	Number of transactions by district			
	Bogra	Dinajpur	Naogaon	Total
Homestead	26 (36.1)	25 (34.7)	21 (29.2)	72 (100.0)
Haat/Bazaar	83 (23.6)	152 (43.3)	116 (33.1)	351 (100.0)
Mill	33 (63.5)	19 (36.5)	-	52 (100.0)
Total	142 (29.9)	196 (41.3)	137 (28.8)	475 (100.0)

Note: The above information related to five transactions, irrespective of the volume of turnover, made by farmers in the primary market, other than LSD. In all, 150 (out of 160) farmers have made paddy transactions. Average number of transaction is 3.2.

Table 3.12 — Place of Paddy Transactions by Farm-size Category

Place of transaction	Number of transactions by farmers' categories				percent of total transactions
	Small	Medium	Large	Total no. of transactions	
Homestead	25 (34.7)	20 (27.8)	27 (37.5)	72 (100.0)	15.2
Haat/Bazaar	178 (50.7)	118 (33.6)	55 (15.7)	351 (100.0)	73.9
Mill	17 (32.7)	17 (32.7)	18 (34.6)	52 (100.0)	10.9
Total	220 (46.3)	155 (32.6)	100 (21.1)	475 (100.0)	100.0

Note: The above information related to five transactions, irrespective of the volume of turnover, made by farmers in the primary market, other than LSD. In all, 150 (out of 160) farmers have made paddy transactions. The average number of transaction is 3.2.

Table 3.13 — Per Household Quantity of Paddy Sales by Location by District: 1998 Boro Season

District	Per household quantity of sales by location of selling paddy (in maunds)			
	Homestead	Haat/Bazaar	Mill	Total
Bogra	23.3 (26.7)	46.8 (53.6)	17.20 (19.7)	87.27 (100.0)
Dinajpur	26.0 (23.3)	55.2 (49.5)	30.28 (27.2)	111.49 (100.0)
Naogaon	14.3 (22.5)	49.2 (77.5)	-	63.51 (100.0)
Total	21.7 (24.1)	50.9 (56.6)	17.3 (19.3)	89.9 (100.0)

Note: The quantity of sales was based on a maximum of five transactions, other than LSDs. Figures in parentheses denote percentages of row totals. Paddy includes all varieties.

Table 3.14 — Per Household Quantity of Paddy Sales by Locations by Farmers' Category: 1998 Boro Season

Farmers' category	Per household quantity (maund) of sales by locations			
	Homestead	Haat/Bazaar	Mill	Total
Small	5.9 (17.1)	25.3 (73.1)	3.4 (9.8)	34.6 (100.0)
Medium	13.4 (13.6)	68.8 (70.0)	16.1 (16.4)	98.3 (100.0)
Large	86.7 (34.2)	102.7 (40.5)	64.0 (25.3)	253.4 (100.0)
Total	21.7 (24.1)	50.9 (56.6)	17.3 (19.3)	89.9 (100.0)

Note: The quantity of sales was based on a maximum of five transactions, other than LSDs. Figures in parentheses denote percentages of row totals. Paddy includes all varieties.

Table 3.15 — Distribution of Farmers by District and Type of Roads Available for Transporting Paddy to LSDs

District	No. of farmers reporting type of roads available			
	Pucca	Herring-bone/brick soling	Kutchha	Total
Bogra	19 (40.4)	5 (10.6)	23 (49.0)	47 (100.0)
Dinajpur	21 (32.8)	1 (1.6)	42 (65.6)	64 (100.0)
Naogaon	11 (23.4)	7 (14.9)	29 (61.7)	47 (100.0)
Total	51 (32.3)	13 (8.2)	94 (59.5)	158 (100.0)

Note: The question on the type of roads related to all the 160 farmers who reported type of roads available for transporting paddy to LSDs. Two (out of 160) farmers did not respond to this question. Figures in parentheses denote percentage of row totals.

Table 3.16 — Distribution of Farmers by Category and by Type of Roads Available for Transporting Paddy to LSDs

Farmer's category	No. of farmers mentioning type of roads available			
	Pucca	Herring bone/brick soling	Kutchha	Total
Small	27 (31.8)	6 (7.1)	52 (61.1)	85 (100.0)
Medium	17 (37.0)	4 (8.7)	25 (54.3)	46 (100.0)
Large	7 (25.9)	3 (11.1)	17 (63.0)	27 (100.0)
Total	51 (32.3)	13 (8.2)	94 (59.5)	158 (100.0)

Note: The question on the type of roads related to all the 160 farmers who reported mode of roads available for transporting paddy to LSDs. Two (out of 160) farmers did not respond to this question. Figures in parentheses denote percentage of row totals.

Table 3.17 — Distribution of Farmers by District and by Mode of Transport Available (for Carrying Paddy to LSDs)

District	Mode of transport used				Total
	Cart	Van	Truck & Others	Boat	
Bogra	1 (2.1)	39 (83.0)	7 (14.9)	-	47 (100.0)
Dinajpur	19 (30.6)	34 (54.8)	8 (12.9)	1 (1.7)	62 (100.0)
Naogaon	21 (44.7)	22 (46.8)	4 (8.5)	-	47 (100.0)
Total	41 (26.3)	95 (60.9)	19 (12.2)	1 (0.6)	156 (100.0)

Note: The question on mode of transport related to all the 160 farmers who reported mode of transports available. Two (out of 160) farmers did not respond to this question. Figures in parentheses denote percentage of row totals.

Table 3.18 — Distribution of Farmers by Category and Mode of Transport Normally Used for Carrying Paddy to LSDs

Farmer's category	Mode of transport used				Total
	Cart	Van	Truck & Others	Boat	
Small	18 (21.4)	57 (67.9)	9 (10.7)	-	84 (100.0)
Medium	14 (31.1)	24 (53.4)	6 (13.3)	1 (2.2)	45 (100.0)
Large	9 (33.3)	14 (51.9)	4 (14.8)	-	27 (100.0)
Total	41 (26.3)	95 (60.9)	19 (12.2)	1 (0.6)	156 (100.0)

Note: Four (out of 160) farmers did not respond to this question. Figures in parentheses denote percentage of row totals.

Table 3.19 — Cost of Transporting Paddy (from Household to LSD) by District and by Category

District/ Transport cost	Transport cost			Total
	Small	Medium	Large	
Bogra				
Cost (Tk. per md)	5.11	5.29	5.94	5.31
Cost (Tk. per md/km)	0.82	0.78	0.81	0.80
Dinajpur				
Cost (Tk. per md)	4.70	5.02	5.21	4.91
Cost (Tk. per md/km)	0.71	0.77	0.96	0.77
Naogaon				
Cost (Tk. per md)	6.48	4.88	4.33	5.81
Cost (Tk. per md)	0.85	0.86	0.71	0.84
Total				
Cost (Tk. per md)	5.44	5.05	5.26	5.30
Cost (Tk. per md)	0.80	0.79	0.85	0.80

Note: Potential cost of transport (from household to LSDs) perceived by all 160 sample farmers.

Table 3.20 — Market Price of Paddy by Location by District: 1998 Boro Season

District	Market price by location of selling paddy (TK. in maund)			Total
	Homestead	Haat/Bazaar	Mill	
Bogra	284.3	258.5	245.0	260.9
Dinajpur	249.1	240.3	217.2	239.1
Naogaon	254.7	250.1	-	251.2
Total	261.6	248.2	225.5	248.4

Note: Prices were based on a maximum of five transactions. Incidentally, sample farmers at Naogaon did not sell paddy to mills.

Table 3.21 — Market Price of Paddy by Location by Farmer's Category: 1998 Boro Season

District	Market price by location of selling paddy (TK. in maund)			
	Homestead	Haat/Bazaar	Mill	Total
Small	256.0	241.8	249.2	245.3
Medium	248.2	239.0	234.8	240.3
Large	266.3	263.7	217.5	255.0
Total	261.6	248.2	225.5	248.4

Note: Prices were based on a maximum of five transactions.

Table 3.22 — Distance of LSD from Household of Participating Farmers (in Boro Season, 1998)

District	Distance of LSD from home (km)				Total
	Up to 2	2 - 5	5 - 10	10 & above	
Bogra	5	2	-	-	7
Dinajpur	3	1	-	-	4
Naogaon	3	-	2	-	5
Total	11 (68.8)	3 (18.7)	2 (12.5)	-	16 (100.0)

Note: This table relates to only the 16 participating farmers.

Table 3.23 — Distance of LSD from Household of Participating Farmers (in Boro Season, 1998) by Farmer's Category

District	Distance of LSD from home (Km)				Total
	Up to 2	2 - 5	5 - 10	10 & above	
Small	3	2	1	-	6
Medium	2	1	1	-	4
Large	6	-	-	-	6
Total	11 (68.8)	3 (18.7)	2 (12.5)	-	16 (100.0)

Note: This table related to only the 16 participating farmers.

Table 3.24 — Distribution of Farmers by Distance (from LSD) and by District

Distance from LSD	Number of farmers by district			Total
	Bogra	Dinajpur	Naogaon	
Up to 2 km	18 (37.5)	21 (32.8)	22 (45.8)	61 (38.1)
2 - 5 km	6 (12.5)	5 (7.8)	1 (2.1)	12 (7.5)
5 - 10 km	9 (18.8)	26 (40.6)	10 (20.8)	45 (28.1)
10 km & above	15 (31.2)	12 (18.8)	15 (31.3)	42 (26.3)
Total	48 (100.0)	64 (100.0)	48 (100.0)	160 (100.0)

Note: This table is based on perceptions of all 160 farmers. Figures in parentheses denote column percentages.

Table 3.25 — Distribution of Farmers by Distance (from LSD) and by Category

Distance from LSD	Number of farmers by category			
	Small	Medium	Large	Total (km)
Up to 2 km	32 (36.8)	17 (37.0)	12 (44.4)	61 (38.1)
2 – 5 km	6 (6.9)	5 (10.9)	1 (3.8)	12 (7.5)
5 – 10 km	24 (27.6)	13 (28.3)	8 (29.6)	45 (28.1)
10 km & above	25 (28.7)	11 (23.8)	6 (22.2)	42 (26.3)
Total	87 (100.0)	46 (100.0)	27 (100.0)	160 (100.0)

Note: This table related to perceptions of all 160 farmers. Figures in parentheses denote column percentages.

Table 3.26 — Average Distance of LSD from Home of Farmers by District and by Category

District	Average distance of LSD from household (km)			
	Small	Medium	Large	Total
Bogra	6.2	6.8	7.3	6.6
Dinajpur	6.6	6.5	5.4	6.4
Naogaon	7.6	5.7	6.1	6.9
Total	6.8	6.4	6.2	6.6
Total sample	87 (54.4)	46 (28.8)	27 (16.8)	160 (100.0)

Note: Figures in parentheses denote row percentages.

Table 3.27 — Access to LSDs by Farmers' Category and by District

District	Number of farmers reporting LSD as accessible by category				percent of farmers having access to LSDs
	Small	Medium	Large	Total	
Bogra	13	6	3	22	45.8
Dinajpur	11	7	6	24	37.5
Naogaon	12	8	4	24	50.0
Total	36 (41.4)	21 (45.7)	13 (48.1)	70 (43.8)	-

Note: The row percentages (shown in parentheses) denote percentages of total farmers in each category, reporting LSDs as accessible. The percentages shown in last column denote percentages of total farmers in each district, reporting LSD as accessible. In all, 70 (out of 160) or 44 percent households reported LSD as accessible. The term access refers to a ready accessibility, in terms of distance and transport facilities.

Table 3.28 — A Comparison Between Market and Procurement Price for Paddy by District

District	Market price of paddy during four months (Tk./md)				Procurement price (Tk./md)	Price difference desired by farmers (Tk./md)
	May 1998	June 1998	July 1998	August 1998		
Bogra	246.4	264.5	294.7	327.1	281.8	41.8
Dinajpur	251.0	260.9	291.6	321.2	281.8	50.3
Naogaon	252.0	269.9	295.5	322.7	281.8	52.2
Total	249.7	264.0	293.4	323.4	281.8	48.3

Table 3.29 — A Comparison between Market and Procurement Price for Paddy by Category

Farmer's category	Market price of paddy during four months (Tk./md)				Procurement price (Tk./md)	Price difference desired by farmers (Tk./md)
	May 1998	June 1998	July 1998	August 1998		
Small	249.3	263.9	291.9	321.8	281.8	48.2
Medium	256.0	265.9	296.7	326.8	281.8	47.9
Large	243.6	260.6	291.6	322.0	281.8	49.3
Total	249.7	264.0	293.4	323.4	281.8	48.3

Table 3.30 — Quantity of Paddy Sold to LSD and "Effective" Price Obtained by Farmers by District

District	Procurement (paddy) price (Tk./md)	Average quantity of paddy sold to LSD (maund)	Extra weight required by LSD (maund)	Extra weight Required by LSD (kg/maund)	Per maund "effective" price of paddy (Tk.)
Bogra	281.8	41.94	.45	0.41	278.76
Dinajpur	281.8	26.25	.21	0.30	278.81
Naogaon	281.8	31.96	.45	0.52	277.89
Total	281.8	34.90	.38	0.41	278.76

Note: Extra weight required by LSDs, as reported by farmers.

Table 3.31 — Quantity of Paddy Sold to LSD and "Effective" Price Obtained by Farmers by Category

Farm's category	Procurement (paddy) price (Tk.)	Average quantity of paddy carried to LSD (maund)	Extra weight required by LSD (maund)	Extra weight Required by LSD (kg/maund)	Per maund "effective" price of paddy (Tk.)
Small	281.8	33.49	.40	0.44	278.47
Medium	281.8	36.62	.41	0.42	278.67
Large	281.8	35.17	.33	0.35	279.18
Total	281.8	34.90	.38	0.41	278.76

Note: Extra weight required by LSDs, as reported by farmers.

Table 3.32 — Costs of Selling Paddy to LSD by District

District	LSD-related costs on account of (TK. per maund)				Total LSD - related costs (TK. per maund)
	Transport	Bag	Employees, Laborers & Kayals	Miscellaneous	
Bogra	2.94 (29.4)	1.03 (10.3)	5.43 (54.4)	0.59 (5.9)	9.99 (100.0)
Dinajpur	3.15 (21.8)	1.51 (10.5)	8.91 (61.7)	0.87 (6.0)	14.44 (100.0)
Naogaon	3.36 (29.4)	1.0 (8.7)	5.59 (48.8)	1.50 (13.1)	11.45 (100.0)
Total	3.12 (27.2)	1.16 (10.1)	6.26 (54.4)	0.95 (8.3)	11.49 (100.0)

Note: The expenditure under "Employees, laborers and kayals" is reported to be mostly unofficial payment. Miscellaneous includes pocket expenditure etc. The information related to actual expenditure incurred by 16 participating farmers.

Table 3.33 — Costs of Selling Paddy to LSD by Farmer's Category

Farm's category	LSD related costs on account of (TK. per maund)				Total LSD-related costs (TK. per maund)
	Transport	Bag	Employees, Laborers & Kayals	Miscellaneous	
Small	2.50 (23.0)	2.21 (20.3)	5.16 (47.5)	1.00 (9.2)	10.87 (100.0)
Medium	4.56 (35.8)	0.95 (7.5)	6.18 (48.6)	1.03 (8.1)	12.72 (100.0)
Large	2.80 (21.1)	1.87 (14.1)	7.78 (58.5)	0.85 (6.3)	13.30 (100.0)
Total	3.12 (27.2)	1.16 (10.1)	6.26 (54.4)	0.95 (8.3)	11.49 (100.0)

Note: The expenditure under "Employees, laborers and kayals" is mostly unofficial payment. Miscellaneous includes packet expenditure etc.
The information related to actual expenditure incurred by 16 participating farmers.

Table 3.34 — Number of Farmers Participating in Procurement Program by District and by Category (in 1998 Boro Season)

District	Number of farmers participated				Participation rate (percent)
	Small	Medium	Large	Total	
Bogra	3	2	2	7	14.6
Dinajpur	1	1	2	4	6.3
Naogaon	-	3	2	5	10.4
Total no. of farmers participated	4	6	6	16	-
Participation rate (percent)	4.6	13.0	22.2	10.0	-
Total no. of sample	87 (54.4)	46 (28.8)	27 (16.8)	160 (100.0)	10.0

Note: Figures in parentheses denote percentages of total farmers in each category.

**Table 3.35 — Percentage Distribution of Reasons for not Selling to LSDs by District
(as Reported by Farmers)**

Reasons	percent distribution by districts			Total responses	percent of reasons
	Bogra	Dinajpur	Naogaon		
1 Procurement started late	35.3	35.3	29.4	34	6.9
2 Transport cost too high	28.1	37.5	34.4	32	6.4
3 Delay in procedure(Issue of WQSC)	33.3	-	66.6	3	0.60
4 Cheating in weights	34.4	34.4	31.2	32	6.5
5 Misbehavior of laborers	18.8	56.2	25.0	48	9.7
6 Loss of time	21.6	48.7	29.7	74	15.0
7 Non-acceptance of paddy	15.6	51.1	33.3	45	9.1
8 Delayed payment (at bank)	-	80.0	20.0	5	1.0
9 Risk in carrying cash from LSD	100.0	-	-	1	0.2
10 Had no surplus paddy	26.0	44.4	29.6	27	5.5
11 Failure to procure slip/card	34.8	19.6	45.6	46	9.3
12 Higher market price	27.5	45.0	27.5	40	8.1
13 Others	28.0	43.0	29.0	107	21.7
Total	26.3	42.5	31.2	494	100.0

Note: The distribution of reasons relates to five major reasons mentioned by farmers. The figures in the last column denote percentages of total responses.

Table 3.36 — Percentage Distribution of Reasons for not Selling to LSDs by Farmer's Category

Reasons	percent distribution of farmers by category			Total responses	percent of reasons
	Small	Medium	Large		
1 Procurement started late	64.7	26.5	8.8	34	6.9
2 Transport cost too high	59.4	25.0	15.6	32	6.4
3 Delay in procedure(Issue of WQSC)	66.7	-	33.3	3	0.60
4 Cheating in weights	62.5	21.9	15.6	32	6.5
5 Misbehavior of laborers	47.9	29.2	22.9	48	9.7
6 Loss of time	52.7	33.8	13.5	74	15.0
7 Non-acceptance of paddy	62.2	22.2	15.6	45	9.1
8 Delayed payment (at bank)	40.0	20.0	40.0	5	1.0
9 Risk in carrying cash from LSD	100.0	-	-	1	0.2
10 Had no surplus paddy	81.5	11.1	7.4	27	5.5
11 Failure to procure slip/card	47.8	34.8	17.4	46	9.3
12 Higher market price	55.0	27.5	17.5	40	8.1
13 Others	54.2	29.9	15.9	107	21.7
Total	56.7	27.5	15.8	494	100.0

Note: The distribution of reasons relates to five major reasons mentioned by farmers. The figures in the last column denote percentages of total responses.

Table 3.37 — Behavior of LSD Employees with Farmers During Procurement by District

District	Behavior of employees with farmers					Total
	Excellent	Good	Moderate	Not Good	Bad	
Bogra	-	2	5	-	-	7 (43.8)
Dinajpur	-	2	1	1	-	4 (25.0)
Naogaon	-	3	2	-	-	5 (31.2)
Total	-	7 (43.8)	8 (50.0)	1 (6.2)	-	16 (100.0)

Note: The figures in parentheses denote percentages of total.

Table 3.38 — Behavior of LSD Employees with Farmers During Procurement by Category

Farmer's category	Behavior of employees with farmers					Total
	Excellent	Good	Moderate	Not Good	Bad	
Small	-	3	3	0	-	6 (37.5)
Medium	-	1	3	0	-	4 (25.0)
Large	-	3	2	1	-	6 (37.5)
Total	-	7 (43.8)	8 (50.0)	1 (6.2)	-	16 (100.0)

Note: The figures in parentheses denote percentages of total.

Table 3.39 — Behavior of LSD Laborers with Farmers during Procurement by District

District	Behavior of laborers with farmers					Total
	Excellent	Good	Moderate	Not Good	Bad	
Bogra	-	2	5	-	-	7 (43.7)
Dinajpur	-	3	-	1	-	4 (25.0)
Naogaon	-	2	2	1	-	5 (31.3)
Total	-	7 (43.8)	7 (43.8)	2 (12.4)	-	16 (100.0)

Note: The figures in parentheses denote percentages of total.

Table 3.40 — Behavior of LSD Laborers with Farmers during Procurement by Category

Farmer's category	Behavior of laborers with farmers					Total
	Excellent	Good	Moderate	Not Good	Bad	
Small	-	3	3	-	-	6 (37.5)
Medium	-	-	4	-	-	4 (25.0)
Large	-	4	-	2	-	6 (37.5)
Total	-	7 (43.8)	7 (43.8)	2 (12.4)	-	16 (100.0)

Note: The figures in parentheses denote percentages of total.

Table 3.41 — Specific Experience of Participating Farmers with LSDs in Selling Paddy by District

District	No of farmers participated in procurement	Experience with LSD					
		Deceived in Weight		Underhand arrangement with 'Kayal'		Happy with the time taken for payment	
		Yes	No	Yes	No	Yes	No
Bogra	7	6	1	-	7	5	2
Dinajpur	4	3	1	1	3	2	2
Naogaon	5	4	1	-	5	5	-
Total	16	13	3	1	15	12	4
Percent of total no. of sellers	10.0	81.3	18.7	6.3	93.7	75.0	25.0

Note: The total number of sellers (to LSD) was 16.

Table 3.42 — Specific Experience of Participating Farmers with LSDs in Selling Paddy by Category

Farmer's category	No of farmers participated in procurement	Experience with LSD					
		Deceived in Weight		Underhand arrangement with 'Kayal'		Happy with the time taken for payment	
		Yes	No	Yes	No	Yes	No
Small	4	6	-	1	5	5	1
Medium	6	3	1	0	4	3	1
Large	6	4	2	0	6	4	2
Total	16	13	3	1	15	12	4
percent of total no of sellers	10.0	81.3	18.7	6.3	93.7	75.0	25.0

Note: The total number of sellers (to LSD) was 16.

Table 3.43 — Overall Experience of Participating Farmers with LSDs in Selling Paddy by District

District	Farmers' overall experience with LSD as					Total
	Excellent	Good	Moderate	Not Good	Bad	
Bogra	-	4	1	1	1	7
Dinajpur	-	2	1	1	-	4
Naogaon	-	2	2	-	1	5
Total	-	8	4	2	2	16
percent of total no of sellers	-	50.0	25.0	12.50	12.50	100.0

Note: The total number of sellers (to LSD) was 16.

Table 3.44 — Overall Experience of Participating Farmers with LSDs in Selling Paddy by Category

Farmer's category	Farmers' overall experience with LSD as					Total
	Excellent	Good	Moderate	Not Good	Bad	
Small	-	3	2	1	-	6
Medium	-	1	2	-	1	4
Large	-	4	-	1	1	6
Total	-	8	4	2	2	16
percent of total no of sellers	-	50.0	25.0	12.5	12.4	100.0

Note: The total number of sellers (to LSD) was 16.

Table 3.45 — Irregularities in Card/Slip Distribution by District

District	No. of farmers responded	No. of farmers reporting irregularities in card distribution	Number of responses reporting irregularities by type			
			Political bias	Nepotism	Bribe	Refused repeatedly
Bogra	23	17 (73.9)	7 (41.2)	14 (82.4)	3 (17.6)	11 (64.97)
Dinajpur	32	28 (87.5)	14 (50.1)	25 (89.3)	4 (14.3)	15 (53.6)
Naogaon	33	30 (90.9)	16 (53.3)	27 (90.0)	15 (50.0)	11 (36.7)
Total	88	75 (85.2)	37 (49.3)	66 (88.0)	22 (29.3)	37 (49.3)

Note: Out of 160 farmers interviewed, 88 responded to this question, out of which 75 i.e., 85percent reported irregularities. A total of 13 farmers reported no irregularities.

The figures in parentheses in the third column denote percentages of total farmers in each district, reporting irregularities; the row percentages do not total 100 because of multiple responses.

Table 3.46 — Irregularities in Card/Slip Distribution by Category

Farm's category	No. of farmers responded	No. of farmers reporting irregularities in card distribution	Number of responses reporting irregularities by type			
			Political bias	Nepotism	Bribe	Refused repeatedly
Small	44	39 (88.6)	20 (51.3)	35 (89.7)	14 (35.9)	19 (48.7)
Medium	25	22 (88.0)	9 (23.1)	17 (43.5)	5 (12.8)	10 (25.6)
Large	19	14 (73.7)	8 (57.1)	14 (100.0)	3 (21.4)	8 (57.1)
Total	88	75 (85.2)	37 (49.3)	66 (88.0)	22 (29.3)	37 (49.3)

Note: Out of 160 farmers interviewed, 88 responded to this question, out of which 75 i.e., 85percent reported irregularities. A total of 13 farmers reported no irregularities.

The figures in parentheses in the third column denote percentages of total farmers in respective categories, reporting irregularities; the row percentages do not total 100 because of multiple responses.

Table 3.47 — Incidence of Transfer and Price of Slips by District

District	Whether transferred/sold slips to others in their locations			Average price of slips (Tk./slip)
	Yes	No	Total	
Bogra	12 (34.3)	23 (65.7)	35 (100.0)	124.58
Dinajpur	17 (34.3)	32 (65.3)	49 (100.0)	106.67
Naogaon	26 (59.1)	18 (40.9)	44 (100.0)	192.00
Total	55 (43.0)	73 (57.0)	128 (100.0)	152.74

Note: The figures in parentheses denote percentages of total. Altogether, 128 farmers responded to this question.

A slip was for one-time use only, for sale of 1-5 tons of paddy to LSD.

Table 3.48 — Incidence of Transfer and Price of Slips by Category

Farmer's category	Whether transferred/sold slips to others in their locations			Average price of slips (Tk./slip)
	Yes	No	Total	
Small	26 (39.4)	40 (60.6)	66 (100.0)	145.80
Medium	19 (51.4)	18 (48.6)	37 (100.0)	165.28
Large	10 (40.0)	15 (60.0)	25 (100.0)	147.50
Total	55 (43.0)	73 (57.0)	128 (100.0)	152.74

Note: The figures in parentheses denote percentages of total. In all, 128 farmers responded to this question.

A slip was for one-time use only, for sale of 1-5 tons of paddy to LSD.

Table 3.49 — Opinion of Farm Households in Evaluating Three Category of Paddy Buyers

Factors	Evaluating various buyers of paddy as <u>not</u> favorable															
	Bogra				Dinajpur				Naogaon				Total			
	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total
1. Timely Payment	11	2	3	16	7	2	2	11	6	-	3	9	24	4	8	36
2. Distance from	18	33	32	83	22	58	41	121	23	44	26	93	63	135	99	297
3. Misc. expenses	38	14	5	57	55	25	10	90	45	12	3	60	138	51	18	207
4. Price	29	35	37	101	30	58	48	136	30	42	35	107	89	135	120	344
5. Weight	13	2	1	16	24	1	1	26	22	1	1	24	59	4	3	66
Total	109	86	78	273	138	144	102	384	126	99	68	293	373	329	248	950
percent of total	39.9	32	28.6	100	35.9	37.5	26.6	100	43.0	34	23.2	100	39.3	34.6	26.1	100

Note: This table related to all 160 farmers and is based on multiple responses. In all, 950 responses were obtained from farmers.

Table 3.50 — Opinion of Farm Households in Evaluating Three Category of Paddy Buyers

Factors	Evaluating various buyers of paddy as not favorable															
	Small				Medium				Large				All			
	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total	LSD	Haat	Mill	Total
1. Timely Payment	13	2	4	19	8	2	3	13	3	-	1	4	24	4	8	36
2. Distance from	30	74	52	156	18	41	29	88	15	20	18	53	63	135	99	297
3. Misc. expenses	69	27	9	105	43	15	4	62	26	9	5	40	138	51	18	207
4. Price	45	71	59	175	26	41	39	106	18	23	22	63	89	135	120	344
5. Weight	29	2	2	33	18	1	1	20	12	1	-	13	59	4	3	66
Total	186	176	126	408	113	100	76	289	74	53	46	173	373	329	248	950
percent of total	38.1	36	25.8	100	39.1	34.6	26.3	100.0	42.8	30.6	26.6	100.0	39.3	35	26.1	100

Note: This table relates to all 160 farmers and is based on multiple responses. In all, 950 responses were obtained from farmers.

Table 3.51 — Percentage of Sellers Participated in Boro Procurement, 1997 and 1998 (as Assessed by Sample Farmers)

District	Proportion (percent) of various sellers participated (as assessed by sample farmers)							
	Large farmers		Small & medium farmers		Millers & traders		Others	
	1997	1998	1997	1998	1997	1998	1997	1998
Bogra	16.2	11.7	4.1	3.5	72.2	76.8	7.5	8.0
Dinajpur	14.0	10.0	10.8	4.7	70.9	80.0	4.3	5.3
Naogaon	16.5	9.5	12.5	5.5	66.5	78.6	4.5	6.4
Total	15.6	10.4	9.5	4.5	69.4	78.6	5.1	6.5

Note: The information was based on perceptions of all farmers about the sellers to LSD. Others include local elite, political leaders, students, middlemen and mastaans.

Table 3.52 — Occupation Groups Most Benefited from Boro Procurement, 1998 (According to the Opinion of Sample Farmers)

District	Farmers reporting beneficiary groups				Total
	Large farmers	Small & medium farmers	Traders & millers	Others	
Bogra	-	-	41	4	45
Dinajpur	1	-	57	3	61
Naogaon	1	-	43	2	46
Total	2 (1.3)	-	141 (92.8)	9 (5.9)	152 (100.0)

Note: Others include local elite, political leaders, students, middlemen and musclemen. In all, 152 responses were obtained; some gave multiple responses.

Table 3.53 — Farmers' Interest in Selling Paddy to LSDs by Category and by District

District	Participated in current procurement				Participated in any past procurement				Likely to participate in any future procurement, if it is favorable				Likely to participate in future procurement despite the bitter experiences in 1998 Boro procurement			
	Small	Medium	Large	Total	Small	Medium	Large	Total	Small	Medium	Large	Total	Small	Medium	Large	Total
Bogra	3	2	2	7	5	3	2	10	15	10	8	33	4	1	-	5
Dinajpur	1	1	2	4	8	1	3	12	25	19	10	54	7	3	4	14
Naogaon	-	3	2	5	7	4	4	15	28	11	6	45	1	3	2	6
Total	4 (25.0)	6 (37.5)	6 (37.5)	16 (100.0)	20 (54.1)	8 (21.6)	9 (24.3)	37 (100.0)	68 (51.5)	40 (30.3)	24 (18.2)	132 (100.0)	12 (48.0)	7 (28.0)	6 (24.0)	25 (100.0)

Note: 'Favorable' refers to conditions such as early launching of procurement program, good margin from procurement, easy and prompt payment procedure.

4. MAJOR FINDINGS OF THE TRADERS' SURVEY

INTRODUCTION

As mentioned earlier, the Foodgrain Procurement Survey consisted of investigation involving five groups namely, farmers, traders, millers, sellers and LSD (and other) officials, who are generally associated with the Procurement Program, one way or the other. Traders play an important role in the process in that although they are not supposed to sell directly to the LSD as traders, their trading activities in the market do influence the decisions of other groups who are directly involved in the Procurement Program.

As noted earlier (Chapter 2), two village markets were purposively selected for conducting the traders' survey. One was selected from within or around the remote villages selected for farmer survey. The other was selected from areas close to the LSDs. The list of traders in each market was procured before 3 traders were selected from each market for investigation. Care was taken to ensure that one of the sample traders was also seller to the selected LSD's. In total, 60 traders were interviewed.

BACKGROUND INFORMATION

It is readily observed from Table 4.1 that out of 60 traders interviewed, only 18 of them participated in the program through sale of paddy to LSDs. The degree of participation varied across the three districts surveyed, but not by much.

Table 4.2 shows that about half (48 percent) of the traders interviewed had trading as their major occupation with only about 2 percent reporting farming as their major occupation. On the other hand, exactly half of the sample traders reported both farming and trading being equally important in terms of generation of income.

The information with respect to different modes of transport used for transporting paddy from trader's locality is presented in Table 4.3. It is observed that about 40 percent of the traders normally used van as the (predominant) mode for transporting paddy to LSDs. The next popular modes were truck and animal cart, used by 27 percent and 8 percent of the traders respectively.

Table 4.4 presents the potential average cost of transport for carrying paddy to LSD by district. It is observed that, on an average, Tk. 1.85 was the potential cost per kilometer of transporting one maund of paddy to LSDs. Some variation of this (transport) cost was observed across the three districts. This is especially true in the case of Bogra district, recording significantly higher costs, which is attributed to extreme disruption of road communication in one of the sample Thanas.

FACTORS RELATED TO EVALUATION OF PROCUREMENT PROGRAM

The average buying and selling price of paddy as reported by traders is presented in Table 4.5. As is the case with farmers, Boro procurement was feasible only in the months of May and June, 1998, when the market prices per maund were lower than the procurement price by Tk. 42 and Tk. 17 respectively. In July and August, however, market prices were higher than the procurement price, by Tk. 20 and Tk. 48 respectively, thereby failed to provide any incentive to participate in the procurement program.

Table 4.6 presents information with a breakdown of various costs of selling paddy at LSDs as reported by traders-sellers (those traders who actually sold paddy to LSD) during 1998 Boro Procurement. It appears that, on an average, the trader-sellers incurred LSD-related costs of selling paddy to the extent of Tk. 13.01 per maund, of which the major cost was on account of "unofficial payments" to officers and laborers (Tk. 6.71 per maund combined, which is 52 percent of total cost) followed by transport costs (Tk. 3.69 per maund or 28 percent of total cost incurred).

It may be recalled here that the farmers reported a price differential of Tk. 48.0 per maund in order to induce them to sell paddy at the LSDs. The perception of traders

about this minimum incentive price differential was similar (Tk. 45.51) to those expressed by the farmers (Table 4.7).

As in case with farmers, the traders who actually participated in procurement (through sale of paddy at LSDs) responded in a similar fashion while narrating either their overall experience or the behavior of officers at LSDs, in the process of procurement. Generally, the respondents (both farmers and traders) seemed to be reluctant in responding to these types of queries, especially if the experience is bad. From this perspective, one should accept such responses with some reservations. About one-third of the traders-sellers reported the behavior of officers at LSD to be "good" while over half (56 percent) reported to be moderate, with only 11 percent as either "not good" or "bad" (Table 4.8). Similarly, the overall experience of 28 percent of traders-sellers was "good", of 61 percent was "moderate" and of the remaining 11 percent was either "not good" or "bad" (Table 4.9).

While responding to specific experiences at LSDs, an overwhelming proportion of trader-sellers (83.3 percent) reported that they were cheated while weighing at LSDs (Table 4.10A). The experience with respect to time taken for payment by bank, however, was quite encouraging since most of the trader-sellers (83.3 percent) were satisfied in this respect (Table 4.10B).

The traders were also asked whether there were any irregularities in the card/slip distribution. About 60 percent of them reported irregularities in this respect (Table 4.11). Moreover, while about 94 percent of the traders reported "nepotism" in card/slip distribution, about 80 percent reported "political bias" and about 37 percent reported that "other payments" were required in procuring the card/slips needed to establish eligibility for selling paddy at LSD's (Table 4.12). As observed in case of farmers' survey, the traders' survey confirmed that there was a market for buying and selling of cards/slips. The average price of a slip was estimated to be Tk. 114, as reported by the traders (Table

4.13). The farmers reported the price to be Tk. 153, much higher as compared to that reported by the traders.

The traders were asked what were the factors that would govern their decisions regarding the participation in the procurement program in the future. The price incentive (procurement price exceeding market price by at least Tk. 50 per maund) seems to be the predominant factor, with 35 percent of traders reporting that this is so. Other factors include "keeping relation with LSD" (13.3 percent), "good behavior" of LSD officers (6.7 percent) and availability of "slips/cards" (6.7 percent) (Table 4.14).

Trader's opinion was also sought as how to increase the participation of small and marginal farmers in paddy procurement program. The most important suggestions towards increasing participation of small and marginal farmers, as reported by traders, were the following (Table 4.15).

- Establishment of TPC at the union level (25 percent)
- Stopping corruption practices in procurement (13.3 percent)
- Fair distribution of cards/slips (8.3 percent), and
- Early launching of procurement program (6.7 percent)

SECTION 4 TABLES

Table 4.1 — Paddy Sellers to LSD among Traders Surveyed (Boro, 1998), by District

District	Distribution of traders between		Total
	Sellers	Non-sellers	
Bogra	5 (8.30)	13 (21.70)	18 (30.00)
Dinajpur	7 (11.70)	17 (28.30)	24 (40.00)
Naogaon	6 (10.00)	12 (20.00)	18 (30.00)
Total	18 (30.00)	42 (70.00)	60 (100.00)

Note: Figure in parenthesis indicates percentage of total traders surveyed.

Table 4.2 — Category of Traders by Major Occupation and by District

District	Major occupation			Total
	Farming	Trading	Both*	
Bogra	—	11 (18.30)	7 (11.70)	18 (30.00)
Dinajpur	—	9 (15.00)	15 (25.00)	24 (40.00)
Naogaon	1 (1.70)	9 (15.00)	8 (13.30)	18 (30.00)
Total	1 (1.70)	29 (48.30)	30 (50.00)	60 (100.00)

* These traders consider that relative contribution of farming and trading to their yearly income is more or less equal.

Table 4.3 — Distribution of Traders by Mode of Transport to LSD from Traders' Locality

District	Number of traders reporting mode of transport generally used							Total
	Animal cart	Van	Truck	Mini-truck	Van/Truck	Others	NR	
Dinajpur	3 (12.5)	10 (41.7)	3 (12.5)	1 (4.2)	2 (8.3)	2 (8.3)	3 (12.5)	24 (100.0)
Naogaon	1 (5.6)	7 (38.9)	4 (22.2)	—	3 (16.7)	—	3 (16.7)	18 (100.0)
Bogra	1 (5.6)	7 (38.9)	1 (5.6)	1 (5.6)	1 (5.6)	—	7 (38.9)	18 (100.0)
Total	5 (8.3)	24 (40.0)	8 (13.3)	2 (3.3)	6 (10.0)	2 (3.3)	13 (21.7)	60 (100.0)

Notes: 1. NR = Not reported;
2. Figures in parentheses denote percentages of row total.

Table 4.4 — Average Cost of Transporting Paddy To LSDs by District

District	Cost (Tk./md/Km)	Percentage of traders reporting
Dinajpur	1.82	33.33
Naogaon	1.48	23.33
Bogra	2.39	18.33
NR	—	25.00
All	1.85	100.00

Note: NR= Not reported.

Table 4.5 — Average Buying and Selling Price of Paddy: Boro 1998, by Traders and by District

(Tk./md)

District	May 1998		June 1998		July 1998		August 1998		Procurement price Boro, 1998
	Buying	Selling	Buying	Selling	Buying	Selling	Buying	Selling	
Dinajpur	221.33	228.98	248.00	256.49	282.98	291.25	313.50	328.43	
Naogaon	242.40	250.59	268.82	275.71	304.67	312.42	326.65	334.12	281.80
Bogra	234.22	243.06	260.71	266.60	297.78	304.44	317.56	325.50	
Total	231.52	239.57	258.06	265.26	293.93	301.46	318.93	329.44	

Table 4.6 — Various Costs of Selling Paddy to LSDs: Boro, 1998, as Reported by Trader-Sellers, by District

(Tk./md)

District	Average cost of							Total
	Trans-port to LSD	Bags used to carry paddy	Load unload	Food and lodging (pocket- money)	"Payments" to officers/ employees	"Payments " to labor/ Kaiyal	Other cost	
Dinajpur	2.85 (22.0)	0.23 (2.00)	.00 -	1.16 (9.00)	3.44 (26.0)	4.36 (33.0)	1.08 (8.0)	13.09 (100.0)
Naogaon	4.93 (34.0)	0.82 (6.00)	.44 (3.00)	1.24 (8.00)	2.84 (19.0)	3.13 (21.0)	1.22 (8.0)	14.62 (100.0)
Bogra	3.37 (31.0)	0.27 (2.00)	.00 -	0.94 (9.00)	2.92 (27.00)	3.16 (29.0)	0.39 (4.0)	10.95 (100.0)
Total	3.69 (28.0)	0.44 (3.00)	.00 -	1.13 (9.00)	3.10 (24.0)	3.61 (28.0)	0.93 (7.00)	13.01 (100.0)

Note: Figures in parentheses denote percentages of row total.

Table 4.7 — Minimum Incentive Price Differential of Paddy According to the Perception of Traders Surveyed

District	Incentive price differential (Tk./md)
Dinajpur	44.13
Naogaon	51.39
Bogra	41.39
Total	45.51

Note: Price differential = Minimum difference between procurement price and market price that should attract farmers to LSDs.

Table 4.8 — Behavior Of Officials at LSD as Reported by Trader-Sellers

District	Number of traders reporting behavior of officials as					Total
	Bad	Not good	Moderate	Good	Excellent	
Dinajpur	1 (14.3)	-	4 (57.1)	2 (28.6)	-	7 (100.0)
Naogaon	-	-	4 (66.7)	2 (33.32)	-	6 (100.0)
Bogra	-	1 (20.0)	2 (40.0)	2 (40.0)	-	5 (100.0)
Total	1 (5.6)	1 (5.6)	10 (55.6)	6 (33.3)	-	18 (100.0)

Note: Figures in parentheses denote percentages of row total.

Table 4.9 — Overall Experience of Trader-Sellers at LSD, Boro Procurement, 1998

District	Number of trader-sellers reporting overall experience as					Total
	Bad	Not good	Moderate	Good	Excellent	
Dinajpur	1 (14.3)	-	4 (57.1)	2 (28.6)	-	7 (100.0)
Naogaon	-	-	4 (66.7)	2 (33.3)	-	6 (100.0)
Bogra	-	1 (20.0)	3 (60.0)	1 (20.0)	-	5 (100.0)
Total	1 (5.6)	1 (5.6)	11 (61.1)	5 (27.8)	-	18 (100.0)

Note: Figures in parentheses denote percentages of row total.

Table 4.10A — Trader-Sellers Reporting Cheated While Weighing at LSDs, by District

District	Number of sellers reported to be		Total
	Cheated	Not cheated	
Dinajpur	6 (85.7)	1 (14.3)	7 (100.0)
Naogaon	4 (66.7)	2 (33.3)	6 (100.0)
Bogra	5 (100.0)	-	5 (100.0)
Total	15 (83.3)	3 (16.7)	18 (100.0)

Note: Figures in parentheses denote percentages of row total.

Table 4.10B — Trader-Sellers Reported To Be Satisfied With Time Taken In Payment

District	Number of trader-sellers reporting		Total
	Not satisfied	Satisfied	
Dinajpur	2 (28.6)	5 (71.4)	7 (100.0)
Naogaon	1 (16.7)	5 (83.3)	6 (100.0)
Bogra	-	5 (100.0)	5 (100.0)
Total	3 (16.7)	15 (83.3)	18 (100.0)

Note: Figures in parentheses denote percentages of row total.

Table 4.11 — Presence of Irregularities in Card/Slip Distribution (as Reported by Traders Surveyed)

District	Number of traders reporting irregularities		Total
	Yes	No	
Dinajpur	12 (52.2)	11 (47.8)	23 (100.0)
Naogaon	10 (58.8)	7 (41.2)	17 (100.0)
Bogra	13 (72.2)	5 (27.8)	18 (100.0)
Total	35 (60.3)	23 (39.7)	58 (100.0)

Notes: 1. Number of traders not reported = 2.
2. Figures in parentheses denote percentages of row total.

Table 4.12 — Type of Irregularities in Card /Slip Distribution (as Reported by Traders Surveyed)

District	Number of traders reporting						Total
	No political bias	Political bias	No nepotism	Nepotism	No "other payments"	"other payments"	
Dinajpur	1 (8.3)	11 (91.7)		12 (100.0)	9 (75.0)	3 (25.0)	12 (100.0)
Naogaon	1 (10.0)	9 (90.0)		10 (100.0)	6 (60.0)	4 (40.0)	10 (100.0)
Bogra	5 (38.5)	8 (61.5)	2 (15.4)	11 (84.6)	7 (53.8)	6 (46.2)	13 (100.0)
Total	7 (20.0)	28 (80.0)	2 (5.7)	33 (94.3)	22 (62.9)	13 (37.1)	35 (100.0)

Notes: 1. Number of traders not reported =15.
2. Figures in parentheses denote percentages of row total.

Table 4.13 — Rate of Sale and Purchase of Card/Slip: Boro 1998 (as Reported by Traders)

District	Number of traders reporting rate of sale and purchase of card/slip							Total	Average rate of sale & purchase (Tk.)
	Tk. 25.00	Tk. 50.00	Tk. 75.00	Tk. 100.00	Tk. 150.00	Tk. 200.00	Tk. 300.00		
Dinajpur	1 (8.33)	2 (6.66)	2 (16.66)	5 (41.66)	1 (8.33)	1 (8.33)	0 (-)	12 (100.00)	93.75
Naogaon	0 (-)	1 (10.00)	0 (-)	5 (50.00)	2 (20.00)	0 (-)	2 (20.00)	10 (100.00)	145.00
Bogra	0 (-)	1 (16.66)	1 (16.66)	2 (33.33)	2 (33.33)	0 (-)	0 (-)	6 (100.00)	104.17
NR	0 (-)	0 (-)	0 (-)	0 (-)	0 (-)	0 (-)	0 (-)	30 (50.00)	-
Total	1 (2.00)	4 (8.00)	3 (6.00)	12 (24.00)	5 (10.00)	1 (2.00)	2 (4.00)	28 (46.66)	114.29

Notes: 1. NR = Not reported.
2. Figures in parentheses denote percentages of row total.

Table 4.14 — Reasons/Pre-Conditions for Future Sale Plan as Reported by Traders

Status	Stated reason	Number of respondents	Percentage of traders reporting
Positive	1. If procurement price is higher than market price	21	35.0
Positive	2. For business purpose ("we are traders, we will have to keep relation with LSDs".)	8	13.3
Positive	3. If procurement price is at least 50 Tk. higher than market price	5	8.3
Positive	4. "If I get a chance" (availability of slip/cards)	4	6.7
Positive	5. If LSD officials behave good and co-operate	4	6.7
Positive	6. Payment system in LSD is better	2	3.3
Positive	7. If situation improves (no bribe, no harassment, favoritism ...)	2	3.3
Positive	8. If corruption stops	1	1.7
Positive	9. If paddy is received immediately after arrival at LSD	1	1.7
Positive	10. Payment at a time/prompt/at a time payment unlike paikars	1	1.7
Positive	11. "If I can fit a jack."	1	1.7
Negative	12. Hazards of selling too much	3	5.0
Negative	13. All consumed by family (No surplus)	2	3.3
Negative	14. "I'm a small trader - I don't have any capacity"	1	1.7
Uncertain	15. "Depends"	1	1.7
	Sub-Total	57	95.0
	Not reported	3	5.0
	Total	60	100.0

Table 4.15 — Traders' Opinions on How to Increase Participation of Small and Marginal Farmers in Paddy Procurement

Suggestions	Number of respondents	Percentage of traders reporting
1. TPC/LSD at union, village level should be established	15	25.0
2. Corruption/bribe taking must stop	8	13.3
3. Irregularities in slip/card distribution must stop	5	8.3
4. Present system of farmers identification system should be abolished	4	6.7
5. Starting procurement early	4	6.7
6. LSD staff should be co-operating and behaving good	3	5.0
7. Should take small quantity*	3	5.0
8. Receive paddy immediately after arrival/stop dilly-dally	2	3.3
9. Procurement price should be higher than the market price	2	3.3
10. Campaign - local, mass media, group discussion, training (on every relevant aspect of procurement)	1	1.7
11. Slip/card distribution should be done through a (farmers/teachers) committee	1	1.7
12. Should give priority/guaranty of purchasing from small and marginal farmers	1	1.7
13. Harassment must stop (particularly to small and marginal farmers)	1	1.7
14. Irregularity in weighing must stop	1	1.7
15. Should have big "chaatal" (drying-yard) facilities at LSD	1	1.7
16. Direct purchase (from bazaar, village)	1	1.7
17. Re-introduce millgate procurement	1	1.7
18. Relax Fair Average Quality (FAQ)	1	1.7
19. Procurement from non-farmers must stop	1	1.7
20. Separate quota for millers, traders and farmers	1	1.7
21. Introducing contract growers system	1	1.7
22. Should procure from farmers only	1	1.7
23. Slip distribution only to genuine farmers	1	1.7
Total	60	100.0

* Although there is official instruction from the Ministry of Food to purchase a minimum of 70 kg (1 sack) from farmers, in reality the LSD officials do not accept any lot that is less than 980 kg (14 sacks).

5. MAJOR FINDINGS OF THE SELLERS' SURVEY

INTRODUCTION

In addition to farmers and traders, the Foodgrain Procurement Survey also investigated those who actually participated (sold at LSD) in 1998 Boro procurement program. The background and actual experience of this group of people are supposed to provide considerable insights into the operation of the procurement program in the country. As noted earlier (Chapter 2), the complete list of sellers (who actually sold paddy at LSD in 1998) was collected from the officers at the 10 LSDs selected earlier. Five sellers were subsequently selected from each of the 10 selected LSDs, adopting systematic sampling procedure. Thus, in total 50 sellers were interviewed.

BACKGROUND INFORMATION

The distribution of sellers by landholding is presented in Table 5.1. Of the 50 sellers interviewed, the distribution of their landholding indicate that 33 percent of them belonged to small, 28 percent to medium and 39 percent to large farm size category.

Table 5.2 presents information with respect to distribution of sellers by main occupation. The distribution of 50 sellers interviewed shows that 36 percent were farmers, 60 percent were traders and the remaining 4 percent belonged to "others" category.

FACTORS RELATED TO EVALUATION OF PROCUREMENT PROGRAM

The perception of sellers with respect to minimum incentive price differential is presented in Table 5.3. The sellers reported that, on an average, the procurement price should exceed the market price by Tk. 51.36/md in order to attract farmers to sell their paddy at LSDs. It may be recalled that the farmers and the traders, in their respective

surveys, reported a minimum price differential of Tk. 48.0/md and Tk. 45.51/md respectively.

Table 5.4 presents information with respect to access of sellers from villages to LSD by district. It is observed that of the 50 sellers interviewed, 78 percent expressed their view that the access (defined in terms of road communication) from village to LSD was easy, while 22 percent reported this to be difficult. Moreover, in case of easy access to LSD, sellers in Naogaon and Bogra were in a better position, while the sellers in Dinajpur reported much greater difficulty (40 percent) as compared to those in the other two districts (13 percent and 7 percent only).

The distribution of sellers by distance from village to LSD is shown in Table 5.5. Most of the sellers (64 percent) reported that they live within 2 kilometers of the LSD, while those lived more than 10 kilometers away were very small (only 8 percent). This indicates that those who lived near the LSD could participate more in the procurement program.

The distribution of sellers by mode of transport used to carry paddy to LSD by district is shown in Table 5.6. It is readily observed that most of the sellers (66 percent) used van (tricycle) as mode of transport to carry paddy to LSD. The use of cart and truck was insignificant.

While responding to specific experience at LSDs, 74 percent of the sellers reported that they were cheated while weighing at LSDs (Tables 5.7A and 5.7B). The experience with respect to time taken for payment by bank was quite satisfactory since most of the sellers (94 percent) were satisfied with the time taken for payment in the bank (Table 5.8).

The sellers were also asked what were the factors that they would take into consideration while participating in the procurement program in the future. Most of the sellers (96 percent) expressed their willingness to participate in the program in the future, provided of course certain pre-conditions are fulfilled (Table 5.9). The most important of

these include (Table 5.10): the procurement price being higher than the price prevailing in the market (18 percent for farmers and 24 percent for traders), to keep business relations with LSDs (16 percent) and if the situation improves, that is, no bribes/no harassment/no dhalta etc. (6 percent).

Table 5.11 presents information with respect to breakdown of various costs of selling paddy at LSD, including costs of transport for carrying paddy to LSD. Total costs of selling paddy at LSDs was reported to be Tk. 15.29 per maund, of which "unofficial payments" to officers and employees was reported to Tk. 2.84/md (19 percent) and "unofficial payments" to laborer and kayals was reported to be Tk. 3.71/md (24 percent), thereby amounting to Tk. 6.55/md, (43 percent of total costs). In case of farmers' and traders' survey, such costs (unofficial/other payments) were reported to be 54 percent and 52 percent of total costs respectively. The cost of transporting paddy to LSDs was reported to be Tk. 4.72/md (31 percent of total costs), which may be compared with Tk. 3.12/md (27 percent) and Tk. 3.69/md (28 percent) as reported in the farmers' and traders' survey.

It was mentioned earlier that the farmers in their survey reported that LSD officials required some extra paddy (dhalta) while weighing. This was observed in the sellers' survey as well. When all illegal costs and cost of extra paddy (dhalta) were deducted from the procurement price (Tk. 281.80/md), the average "effective" price received by sellers was reduced to Tk. 266.27/md i.e. by Tk. 15.53/md (5.5 percent). No significant variation was observed in this respect across the three districts surveyed (Table 5.12).

It has been mentioned earlier that most of the respondents - be they farmers or traders - were observed to be reluctant to express opinion in terms of "bad" or "not good" about LSD staff, although they complained otherwise a lot about misbehavior, unofficial payments etc. at LSD. It may be a reflection of the fear of being exposed or of village tradition that when asked directly to express someone's behavior as "bad" or "not good",

they show reluctance to frankly express their opinion. In any case, the behavior of officers at LSDs as reported by sellers is presented in Table 5.13. More than half of the sellers (56 percent) reported the behavior of the officers at LSD to be "good", while more than one-fourth of them (28 percent) reported the behavior to be "moderate". Only 12 percent of the sellers reported that the behavior to be either "not good" or "bad". The behavior of the laborers at LSDs as reported by sellers is shown in Table 5.14. About two-thirds of the sellers (66 percent) reported the behavior to be "good", while more than one-fourth (28 percent) of them reported the behavior to be "moderate". Only 4 percent of them reported the behavior as "not good" and none reported as "bad".

The overall experience at LSD as reported by the sellers is presented in Table 5.15. About half of the sellers (48 percent) reported that their overall experience at LSD was "good", while about one-fourth (24 percent) reported the experience as "moderate". More than 25 percent of the sellers reported their overall experience as either "not good" or "bad".

The opinion of the sellers was sought as how to increase participation of the small and marginal farmers in paddy procurement. These are recorded in Table 5.16. Among the most important suggestions were:

1. Opening of TPCs at unions/villages or of LSDs at the union level
2. Stopping corrupt practices at LSDs
3. Lowering minimum acceptable quantity (one metric ton)
4. Starting procurement early (immediately after harvest)
5. Stopping of irregularities and corruption in card/slip distribution
6. Better cooperation and behavior at LSDs.

SECTION 5 TABLES

Table 5.1 — Distribution of Sellers by Landholding: Boro Procurement, 1998, by District

District	Number of sellers reporting as			Total
	Small farmer	Medium farmer	Large farmer	
Bogra	5 (35.7)	5 (35.7)	4 (28.6)	14 (100.0)
Dinajpur	4 (20.0)	4 (20.0)	12 (60.0)	20 (100.0)
Naogaon	7 (46.7)	5 (33.3)	3 (20.0)	15 (100.0)
Total	16 (32.7)	14 (28.6)	19 (38.8)	49* (100.0)

- Notes: 1. Small = <2.5 acres;
Medium = 2.5 - < 5.0 acres and
Large = 5.0 acres and above.
2. Figures in parentheses indicate percentages of row total.
* Total is 49 instead of 50 since one of the sellers from "other" occupation group did not own any agricultural land.

Table 5.2 — Distribution of Sellers by Main Occupation: Boro Procurement, 1998, by District

District	Number of sellers reporting main occupation as			Total
	Farmer	Trader	Others	
Bogra	6 (40.0)	7 (46.7)	2 (13.3)	15 (100.0)
Dinajpur	7 (35.0)	13 (65.0)	0 (-)	20 (100.0)
Naogaon	5 (33.3)	10 (66.7)	0 (-)	15 (100.0)
Total	18 (36.0)	30 (60.0)	2 (4.0)	50 (100.0)

- Notes: 1. All trader-sellers reported to have some agricultural landholding.
2. Others = Student/jobless young persons.

**Table 5.3 — Minimum Incentive Price Differential According to Sellers Surveyed:
Boro Procurement, 1998**

District	Incentive price differential (Tk./md)
Bogra	53.66
Dinajpur	46.75
Naogaon	53.67
Average	51.36

Note: Incentive price differential = minimum difference between procurement price and market price that should attract farmers to LSD.

Table 5.4 — Access of Sellers from Village to LSD, by District

District	Percentage of sellers reporting access as		
	Easy	Difficult	Total
Bogra	86.67	13.33	100.00
Dinajpur	60.00	40.00	100.00
Naogaon	93.33	6.66	100.00
Total	78.00	22.00	100.00

Note: Access is defined in terms of road communication.

Table 5.5 — Distribution Of Sellers By Distance Of LSD From Home

District	Number of sellers reporting distance				Total
	Up to 2 Km	2 to 5 Km	5 to 10 Km	10 Km+	
Bogra	11 (73.3)	2 (13.3)	2 (13.3)	0 -	15 (100.0)
Dinajpur	9 (45.0)	3 (15.0)	4 (20.0)	4 (20.0)	20 (100.0)
Naogaon	12 (80.0)	3 (20.0)	0 (-)	0 (-)	15 (100.0)
Total	32 (64.0)	8 (16.0)	6 (12.0)	4 (8.0)	50 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 5.6 — Distribution of Sellers by Mode of Transport Used for Carrying Paddy to LSD, by District

District	Percentage of sellers reporting mode of transport:			Total
	Cart (Animal or Push)	Van (tricycle)	Truck & others (Mini-truck)	
Bogra	-	93.33	6.66	100.00
Dinajpur	15.00	65.00	20.00	100.00
Naogaon	40.00	40.00	20.00	100.00
Total	18.00	66.00	16.00	100.00

Table 5.7A — Sellers Reporting Cheated While Weighing, by District

District	Number of sellers reporting		Total
	Cheated	Not cheated	
Bogra	11 (73.3)	4 (26.7)	15 (100.0)
Dinajpur	13 (65.0)	7 (35.0)	20 (100.0)
Naogaon	13 (86.7)	2 (13.3)	15 (100.0)
Total	37 (74.0)	13 (26.0)	50 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 5.7B — Sellers Reporting Cheated While Weighing, by Occupation

Occupation Category	Number of sellers reporting		Total
	Cheated	Not cheated	
Farmer	14 (77.78)	4 (22.22)	18 (100.00)
Trader	21 (70.00)	9 (30.00)	30 (100.00)
Other	2 (100.00)	-	2 (100.00)
Total	37 (74.00)	13 (26.00)	50 (100.00)

Note: Figures in parentheses indicate percentages of row total.

Table 5.8 — Sellers Reporting to be Satisfied with Time Taken in Payment at Bank

District	Number of sellers reported to be		Total
	Satisfied	Not satisfied	
Bogra	13 (86.7)	2 (13.3)	15 (100.0)
Dinajpur	19 (95.0)	1 (5.0)	20 (100.0)
Naogaon	14 (93.3)	1 (6.7)	15 (100.0)
Total	46 (92.0)	4 (8.0)	50 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 5.9 — Sellers Reporting Future Sale Plans, by Occupation Category

Classification by main occupation	Percentage of sellers reporting		Total
	They would go	They won't go	
Farmer	94.40	5.60	100.00
Trader	96.70	3.30	100.00
Other	100.00	-	100.00
Total	96.00	4.00	100.00

Table 5.10 — Reasons/Pre-Conditions Behind Future Sale Plans

Status	Main Occupation	Stated Reason	No. of respondents	Percentage of sellers reporting
Positive	Trader	If procurement price is higher than market price	12	24.00
Positive	Farmer	If procurement price is higher than market price	9	18.00
Positive	Trader	To keep business relation*	8	16.00
Positive	Trader	If price is at least 50 Tk. higher than market price	4	8.00
Positive	Farmer	If situation improves (no bribe/no harassment/no dhalta/no political bias etc.)	3	6.00
Positive	Trader	Payment system very good (at a time/prompt)	3	6.00
Positive	Other	If get slip/card	2	4.00
Positive	Farmer	If price is at least 50 Tk. higher than market price	1	2.00
Positive	Trader	If procurement starts early	1	2.00
Positive	Farmer	If LSD officials behave well and co-operate	1	2.00
Positive	Farmer	Payment system very good (at a time/prompt)	1	2.00
Positive	Farmer	If do not take bribe	1	2.00
Positive	Trader	"If I get a chance"	1	2.00
Negative	Trader	Various types of harassment	1	2.00
Negative	Farmer	Various types of harassment	1	2.00
Uncertain	Farmer	"Depends"	1	2.00
Total			50	100.00

Table 5.11 — Various Costs of Selling Paddy to LSD: Boro Procurement, 1998 (as Reported by Sellers)

District	Average cost of							Total
	Transport (for carrying paddy)	Bag	Load/ unload	Pocket money (food/ lodging etc.)	"Unofficial payments" to officer/ employees	"Unofficial payments" to labor/Kayal	Other cost	
Bogra	3.20 (24.9)	1.33 (10.3)	0.11 (0.9)	0.37 (2.9)	2.59 (20.2)	3.84 (29.9)	1.42 (11.1)	12.85 (100.0)
Dinajpur	5.23 (30.6)	0.96 (5.6)	0.21 (1.2)	1.59 (9.3)	3.69 (21.6)	4.15 (24.3)	1.25 (7.3)	17.08 (100.0)
Naogaon	5.57 (36.0)	1.00 (7.0)	0.35 (2.0)	2.10 (13.7)	1.96 (12.8)	3.00 (19.5)	1.38 (9.0)	15.35 (100.0)
Total	4.72 (31.0)	1.08 (7.1)	0.22 (1.3)	1.38 (9.0)	2.84 (18.6)	3.71 (24.3)	1.34 (8.8)	15.29 (100.0)

Notes: 1. Other cost = Any other incidental cost not included elsewhere.
2. Figures in parentheses indicate percentages of row total.

Table 5.12 — Average Quantities Sold, *Dhalta* and Effective Price Received: Boro Procurement, 1998

District	Average quantity of paddy sold to LSD (in Kg)					"Effective" price received at LSD	Procurement price (Tk./md)
	Own	Others	Purchased	Dhalta	Total		
Bogra	3240.80	1691.87	2646.00	106.40	7685.07	268.47	
Dinajpur	2058.00	294.00	2502.50	47.25	4901.75	264.34	281.80
Naogaon	1437.33	23781.33	-	425.13	25643.80	265.99	
Total	2226.64	7759.56	1794.80	178.36	11959.36	266.27	

Note: "Effective" price = Procurement price - all illegal costs - cost of extra paddy (dhalta)

Table 5.13 — Behavior Of LSD Officials During Procurement As Reported By Sellers (By Main Occupation)

Occupation Category	Percentage of sellers reporting behavior of officials as:					Total
	Bad	Not good	Moderate	Good	Excellent	
Farmer	5.56	11.12	27.78	55.56	-	100.00
Trader	3.30	6.70	23.30	60.00	6.70	100.00
Other	-	-	100.00	-	-	100.00
Total	4.00	8.00	28.00	56.00	4.00	100.00

Note 1: Most of the respondents were found to be reluctant to say "bad" or "not good"

Table 5.14 — Behavior of Laborers at LSDs During Procurement (as Reported by Sellers by Main Occupation)

Occupation Category	Percentage of sellers reporting behavior of laborers as:					Total
	Bad	Not good	Moderate	Good	Excellent	
Farmer	-	-	27.78	72.22	-	100.00
Trader	-	6.67	26.67	63.33	3.33	100.00
Other	-	-	50.00	50.00	-	100.00
Total	-	4.00	28.00	66.00	2.00	100.00

Note: Most of the respondents were found to be reluctant to say "bad" or "not good".

Table 5.15 — Overall Experience at LSDs During Procurement as Reported by Sellers (by Main Occupation)

Main Occupation	Percentage of sellers reporting their overall experience as :					Total
	Bad	Not good	Moderate	Good	Excellent	
Farmer	11.11	27.78	22.22	38.89	-	100.00
Trader	3.33	13.33	26.67	53.33	3.33	100.00
Other	50.00	-	-	50.00	-	100.00
Total	8.00	18.00	24.00	48.00	2.00	100.00

Note: Most of the respondents were found to be reluctant to say "bad" or "not good".

Table 5.16 — Sellers' Opinion on How to Increase Participation of Small and Marginal Farmers in Paddy Procurement

Sl.	Suggestions	Number of respondents	Percentage of sellers reporting
1.	Starting procurement early/immediately after harvest	5	10.0
2.	Corruption/bribe taking must stop/LSD should keep transparent	5	10.0
3.	TPC at union/village or LSD at union level	5	10.0
4.	Minimum quantity shouldn't be 1 MT/ Should take small quantity	4	8.0
5.	Direct purchase	4	8.0
6.	Irregularities and corruption in slip distribution must stop	3	6.0
7.	LSD should be cooperating and behaving good	3	6.0
8.	Should give priority/guaranty of purchasing from small and marginal farmers	2	4.0
9.	Harassment at LSD must stop (particularly to small & marginal farmers)	2	4.0
10.	Big "chaatal" facilities/more "chaatal" in LSD	2	4.0
11.	Slip distribution and procurement through a (farmers/ teachers) committee	1	2.0
12.	Slip system should be abolished/purchase through committee	1	2.0
13.	Should have drying/fanning/netting facilities	1	2.0
14.	Must receive paddy immediately after arrival/stop dilly-dally, time killing	1	2.0
15.	Procurement through buying agent/village representative	1	2.0
16.	Relax FAQ (particularly moisture percent)	1	2.0
17.	Procurement from millers/traders and non-farmers must stop	-	2.0
18.	Building pucca "chaatals" at village/union level	1	2.0
19.	Procurement price should always be higher than market	1	2.0
20.	Campaign - local, mass media, group discussion, training etc. (on every relevant aspect of procurement)	1	2.0
21.	Road communication to LSD must improve	1	2.0
22.	Procurement through BS (Block Supervisor)	1	2.0
23.	Slip distribution only to genuine farmers	1	2.0
24.	Proper utilization of present system required	1	2.0
25.	Thana Procurement Committee should work effectively	1	2.0
Total		50	100.0

6. MAJOR FINDINGS OF THE MILLERS' SURVEY

INTRODUCTION

Millers play a unique role in the domestic procurement program. They purchase paddy from the farmers and/or traders, process them into rice in the mills and finally, sell rice at the LSDs as per fixed quota mutually agreed earlier. Thus the Foodgrain Procurement Survey also investigated this group along with the farmers, traders and sellers to derive insights into the operation of the rice procurement program. Three millers were selected at random from a list of millers procured from the officials at ten LSDs selected earlier. In total, therefore, 30 millers were interviewed.

BACKGROUND INFORMATION

The distribution of millers by landholding in each district is shown in Table 6.1. It is readily observed that about two-thirds of the millers interviewed belong to the large farmers category with landholdings of 5 acres or more. There is some variation across three districts surveyed, especially in Bogra in this respect, but not much. The distribution of millers as per year of establishment is presented in Table 6.2. It is observed that most of the mills were established before 1992, with almost one-third established during the 1986-91 period. About one-third (29 percent) of the mills surveyed were established before 1980.

The average drying yard capacity in the mills was observed to be about 377 maunds, with considerable variation across the three districts surveyed (Table 6.3). The highest (average) capacity was observed in Bogra (433 maunds), followed by Naogaon (382 maunds) and Dinajpur (330 maunds). Such a large variation was also observed in case of average stock capacity of go-downs (in terms of paddy) and milling capacity as well. Bogra was observed to have the highest (average) go-down capacity (11,022 maunds), which is more than two and a half times greater than that observed in the case of Dinajpur (4,090 maunds). Millers in Naogaon have an average capacity of 7,241 maunds,

which is close to the average capacity of the millers in the total sample across three districts surveyed (Table 6.3). Similarly, the average milling capacity among the millers in Bogra was observed to be the highest (46.7 maund/hour) followed by Naogaon (40.2 maund/hour) and Dinajpur (40.0 maund/hour), with an average milling capacity of 38.45 maund/hour in the total sample (Table 6.3). Thus, in terms of average drying yard capacity, stock capacity of go-downs and milling capacity the millers in Bogra were observed to have the highest capacity followed by the millers in Naogaon and Dinajpur.

The average experience of the millers interviewed in the procurement program was observed to be 10 years. No large variation, however, was observed across the three districts surveyed in this respect (Table 6.4). The distribution of agreement and non-agreement millers by Thana is shown in Table 6.5. More than 70 percent of the millers located in the ten Thanas surveyed was observed to fall in the category of "agreement" mills. Considerable variation was observed across the Thanas in this respect with Sadar Thana recording the highest (209) and Dhamoirhat the lowest (24) number of mills. This is attributed to the uneven distribution of total number of mills in different Thanas.

FACTORS RELATED TO EVALUATION OF PROCUREMENT PROGRAMS

The information with respect to both the quantity of rice supplied and the amount of default by different millers surveyed is presented in Table 6.6. The average quantity of rice supplied by millers of LSDs were estimated to be about 51 metric tons (99 percent of the total quota), with the millers in Naogaon supplied most (72.30 tons), followed by those in Dinajpur (42.20 tons) and Bogra (40.56 tons). The average quantity of default, on the other hand, was estimated to be about 0.7 ton (about 1 percent of the quota) among the millers interviewed. The default was observed only in case of the millers in Bogra (2.22 tons) and none in case of the millers in Dinajpur and Naogaon.

The millers were asked whether they were satisfied with the quota received for Boro rice processed in 1998. An overwhelming proportion of the millers (90 percent) interviewed responded negatively to the question (Table 6.7). Also, not much variation

was observed across the three districts surveyed in this respect. The reasons behind such dissatisfaction are presented in Table 6.8. The picture that emerges from the information presented in this table is quite clear. The allotment of quota fell far short of most millers' expectation since it contributed little towards full utilization of the installed capacity of their mills.

The millers were also asked whether they faced any problem in obtaining quota from the concerned authorities. About two-third of the millers interviewed reported that they did not face any problem in obtaining their quota of rice procurement (Table 6.9). Significant variation, however, was observed in this case across the three districts surveyed. While most of the millers in Naogaon and Bogra reported that they did not face any problem, half of the millers in Dinajpur reported that they did. The nature of the problems faced in obtaining quota by the millers is presented in Table 6.10. The most prominent problem has been identified as being the corrupt practices among TCF/inspectors. It may be mentioned here that most of the millers (70 percent) interviewed failed to respond to this question regarding the nature of problems faced in obtaining quota from the relevant authority.

Table 6.11 presents information regarding how the quota was actually distributed among the millers in a particular Thana. Most of the millers (93.33 percent) reported that the quota was distributed through the Thana Committee headed by the TNO, in collaboration with the Millers Association or Samity of the Thana. There was hardly any variation across the districts surveyed in this respect. Most of the millers (73.33 percent) also felt that it would have been better had the quota were allotted earlier (Table 6.12). There is some but not much variation across three districts surveyed in this respect. The most important reason (as reported by millers) why earlier allotment of quota was better has been attributed to the fact that the market price of paddy became too high during the later period of the season (Table 6.13). When questioned about the various irregularities in quota distribution, there were mixed response from the millers interviewed in the survey (Table 6.14). Most of the millers (66.7 percent) pointed to the political bias in

quota distribution. Regarding any nepotism/favoritism in quota distribution, the response was inconclusive in the sense that the millers were equally divided for and against it. As for whether any bribe was taken in quota distribution, 60 percent of the millers reported against it. Also, most of the millers (73.3 percent) reported against any other malpractice (such as "unofficial payment" at DC, Food Office) in the distribution of quota for sale of rice at the LSDs.

The millers were inquired about the sources of supply of paddy for processing and subsequent sale of rice to LSDs. The responses are presented in Table 6.15. It is observed that most of the paddy (61.25 percent) was purchased for the farmers, followed by that from traders (35.07 percent) and others (5.79 percent) respectively. The price paid in each case was observed to be much below the procurement price of paddy.

When asked about various problems faced while supplying rice to LSDs, the millers were found to be highly evasive while responding to this query. In fact, when asked about whether "unofficial payments" needed, extra rice (dhalta) demanded, any harassment or any other problems faced while supplying rice to LSDs, most of the millers failed to respond to such questions (Table 6.16).

A mixed response was received when the millers were inquired of the various issues of frequent disputes between LSD officials and them. These are presented in Table 6.17. The majority of the millers (60 percent) reported that there was frequent dispute on the moisture content of rice. Regarding any dispute on weighing, on the other hand, the majority of millers (60 percent) replied negatively. About any problems regarding quality (color, appearance etc.) of rice also, more than half of the millers (53.5 percent) responded negatively. A substantial percentage of the millers (43.3 percent), however, reported some problems in this respect.

When asked about the perceptions on the would-be beneficiaries if procurement is done in terms of rice only, less than one-third (30 percent) of the millers felt that they would benefit most. More than one-fourth (26.7 percent) of the millers felt that all three

categories (farmers, millers and traders) would equally benefit (Table 6.18). When asked about the millers' perception on the would-be beneficiaries if procurement is carried out in terms of paddy only, one-third at the millers (33.3 percent) felt that the farmers would benefit most. About 30 percent of the millers felt that the traders would benefit most under this arrangement (Table 6.19).

The costs and returns from supplying rice to LSD by the millers are presented in Table 6.20. It is observed that the net profit per metric ton is estimated to be Tk. 1900.67, which is about 15 percent of the price received. This estimate, however, is based upon only 6 out of the 30 millers interviewed, i.e. 20 percent of the total sample who provided such information during the survey, and hence may be accepted with some reservations.

The millers were also asked to make suggestions as how to improve the current procurement system. Among the most frequent suggestions include (Table 6.21): reintroduction of mill gate procurement system (22.44 percent), distribution of quota early (at the beginning of the season (20.40 percent) and increase in quota for the millers (18.36 percent).

SECTION 6 TABLES

Table 6.1 — Distribution of Millers by Landholding and by District

District	Number of millers by landholding				Total
	Large farmer	Medium farmer	Small farmer	Non-farmer	
Dinajpur	8 (66.7)	-	1 (8.3)	3 (25.0)	12 (100.0)
Naogaon	6 (66.7)	-	2 (22.2)	1 (11.1)	9 (100.0)
Bogra	5 (55.6)	2 (22.2)	1 (11.1)	1 (11.1)	9 (100.0)
Total	19 (63.3)	2 (6.7)	4 (13.3)	5 (16.7)	30 (100.0)

Notes: 1. Small = <2.5 acres;
 Medium = 2.5 - < 5.0 acres and
 Large = 5.0 acres and above.
 Non-farmer = No agricultural land and not involved in any farming activity.
 2. Figures in parentheses indicate percentages of row total.

Table 6.2 — Distribution of Millers as Per Year of Establishment

District	Number of mills as per year of establishment				Total
	During 1992-1998	During 1986-1991	During 1980-1985	Before 1980	
Dinajpur	3 (30.0)	3 (30.0)	2 (20.0)	2 (20.0)	10 (100.0)
Naogaon	2 (22.2)	3 (22.3)	1 (11.1)	3 (33.3)	9 (100.0)
Bogra	-	3 (33.3)	3 (33.3)	3 (33.3)	9 (100.0)
Total	5 (17.9)	9 (32.1)	6 (21.4)	8 (28.6)	28 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 6.3 — Average Capacity of Milling, Stock and Drying Yard of Mills Surveyed

District	Average capacity of			Number of mills
	Milling (md/hr)	Stock in terms of paddy (md)	Drying yard (md)	
Dinajpur	30.96	4090	330.42	12
Naogaon	40.22	7241	382.22	9
Bogra	46.67	11022	433.33	9
Total	38.45	7115	376.83	30

Table 6.4 — Average Experience of Millers in Rice Procurement

District	Average Experience in Procurement (Years)	Number of millers reporting
Dinajpur	10	11
Naogaon	8	9
Bogra	13	9
Total	10	29

Note: Number of millers not reported = 1.

Table 6.5 — Agreement Mills Vs. Non-Agreement Mills: Boro, 1998, by Thana

Name of Thana	Number of mills in Thana		
	Agreement	Non-agreement	Total
Gabtali	46 (59.7)	31 (40.3)	77 (100.0)
Dupchanchia	97 (71.3)	39 (28.7)	136 (100.0)
Adamdighi	114 (83.8)	22 (16.2)	136 (100.0)
Beerganj	108 (77.1)	32 (22.9)	140 (100.0)
Kaharolee	79 (79.0)	21 (21.0)	100 (100.0)
D. Sadar	209 (68.5)	96 (31.5)	305 (100.0)
Nawabganj	40 (72.7)	15 (27.3)	55 (100.0)
Dhamoirhat	24 (92.3)	2 (7.7)	26 (100.0)
Mahadebpur	168 (68.9)	76 (31.1)	244 (100.0)
Raninagar	48 (60.8)	31 (39.2)	79 (100.0)
Total	933 (71.9)	365 (28.1)	1298 (100.0)

Notes: 1. For some of the Thanas (for example, Gabtali, Dupchanchia etc.), data was available for part of the Thana or a locality rather than the entire Thana.
2. Figures in parenthesis indicate percentages of row total.

Table 6.6 — Average Quantity Supplied and Quantity Defaulted: Boro Rice Procurement, 1998

District	Average quantity of rice (metric ton)	
	supplied	defaulted
Dinajpur	42.20	0.00
Naogaon	72.30	0.00
Bogra	40.56	2.22
All	51.03	0.69

Table 6.7 — Millers' Satisfaction with Quota Received for Boro Rice, 1998

District	Number of millers reporting whether			Total
	Satisfied	Not satisfied	Not applicable	
Dinajpur	1 (8.30)	10 (83.30)	1 (8.33)	12 (100.00)
Naogaon	1 (11.11)	8 (88.88)	0 (-)	9 (100.00)
Bogra	0 (-)	9 (100.00)	0 (-)	9 (100.00)
Total	2 (6.66)	27 (90.00)	1 (3.33)	30 (100.00)

Note: Figures in parenthesis indicate percentages of row total

Table 6.8 — Reasons Behind Satisfaction/Dissatisfaction with Quota: Boro Rice Procurement, 1998

Reasons	Number of millers reporting by district			Total
	Dinajpur	Naogaon	Bogra	
1. Very small in quantity	4 (33.3)	4 (44.4)	3 (33.3)	11 (36.7)
2. Can't make any margin with this little quantity	1 (8.3)	-	-	1 (3.3)
3. "Only 70 percent of my expected quantity"	-	-	1 (11.1)	1 (3.3)
4. "Only 10 percent of my expected quantity"	-	-	2 (22.2)	2 (6.7)
5. Quota should increase	1 (8.3)	-	2 (22.2)	3 (10.0)
6. "Only two weeks' capacity of my mill"	-	-	1 (11.1)	1 (3.3)
7. "Quota not allotted as per capacity of my mill"	2 (16.7)	2 (22.2)	-	4 (13.3)
8. "Only one week's job"	1 (8.3)	-	-	1 (3.3)
9. Satisfied with the quantity (expects same every year)	1 (8.3)	1 (11.1)	-	2 (6.7)
10. Quota should be distributed according to miller's capacity of depositing security	1 (8.3)	-	-	1 (3.3)
11. Want more and early quota	-	1 (11.1)	-	1 (3.3)
12. NA/NR (Not applicable/Not reported)	1 (8.3)	1 (11.1)	-	2 (6.7)
Total	12 (100.00)	9 (100.00)	9 (100.00)	30 (100.00)

Note: Figures in parentheses indicate percentages of column total.

Table 6.9 — Problems Faced in Obtaining Quota: Boro Rice, 1998

District	Number of millers reporting faced			Total
	Problem	No problem	Not applicable	
Dinajpur	6 (50.0)	5 (41.7)	1 (8.3)	12 (100.0)
Naogaon	1 (11.1)	8 (88.9)	-	9 (100.0)
Bogra	2 (22.2)	7 (77.8)	-	9 (100.0)
Total	9 (30.0)	20 (66.7)	1 (3.3)	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 6.10 — Types of Problems Faced While Obtaining Quota, as Reported by Millers

Reasons	District			Total
	Dinajpur	Naogaon	Bogra	
1. No co-operation from office	-	-	1 (11.1)	1 (3.3)
2. "Quota much less than my capacity was allotted"	-	-	1 (11.1)	1 (3.3)
3. TCF/inspector wants money, needs paying bribe etc.	4 (33.3)	1 (11.1)	-	5 (16.7)
4. Delay and waste of money at DC Food Office	1 (8.3)	-	-	1 (3.3)
5. Only big millers get quota by collusion with TCF	1 (8.3)	-	-	1 (3.3)
6. Not reported	6 (50.0)	8 (88.9)	7 (77.8)	21 (70.0)
Total	12 (100.00)	9 (100.00)	9 (100.00)	30 (100.00)

Note: Figures in parentheses indicate percentage of column total.

**Table 6.11 — Procedure of Quota Distribution among Millers in Thana/Locality:
Boro Rice, 1998**

District	Number of millers reporting that			Total
	Quota was distributed through Thana committee headed by TNO (In collaboration with Millers Association or "Samity")	Quota was distributed without any participation by "Samity"	Not reported	
Dinajpur	10 (83.33)	1 (8.33)	1 (8.33)	12 (100.00)
Naogaon	9 (100.00)	-	-	9 (100.00)
Bogra	9 (100.00)	-	-	9 (100.00)
Total	28 (93.33)	1 (3.33)	1 (3.33)	30 (100.00)

Note: Figures in parentheses indicate percentages of row total.

Table 6.12 — Millers' Opinion on Timing of Quota Allocation: Boro Rice, 1998

District	Number of millers reporting that			Total
	It could be better if they had received quota earlier	It could not be better if they had received quota earlier	Not Reported	
Dinajpur	9 (75.00)	1 (8.33)	2 (16.66)	12 (100.00)
Naogaon	6 (66.66)	3 (33.33)	-	9 (100.00)
Bogra	7 (77.77)	2 (22.22)	-	9 (100.00)
Total	22 (73.33)	6 (20.00)	2 (6.66)	30 (100.00)

Note: Figures in parentheses indicate percentages of row total.

Table 6.13 — Millers' Explanations of Why it Could Be Better (or Not) if Quota Were Allocated Earlier

District	Number of miller reporting explanations						Total
	Market price of paddy became too high during later period of the season	Weather was favorable during early period of the season	Could be more profitable	Arrival of paddy not substantial up to May 20	Timing was OK	Not reported	
Dinajpur	4 (33.33)	-	4 (33.33)	-	2 (16.66)	2 (16.66)	12 (100.00)
Naogaon	4 (44.44)	-	-	-	-	5 (55.55)	9 (100.00)
Bogra	1 (11.11)	1 (11.11)	-	2 (22.22)	-	5 (55.55)	9 (100.00)
Total	9 (29.97)	1 (3.33)	4 (13.32)	2 (6.66)	2 (6.66)	12 (40.00)	30 (100.00)

Note: Figures in parentheses indicate percentages of row total.

Table 6.14 — Various Irregularities In Quota Distribution As Reported By Millers: Boro Procurement, 1998

District	Number of millers reporting				Total
	Political bias	Nepotism/Favoritism	Bribe taking	Other malpractices	
Dinajpur	11 (91.7)	10 (83.3)	7 (58.3)	1 (8.3)	12 (100.0)
Naogaon	4 (44.4)	2 (22.2)	1 (11.1)	5 (55.6)	9 (100.0)
Bogra	5 (55.6)	3 (33.3)	4 (44.4)	2 (22.2)	9 (100.0)
Total	20 (66.7)	15 (50.0)	12 (40.0)	8 (26.7)	30 (100.0)

Note: 1. Other malpractices represent "unofficial payment" at DC, Food office, etc.
2. Figures in parentheses indicate percentages of total millers responded.

Table 6.15 — Sources of Paddy Purchase and Average Price of Paddy for Supplying Rice to LSDs as Reported by Millers Interviewed: Boro Procurement, 1998

District	percent of paddy purchased from farmers (for supplying rice to LSD)	Price (Tk./md)	percent of paddy purchased from traders (for supplying rice to LSD)	Price (Tk./md)	percent of paddy purchased from others (for supplying rice to LSD)	Price (Tk./md)	percent of paddy purchased	Price (Tk./md)	Procurement Price of paddy (Tk./md)
Dinajpur	73.64	249.82	25.45	245.67	0.91	-	100.00	247.75	
Naogaon	65.00	252.22	35.00	258.86	.00	-	100.00	255.44	
Bogra	40.00	255.85	46.89	263.13	17.56	100.00	100.00	259.66	281.80
Total	61.25	252.31	35.07	256.05	5.79	260.00	100.00	256.12	

Table 6.16 — Various Problems Faced While Supplying Rice to LSDs (as Reported by Millers Interviewed)

(A) "Unofficial Payments" While Supplying Rice to LSDs

District	Number of millers reporting that			Total
	"Unofficial payment" is required	No "Unofficial payment" is required	Not reported	
Dinajpur	7 (58.3)	(-)	5 (41.7)	12 (100.0)
Naogaon	3 (33.3)	1 (11.1)	5 (55.6)	9 (100.0)
Bogra	3 (33.3)	(-)	6 (66.4)	9 (100.0)
Total	13 (43.3)	1 (3.3)	16 (53.3)	30 (100.0)

- Notes: 1. Millers were found to be highly evasive to respond to the above question.
2. Figures in parentheses indicate percentages of row total.

Table 6.16 (Contd.)

(B) Takes Extra Rice (Dhalta) While Supplying Rice to LSDs

District	Number of millers reporting that			Total
	Extra rice (dhalta) is taken	No extra rice (dhalta) is taken	Not reported	
Dinajpur	2 (16.7)	-	10 (83.3)	12 (100.0)
Naogaon	-	2 (22.2)	7 (77.8)	9 (100.0)
Bogra	2 (22.2)	-	7 (77.8)	9 (100.0)
Total	4 (13.3)	2 (6.7)	24 (80.0)	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

(C) Harassment While Supplying Rice to LSDs

District	Number of millers reporting that they			Total
	Faced harassment	Faced no harassment	Not reported	
Dinajpur	2 (16.7)	1 (8.3)	9 (75.0)	12 (100.0)
Naogaon	-	2 (22.2)	7 (77.8)	9 (100.0)
Bogra	-	-	9 (100.0)	9 (100.0)
Total	2 (6.7)	3 (10.0)	25 (83.3)	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

(D) Other Problems While Supplying Rice at LSDs

District	Number of millers reporting that they			Total
	Faced other problems	Faced no Other problem	Not reported	
Dinajpur	3 (25.0)	1 (8.3)	8 (66.7)	12 (100.0)
Naogaon	3 (33.3)	-	6 (66.7)	9 (100.0)
Bogra	-	-	9 (100.0)	9 (100.0)
Total	6 (20.0)	1 (3.3)	23 (76.7)	30 (100.0)

Notes: 1. Other problems = LSD officials showed negative attitude/needed multiple visits/rice stolen etc.
2. Figures in parentheses indicate percentages of row total.

Table 6.17 — Various Issues Of Frequent Dispute Between LSD Officials And Millers While Supplying Rice To LSDs (As Reported By Millers Interviewed)

(A) Problems Regarding Moisture Percentage While Supplying Rice to LSDs

District	Number of millers reporting			Total
	Frequent dispute on moisture	No frequent dispute on moisture	Not reported	
Dinajpur	7 (58.3)	4 (33.3)	1 (8.30)	12 (100.0)
Naogaon	6 (66.7)	3 (33.3)	-	9 (100.0)
Bogra	5 (55.6)	4 (44.4)	-	9 (100.0)
Total	18 (60.0)	11 (36.7)	1 (3.3)	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

(B) Problems Regarding Weighing While Supplying Rice to LSDs

District	Number of millers reporting			Total
	Problems regarding weighing	No problem regarding weighing	Not reported	
Dinajpur	6 (50.0)	5 41.70	1 8.30	12 (100.0)
Naogaon	3 (33.3)	6 66.70	-	9 (100.0)
Bogra	2 (22.2)	7 77.80	-	9 (100.0)
Total	11 (36.7)	18 60.00	1 3.30	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

(C) Problems Regarding Quality (Color, Appearance Etc.) of Rice While Supplying to LSDs

District	Number of millers reporting			Total
	Frequent dispute on quality of rice	No dispute on quality of rice	Not reported	
Dinajpur	6 (50.0)	5 (41.7)	1 (8.3)	12 (100.0)
Naogaon	4 (44.4)	5 (55.6)	0 (-)	9 (100.0)
Bogra	3 (33.3)	6 (66.7)	0 (-)	9 (100.0)
Total	13 (43.3)	16 (53.3)	1 (3.3)	30 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 6.18 — Millers' Perceptions on Would-Be Beneficiaries if Procurement Were Done in Terms of Rice Only, by District

Would be beneficiary if procurement done in terms of rice only	Number of millers reporting by district			Total
	Dinajpur	Naogaon	Bogra	
1. Farmer	1 (8.3)	-	2 (22.2)	3 (10.0)
2. Miller	1 (8.3)	5 (5.5)	3 (33.3)	9 (30.0)
3. Trader	-	-	-	0
4. Trader & Miller	1 (8.3)	2 (22.2)	-	3 (10.0)
5. Farmer & Miller	4 (33.3)	-	-	4 (13.3)
6. Farmer & Trader	-	-	-	0
7. All (Farmer + Miller + Trader)	4 (33.3)	2 (22.2)	2 (22.2)	8 (26.7)
8. Others	0	-	-	-
9. None above	-	-	-	-
10. Farmer + Miller + Govt.	1 (8.3)	-	1 (11.1)	2 (6.7)
11. Farmer + Govt.	-	-	1 (11.1)	1 (3.3)
12. Others + Trader	-	-	-	-
Total	12 (100.0)	9 (100.0)	9 (30.0)	30 (100.0)

Notes: 1. Others = Mastaans, local influential people, etc.
2. Figures in parentheses indicate percentages of column total.

Table 6.19 — Millers' Perception on Would-Be Beneficiaries if Procurement Is Done in Terms of Paddy Only, by District

Would be beneficiary if procurement done in terms of rice only	Number of millers reporting by district			Total
	Dinajpur	Naogaon	Bogra	
1. Farmer	2 (16.7)	5 (55.6)	3 (33.3)	10 (33.3)
2. Miller	1 (8.3)	-	-	1 (3.3)
3. Trader	3 (25.0)	-	6 (66.7)	9 (30.0)
4. Trader & Miller	1 (8.3)	2 (22.2)	0	3 (10.0)
5. Farmer & Miller	-	1 (11.1)	0	1 (3.3)
6. Farmer & Trader	3 (24.9)	-	-	3 (10.0)
7. All (Farmer + Miller + Trader)	-	1 (11.1)	-	1 (3.3)
8. Others				
9. None above				
10. Farmer + Miller + Govt.				
11. Farmer + Govt.				
12. Others + Trader	2 (16.7)	-	-	2 (6.7)
Total	12 (100.0)	9 (100.0)	9 (100.0)	30 (100.0)

Note: Figures in parentheses indicate percentages of column total.

Table 6.20 — Costs of, and Returns from Supplying Rice to LSD, as Reported by Millers: Boro, 1998

	Various components of costs	Average value (Tk.)
1.	Cost of "managing a quota"	50.00
2.	"Other payment" at DC, Food office	566.67
3.	Cost of procuring paddy (price + transport to mill)	358932.17
4.	Cost of processing paddy (to rice)	19401.50
5.	Carrying cost of rice to LSD	2271.33
6.	"Other payment" to officers at LSD	2367.00
7.	"Other payment" to laborers at LSD	572.33
8.	Cost of extra rice (dhalta) at LSD	326.83
9.	Cost of withdrawing security	80.00
10.	Other cost (packing, revenue stamp etc.)	640.07
11.	Total cost	385127.90
12.	Gain from by-product (Broken rice, husk, bran etc.)	18085.50
13.	Net total cost	367042.33
14.	Net cost per quintal	1064.97
15.	Price received per quintal	1255.00
16.	Net profit/loss (per metric ton)	1900.67

Table 6.21 — Millers' Suggestions as How to Improve Existing Procurement System

Sl.	Suggestions	Millers reporting	
		Number	Percentage
1.	Corruption must be wiped out at LSD (and other food officers)	2	4.08
2.	Farmers will be benefited if procurement done at TPC	1	2.04
3.	Direct purchase from farmers & "open" (no slip) procurement	1	2.04
4.	Govt. should procure in terms of rice only	2	4.08
5.	Should procure from farmers and in terms of paddy only	1	2.04
6.	Target/Quota for millers should increase	9	18.36
7.	Govt. should build good relationship with millers	1	2.04
8.	Quota should be allotted to millers according to capacity of their mills	2	4.08
9.	Quota should be distributed early/at the beginning of season	10	20.40
10.	Agreement should be signed at TCF office instead of DC office	1	2.04
11.	Re-introduce Millgate procurement	11	22.44
12.	Harassment at LSD must stop	2	4.08
13.	Should ensure purchasing from farmers	1	2.04
14.	For Boro paddy, moisture percent should be 14.50	1	2.04
15.	Millers Association interested to ensure quality of rice and give 50percent cash in advance if procurement is done in terms of rice only	1	2.04
16.	Procurement should be from millers only (may be in terms of rice or paddy or both)	1	2.04
17.	Must stop nepotism/political bias/bribe taking in quota distribution	1	2.04
18.	Capacity of go-down must increase	1	2.04
Total		49	100.00

Note: Total is 49 instead of 30 since some of the millers gave multiple responses.

7. MAJOR FINDINGS OF THE OFFICIALS' SURVEY

INTRODUCTION

In the preceding chapters (Chapter 3-6), we have described the major findings of our survey related to the four groups - farmers, traders, sellers and millers - who are intimately involved in the process of both paddy and rice procurement in the country. The main objective was to derive insights into how the procurement program actually operates - in particular, what are the problems faced by different groups who actually participated in the program and whether there is any scope of improvement in the present procurement system. However, it is equally important to collect relevant information from those government officials who are both directly and indirectly involved in the process of procurement. This chapter presents the major findings of our survey of the officials, who are members of the Thana Procurement Committee, which is officially in charge of the overall supervision of the procurement program at the Thana level. These include, among others, Thana Controller of Food (TCF), Officer-in-Charge of respective LSD (OC, LSD) and Thana Agriculture Officer (TAO). Other important members include UP Chairman and representatives from the miller's association. The Committee is headed by the Thana Nirbahi Officer (TNO). Before starting procurement of the LSDs, TPC holds meeting to decide the actual date of procurement, possible measures to be taken to realize the procurement target and also how to keep the procurement within general policy guidelines as provided by the Director General, Ministry of Food. As mentioned earlier, an LSD official, preferably the Officer-in-Charge (OC), was interviewed in each of the LSDs. Besides, other officials such as D.C. (Food), and T.S.O. (BBS) were also interviewed. The total number of officials interviewed thus amounted to 40.

FACTORS RELATED TO THE EVALUATION OF PROCUREMENT PROGRAM

The Officer-in-Charge of LSDs are the persons most directly involved in the process of procurement. The average years of procurement experience of these officials interviewed in 10 LSDs are observed to be 16 years. No large variation is observed across the three districts in this respect (Table 7.1). The Thana Controller of Food (TCF) also plays an important role in the procurement process. These officials were interviewed who provided useful information about the operation of the procurement program. The average experience of these officials is observed to be 22 years in the Food Department and 8 years as TCF in the total sample. Considerable variations are observed across the three districts (and ten Thanas) surveyed in this respect. The third group of officials who were interviewed in the context of evaluation of domestic procurement program are District Controller, Food (DC, Food). Among those (3 officials in three districts) interviewed, the average experience as DC, Food and in the Food Department are observed to be 12 years and 17 years respectively. It may be recalled here that delay in procurement was cited to be one of the main reasons for lack of adequate participation of the farmers, specially the small and the medium farmers in the procurement program. Table 7.2 shows that the average delay in starting Boro procurement from the date of announcement, as reported by LSD officials, was 9 days. Not much variation is observed across three districts surveyed in this respect. The officials at LSD were asked to identify the reasons for the delay in starting procurement. Their responses are also recorded in Table 7.2. Among the various reasons reported by the LSD officials for the delay in starting procurement are the late arrival of farmers at LSD (40 percent), late harvest (30 percent) and delay in committee meeting (10 percent). The late harvest was also cited by LSD officials as the main reason for late arrival of farmers at LSD, (Table 7.3). High moisture at early harvest was also cited as one of the reasons for late arrival of farmers and hence the delay in starting procurement. However, most of the LSD officials (60 percent) failed to come up with plausible reasons for the late arrival of farmers at LSD for the sale of their paddy.

The LSD officials were also asked whether they faced any pressure in the process of procurement. Of the ten LSD officials interviewed, half of them reported that they did not (Table 7.4). However, considerable variation is observed across the three districts surveyed in this respect. While most of the officials in Dinajpur and Naogaon did not face any pressure during procurement, all officials in Bogra reported that they did. Among the various pressures faced by the officials during procurement, political pressure would appear to be the most prominent (Table 7.5). Considerable variation was observed across three districts surveyed in this respect as well.

The LSD officials also provided some useful information about the facilities at the LSDs surveyed. These are presented in Tables 7.6 and 7.7. The average number of LSDs per Thana ranged from 1.50 in Dinajpur to 2.33 in Naogaon district, with an average of 1.90 LSDs in the total sample (10 Thanas). The average numbers of go-downs was observed to be 3.10 per LSD, with little variation across the three districts surveyed. The average capacity of each LSD was observed to be 1,800 tons. Again, there was some variation across three districts, but not much (Table 7.6). An inquiry into the weighing machine at the LSDs reveals that most of them (87 percent) were working satisfactorily. This gives an encouraging picture, remembering that there are, on an average, 2.3 weighing machines per LSD. Again, no significant variation was observed across three districts surveyed (Table 7.7).

The interview with the LSD officials also revealed some useful information regarding the participation of farmers in the procurement program. The majority of the LSD officials reported that it is quite difficult for the farmers to meet the Fair Average Quality (FAQ) requirements. This is attributed to the fact that due to illiteracy, most of the farmers do not have the necessary know-how of meeting FAQ requirements (Table 7.8).

The LSD officials provided information with respect to both maximum and minimum distance, the farmers has to cover to sell their paddy at LSD. The *maximum*

distance, on an average, ranged between 18.31 kilometers in Dinajpur and 10.18 kilometers in Bogra district, with an average *maximum* distance of 15.36 kilometers for the entire sample. The average *minimum* distance, on the other hand, ranged between 1.94 kilometers in Naogaon and 0.18 kilometers in Bogra, with an average *minimum* distance of 0.89 kilometers for the total sample (Table 7.9).

The LSD official's perception regarding the participation of different categories of farmers and as well as millers/traders are presented in Table 7.10. It is rather surprising to note that the participation of small farmers was the highest (49.07 percent), followed by traders/millers/others (29.29 percent) and large farmers (21.50 percent). Also, considerable variation was observed across the three districts surveyed, especially for the large farmers, in this respect.

Finally, the officials at LSD provided information regarding the revised target and actual procurement of Boro paddy in 1998 (Table 7.11). It is observed that the actual procurement of Boro paddy was only about 45 percent of the revised target fixed for 1998. The achievement was the highest in Naogaon (51.1percent), followed by Dinajpur (45.0 percent) and Bogra (31.0percent) districts. The average achievement in our sample is considerably lower than the achievement at the national level (61.3 percent).

According to the information provided by the TCFs, the market arrival of Boro paddy in some major markets seemed to have increased by about 3.29 percent in 1998 as compared those in 1997 (Table 7.12). This may be contrasted with the decrease in Boro paddy procurement in 1998 (as compared to 1997) by 45 percent in the sample (Table 7.13). The decline is most pronounced in Bogra district. The Boro rice procurement, however, increased, on an average, from 5691 tons in 1997 to 8080 tons in 1998, i.e. by 42 percent in the entire sample. As perceived by the TCF officials, only one-fourth of the total marketable surplus ended up as public procurement at LSDs. The rest is transacted in the private markets (Table 7.14). The perceptions of TCF officials regarding the participation of small and marginal farmers are recorded in Table 7.15. The majority of

the officials felt that the participation of small/marginal farmers is *not* substantial. What is more important, the officials identified a number of plausible reasons why this is so. These are recorded in Table 7.16. These include, among others, the distress sale that most small farmers has to make, selling at local haats being more convenient, delayed listing of growers by UP Chairman and unfair selection of the farmers for sale of paddy at LSDs.

According to the information provided by the DC, Food, about one-third of the total marketable surplus of rice is procured by the government (Table 7.17). The procurement (as percent of marketable surplus) was observed to be highest in Dinajpur (53 percent) followed by Bogra (36 percent) and Naogaon (21 percent). The district official (DC, Food) made several important suggestions both for increased participation of small/marginal farmers in procurement as well as for improvement in the present procurement system. These are recorded in Tables 7.18 and 7.19 respectively. The important suggestions regarding the farmers include: provision of "chaatal" (drying-yard) facility at the village/union level, cooperative approach to stop distress sale, formation of "paddy banks" and provision of input subsidy and credit for cultivation. The prominent suggestions for improvement of the existing procurement system include: procurement committee should be flexible, ceiling of one metric ton should be removed, procurement committee should formally assess Thana-wise/district-wise surplus, photo ID should be introduced and that there should be TV and radio campaign regarding FAQ.

The fourth and final group of officials who were interviewed is the Thana Agricultural Officers (TAO). They provided Thana-wise (except Nawabganj) information on acreage, yield and output of Boro production in 1998 as compared to those in 1997 as well as on population, consumption requirements and the resulting surplus/deficit position with respect to Boro rice. These are presented in Table 7.20 and 7.21 respectively. It is observed that the increase in Boro acreage in 1998 over 1997 by 4.58 percent has more than offset the decline (by 1.05 percent) in yield over the same period so that total Boro production registered an increase by 3.68 percent in 1998 over

1997 (Table 7.20). Table 7.21 shows that almost all the Thanas (except Kaharolee) turned out to have a production surplus, estimated on the basis of consumption requirements and production in each Thana surveyed. There was, therefore, ample scope of domestic procurement in these Thanas.

SECTION 7 TABLES

Table 7.1 — Experiences of Food Officials in Food Department/Procurement (As in Boro, 1998)

District	(Years)					
	Average experience of					
	DC Foods		TCFs		OC, LSDs	
	In Food Department	As DC, Food	In Food Department	As TCF	In Food Department	In procurement
Dinajpur	14	11	16	7	21	15
Naogaon	21	14	22	5	20	17
Bogra	15	11	28	11	21	17
Total	17	12	22	8	20	16

Table 7.2 — Average Delay and Reasons for Delay in Starting Procurement

Average delay	(days)			
	Dinajpur	Naogaon	Bogra	Total
From official opening date of procurement	9	8	10	9
Reasons for above delay	Number of OC, LSDs reporting			
	Dinajpur	Naogaon	Bogra	Total
1. Farmers arrived late	2 (50.0)	1 (33.3)	1 (33.3)	4 (40.0)
2. Committee meeting delayed	-	-	1 (33.3)	1 (10.0)
3. Others (late harvest etc.)	1 (25.0)	2 (66.7)	-	3 (30.0)
4. Not reported	1 (25.0)	-	1 (33.3)	2 (20.0)
Total	4 (100.0)	3 (100.0)	3 (100.0)	10 (100.0)

Note: Numbers in parentheses indicate percentages of column total.

Table 7.3 — Reasons for Late Arrival of Farmers with Paddy

District	Number of officers reporting reason for late arrival:			Total
	Late harvest	High moisture at early harvest	Not reported/Not applicable	
Dinajpur	1 (25.0)	-	3 (75.0)	4 (100.0)
Naogaon	1 (33.3)	1 (33.3)	1 (33.3)	3 (100.0)
Bogra	1 (33.3)	-	2 (66.7)	3 (100.0)
Total	3 (30.0)	1 (10.0)	6 (60.0)	10 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 7.4 — Whether Faced Any "Pressure" While Procurement?

District	Number of OC, LSDs reporting that they		Total
	Did <u>not</u> face any pressure	Did face pressures	
Dinajpur	3 (75.0)	1 (25.0)	4 (100.0)
Naogaon	2 (66.7)	1 (33.3)	3 (100.0)
Bogra	-	3 (100.0)	3 (100.0)
Total	5 (50.0)	5 (50.0)	10 (100.0)

Note: Figures in parentheses indicate percentages of row total.

Table 7.5 — Various "Pressures" Faced While Procurement as Reported by OC, LSDs

Problems faced at LSD	Number of OC, LSDs reporting by district			Total
	Dinajpur	Naogaon	Bogra	
1. Political pressure		1	2	3
	-	(33.3)	(66.7)	(30.0)
2. "Chandabaz" (toll collector)			1	1
	-	-	(33.3)	(10.0)
3. Others (Mastaan/influential etc.)	1			1
	(25.0)	-	-	(10.0)
4. Not reported	3	2		5
	(75.0)	(66.7)	-	(50.0)
Total	4	3	3	10
	(100.0)	(100.0)	(100.0)	(100.0)

Note: Figures in parentheses indicate percentages of column total.

Table 7.6 — Average Number of LSDs in Thana, Go-Downs Per LSD and Stock Capacity per LSD: Boro Season, 1998

District	Average		
	Number of LSDs in each Thana	Number of go- downs in each LSD	Total capacity of each LSD (Mt)
Dinajpur	1.50	3.00	2000.00
Naogaon	2.33	3.33	1666.67
Bogra	2.00	3.00	1666.67
Total	1.90	3.10	1800.00

Table 7.7 — Conditions Of Weighing Machines in LSDs, by District

District	Number of weighing machine at LSDs		
	Working	Not working	Total
Dinajpur	6 (85.7)	1 (14.3)	7 (100.00)
Naogaon	8 (88.9)	1 (11.2)	9 (100.00)
Bogra	6 (85.7)	1 (14.3)	7 (100.00)
Total	20 (86.9)	3 (13.0)	23 (100.00)

Note: Figures in parentheses indicate percentages of row total.

Table 7.8 — How Hard Is It for Farmers to Meet FAQ? (as Explained by OC, LSDs Interviewed: Boro, 1998)

District	Number of officers reporting by district			Total
	Dinajpur	Naogaon	Bogra	
<i>FAQ is hard for the farmers:</i>				
1. It's hard for them	1 (25.0)	1 (33.3)	-	2 (20.0)
2. Most of them don't have know-how of making FAQ due to illiteracy	1 (25.0)	1 (33.3)	1 (33.3)	3 (30.0)
3. They don't have adequate facility to make their paddy FAQ	-	-	1 (33.3)	1 (10.0)
I. Sub-Total	2 (50.0)	2 (66.6)	2 (66.6)	6 (60.0)
<i>FAQ is not hard for the farmers:</i>				
Awareness regarding FAQ among farmers is increasing	-	1 (33.3)	-	1 (10.0)
5. FAQ isn't hard for the farmers	1 (25.0)	-	1 (33.3)	2 (20.0)
II. Sub-Total	1 (25.0)	1 (33.3)	1 (33.3)	3 (30.0)
III. Not reported	1 (25.0)	-	-	1 (10.0)
Total (I+II+III)	4 (100.0)	3 (100.0)	3 (100.0)	10 (100.0)

Note: Figures in parentheses indicate percentages of column total.

Table 7.9 — Range of Distance of Participating Farmers from LSD: Boro , 1998 (as Reported by OC, LSDs, By District)

District	Farmers coming to LSD from	
	Maximum distance (Km)	Minimum distance (Km)
Dinajpur	18.31	0.61
Naogaon	16.63	1.94
Bogra	10.18	0.18
Total	15.36	0.89

Table 7.10 — Percentage of Various Categories of Sellers in Paddy Procurement (as Perceived by OC, LSDs)

District	Percentage of		
	Large farmers	Small farmers	Traders/millers and others
Dinajpur	60.00	40.00	00.00
Naogaon	21.00	45.67	33.33
Bogra	9.17	55.50	35.00
Total	21.50	49.07	29.29

Table 7.11 — Average Revised Target Vs. Achievement per LSD: Boro Paddy, 1998

District	Average		
	Revised target (MT)	Achievement (MT)	Achievement as percentage of target
Dinajpur	1262.40	568.31	45.0
Naogaon	1893.67	967.14	51.1
Bogra	900.00	279.14	31.0
Total	1343.06	601.21	44.8

Table 7.12 — A Comparison of Market Arrival, Boro 1997 Vs. 1998 (As Reported By TCFs)

District	Thana	Market arrival (md)		percent change
		1997	1998	
Dinajpur	Dinajpur Sadar	20775	22050	+6.14
	Birganj	NR	26900	NA
	Nawabganj	6450	6450	0.00
	Kaharolee	NR	NR	NA
	Average	13612.5	14250	+4.68
Naogaon	Mahadebpur	26400	21100	-20.08
	Dhamoirhat	33100	45000	+35.95
	Raninagar	NR	NR	NA
	Average	29750	33050	+11.09
Bogra	Gabtali	4225	1850	-56.21
	Dupchanchia	76000	76000	0.00
	Adamdighi	NR	NR	NR
	Average	40112.5	38925	-2.96
All Districts	Average	27825	28741.67	+3.29

Note: 1. Data relates to arrival of paddy in some major paddy markets of the Thana;
2. TCF = Thana Controller of Food.

Table 7.13 — Thana-Wise Actual Procurement, Boro 1998 (as Reported by TCFs)

District	Thana	Boro paddy (Mt)		Boro rice (Mt)	
		1997	1998	1997	1998
Dinajpur	Dinajpur Sadar	1234	1339	2930.363	5349.917
	Birganj	2058	896	4414	1590
	Nawabganj	NR	NR	NR	NR
	Kaharolee	1149.96	305.27	633	1209.74
	Average	1480.65	846.76	2659.12	2716.55
Naogaon	Mahadebpur	NR	NR	NR	NR
	Dhamoirhat	2817	2076	606	1738
	Raninagar	2660.07	623.91	920	2134.04
	Average	2738.54	1349.96	763	1936.02
Bogra	Gabtali	3011.68	1174.6	891.48	1652.09
	Dupchanchia	1472.17	252.43	3188.04	2746.4
	Adamdighi	2175	770	3490	7789
	Average	2219.62	732.34	2523.17	4062.50
All Districts	Average	4538.86	2479.07	5690.96	8079.73

(Sample Thanas)

Note: NR = Not reported.

Table 7.14 — Marketable Surplus and LSD Procurement of Paddy, Boro 1998 (As Reported By TCFs)

District	Thana	Marketable surplus		
		Total (MT)	LSD procurement (percent)	Besides LSD procurement (percent)
Dinajpur	Dinajpur Sadar	7500	19.00	81.00
	Birganj	20000	47.55	52.45
	Nawabganj	46000	3.48	96.52
	Kaharolee	NR	NR	NR
	Average	24500	23.34	76.56
Naogaon	Mahadebpur	NR	NR	NR
	Dhamoirhat	NR	NR	NR
	Raninagar	NR	NR	NR
	Average	NA	NA	NA
Bogra	Gabtali	6600	NR	NR
	Dupchanchia	24000	29.37	70.63
	Adamdighi	NR	NR	NR
	Average	15300	NA	NA
All Districts	Average	20820	24.85	75.15

Note: NR = Not reported.

Table 7.15 — Participation of Small and Marginal Farmers in LSD Procurement: Boro 1998 (as Perceived by TCFs)

District	Thana	Do you think participation of small and marginal farmers substantial?	
		Yes	No
Dinajpur	Dinajpur Sadar	-	No
	Birganj	Yes	-
	Nawabganj	-	No
	Kaharolee	NR	NR
Naogaon	Mahadebpur	-	No
	Dhamoirhat	Yes	-
	Raninagar	NR	NR
Bogra	Gabtali	-	No
	Dupchanchia	Yes	-
	Adamdighi	NR	NR
Total (percent)		42.86	57.15

Note: Not reported.

Table 7.16 — Explanations of Non-Participation by Farmers (as Reported by TCFs)

District	Thana	Participation of small and marginal farmers is not substantial because
Dinajpur	Dinajpur Sadar	1. Most small farmers make distress sale. 2. Selling at local haats is more convenient to them.
	Birganj	Not reported
	Nawabganj	1. Procurement started late and most of them made distress sale already 2. Selling at local haats is more convenient to them.
	Kaharolee	Not reported
Naogaon	Mahadebpur	1. Delayed listing of growers by the UP chairman.
	Dhamoirhat	Not reported
	Raninagar	Not reported
Bogra	Gabtali	1. Most small farmers make distress sale. 2. Selling at local haats is more convenient to them. 3. Selection of farmers not fairly done.
	Dupchanchia	Not reported
	Adamdighi	Not reported

Table 7.17 — Marketable Surplus and Procurement of Rice Boro, 1998 (as Reported by DC, Food)

District	Quantity (Mt)		
	Procurement	Marketable surplus	Procurement as percent of marketable surplus
Dinajpur	72080	136000	53.00
Naogaon	47003	225000	20.89
Bogra	42780	120000	35.65
Total	161386	481000	33.76

Notes: Procurement figures are in terms of paddy.

Table 7.18 — Suggestions for Increased Participation of Small and Marginal Farmers In Procurement (as Suggested by DC, Food)

District	Suggestions
Dinajpur	Not reported
Naogaon	1. Govt. should provide "chaatal" (drying yard) facility at village/union level;
	2. Co-operative approach to stop distress sale
	3. Formation of "paddy banks".
Bogra	1. Input subsidy would decrease distress and forward sale
	2. There should be cash credit facility for cultivation

Table 7.19 — Suggestions for Improvement of Present Procurement System (as Suggested by DC, Food)

District	Suggestions
Dinajpur	<ol style="list-style-type: none"> 1. Procurement committee should work only as an advisory body; 2. Target should be free and flexible; 3. Free entry of suppliers should be ensured; 4. Ceiling of 1 Mt should be removed.
Naogaon	<ol style="list-style-type: none"> 1. Role of procurement committee should be advisory; 2. Procurement committee should formally assess Thana-wise/district-wise surplus availability; 3. Procurement through buying agent is a better idea.
Bogra	<ol style="list-style-type: none"> 1. Ceiling should be increased to 5-10 Mt; 2. Photo ID should be introduced (before procurement starts); 3. Target should be given early and at a time; 4. Procurement committee should work only as an advisory body; 5. There should be TV & radio campaign regarding FAQ.

Table 7.20 — Official Statistics on Thana-Wise Boro Production, Boro 1997 Vs. 1998 (as Reported by TAOs)

District	Average acreage per Thana (acres)		Change in acreage (percent)	Average yield (md/acre)		Change in yield (percent)	Average output per Thana (md)		Change in output (percent)
	1997	1998		1997	1998		1997	1998	
Dinajpur	21012	22483	7.34	39.67	40.48	1.98	850741	932339	9.46
Naogaon	34013	36006	3.63	30.31	30.81	1.87	1035542	1111178	6.20
Bogra	34967	35877	2.77	51.67	48.05	-7.03	1817615	1745659	-4.64
Total	29997	31458	4.58	40.55	39.78	-1.05	1234633	1263100	3.68

Table 7.21 — Total Population, Output and Requirement of Rice In Different Thanas Surveyed

Thana	Population, Output and Rice Requirements			
	Population	Output (md)	Requirement (md)	Surplus/deficit (md)
Gabtali	305464	2306741	788097	+1518644
Dupchanchia	143000	1396777	368940	+1027837
Adamdighi	188131	1533460	485378	+1048082
Beerganj	466584	1272846	1203786	+ 69059
Kaharolee	118379	290726	305418	- 14692
Nawabganj	NR	NR	NR	NR
D. Sadar	175321	1233441	452328	+781113
Dhamoirhat	151875	592500	391837	+ 200662
Mahadebpur	250650	1404626	646677	+ 757949
Raninagar	160344	1336408	413687	+922720
Average	217750	1263058	561794	701264

Notes: 1. Requirement = Rice requirement up to next Aman harvest i.e., approximately for next 240 days (May - December) at the rate of 0.688 seer of paddy/person/day.

2. NR = Not reported.

8. CONCLUSIONS AND POLICY RECOMMENDATIONS

INTRODUCTION

This study was undertaken to examine the effectiveness of the domestic procurement program, mainly in terms of the participation of farmers in the process of both paddy and rice procurement. It needs to be emphasized here that no attempt has been made here to analyze the economic justification of the program, its budgetary implications or the appropriate criteria of fixation of procurement prices.¹¹ It merely examined the nature and degree of participation by different groups such as farmers, traders and millers, and the problems faced by them in the process of both paddy and rice procurement. Also, in the light of the information collected through field survey from the relevant groups, the study makes specific policy recommendations for improving the effectiveness of the current program.

CONCLUSIONS AND MAJOR FINDINGS OF THE STUDY

The major findings of the Boro Procurement Survey, 1998 points to a number of conclusions which merit closer attention from a perspective of policy recommendations. It should be mentioned here that not all the conclusions presented below emerge from what have been presented in the preceding chapters. Some of them emerge from what have been gathered in the form of unstructured field information and reports, mostly qualitative in nature. The major conclusions and findings are summarized below, followed by some specific policy recommendations for improvement in the effectiveness of the existing procurement program.

¹¹ For a rigorous analysis of the procedures for determination of procurement price of rice, see Ahmed et al (1993).

- (a) Participation of farmers, especially small and medium farmers, was negligible. The villagers far off from the LSDs were less interested in the procurement, compared to those located nearer the LSDs. Some villagers, especially belonging to distant locations, advocated for the re-introduction of TPC at the union level. In that case, they felt, the participation from farmers would potentially increase. There was no guarantee that the paddy brought by farmers at LSD would be accepted without any hindrance. So there were risks of incurring transport cost and theft of paddy due to lack of facilities at LSD premises for guarding those paddy. If one becomes a victim, the news spreads across the whole village, which creates disincentives for other farmers to participate in the procurement program.
- (b) The procurement appeared to be largely controlled by the political elite, UP Chairmen, UP members and traders. The sellers' list was largely falsified and a considerable number of the sellers were fraudulent. As was seen in earlier chapter on Millers' Survey (Chapter 6), the millers were observed to play a key role in the procurement of both rice and paddy. In the paddy procurement, they engage *farias* and traders to procure paddy from the village farmers. For *farias* and traders, sales at LSDs appear to be relatively easy. For farmers, on the other hand, there exist too many formalities. Some farmers reported that they waited for 3 to 4 days with their paddy and ultimately they sold it to traders at the LSD premises.
- (c) "Unofficial payments" at various stages of procurement have now become an open secret and was a source of major disincentives for farmers' participation. The time spent in the process of procurement was extremely valuable for farmers, as they have to remain busy in harvest and post-harvest activities at this time.
- (d) Farmers had little knowledge about Fair Average Quality (FAQ), the quality of paddy with specified moisture content (14 percent), which needed to be maintained for paddy brought for sale at LSD. Farmers had the problem of drying paddy after harvests as very few have drying places ("chaatal"), at their premises. During the Boro season, the rainy days pose an additional problem for drying and storage.
- (e) Most of the millers were observed to be not satisfied with the size of the quota received for Boro rice in 1998. This would indicate that the existing capacity of the

most of the mills remained unutilized given the total target of rice procurement, presumably after meeting the requirement of rice processing in the private sector.

- (f) The determination of procurement price at the level of price support is a critically important task in order to ensure adequate production incentives to the farmers. One can think of introducing some flexibility in the fixation of procurement price in this context.

POLICY RECOMMENDATIONS

In the light of the analysis and findings of the study, the following specific policy recommendations are made for improved effectiveness of the procurement program currently in place in general and to encourage farmers' participation in the program in particular.

- (1) to reorganize the procurement system at LSDs so that the "unofficial payments" to both officials/staff as well as to laborers were kept to a minimum, if complete elimination is not feasible;
- (2) to ensure the slip distribution process to be fair through adopting appropriate measures;
- (3) to create "chaatal" (drying) facility for farmers through provision of appropriate credits;
- (4) to create temporary storage at LSD premises so that the paddy brought by the farmers were not damaged due to inclement weather;
- (5) to minimize harassment and loss of time at LSDs since the loss of person days during harvest and post-harvest period was critical for the farmers;
- (6) to reintroduce TPC at union levels since this would make positive contribution towards increased farmers' participation; However, in case reintroduction of TPC is not considered feasible for lack of security and storage facilities, then it may be desirable to construct small sized LSD (500 tons) at the union level.
- (7) to initiate the procurement program soon after harvests;

- (8) to minimize irregularities in weighing, if not eliminated completely;
- (9) to control excessive imports and make provision of increased effective storage for smooth operation of the procurement program and
- (10) to review the existing distribution procedure of quota to "agreement millers" in view of widespread dissatisfaction of millers about the size of the quota received.

APPENDIX A — RAPID APPRAISAL ON AMAN CROP DAMAGE AND PROSPECTS OF AMAN, 1998-99

INTRODUCTION

Between mid July and the end of September, 1998, Bangladesh was affected by the worst flood on record. The flood inundated more than half of the country; of the country's 64 districts, 52 were affected to various extents. In all, 314 Thanas were affected. The flood started as a monsoon flood but soon turned into a most devastating, prolonged flood. The most striking feature of the flood was its long duration, unprecedented in the history of Bangladesh. It lasted for about 50 to 70 days depending on location. Some of the affected areas were hit three times in the span of only two and a half months. About 31 million or 26 percent of the total population of the country were directly affected by the flood. In terms of area, about 51 percent of the country were inundated. As a result, widespread damage was caused to crops, infrastructure, industries and property. The most affected sector in the economy was agriculture, especially the crop sub-sector.

Crop is by far the most important sub-sector in agriculture in Bangladesh, which represents 78 percent of the total value added in agriculture. Cereals constitute 75 percent of the total value added in crop production. Among the cereals, rice is dominant, comprising approximately 90 percent of the value added. Among the rice crops, Aman constitutes nearly 50 percent of total rice production. As with most floods in the past, the 1998 flood also coincided with the Aman season. Hence, the Aman crop had been badly affected by the flood. A rapid appraisal of flood loss to Aman crop was, therefore, considered important from a policy response point of view.

OBJECTIVES, SCOPE AND METHODOLOGY OF THE STUDY

Objectives

The major objective of the study is to assess the loss to Aman crop caused due to the 1998 flood. The production prospect of Aman is also explored. The study also aims to assess impacts of the losses on foodgrain management and thus makes an inquiry into the stock and price situation at the farmers' and traders' levels. Moreover, it is useful to have a first-hand impression on how the affected farmers responded to the crisis. Finally, the study aims to derive an estimate of the total damages caused to Aman crop at the national level.

Methodology

The study is a component of the Food Procurement Study, a broader study related to the evaluation of the public food procurement program. The Food Procurement Survey was carried out in Rajshahi Division, which constitutes the major foodgrain procurement area of Bangladesh.

Three districts were purposively selected from Rajshahi Division so that the selected districts represent the major procurement area. The three districts selected are Bogra, Dinajpur and Naogaon. Procurement of these areas constitutes 42 percent of the country's total procurement and 49 percent of that of Rajshahi Division. A total of 10 Thanas were selected from the 3 districts at random, with the probability proportional to size. LSDs were then selected from each of the 10 Thanas. The food procurement survey was centered on these LSDs, where farmers, traders, millers and sellers were interviewed.

Having selected the 10 LSDs, 2 villages were purposively selected from within the jurisdiction of the LSDs so that one village was close to the LSDs and rice markets, and also has good market access. The other selected village was far off from both LSDs and rice markets, and also had relatively poor market access. This was designed so as to

help control the effect of distance of and accessibility to LSDs and rice markets on rice procurement more precisely.

Approximately 10 farm households from each of the Thanas (five from each of the selected villages) were selected for the Aman loss appraisal. Care was taken so that the sample farmers represented different farm sizes. One agricultural official, preferably the Thana Agriculture Officer (TAO), was also interviewed in each of the Thanas.

Aside from the formal interviews to selected farmers, Rapid Rural Appraisal (RRA)-type techniques were also applied in conducting the investigation. The techniques include group and key-informant interviews, informed opinion, and secondary data collection and observations methods. Farmers group discussions were also conducted.

Given time and resource constraints, it was not possible to follow a rigorous statistical procedure while selecting the sample. Care was taken to avoid overestimation of damage values as the respondents were highly stressed at the time of the interviews. A total of 51 farmers and 17 traders/millers had been interviewed. In addition, a total of 30 group discussions (largely with farmers) were conducted. The total number of sample units by districts is shown in Table 1.

SURVEY INSTRUMENTS

Interviews were conducted using pre-designed questionnaires. Structured but separate questionnaires were administered to each of the sample categories. These include farm households, group discussions and traders/millers. In addition to the questionnaire survey, efforts were made to capture some qualitative information on the prospect of Aman production in an informal and unstructured way.

MAJOR FINDINGS OF THE SURVEY

Before carrying out the main survey (Aman Loss and Procurement Survey), an exploratory trip was made during the time of actual flooding across eight Thanas of the three northern districts (Bogra, Naogaon and Sirajganj). All of these Thanas except

Bogra Sadar and Kahaloo were severely affected by floods. The purpose of this trip was two-fold: (i) to prepare for the main survey, including carrying out of the pre-testing of the main survey questionnaires, and, (ii) to obtain first-hand information about the nature and extent of crop damage caused due to the floods.

The exploratory trip was made between August 31 and September 2, 1998. The rapid appraisal was carried out between October 17 and November 15.

The findings that follow are largely the outcome of the sample survey, but supplemented by those of the exploratory visit wherever necessary. All values in the analysis of this study are shown in 1998-99 prices.

DEPTH AND DURATION OF FLOODING

Most of the respondents in the affected regions had flooding in their homesteads. Tables 2 and 3 present depth and duration of flooding, as reported by "all respondents" and "farmers only". The survey districts were flooded up to three times, depending on locations, in a span of two and a half months. The average depth of flooding, as reported by farmers, is 1.0 ft in their homesteads and 4.4 ft in agricultural fields¹² (Table 3). The duration of flooding varies from 9 to 18 days in homesteads, and 26 to 56 days in agricultural fields, depending on location. Most of the respondents observed that they have never experienced floods of such a long duration.

AMAN CROP DAMAGE

Aman crop damages have been investigated both in terms of acreage and production losses and are discussed below.

Acreage Damage

Table 4 presents the fully affected Aman acreage per household by varieties, as reported by farmers. On an average, the sample farmers had Aman acreage of 2.8 per

¹² Average depth and duration refer only to the households that were flooded, and flooded by the first event.

household. The farmers in the district of Dinajpur had somewhat larger acreage, about 3.2 acres per household. It is readily observed from the table that the fully affected acreage averaged over the three districts is estimated at 1.74 acre per household, which is about 62 percent of the total Aman acreage.¹³

The sample farmers in the district of Dinajpur appear to have suffered the most, to the extent of about 71 percent of the total acreage, while the percentage is about 63 percent in Bogra district. In Naogaon, the percentage of fully affected acreage is the lowest at about 46 percent.

Of the total affected acres, 61 percent accounts for high yielding varieties (HYVs), while 26 percent accounts for local transplanted Aman. The *payjam* variety accounts for 13 percent of the total fully affected areas.

Table 5 presents percentages of Aman acreage fully affected by individual varieties, as reported by farmers. It can be observed from the table that as far as the sample farmers are concerned, the local transplanted variety and *payjam* have suffered the most, to the extent of 81 and 79 percent of respective total acreage. About 54 percent of the total HYV Aman acreage suffered. Broadcast Aman appears to have suffered no damage for the sample farmers.

Production Loss

Table 6 presents Aman production loss by varieties caused due to the flood as reported by the farmers. It can be readily observed that on an average Aman production loss in the survey districts is estimated as 25 maunds per acre, while the production loss per household is estimated at 70 maunds. Valued at 1998 prices (collected for the October-November period during interviews), total Aman production loss amounted to nearly Taka 23,000 per household.

¹³ Partially affected areas have been taken into consideration while estimating the total acreage fully affected.

It can be seen from the table that an average sample household had suffered HYV Aman loss to the extent of 46 maunds, while damages to local transplanted variety and *payjam* were of 14 and 10 maunds respectively.

As in the case of percent of total acreage affected, the sample farmers in Dinajpur had suffered most in terms of value, to the extent of over 28,000 Taka per household, while in Bogra, the value of loss was estimated at 25,000 Taka per household. At 13,000 Taka per household, the value of loss was the lowest in Naogaon district.

Although the loss of inputs is part of the output loss (shown in Table 6), Table 7 was prepared in order to estimate the extent of inputs already used before the crop was damaged. As can be seen from the table, the loss to used-inputs due to the flood amounted to Taka 4,428, which is about 19 percent of the total output loss. In this context, it may be mentioned that the input-output ratio for paddy ranges from 0.47 to 0.63, depending on varieties and other production conditions.¹⁴ This means that estimation of net flood losses (stock) needs to take this into account and thereby subtract the inputs not used in the production process. In that case, however, one has to add on the flow losses indirectly caused due to the flood (for example, employment loss).

Of the total input losses caused due to the floods that took place several times, about two-thirds accounted for the labor inputs. The remaining one-third was on account of Aman seedlings, seedbeds and fertilizers.

Due to the long flood-to-peak level, little of the existing stock of seeds or food had been lost since these were moved to safer places.

¹⁴ Mention may be made of the following ratios for paddy varieties in this context: HYV Boro: 0.63; Local Boro: 0.57; HYV Aman: 0.47; Payjam Aman: 0.56. Outputs include by-products (Shahabuddin 1998).

Loss Recovery

As far as the sample farmers are concerned, Aus had suffered minimum loss as most was harvested before the floods. Aman losses, however, were colossal. During our exploratory survey,¹⁵ we observed almost no plots with any plants in the affected low-lying fields. During the survey, most of the fields were observed to still be under water. Some higher lands had partially damaged plants. Only a few could replant, but only on higher land. However, those who have been able to replant on higher land were expecting a normal harvest. It was gathered that the farmers of unaffected lands might reap a better-than-normal yield due to general moisture recharge of the soil.

The floodwater was reported to have completely receded by the end of November, depending on location. It was reported to be too late for the HYV Aman to be planted again. More importantly, our field investigation indicated that there was a serious shortage of seeds/seedlings. In some places, seeds were smuggled in from India, but at a very high price. It is estimated that about 58 percent of the standing Aman plants in the flood-affected localities had been totally damaged, and about 17 percent partially damaged. Combining together, fully and partially, the percentage of total acreage *fully* affected is estimated at 62 percent.

Our sample survey shows that in all, 40 percent of the total affected Aman area had been replanted with HYVs. Five percent of the total affected area was replanted with the local variety. The yield from the local variety is estimated to be about 40 percent of HYV yield.

Additional yield of Aman over the normal yield in the unaffected locations is estimated to be 10 percent of the harvest in a normal year.

¹⁵ Before the main survey, an exploratory trip was made at the time of flooding across eight Thanas of three northern districts e.g. Bogra, Noagaon and Sirajganj (during 31 August to 2 September). All of these Thanas except Bogra Sadar and Kahalu were severely affected by floods. The purpose of this trip was two-fold: (i) to prepare for the main survey, including carrying out of the pre-testing of the main survey questionnaires and (ii) to obtain first-hand information about the nature and extent of crop damage caused due to the flood.

Changes in Cropping Pattern

Our sample survey took place approximately during the mid-October to mid-November period. The flood lasted up to the end of September, depending on location. Farmers by and large mentioned that it would take quite a long time for the land to get dry and become suitable before broadcast Aman/Rabi crops could be grown, and that it would be too late by that time to replant. Some farmers were planning to grow mustard seeds after the water receded. It was also possible to grow wheat, but only a few seemed to be actually keen, since in such a case they would have to forego Boro for wheat. In fact, the whole replanting and recovery process depended on many other factors, including the availability of credit and seeds.

During our interviews, information was collected on the number of farmers who had changes in cropping pattern. Changes refer to those of the actual cropping pattern (at the time of interviews) compared to that in the previous year. Any potential future changes have not been incorporated. Table 8 shows that about 22 percent of the respondent farmers had carried out some changes in cropping pattern due to the flood. Table 9 shows actual changes in cropping pattern between the 1997/98 and 1998/99 seasons. The table indicates that there were considerable increases in acreage under different crops. These increases are believed to have largely taken place due to the floods. For example, the acreage under mustard seeds had increased by 269 percent compared to that in the previous year, while the acreage for wheat, potato, onion and vegetables had increased by 195, 130, 50 and 100 percent respectively, compared to that of the previous year. It is possible that after the huge Aman losses suffered by farmers, some desperate efforts were given to recover the losses.

PRIVATE STOCK AND MARKETED SURPLUS

Current Stock of Food

In order to investigate the current availability of food, it is important to know about the nature of Boro harvest during the last two years. Table 10 presents qualitative information on the nature of Boro harvest in 1998, as reported by farmers, traders and millers, while Table 11 presents a comparison of Boro harvests between 1997 and 1998. Table 12 shows a comparison of acreage and yield of Boro between 1997 and 1998 as reported by farmers. The information presented in all these Tables (10, 11 & 12) are based on respondents' perceptions.

Nearly half of the sample respondents (farmers, traders and millers) indicated that the Boro harvest in 1998 was not good. Only six percent of the respondents stated that the harvest was "very good". Compared to the harvest 1997, the Boro harvest was reported to be 3.4 percent less in 1998 (Table 11). Farmers reported a six percent decline in both acreage and yield of Boro cultivation (Table 12).

The national figure in this respect indicates a different picture. Boro production for 1998 was estimated at 8.1 million MT against the 1997 figure of 7.4 million MT. The percentage increase in 1998 over 1997 is thus estimated at 9.6 percent. In our exploratory trip as well, farmers reported that they had harvested additional 2.5 percent yield of Boro in 1998. This implies that the survey villages were not fairly representative.

Most farmers interviewed reported that they had sold Boro paddy, keeping some stock for the future. Small farmers had sold largely to the markets and larger farmers had sold to both the markets and the government go-downs.

Table 13 shows the carry-over at the beginning of the Boro season, while Table 14 shows the current stock position as reported by farmers. About 84 percent of farmers reported that they had some carry-over at the beginning of the 1998 Boro season. More than 70 percent of the farmers reported that they had some carry over from the 1998 Boro

harvest. It may be mentioned that the interviews took place at different points of time between mid-October and mid-November, 1998 and that the Aman harvest also takes place at different points of time (usually during December-January). Because of this, the two tables do not exhibit a clear picture and comparison. Hence the information, particularly on the level of current stock and surplus, is tentative and gives only a rough picture.

As evident from Table 14, on an average, farmers had more than 7 maunds of paddy stock (carried-over from the 1998 Boro and 1997 Aman season) at the time of the interviews. The farmers, by and large, reported that they had the paddy stock for consumption up to the Aman harvest. About 43 percent of respondent farmers reported that they would have some surplus after potential consumption up to the next Aman harvest, while 51 percent would have potential deficit and 6 percent would be in a break-even position. Table 14 shows that, on an average, the sample farmers in Bogra, Dinajpur and Naogaon district had a stock of 8.5, 6.6 and 7.2 maunds respectively at the time of interviews. The Table shows that, on an average, the sample farmers had a potential paddy surplus of 2.3 maunds, estimated on the basis of consumption up to the time of the Aman harvest.¹⁶

Table 15 presents information on carry-over stock by farm size, while Table 16 presents current stock position by farm size, as reported by farmers. Because of the small sample size, the farm households in the following analysis are divided broadly into two categories: small farm (up to 2.5 acres) and large farm (greater than 2.5 acres). It is quite evident from Table 15 that at the beginning of both the 1997 and 1998 Boro seasons, larger farms had carry-over stocks significantly (nearly four times) larger than the smaller ones. At the time of the interviews, large farmers are reported to have had a carry-over stock (of 1998 Boro), which was 3.7 times as much as that of small farmers. The picture concerning the current stocks is more or less similar as well, as is evident from Table 16.

¹⁶ This may pose misleading as a considerable number of farmers have some deficit but because of the presence of some extreme samples the average figure works out as surplus.

For example, the total current paddy stock per large farm household at the time of the interviews was estimated at 14.4 maunds, which was nearly 3.1 times that of the stock held by a small farm household (4.7 maunds). Similarly, as is evident from Table 16, the sample large farmers had a potential paddy surplus of 4.8 maunds (estimated on the basis of potential consumption up to the time of Aman harvest), which is nearly four times compared to an estimate of 1.3 maunds of surplus of small farmers.

Marketed Surplus

Paddy is both a subsistence and a cash crop for farmers. The farmers are in need of cash immediately after harvests as they need to pay off wages and debts, buy food (other than rice) and clothes. In our exploratory trip, it was gathered (based on informal discussions) that about 70 percent of total harvest is disposed off during the first one and a half months of the harvest when prices are low. The remaining 30 percent is sold at some later period.

During our sample survey, information was collected from the traders and millers regarding the extent of market arrival of Boro paddy in 1997 against 1998. The information is presented in Tables 17 and 18, as marketed by traders and millers respectively. The estimates of market arrivals are indicative as these estimates represent the market arrivals in particular markets/mokams or mill areas, based on a small sample, rather than total arrivals, in the districts or Thanas concerned. Table 17 shows that the traders reported a decline in market arrival in Bogra and Dinajpur of 3.7 and 8.6 percent respectively, while traders in Naogaon district reported an increase of 9 percent. The aggregate average arrival of Boro paddy marketed by traders has increased by 2.7 percent in 1998 over 1997.

Table 18 indicates that the average Boro paddy arrival in mill areas of Bogra had increased by 21.1 percent in 1998 over 1997. In Dinajpur, the average arrival is reported to have remained the same, while in Naogaon the average arrival of Boro paddy was

reported to have declined by 18.4 percent. In aggregate, there was been a decline in the market arrival in the survey areas by 10.9 percent in 1998.

Current Paddy Prices and Expected Price Movement

Paddy Price

Table 19 presents a comparison of wholesale market prices of coarse paddy before the flood, during the flood, and in the current situation (survey period), while Table 20 presents the expected price movement of coarse paddy. Table 19 shows a clear upward trend in paddy price during flood compared to the pre-flood period. The current price (October-November, 1998), however, has a declining trend compared to that prevailing during the flood. There appears to have been no considerable price change across the three districts. On an average, the price of coarse paddy during the flood was about 24 percent higher than the price prevailing before the flood. Prices at the time of the interviews declined to some extent, but were still 19 percent higher compared to prices in the pre-flood period.

Expected Paddy Price

Averaged over the three districts, the current (mid-October to mid-November, 1998) wholesale price of paddy was estimated at Tk. 328 per maund. According to farmers' perception, the wholesale price of coarse paddy was expected to be more or less stable (Tk. 325) during early November and fall to Tk. 307 per maund by the end of November.

Current Rice Price and Expected Price Movement

Rice Price

Table 21 presents a comparison of retail market price of rice before the flood, during the flood and during the interview period, while Table 22 presents the expected retail price movement of rice. As is the case with paddy, Table 21 shows a clear upward trend in rice prices in the period both before and during the flood. The current (October-November, 1998) prices, however, had a declining trend compared to that during the

flood. There appears to have been no significant price change across districts. On an average, the price of rice during the flood was 18 percent higher than before the flood. Prices during the time of interviews experienced a slight decline, but were still 15 percent higher compared to those of the pre-flood period.

Expected Rice Price

Averaged over the three districts, the current (October-November, 1998) retail price of rice estimated at Tk. 14.23 per kg. According to farmers' perception, the retail price of rice was expected to decline to Tk. 13.60 by early November, and decline further to Tk. 12.93 by the end of November, during the Aman harvest.

NATIONAL DAMAGE IN AMAN PRODUCTION, 1998-99: SOME TENTATIVE ESTIMATES

The study, completed in a few weeks time, is but a rapid assessment of Aman crop losses due to floods. Given the time and resource constraints, it is difficult to estimate precisely how much of land under different crops and varieties in the whole country had been affected and to what extent. Nevertheless, such information is crucial for the estimate of the total loss in the country caused by the floods. In this sense, the estimate of total losses caused to various crops based on the (extremely small-sized) sample estimates may be treated as tentative. Following this, the total loss assessment made here is preliminary and is subject to further investigation.

Based on the findings obtained from the sample survey and the exploratory trip, our preliminary estimate of the national Aman damage is outlined below:

1. 40 percent of total Aman acreage was affected by floods at the national level¹⁷
2. About 58 percent of the affected lands/plants were totally damaged
3. About 42 percent of the affected lands/plants were partially damaged
 - Of this, 30 percent will have 1/3 of average yield

¹⁷ This is an estimate on the basis of the exploratory field visit to flooded and non-flooded regions in 8 Thanas. In this context, it may be mentioned that a vast proportion of low-lying lands (e.g., Beels, Haors) that are presently under water are not cultivated any way, let alone under Aman crop. Besides, Aman crop in many districts of Southern and Northern regions are relatively less affected.

- 70 percent will have 1/5 of average yield
- 4. Recovery/Replanting
 - 40 percent of totally damaged Aman will be replanted with HYV variety
 - 5 percent of totally damaged Aman will be replanted with local varieties
 - (Yield 40 percent of HYV)
- 5. Additional yield of Aman (over normal yield) in unaffected regions was 10 percent

Total damage to Aman production at the national level is thus estimated at 2,321,000 MT.¹⁸

In this calculation, losses in local variety of broadcast Aman, if any, were not taken into consideration.¹⁹ The normal yield of Aman at the national level was taken as 8,850,000 MT, the total production in 1997/98. If the yield of bumper production of 1996/97 (9,550,000 MT) is considered, the estimate of Aman damage at the national level is then estimated to be 2,510,000 MT.

The ultimate extent of damage depends on how quickly and effectively the government and other agencies respond in tackling the crisis arising out of this unprecedented long duration flood.

POLICY IMPLICATIONS

Obviously, the damage to Aman production had widened the food gap from around two million MT to over four millions MT.

¹⁸ The USAID estimated the total loss to Aman crop as 23 lakh metric tons (USAID, 1999)

¹⁹ During our investigation, we were given the impression that it would require considerable time to get the land dry and suitable before broadcast local Aman crop could be grown, when it would be too late as this would hamper growing crops in the next Boro season.

Total foodgrain imports have to be increased about 1.9 million MT (from the budgeted figure of 1.75 million MT to 3.66 million MT) to compensate for the damage caused due to the flood.²⁰

Given the huge inflow of foodgrain imports, through both private and government channels so far, it appears that the food availability at the macro level may not be a problem. The problem is associated with the entitlement at the individual level because of the lack of purchasing power of the individuals concerned, associated with the huge loss of agricultural employment, estimated at around one million people a year.

Thus the Aman production losses have far-reaching budgetary and food-security implications. Nevertheless, the government had launched enormous food relief and distribution activities through various channels of PFDS, especially the Vulnerable Group Feeding (VGF) program. The government had allotted over six million VGF cards to distribute huge quantities of rice and wheat. The ultimate success depended on how quickly and effectively the government and other agencies could carry out these activities to tackle the crisis arising out of the unprecedented flood of the century.

²⁰ The estimate is based on a flood impact study, carried out by Chowdhury, Islam and Bhaattacharya (1998), *Impacts of the 1998 Flood on Bangladesh Economy - A Rapid Assessment*, Asian Development Bank, November, Dhaka.

APPENDIX TABLES

Table A.1 — Size of Sample by Different Categories in Survey Districts

District	Farm households	Group discussions	Traders/Millers	ALL
Bogra	16	9	7	32
Dinajpur	20	12	4	36
Naogaon	15	9	6	30
ALL	51	30	17	98

Note: Besides interviews through structured questionnaires, data was also collected from official sources at the Thana level.

Table A.2 — Depth And Duration Of Flooding (All Respondents)

	Flooding at							
	Homestead				Agricultural fields			
	Bogra	Dinajpur	Naogaon	All	Bogra	Dinajpur	Naogaon	All
No. of respondents	32	36	30	98	32	36	30	98
Average depth of first flood (Inches)	10	11	10	10	48	58	52	53
Average duration of first flood (Days)	18	11	14	14	54	33	49	50

Note: The survey districts were flooded up to three times, depending on locations. Average depth and duration refer to only the households that were flooded, and flooded by the first event.

Table A.3 — Depth and Duration of Flooding (as Reported by Farmers)

	Flooding at							
	Homestead				Agricultural fields			
	Bogra	Dinajpur	Naogaon	All	Bogra	Dinajpur	Naogaon	All
No. of respondents	16	20	15	51	16	20	15	51
Average depth of first flood (Inches)	7	12	19	12	48	59	50	53
Average Duration of first flood (Days)	18	9	15	14	55	26	56	42

Note: The survey districts were flooded up to 3 times, depending on locations. Average depth and duration refer to only the farm households that were flooded, and affected by the first event.

Table A.4 — Aman Acreage Affected by Varieties (as Reported by Farmers)

District	Total Aman acreage (Per household)	Acreage of Aman fully affected by varieties (Per household)			Total acreage fully affected by flood (Per household)	Percent of total acreage fully affected
		Local T. Aman	HYV Aman	Payjam		
Bogra	2.73	.13	1.39	.19	1.71	62.9
Dinajpur	3.23	.72	1.38	.19	2.29	70.9
Naogaon	2.31	.46	.26	.33	1.05	45.5
All	2.80	.46 (26.5)	1.05 (60.3)	.23 (13.2)	1.74 (100.0)	62.1

Note: Partially affected areas have been taken into consideration while estimating the total acreage fully affected.

The figures in parentheses represent respective percentages of the total acreage fully affected.

Table A.5 — Percentage of Aman Acreage Fully Affected by Varieties (as Reported by Farmers)

District	Aman varieties									
	Broadcast		Local T.		HYV		Payjam		TOTAL	
	Acreage (Per household) fully damaged	Percent acreage fully damaged	Acreage (Per household) fully damaged	Percent acreage fully damaged	Acreage (Per household) fully damaged	Percent acreage fully damaged	Acreage (Per household) fully damaged	Percent acreage fully damaged	Acreage (Per household) fully damaged	Percent acreage fully damaged
Bogra	-	-	.13	100.0	2.37	58.7	.22	86.8	2.72	62.9
Dinajpur	-	-	.98	73.5	1.93	71.9	.33	58.5	3.23	70.9
Naogaon	-	-	.50	92.0	1.48	17.6	.33	100.0	2.31	45.5
TOTAL	-	-	.57	80.7	1.94	54.1	.29	79.2	2.80	62.1

Table A.6 — Aman Production Loss by Varieties Due to Flood (as Reported by Farmers)

District	Production loss by varieties (maund per household)			Percent of affected land replanted	ALL		
	Local T. Aman	HYV Aman	Payjam		Aman production loss per acre (maund)	Aman production loss per household (maund)	Value of production loss per household (Taka)
Bogra	3.47	62.26	6.75	16.9	26.72	72.48	25,006
Dinajpur	23.01	58.48	9.38	41.6	28.17	90.87	28,199
Naogaon	12.23	11.94	15.20	66.2	16.88	39.37	12,835
All	13.71	45.98	10.26	40.1	25.0	69.95	22,944

Note: Total Aman loss is valued at price collected for October-November during interviews.

Replantation has not been considered while estimating Aman production loss.

Table A.7 — Financial Loss To Used-Inputs Due To Flood (As Reported by Farmers)

District	Financial loss per household (Taka)				
	Seed	Fertilizer	Labor	Stock of paddy & rice	TOTAL (Taka)
Bogra	1364	425	3535	-	5324
Dinajpur	1039	568	3003	-	4610
Naogaon	955	448	1827	-	3231
All (percent of total inputs lost)	1116 (25.2)	488 (11.0)	2824 (63.8)	- (-)	4428 (100.0)

Note: The input loss is actually part of the output loss (shown in Table 6). This Table is prepared only in order to estimate the extent of inputs already used before the crop was lost.

Table A.8 — Changes in Cropping Pattern Due to Flood (as Reported by Farmers)

Districts	No. of respondent farmers	No. of farmers with different cropping pattern	Percent of farmers with different cropping pattern
Bogra	16	6	37.5
Dinajpur	20	3	15.0
Naogaon	15	2	13.3
All	51	11	21.6

Note: Changes refer to those of actual cropping pattern (at the time of interviews), as compared to the previous year. Any potential future changes have not been incorporated.

Table A.9 — Changes in Cropping Pattern Between 1997/98 and 1998/99 Seasons

District	Acreage under crops per household (in decimals)											
	Mustard		Wheat		Potato		Onion		Pepper		Vegetables	
	97/98	98/99	97/98	98/99	97/98	98/99	97/98	98/99	97/98	98/99	97/98	98/99
Bogra	35	96	13	27	21	29	4	6	10	10	-	-
Percent Change		(+171%)		(+108%)		(+38%)		(+50%)		(0)		
Dinajpur	-	221	-	150	-	150	-	-	-	-	-	-
Percent Change		(-)		(-)		(-)						
Naogaon	25	50	33	33	16	9	-	-	-	-	33	66
Percent Change		(+100%)		(0)		(-44%)						(+100%)
All	32	116	20	59	20	46	4	6	10	10	33	66
Percent Change		(+269%)		(+195%)		(+130%)		(50%)		(-)		(+100%)

Table A.10 — Nature of Boro Harvest in 1998 (as Reported by Farmers, Traders and Millers)

	Percent of respondents reporting in Districts			All	
	Bogra	Dinajpur	Naogaon	No. of respondents	Percent
Very good	50.0	-	50.0	6	6.1
Good	13.8	48.3	37.9	29	29.6
As Usual	7.1	71.4	21.4	14	14.3
Not Good	50.0	25.0	25.0	48	49.0
Bad	-	-	100.0	1	1
Percent of total respondents	32.7	36.7	30.6	98	100

Table A.11 — A Comparison of Boro Harvest Between 1997 and 1998

District	Percent Change in harvest compared to the previous year as reported by			
	Farmers	Group of farmers	Traders/millers	All
Bogra	-13	-11	-13	-12.4
Dinajpur	-1	7	-4	1.6
Naogaon	-2	-5	13	.17
All	-5	-2	-2	-3.4

Note: The national figure in this respect indicates a different picture. The Boro production estimate for 1998 was 8.1 million MT against the 1997 production of 7.4 million MT. The percentage increase in 1998 over 1997 is thus 9.6 percent. This implies that the survey villages were not fairly representative.

Table A.12 — A Comparison of Acreage and Yield of Boro Between 1997 and 1998 (as Reported by Farmers)

District	Average Boro acreage (per farm household)			Boro Yield (Maund per acre)		
	1997	1998	Percent Change	1997	1998	Percent Change
Bogra	2.5	2.44	-2.5	57	49	-14.0
Dinajpur	3.87	3.91	+1.0	48	50	+4.2
Naogaon	2.92	2.29	-21.6	49	46	-6.1
All	3.16	2.97	-6.0	51	48	-5.9

Table A.13 — Carry-Over at the Beginning of Boro Season (as Reported by Farmers)

District	Carry-over at the beginning of Boro season as reported by farmers (maunds per farm household)		Carry-over from Boro 1998 at the time of interview (in maunds)
	Boro 1997	Boro 1998	
Bogra	2.62	1.82	8.05
Dinajpur	4.90	7.64	6.58
Naogaon	31.67	20.62	5.62
All	12.06	9.63	6.76

Table A.14 — Current Stock Position (as Reported by Farmers)

District	Per Farm Household		
	Total current paddy stock at the time of interview (in maunds)	Population size	Estimated Deficit/Surplus of paddy on the basis of consumption (up to the time of Aman harvest) in maunds
Bogra	8.5	9.0	+ 3.5
Dinajpur	6.6	8.0	+ 1.5
Naogaon	7.2	8.0	+ 2.0
All	7.4	8.4	+ 2.3

Note: The survey took place during mid-October to mid-November, 1998.

Table A.15 — Carry-Over at the Beginning of Boro Season (as Reported by Farmers) by Farm Size

Farm size	Carry-over at the beginning of the Boro season as reported by farmers (maunds per farm household)		Carry-over from Boro 1998 at the time of interview (in maunds)
	Boro 1997	Boro 1998	
Small	8.19	6.39	3.90
Large	22.26	18.20	14.31
All	12.06	9.63	6.76

Note: Farm Size: Small: Up to 2.5 acres
Large: Greater than 2.5 acres

Carry-over at the beginning of Boro season includes all crops.

Table A.16 — Current Stock Position by Farm Size (as Reported by Farmers)

Farm Size	Per Farm Household		
	Total current paddy stock at the time of interview (in maunds)	Family size	Estimated Deficit/Surplus of paddy on the basis of consumption (up to the time of Aman harvest) (in maunds)
Small	4.7	7.4	+ 1.3
Large	14.4	11.1	+ 4.8
All	7.4	8.4	+ 2.3

Note: Farm Size: Small: Up to 2.5 acres
Large: Greater than 2.5 acres

Table A.17 — Change in Paddy (Boro) Marketed by Traders

District	Number of traders	Average Quantity of Boro Paddy marketed (maunds) in season		
		Boro 1997	Boro 1998	Change (Percent)
Bogra	5	11,220	10,810	- 3.7
Dinajpur	2	3,500	3,200	- 8.6
Naogaon	4	16,750	18,275	+ 9.1
TOTAL	11	11,827	12,141	+ 2.7

Table A.18 — Change in Paddy (Boro) Marketed by Millers

District	Number of Millers	Average Quantity of Boro Paddy marketed (maunds) in season		
		Boro 1997	Boro 1998	Change (Percent)
Bogra	2	2,850	3,450	+ 21.1
Dinajpur	2	1,350	1,350	-
Naogaon	2	14,100	11,500	- 18.4
TOTAL	6	6,100	5,433	- 10.9

Table A.19 — Wholesale Market Price of Coarse Paddy

District	Price of paddy (Taka/maund)								
	Before the Flood (May-June, 1998)			During the Flood (July-September, 1998)			Current Price (October-November, 1998)		
	Reported by group of farmers	Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All
Bogra	291	291	291	361	344	353 (+21.3)	351	336	345 (+18.6)
Dinajpur	265	250	261	328	326	328 (+25.7)	313	309	312 (+19.5)
Naogaon	276	276	276	353	329	343 (+24.3)	332	318	326 (+18.1)
All	276	276	276	346	334	341 (+23.6)	330	323	328 (+18.8)

Note: The survey took place during mid-October to Mid-November, 1998. The farm households were not asked about the wholesale price of paddy.

The figures in parentheses represent respective percentage increases over the prices before the floods.

Table A.20 — Expected Wholesale Market Price of Coarse Paddy

District	Current price (Taka per maund)		Expected price of paddy (Taka per maund)						
	Reported by group of farmers	Reported by traders/ millers	All	Early November			End of November		
				Reported by group of farmers	Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All
Bogra	351	336	345	324	298	344	304	273	313
Dinajpur	313	309	312	285	284	307	276	273	284
Naogaon	332	318	326	331	320	270	293	291	326
All	330	323	328	310	303	325	290	279	307

Note: The survey took place between mid-October and mid-November, 1998. The interview dates for the three districts were as follows:

Bogra: October 7 -- 27
 Dinajpur: October 28 -- November 5
 Naogaon: November 5--15

Table A.21 — Retail Price of Rice

District	Price of Rice (Taka per kg)								
	Before the Flood (May-June, 1998)			During the Flood (July-September, 1998)			Current Price (October-November, 1998)		
	Reported by group of farmers	Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All
Bogra	12.50	12.07	12.27	14.75	14.04	14.37 (+17.1)	14.75	14.04	14.37 (+17.1)
Dinajpur	12.25	12.00	12.19	14.42	15.00	14.56 (+19.4)	14.04	13.25	13.84 (+13.5)
Naogaon	12.56	13.00	12.73	15.22	14.58	14.97 (+17.6)	14.67	14.33	14.53 (+14.1)
All	12.41	12.38	12.40	14.76	14.76	14.64 (+18.1)	14.41	13.96	14.23 (+14.7)

Note: The survey took place during mid-October to Mid-November, 1998. The figures in parentheses represent respective percentage increases over the prices before the floods.

Table A.22 — Expected Retail Price of Rice

District	Expected price of Rice (Taka per kg)								
	Current price (Taka per kg)			Expected price of Rice (Taka per kg)					
	Reported by group of farmers	Reported by traders/ millers	All	Early November			End of November		
Reported by group of farmers				Reported by traders/ millers	All	Reported by group of farmers	Reported by traders/ millers	All	
Bogra	14.75	14.04	14.37	13.42	12.75	13.06	12.92	12.00	12.42
Dinajpur	14.04	13.25	13.84	13.21	12.88	13.13	12.96	12.63	12.88
Naogaon	14.67	14.33	14.53	14.67	14.42	14.57	13.44	13.42	13.43
All	14.41	13.96	14.23	13.74	13.37	13.60	13.11	12.65	12.93

Note: The survey took place between mid-October and Mid-November, 1998. The interview dates for the three districts were as follows.

Bogra: 7 - 27 October
 Dinajpur: 28 Oct. - 5 Nov.
 Naogaon: 5-15 Nov.

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FMRSP Bangladesh

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For information contact:

FMRSP-IFPRI Bangladesh

*House # 9/A, Road # 15 (New)
Dhanmondi R/A, Dhaka-1209, Bangladesh
Phone: + (880 2) 8123763/65, 8123793-4, 9117646
Fax: + (880 2) 9119206
E-mail: fmrsp1@citechco.net
Web: <http://www.citechco.net/ifpri>*

IFPRI Head Office

*2033 K Street, N.W.
Washington, D.C. 20006-1002, U.S.A.
Phone: (202) 862-5600, Fax: (202) 467-4439
E-mail: ifpri@cgiar.org
Web: <http://www.cgiar.org/ifpri>*