

PN-ACN-965

**CURRENT FOOD POLICY ISSUES IN
BANGLADESH**

VOLUME V

Policy Advisory Notes

January 2000 to June 2001

JUNE 24, 2001

FMRSP Bangladesh

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

International Food Policy Research Institute

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INTRODUCTION

One major activity of the Food Management and Research Support Project (FMRSP) is to provide advisory services to the Government of Bangladesh. From August 1997 through December 1999, the project produced four bound sets of memos, containing a total of 43 policy memos. This fifth bound set of memos covers the period from January 2000 to June 2001, and includes 10 policy memos, almost all in response to specific requests by the Secretary of Food.

During this eighteen month period, Bangladesh government food policy focused mainly on issues related to plentiful harvests and low prices. Following the 1998 floods which severely damaged the 1998/99 aman rice crop, the country experienced five consecutive excellent harvests: 1999 boro/aus, 1999/2000 aman, 2000 boro/aus, 2000/2001 aman and 2001 boro. As a result, concerns of low market prices for farmers, size of domestic procurement, quality deterioration of government stocks dominated the policy agenda.

“Implications of Increasing Trade Taxes on Rice Imports”, written on 3 January 2000, discussed the implications for prices, imports and government revenues of putting on a 2.5 percent development surcharge or a 5 percent customs duty on rice imports. (Since February 1998, there had been no taxes on rice imports apart from the Advanced Income Tax (AIT)). The memo argued that imposing a tariff on rice imports at that time would have essentially no effect on coarse rice prices or imports since domestic coarse rice prices were already below import parity levels. The tariff might nonetheless result in a small amount of revenues for the government from high-quality rice imports and goods falsely declared as rice at customs. A 5 percent tariff might be preferred to a 2.5 percent tariff because of the possibility of slightly higher revenues and because it brings the tariff

again faces another major rice shortage, like that after the 1997/98 aman crop or the 1998 flood, the import tariff could again be removed as a signal to encourage private sector trade, a policy that was successfully implemented in February 1998.

“Foodgrain Production, Procurement and Distribution: Policy Issues”, written 23 February 2000 discussed a number of issues including 1999/2000 wheat and boro production estimates, foodgrain distribution and stock levels. The memo suggested that with given then current production estimates of wheat and boro production, procurement of boro rice and wheat may fall short of target. In this event, additional wheat stocks may be needed for possible distribution for emergency operations in August, September and beyond, in another major flood occurs. Thus, the GOB might consider requesting donors to schedule the arrival of at least 2.0 lakh MTs of wheat food aid in August through October 2000, with at least 0.9 lakh MTs arriving in August 2000. Alternatively, this amount of wheat could be imported commercially in July and August 2000.

Moreover, the memo noted that the age of rice stocks was a cause for some concern. As of the end of January 2000, at least 1.09 lakh MTs of rice were more than eight months old. Under the current distribution plan, 44 thousand MTs of rice stock would be more than eight months old on 30 June 2000, and 27 thousand MTs of rice stock will be more than ten months old. Some acceleration in rice distribution was thus needed. One option would be to increase Vulnerable Group Feeding by 0.5 lakh MTs.

Finally, the memo noted that government foodgrain stock levels reached record levels at the end of December 1999 (15.64 lakh MTs). High levels of stocks provide an extra margin of safety in managing the PFDS and in preparing for emergencies. However, because stocks must be rotated to avoid storage losses, high stock levels imply a large volume of public foodgrain distribution. Given the current programs of the PFDS, buying and selling of rice and wheat typically involve subsidies, as the sales price of the foodgrain is less than the procurement price plus storage and handling. Thus, larger distribution tends to imply larger fiscal costs to the government. Improved quality of

efficiency and reducing the costs of the PFDS. Another option would be for the government to **buy and sell foodgrain at market prices to rotate stocks**, thus enabling the government to substantially reduce the cost of rotating stocks.

“Implications of Aging Rice and Wheat Stocks”, was written on 1 May, 2000 at the request of the Secretary of Food. This memo examined two major emerging problems for the PFDS: a build-up of aging rice stocks and sharply increasing fiscal costs. The memo presented data on the age and quality of current foodgrain stocks and included projections of the age of stocks under current distribution and procurement plans. Several broad options for stocks and the PFDS were also analyzed including further increases in rice distribution, wholesale open market sales to rotate stocks at minimal fiscal cost, and a shift in composition and size of foodgrain stocks.

The memo, “The 1999/2000 Boro Harvest, Market Prices, and Private Imports”, written 22 May, 2000, was written at the request of Mr. Anisuzzaman, Adviser to the Prime Minister on Food and Agriculture. This memo examined the production outlook, market prices, imports and India’s rice import policy and stocks. The memo concluded that as of mid-May 2000, **the rice supply situation in Bangladesh was more than adequate**. Prospects for the boro harvest were good; world market prices (ex: Bangkok) were low; and India’s rice stocks and market supply so large that their major concern regarding rice markets appeared to be how to boost Indian farmer prices. Private sector rice imports into Bangladesh in the coming months were likely to be very small, and mainly limited to high quality rice. Bangladesh rice stocks were also adequate and were projected to increase further after boro procurement is completed at the end of August. The memo cautioned against too large a buildup of rice stocks, since boro rice is especially difficult to store.

The memo, “Benefits and Costs of Additional Boro Procurement”, written 27 July, 2000, discussed issues relating to the age of stocks and rice procurement from the

procurement. If this additional boro procurement was balanced by a reduction in government commercial imports of the same quantity, the fiscal effects would likely be approximately neutral, given the expected costs of importing rice from Thailand in early 2001. However, much of the additional boro rice procured would remain in government stocks through the end of June 2001, seriously deteriorating in quality, unless the public foodgrain distribution is increased beyond the current plan. Such an increase in distribution, however, would entail additional fiscal costs.

Another option for supporting farmgate prices without resulting in major storage problems would be to procure additional aman rice if the aman crop is good. Because aman rice stores better, and because the rice would be procured later in the year, serious storage problems could be avoided, at least during fiscal year 2000-2001. In any case, it will remain important to analyze the implications of future policy changes on both the volume and age of foodgrain stocks. Various alternatives to minimize the quantity of deteriorating stocks through adjustments in rice and wheat distribution should also be analyzed in the coming months.

The memo concluded that there is a tradeoff involved in increasing boro procurement. Farmers and traders who are able to sell at the procurement centers will benefit from 1-2 Taka/kg margin between the market price and the procurement price. But, the Ministry of Food will face difficulties with aging rice stocks by the end of the 2000/2001 fiscal year unless rice distribution is also increased by approximately the same amount as the additional procurement.

The memo, "A Note on the State of the PFDS," written on 3 October 2000, covered overall foodgrain availability, targeting of the PFDS, and possibilities of a significant expansion in total foodgrain distribution. Regarding foodgrain availability, the memo noted that although West Bengal (India) had been hard-hit by recent floods, flood damage in Bangladesh is confined mainly to western parts of the country around Jessore. Estimates of rice production suggested that less than 5 percent of the rice crop had been

adversely affected. High prices were not a concern; instead the GOB had been attempting to boost the low price of rice through additional domestic procurement.

One of USAID's indicators of the efficiency of the Public Foodgrain Distribution System, the share of public distribution targeted to the poor, pointed to an efficient and pro-poor PFDS in 1998/99 and 1999/2000. 84.7 percent of foodgrain distribution in 1999/2000 was through targeted programs, down only slightly from the record 87.9 percent in the 1998/99 flood year. However, for 2000/2001, the share of PFDS foodgrain distributed through targeted programs was projected to fall to 75.2 percent, mainly because of 200 thousand MTs of planned Fair Price Card sales (half rice and half wheat). In principle, recipients of Fair Price Cards are chosen based on legitimate needs. It is possible, however, that this program could expand to become a permanent ration channel, rather than simply a means to help poor households (and stabilize markets) in periods of high prices. The memo noted, however, that the planned 200 thousand MTs of Fair Price Card sales may not occur. Market prices of comparable quality grain were below the stipulated sales prices of rice and wheat (13.0 Tk/kg for rice and 9.0 Tk/kg for wheat), and no significant sales had taken place.

Finally, the memo noted that, to deal with perceived problems of lack of storage capacity, the Directorate General of Food is in the process of building more godowns and hiring 800 to 1000 new employees, adding to the current work force of about 11,000 employees. (Reforms in the early 1990s had reduced the size of the DG Food work force from about 13,000 in 1992 to about 9,000 in 1994.) Together with the possibility of expansion in fair price card distribution, the planned increase in storage capacity and work force could indicate a potentially major expansion of the PFDS.

"Food Aid Levels and Producer Price Incentives", written 16 November 2000, discussed the possibilities that food aid in 2000/2001 is depressing market prices below import parity levels and having a negative effect on domestic wheat production and farmer incomes. In general, in order to avoid depressing market prices below import

be imported by the private sector under free trade in the absence of food aid. In 1999/2000, the 806 thousand MTs of private sector imports and 813 thousand MTs of public net distribution (total distribution less domestic procurement) added a total of 1.619 million MTs of wheat to domestic supplies. Given that domestic prices remained close to estimated import parity prices for most of the year, and perhaps more important, that large amounts of wheat were imported by the private sector, it appears that food aid did not lead to price disincentive effects for Bangladesh wheat farmers in 1999/2000.

However, bumper rice harvests (which reduce rice prices and thereby reduce consumer demand for wheat) could reduce demand for privately imported or PFDS wheat to 1.24 million MTs at 1999-2000 world wheat price level, or to about 940 thousand MTs at the higher, five-year average world price level. Given that import demand for milling wheat is about 360 thousand MTs per year, total demand for privately imported or PFDS ordinary wheat would be only about 580 thousand MTs in the latter scenario. Net PFDS distribution greater than this amount would drive domestic prices below import parity levels.

There are some indications that this last scenario may not be unrealistic. Since April 2000, national average domestic wheat prices have fallen to an average of 1.1 Tk/kg below estimated import parity levels. Nonetheless, private sector imports remained high. From April through June, this was apparently due to imports of exceptionally low-priced wheat (about \$130/MT C&F Chittagong) from the EU and Turkey. This low-priced wheat is reportedly no longer available in the international market, however, and official data on imports through August 2000 indicated that private market imports had slowed considerably after June 2000.

The memo concluded that, unlike the situation throughout much of the last three years, there is a realistic possibility that food aid inflows, (together with stock draw downs), distributed through the PFDS, could result in price disincentive effects for Bangladesh wheat producers in 2000/2001. Further analysis is required, taking into

consumer demand for wheat, and sensitivity of the results to alternative assumptions of world prices and economic parameters. If bountiful rice harvests continue and world wheat prices rise, possible price disincentives of food aid (and Ministry of Food commercial imports) could once again become a major food policy issue for Bangladesh.

The memo, "Implications of a 1 lakh Increase in FFW Rice Distribution," written on 22 February 2001 by Paul Dorosh and Ruhul Amin, Director, FPMU, discussed the implications of the proposed 1 lakh MT increase in FFW rice distribution in terms of public foodgrain stocks, fiscal costs and leakages, and market prices of rice.

The memo stated that current and projected foodgrain stocks, coupled with relatively low market prices following the successful 2000/2001 aman harvest, were more than sufficient to permit a 1 lakh MT increasing in rice distribution through FFW from March to May 2001. Even with the additional distribution, foodgrain stocks were projected to be 991 thousand MTs (net) and 1.083 million MTs (gross). Moreover, some increase in rice distribution (beyond current plans and normal July-September distribution) was needed to avoid having about 70 thousand MTs of rice reach nine months of age by the end of September 2001.

However, fiscal costs of additional distribution are high -- 140 crore Taka (25.9 million dollars). Moreover, rapid increases in distribution entail increased risk of leakages and diversion of resources that could be embarrassing to the Government. Finally, additional distribution could lower wholesale market prices of coarse rice in March-May 2001 by 4 to 10 percent (0.5 to 1.1 Tk/kg), compared to prices in the absence of additional distribution. A smaller increase in FFW rice distribution would have proportionately less fiscal costs and market price impacts.

Thus, increased distribution, while feasible, could come at a potentially high cost both to the government budget and to farmers, in general. A more moderate increase in FFW rice distribution (of 50 to 70 thousand MTs) would limit the direct fiscal costs and

rice for wheat in various channels would solve the aging rice stock problem at an even lesser fiscal cost, however.

The 10 April, 2001 memo, "Some Observations on Food Aid, Food Stocks and the Public Foodgrain Distribution System", formed the basis of a presentation on various food policy issues. This memo discussed the role of food aid in food security, pressure for expansion of the Public Foodgrain Distribution System, and assessing the need for food aid in an emergency situation. Food aid has made a major positive contribution to food security and development in Bangladesh through providing the resources for increased access to food by poor households as well as funding programs for rural infrastructure, training and other projects. Food aid's role in increasing availability of foodgrain has diminished over time, but its usefulness for increasing access to food by the poor continues. Evaluating the levels of non-emergency food aid should take into account, however, options for using cash-funded programs as an alternative to food transfers. It is important that reductions in food aid, if they occur, do not lead to reductions in overall funding for programs to increase food security. Finally, the memo suggested that further efforts are needed to reduce leakages within the PFDS and to explore options for non-food programs to increase access to food by the poor.

"Implications of a 1 lakh Increase in Wheat Distribution," written 3 May, 2001, discussed the implications of a proposed 1.25 lakh MT increase in wheat distribution in terms of public foodgrain stocks, fiscal costs and leakages. Under then current distribution and procurement plans, wheat stocks at the end of June 2001 were expected to be 263 thousand MTs, with total stocks of 915 thousand MTs. An increase in wheat distribution by 1.25 lakh MTs over the last two months of the 2000/2001 fiscal year would lower (net) wheat stocks to only 138 thousand MTs and total (net) stocks to 739 thousand MTs. This would bring wheat stocks to dangerously low levels.

The memo also noted that fiscal costs of additional wheat distribution were high – 152.5 crore Taka (28.2 million dollars). Distributing an extra 1 lakh MTs of rice instead

million dollars). Moreover, rapid increases in distribution of either rice or wheat entail increased risk of leakages and diversion of resources that could be embarrassing to the Government.

The memos included in this volume, (along with the memos in the earlier four volumes) are the products of a team effort. Dr. Paul Dorosh, Economist and Chief of Party of the FMRSP, wrote the initial drafts of all memos in this fifth volume. Mr. Naser Farid, Additional Director of the FPMU, made major contributions to the statistical and economic analysis in almost all these memos. Ruhul Amin, Director of the FPMU, added many important insights on the policy issues involved, and Carlo del Ninno provided helpful comments on drafts of several memos. Mr. A.K.M Nurul Afsar, Additional Director General, Directorate General of Food, also provided useful insights and technical information on foodgrain stocks for several memos. Mohammed Abdul Aziz, Project Director of the FMRSP made major contributions as well, particularly on the 23 February 2000 memo, "Foodgrain Production, Procurement and Distribution: Policy Issues". In addition, a number of others provided research support, including Mr. Hajikul Islam, Research Officer, FPMU, Mr. Anarul Kabir, research assistant, FMRSP-IFPRI, and Mr. Mohammad Saifur Rahman, research analyst, FMRSP-IFPRI.

Finally, although much of the analysis in these memos was enhanced by research results from reports by International Food Policy Research Institute and Bangladesh Institute of Development Studies researchers as part of the FMRSP, these memos are not research reports. Rather, almost all were written in response to direct requests of the Ministry of Food, often under very tight time constraints. The major purpose of these memos, thus, was not to provide a comprehensive analysis of these topics, but to provide timely, practical policy analysis needed for current policy decisions.

**FMRSP memo
3 January, 2000**

Implications of Increasing Trade Taxes on Rice Imports

Since February 1998, there have been no taxes on rice imports apart from the Advanced Income Tax (AIT). This memo discusses the implications for prices, imports and government revenues of putting on a 2.5 percent development surcharge or a 5 percent customs duty on rice imports.

As shown in Figure 1, the average wholesale price of coarse rice in Dhaka has ranged from 2.0 to 3.2 Taka/kg below the cost of imported rice (from India) since the bumper boro rice harvest in mid-1999. With no price incentive to import coarse rice, rice imports have fallen dramatically from an average of 2.26 lakh MTs per month in the first six months of 1999, to only 15 thousand MTs in November 1999. With the good 1999/2000 aman harvest now reaching domestic markets, the market price is likely to remain significantly below import parity levels until at least April 2000. Thus, imports of coarse rice are likely to be very small in the next several months.

Note that it is likely that the rice import figure for July through November 1999 reflects high-quality rice imports and false customs declarations to evade payments for other imported goods with high duties. As shown above there was no price incentive for these imports (at least for sales in Dhaka): importers would lose more than 2.0 Tk/kg for every kilogram imported. Several newspapers have reported the practice of false customs declarations that some traders use to evade taxes on imports of fruit and other high-tariff items. Moreover, for the most recent period for which comparable data are available for both countries, (April 1998 through March 1999), Bangladesh customs data on rice imports exceed the Indian figures by 1.0 million MTs (3.2 million MTs compared with 2.2 million MTs).

What then would be the effect of increasing taxes on coarse rice imports?

1. Since the cost of imported coarse rice is already more than 2.0 Tk/kg higher than domestic rice (and imports are near zero), an additional tariff will only raise the cost of imported rice, further reducing incentives for imports. Imports will remain near zero.
2. Since there are almost no coarse rice imports now, there will be essentially no effect on coarse rice supply or domestic coarse rice prices.
3. A tariff may lead to a small amount of government revenues through continued imports of higher quality rice and possibly through the tariff on goods falsely declared as rice. At the November 1999 level of rice imports of 15 thousand MTs and an estimated C+F price of 12.0 Tk/kg, a 2.5 percent tax would generate 45 lakh Taka per month and a 5.0 percent tax would generate 90 lakh Taka per month.

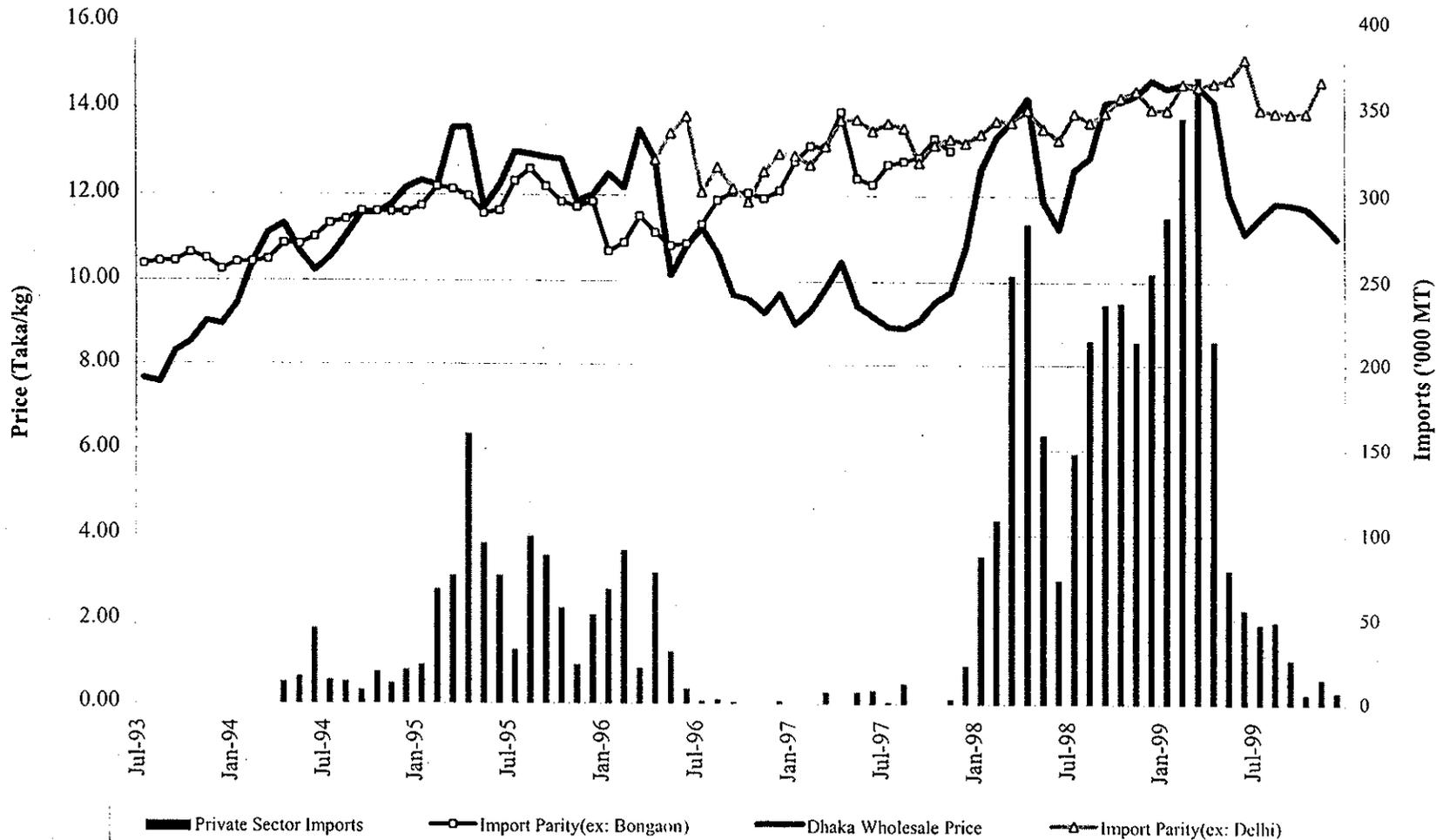
In the medium-run, if the rice tariff remains and Bangladesh again imports a significant amount of rice, it is important to consider the implications of the tariff structure on producer incentives. Wheat imports currently face both the 2.5 percent development surcharge and the 5 percent customs duty. Wheat production is thus protected relative to the world market, while rice production is not. Keeping rice tariffs close to those of wheat will avoid a tariff bias in favor of wheat production over rice production.

Conclusions

Imposing a tariff on rice imports at this time will have essentially no effect on coarse rice prices or imports since domestic coarse rice prices are already below import parity levels. The tariff may nonetheless result in a small amount of revenues for the

government from high-quality rice imports and goods falsely declared as rice at customs. A 5 percent tariff may be preferred to a 2.5 percent tariff because of the possibility of slightly higher revenues and because it brings the tariff structure for rice closer to that of wheat. If Bangladesh again faces another major rice shortage, like that after the 1997/98 aman crop or the 1998 flood, the import tariff could again be removed as a signal to encourage private sector trade, a policy that was successfully implemented in February 1998.

Figure 1 - Rice Prices and Quantity of Private Rice Imports in Bangladesh, 1993-99



Note : Price data for December 1999 is up to the third week only; private sector imports are as of 12th December, 1999. From November 1998, the carrying cost has increased by 1.1 Tk/kg to 4.1 Tk/kg.

Source : Dorosh (1999), calculated using data from FPMU and MIS, DG Food, CMIE (1999, 1998) and Baulch, Das et. al, (1998).

FPMU/FMRSP memo
23 February, 2000

Foodgrain Production, Procurement and Distribution: Policy Issues

1999/2000 Wheat Production Estimate

- Wheat acreage reported by DAE shows a 15% decrease this year (7.25 lakh hectares) compared to last year (8.57 lakh hectares).
- Last year's final production estimate of BBS was 19.08 lakh MTs, with an estimated yield of 2.23 MTs/hectare, (0.875 MT/acre). This year's yield prospect seems relatively better than last year due to favorable weather condition (sufficient rainfall at flowering stage, in particular).
- Projected wheat output is in the range of 16.5 to 17.5 lakh MTs, an 8.3 to 13.5 percent production decline.

Fixation of Government Wheat Procurement Price and Quantity

- The level of Government opening stock of wheat in February was 8.18 lakh MTs, which was about 10% higher than opening stock of wheat in February, 1999 (7.45 lakh MTs). Delayed wheat offtake in the month of February and March, 2000 may cause a relatively higher wheat stock level prior to procurement season. This may constrain in getting enough godown space in intensive procurement region.

1999/2000 Boro Production Prospect

- The progress in cultivation of Boro this year is lagging behind, as per reports of DAE received so far. The latest estimate of DAE shows about a 1 percent decrease in area coverage (26.99 lakh hectares through 15/02/2000) compared to the same period of

last year (27.20 lakh hectares) though the current input supply and price situation seems satisfactory at this moment.

- Against the BBS's final production estimate of Boro last year (105.5 lakh m. tons), this year's Boro production target has been set at 92 lakh m. tons. Influenced by a higher than normal pre-plantation rice price situation and Government's post-flood rehabilitation programmes, last year's Boro production was exceptionally high.

Distribution and Stock Levels

- Current target levels of rice and wheat procurement are 2 lakh MTs aman; 2.5 lakh MTs boro and 2 lakh MTs wheat. Under the current proposed distribution plan of 8.76 lakh MTs of rice and 11.18 lakh MTs of wheat, net stocks at the end of June 2000 will be 8.90 lakh MTs, (4.96 lakh MTs of rice and 3.94 lakh MTs of wheat).
- Given the current production estimates discussed above, **procurement of boro rice and wheat may fall short of target**. If both boro and wheat production fall short by 0.5 lakh MTs, (so that boro procurement is 2.0 lakh MTs and wheat procurement is 1.5 lakh MTs), then **net stocks at the end of June 2000 will be 7.90 lakh MTs**, (4.46 lakh MTs of rice and 3.45 lakh MTs of wheat).
- Although, this level of stocks is sufficient for the period through July or August, 2000, additional wheat stocks are needed for **possible distribution for emergency operations** in August, September and beyond, in the event of a major flood. The donors should be requested to schedule the arrival of **at least 2.0 lakh MTs of wheat food aid in August through October 2000**, with at least 0.9 lakh MTs arriving in **August 2000**. Alternatively, this amount of wheat may be **imported commercially** in July and August 2000.

- **Age of rice stocks** is of some concern, however. As of the end of January 2000, at least 1.09 lakh MTs of rice were more than eight months old. (In terms of quality, 1.19 lakh MTs of rice were DSD-2 as of 31 January, 2000.) Under the current distribution plan, 44 thousand MTs of rice stock will be more than eight months old on 30 June 2000, and 27 thousand MTs of rice stock will be more than ten months old. **Some acceleration in rice distribution is thus needed.**
- The recently approved **0.50 lakh MTs** increase in rice distribution through **Vulnerable Group Feeding** may be reviewed in late March and early April. Distribution of VGF would depend on field conditions at that time.

Food Aid for 2000/2001

- Current distribution plans for wheat in 2000/2001 total 10.14 lakh MTs. With only 5 lakh MTs of projected food aid, 2 lakh MTs of GOB commercial imports and 2 lakh MTs of domestic procurement, wheat stock levels would fall to 1.5 lakh MTs at the end of June 2001.
- Additional food aid wheat from the United States, (3 lakh MTs of U.S. 416B and 0.5 lakh MTs of PL480 Title I), would enable the government to maintain wheat stocks at a safe level and perhaps reduce its own commercial imports slightly.

Levels of Stock and Total PFDS Distribution

- Government foodgrain stock levels reached record levels at the end of December 1999 (15.64 lakh MTs). High levels of stocks provide an extra margin of safety in managing the PFDS and in preparing for emergencies.
- However, because **stocks must be rotated to avoid storage losses, high stock levels imply a large volume of public foodgrain distribution.** If rice can be safely stored

for **six months**, then the rice stock must be **rotated twice** during the year. Thus, 5 lakh MTs of rice stock would imply 10 lakh MTs annual rice procurement and distribution.

- If storage facilities and the quality of procured rice improve so that rice can be stored **eight months**, then on average, the rice stock must be **rotated 1.5 times per year**. 5 lakh MTs of rice stock would imply approximately 7.5 lakh MTs of annual rice procurement and distribution.
- Given the current programs of the PFDS, buying and selling of rice and wheat typically involve subsidies, as the sales price of the foodgrain is less than the procurement price plus storage and handling. Thus, larger distribution tends to imply larger fiscal costs to the government.
- Improved quality of procured grain and improved storage facilities are one major way of improving the efficiency and reducing the costs of the PFDS. By reducing the need to rotate stocks, the government can hold higher average stocks without increasing total procurement, distribution or subsidies.
- Another option would be for the government to buy and sell foodgrain at market prices to rotate stocks. This could also reduce the costs of reducing stocks substantially.
- In summary, because of the need to rotate stocks, stock levels are closely linked to the volume of procurement and distribution. The implications of stock levels on the size of the PFDS and the government budget require further analysis.

Table 1: Projected Quantity and Age of Rice Stocks under Option 2, 1999-2000

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July '99	745	62	0	0	0
August	846	92	14	0	0
September	800	88	33	0	0
October	716	88	0	0	0
November	648	257	18	0	0
December	650	368	226	0	0
January '2000	650	333	250	109	0
February	549	330	183	100	0
March	442	237	223	75	0
April	343	117	113	99	0
May	422	72	71	68	0
June	446	79	46	44	27

Note: Old stock is defined as old stock in addition to the projected typical 0.7 thousand MTs of rice storage losses per month.

Source: Ministry of Food, FPMU.

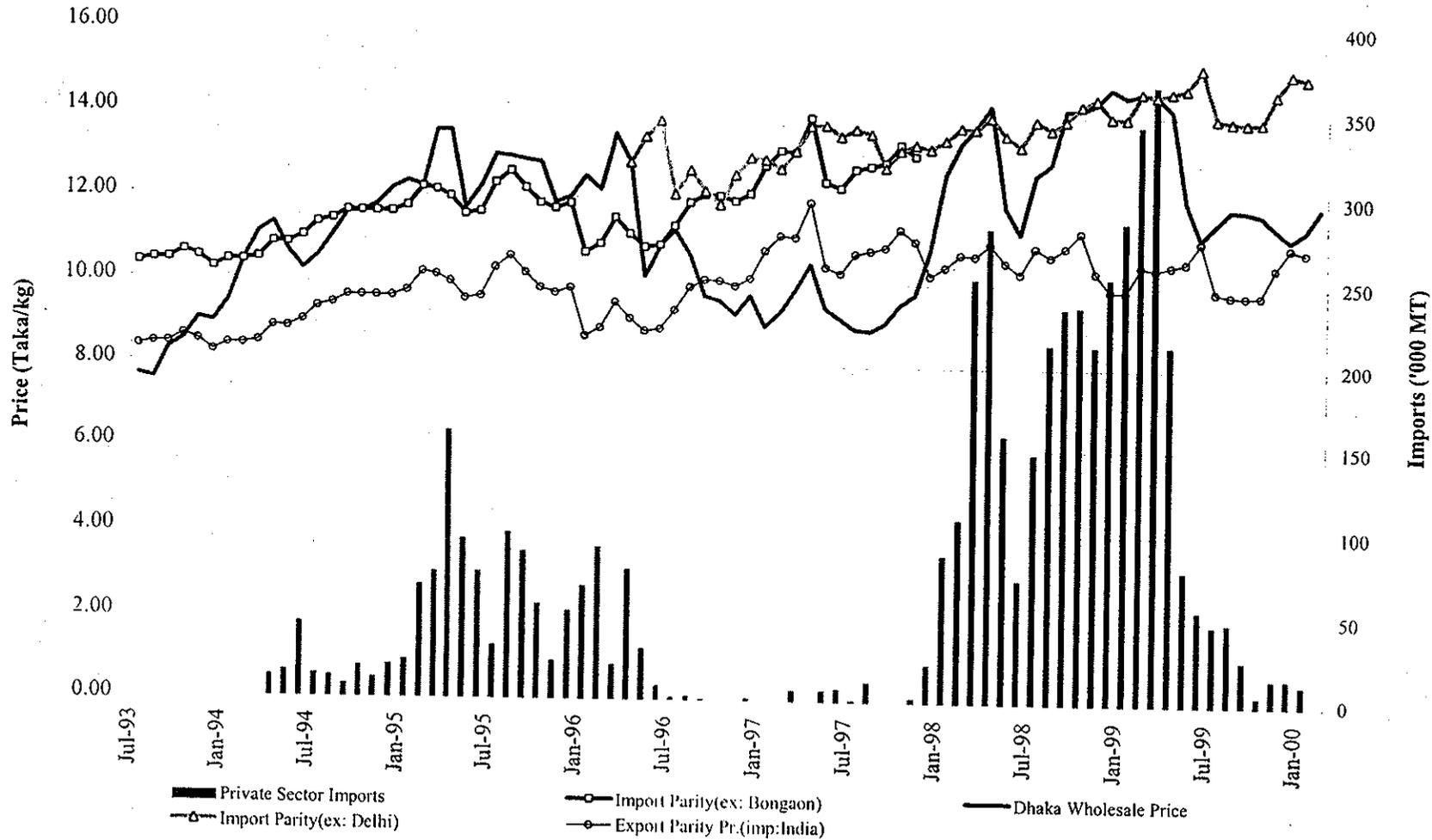
Table 2: Projected Quantity and Age of Wheat Stocks under Option 2, 1999-2000

	End Stock Wheat Total	End Stock Wheat > 6 months	End Stock Wheat > 7months	End Stock Wheat > 8months
July '99	411	0	0	0
August	404	0	0	0
September	499	54	0	0
October	622	145	0	0
November	763	181	75	0
December	914	141	77	0
Jan '2000	818	3	2	0
February	763	0	0	0
March	602	0	0	0
April	495	0	0	0
May	402	0	0	0
June	345	78	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 thousand MT of wheat storage losses per month.

Source: Ministry of Food, FPMU.

Figure 1 - Rice Prices and Quantity of Private Rice Imports in Bangladesh, 1993-2000



Note : Price data for February 2000 is up to the second week only; private sector imports are as of 31st January, 2000. From November 1998, the carrying cost has increased by 1.1 Tk/kg to 4.1 Tk/kg. Export parity price Includes Bongaon price from July 93 to Nov 1997; and Delhi wholesale price thereafter.

Source : Dorosh (1999), calculated using data from FPMU and MIS, DG Food, CMIE (1998, 1999, 2000) and Baulch, Das et. al, (1999).

Table 2a: Projected Quantity and Age of Rice Stocks under Option 1, 1999-2000

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July '99	745	62	0	0	0
August	846	92	14	0	0
September	800	88	33	0	0
October	716	88	0	0	0
November	648	257	18	0	0
December	650	368	226	0	0
January '2000	650	333	250	109	0
February	549	330	183	100	0
March	442	237	223	75	0
April	373	147	143	129	0
May	477	102	101	98	0
June	526	109	76	76	57

Note: Old stock is defined as old stock in addition to the projected typical 0.7 thousand MTs of rice storage losses per month.

Source: Ministry of Food, FPMU.

19 February 2000

Need Stock Flow through Dec 2000

Old rice stocks - remain a problem until Sept?

Wheat stocks 395 end June

Wheat Dist - 50,000 MTs July - Sept 99

w/ normal dist - 19' ~ 350,000 wheat end Sept

w/ flood - addtl dist - ~~100~~ 100 - 1 quarter
~ 250,000 wheat

potential problem if no addtl grain -
end Oct / November

FPMU

Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice & Wheat during 1999/2000

19 Feb 2000

Option 1: Base Scenario

(000 MT)

Month	OPENING STOCK			ADDITION										TOTAL	OFF-TAKE																	Total	Stock net of											
				Domestic Procurement			Import			RICE					WHEAT				Rice	Priced				Non-Priced				Wheat	TAKE	transit deduct														
	Rice	heat	Total	Rice	Wheat	total	Rice	Wheat	total	OMI	OP	EP	Total	FW	VGD	FFE	TR	VGF		GR	thers	Total	OMI	P/FM	LEI	EP	total			FFW	VGD	FFE	TR	VGF	GR	thers	Total	Total	Rice	Wheat	Total			
99	695	504	1,199	83	1	84	0	0	0	0	0	84	0.0	0.6	10.4	11.0	0.0	5.5	0.0	0	0.0	0.4	0.3	6.3	17.3	1.2	1.2	1.0	6.6	9.9	3.9	9.2	0.0	0.0	0.2	0.0	0.0	13.3	23.3	40.5	745	411	1156	
st	700	481	1,241	148	0	148	0	7	0	0	7	155	0.1	0.7	10.9	11.7	0.0	14.6	0.0	0	15.8	0.6	4.1	35.1	46.7	3.0	1.1	0.8	7.3	12.2	0.4	0.2	0.0	0.2	0.3	0.0	1.1	13.3	60.0	846	404	1249		
m	861	474	1,334	14	0	14	0	109	0	0	109	123	0.1	0.7	10.7	11.4	1	16.2	0.0	0	22.6	1.3	6.3	47.2	58.6	2.3	1.5	0.0	6.6	10.4	0.3	0.1	0.0	0.2	1.5	0.0	2.2	12.5	71.1	800	499	1300		
er	815	569	1,385	0	0	0	3	191	0	0	3	194	0.6	0.7	10.8	12.1	0	11.3	35.7	3	19.5	2.5	3.2	74.9	87.0	3.7	1.5	0.9	7.9	14.0	3.7	24.4	21.6	0.2	2.5	0.3	0.1	52.8	66.7	153.8	716	622	1339	
m	731	692	1,424	0	0	0	1	210	0	0	1	211	0.0	0.7	10.2	10.9	0	1.8	30.7	8	11.3	0.5	5.3	57.9	68.8	4.4	1.3	0.9	7.5	14.1	16.4	16.2	11.0	10.0	0.2	0.3	0.3	54.4	68.5	137.3	648	763	1411	
m	643	833	1,496	33	0	33	0	256	0	0	0	256	289	0.0	0.7	11.0	11.7	2	1.0	1.3	8	2.6	0.3	3.7	18.9	30.6	3.0	1.0	0.9	7.5	12.4	20.2	29.4	24.5	13.7	0.3	2.2	0.8	91.1	103.5	134.1	650	914	1564
00	665	984	1,649	117	0	117	0	43	0	0	0	43	160	0.0	0.8	10.5	11.1	62	5.3	16.6	1	15.2	0.2	5.2	105.5	116.6	2.8	3.8	1.0	8.2	15.8	48.7	6.0	48.8	2.3	15.3	0.0	0.6	121.7	137.5	254.1	650	818	1468
ary	665	888	1,553	50	0	50	0	75	0	0	0	75	125	0.0	1.0	11.6	12.6	82	3.0	25.0	5	15.0	5.0	2.2	137.2	149.8	10.0	2.0	1.0	9.0	22.0	75.0	0.0	8.0	15.0	2.0	5.0	2.0	107.0	129.0	278.8	549	763	1312
h	564	833	1,397	0	30	30	0	0	0	0	0	30	30	0.0	1.0	10.6	11.6	37	3.0	21.0	2	25.0	5.0	2.0	95.0	106.6	5.0	2.0	1.0	9.0	17.0	135.0	5.0	10.0	15.0	0.0	5.0	3.0	173.0	190.0	296.6	442	602	1044
I	457	672	1,129	25	80	105	0	0	0	0	0	105	105	0.0	1.0	10.0	11.0	60	2.0	20.0	2	25.0	2.0	1.0	112.0	123.0	5.0	2.0	1.0	10.0	18.0	95.0	10.0	10.0	15.0	0.0	5.0	3.0	138.0	156.0	279.0	343	525	868
y	358	595	953	150	50	200	0	0	0	0	0	200	200	0.0	1.0	10.0	11.0	30	0.0	0.0	1	0.0	2.0	1.0	34.0	45.0	5.0	1.0	1.0	10.0	17.0	65.0	10.0	33.0	15.0	0.0	0.0	3.0	126.0	143.0	188.0	447	432	879
e	462	502	964	75	38	113	0	0	0	0	0	113	113	0.0	1.0	10.0	11.0	14	0.0	0.0	0	0.0	0.0	1.0	15.0	26.0	5.0	1.0	1.0	8.0	15.0	0.0	10.0	33.0	14.0	0.0	0.0	3.0	60.0	75.0	101.0	496	394	889
	694	199	893	4	890	0	0	5	890	896	1788	1788	1	10	127	137	288	64	150	30	152	20	35	739	876	50	19	11	98	178	464	120	200	100	21	20	16	941	1118	1994				
July '99 - Dec '99	277	1	278	4	773	0	0	5	773	777	1056	1056	1	4	64	69	3	50	68	19	72	6	23	240	309	18	8	5	43	73	45	79	57	24	3	5	1	216	288	597	734	602	1337	
Jan-June 2000	417	198	615	0	118	0	0	0	118	118	733	733	0	6	63	69	265	13	83	11	80	14	12	499	567	33	12	6	54	105	419	41	143	76	17	15	15	726	831	1398	488	589	1077	

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Final Distribution through TR, VGF and FFW for which approval have already been given.

5,000 MTs, TR 30,000MT, FFW 30,000 MT rice = 75,000 MTs rice.

through ADP project with Water Development Board: 15 crore Tk @ 13.0 Tk/kg = 11,538 MTs of Rice in February 2000;

on various ADP project is 50 thousand MT wheat and 1 lakh MT rice (LGED 1.00 Lakh MT - WDB 50,000 MT)

amjan allocation

PM approval)

sed/demand

a) WGD (extra proposal)

75.0

11.5 (again converted to cash)

150.0

42.0

50.0

317.0

30.0

Procurement (1999-2000) Scenario-1

PRO = 2.45 lakh MT (Already Procured)

= 2.00 Lakh MT (Projected)

PRO = 2.50 lakh MT (Projected)

T = 2.00 Lakh MT (Projected)

FPMU
Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice & Wheat during 1999/2000
 Option 2: (with low procurement)

19 Feb 2000

MONTH	OPENING STOCK			ADDITION										OFF-TAKE										Total OFF-TAKE			Stock net of transit deduct																			
				Domestic Procurement			Import			TOTAL				RICE						WHEAT																										
	Rice	Wheat	Total	Rice	Wheat	Total	Food	Commercial	Total	Import	ADDITION	Priced			Non-Priced			Rice	Priced			Non-Priced	Wheat	Total	Rice	Wheat	Total																			
												O/S	OP	EP	Total	FW	VGD	FF	TR	VGF	GR	her	Total	Total	O/S	/M	LEI	EP	Total	FFW	VGD	FFE	TR	VGF	GR	her	Total	Total	Rice	Wheat	Total					
July '99	695	504	1,199	83	1	84	0	0	0	0	0	0	0	0	84	0.0	0.6	10.4	11.0	0.0	5.5	0.0	0.0	0.0	0.4	0.3	6.3	17.3	1.2	1.2	1.0	6.6	9.9	3.9	9.2	0.0	0.0	0.0	0.2	0.0	13.3	23.3	40.5	745	411	1156
August	760	481	1,241	148	0	148	0	7	0	0	0	7	7	155	0.1	0.7	10.9	11.7	0.0	14.6	0.0	0.0	15.8	0.6	4.1	35.1	46.7	3.0	1.1	0.8	7.3	12.2	0.4	0.2	0.0	0.0	0.2	0.3	0.0	1.1	13.3	60.0	846	404	1249	
September	861	474	1,334	14	0	14	0	109	0	0	0	109	109	123	0.1	0.7	10.7	11.4	1	16.2	0.0	0.0	22.6	1.3	6.3	47.2	58.6	2.3	1.5	0.0	6.6	10.4	0.3	0.1	0.0	0.0	0.2	1.5	0.0	2.2	12.5	71.1	800	499	1300	
October	815	569	1,385	0	0	0	3	191	0	0	3	191	194	194	0.6	0.7	10.8	12.1	0	11.3	35.7	3	19.5	2.5	3.2	74.9	87.0	3.7	1.5	0.9	7.9	14.0	3.7	24.4	21.6	0.2	2.5	0.3	0.1	52.8	66.7	153.8	716	622	1339	
November	731	692	1,424	0	0	0	1	210	0	0	1	210	211	211	0.0	0.7	10.2	10.9	0	1.8	30.7	8	11.3	0.5	5.3	57.9	68.8	4.4	1.3	0.9	7.5	14.1	16.4	16.2	11.0	10.0	0.2	0.3	0.3	54.4	68.5	137.3	648	763	1411	
December	663	833	1,496	33	0	33	0	256	0	0	0	256	256	289	0.0	0.7	11.0	11.7	2	1.0	1.3	8	2.6	0.3	3.7	18.9	30.6	3.0	1.0	0.9	7.5	12.4	20.2	29.4	24.5	13.7	0.3	2.2	0.8	91.1	103.5	134.1	650	914	1564	
January	665	984	1,649	117	0	117	0	43	0	0	0	43	43	160	0.0	0.6	10.5	11.1	62	5.3	16.6	1	15.2	0.2	5.2	105.5	116.6	2.8	3.8	1.0	8.2	15.8	48.7	6.0	48.8	2.3	15.3	0.0	0.6	121.7	137.5	254.1	650	818	1468	
February	665	888	1,553	50	0	50	0	75	0	0	0	75	75	125	0.0	1.0	11.6	12.6	82	3.0	25.0	5	15.0	5.0	2.2	137.2	149.8	10.0	2.0	1.0	9.0	22.0	75.0	0.0	8.0	15.0	2.0	5.0	2.0	107.0	129.0	278.8	549	763	1312	
March	564	833	1,397	0	30	30	0	0	0	0	0	0	0	30	0.0	1.0	10.6	11.6	37	3.0	21.0	2	25.0	5.0	2.0	95.0	106.6	5.0	2.0	1.0	9.0	17.0	135.0	5.0	10.0	15.0	0.0	5.0	3.0	173.0	190.0	296.6	442	602	1044	
April	457	672	1,129	25	50	75	0	0	0	0	0	0	0	75	0.0	1.0	10.0	11.0	60	2.0	20.0	2	25.0	2.0	1.0	112.0	123.0	5.0	2.0	1.0	10.0	18.0	95.0	10.0	10.0	15.0	0.0	5.0	3.0	138.0	156.0	279.0	343	495	838	
May	358	565	923	125	50	175	0	0	0	0	0	0	0	175	0.0	1.0	10.0	11.0	30	0.0	0.0	1	0.0	2.0	1.0	34.0	45.0	5.0	1.0	1.0	10.0	17.0	65.0	10.0	33.0	15.0	0.0	0.0	3.0	126.0	143.0	188.0	422	402	824	
June	437	472	909	50	19	69	0	0	0	0	0	0	0	69	0.0	1.0	10.0	11.0	14	0.0	0.0	0	0.0	0.0	1.0	15.0	26.0	5.0	1.0	1.0	8.0	15.0	0.0	10.0	33.0	14.0	0.0	0.0	3.0	60.0	75.0	101.0	446	345	790	
Total				644	150	794	4	890	0	0	5	890	895	1689	1	10	127	137	288	64	150	30	152	20	35	739	876	50	19	11	98	178	454	120	200	100	21	20	16	941	1118	1994				
July '99 - Dec'99				277	1	278	4	773	0	0	5	773	777	1056	1	4	64	69	3	50	68	19	72	6	23	240	309	18	8	5	43	73	45	79	57	24	3	5	1	215	288	597	734	602	1337	
Jan-June 2000				367	149	516	0	118	0	0	0	118	118	634	0	6	63	68	285	13	83	11	80	14	12	499	567	33	12	6	54	106	419	41	143	76	17	15	15	726	831	1396	475	571	1046	

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Additional Distribution through TR, VGF and FFW for which approval have already been given.
 FFW 15,000 MTs, TR 30,000MT, FFW 30,000 MT rice = 75,000 MTs rice.
 FFW through ADP project with Water Development Board. 15 crore Tk @ 13.0 Tk/kg = 11,538 MTs of Rice in February 2000, 11.5 (again converted to cash)
 Allocation to various ADP project is 50 thousand MT wheat and 1 lakh MT rice (LGED 1.00 Lakh MT - WD@ 50,000 MT) 150.0
 Ramadan allocation 42.0
 F (PM approval) 50.0
 317.0
 Proposed/demand 300.0
 a) WBD (extra proposal)

Domestic Procurement (1999-2000) Scenario-2
 W/BORO = 2.45 lakh MT (Already Procured)
 W/AN = 2.00 Lakh MT (Projected)
 W/BORO = 2.00 lakh MT (Projected)
 W/EAT = 1.50 Lakh MT (Projected)

**IMPLICATIONS OF AGING RICE AND
WHEAT STOCKS**

1 MAY, 2000

Fiscal Implications of Ageing Rice Stocks

With a good 1998/1999 boro harvest in mid-1999 and a good 1999/2000 aman harvest in December 1999, the supply of rice in Bangladesh has been adequate. As a result, monthly average market prices (wholesale Dhaka coarse rice) ranged from 11.1 to 12.5 Tk/kg over the last nine months (from July 1999 through March 2000), and were on average 16.7 percent lower than in the same period in 1998-99. Prospects for the 1999/2000 boro crop are also good, with current BBS estimates of 9.2 million MTs, compared to the official estimate of 10.05 million MTs for 1998/99.

Nonetheless, two major problems for the Public Foodgrain Distribution System are emerging: a build-up of ageing rice stocks and sharply increasing fiscal costs. This memo presents data on the age and quality of current foodgrain stocks and projections of the age of stocks under current distribution and procurement plans. The reasons for this build-up of ageing foodgrain stocks (a higher stock target, increased distribution, insufficient quantity and speed of distribution) are then discussed. Several broad options for stocks and the PFDS are then presented including further increases in rice distribution, wholesale open market sales to rotate stocks at minimal fiscal cost, and a shift in composition and size of foodgrain stocks.

Ageing Foodgrain Stocks

As shown in Table 1, of the 6.31 lakh MTs of rice stocks at the end of March 2000, 3.92 lakh MTs were at least six months old, and 2.30 lakh MTs were more than eight months old. Large-scale rice planned distribution of 3.64 lakh MTs from April through June, if implemented, will ease the stock situation by the end of the fiscal year.

(Rice distribution in these three months includes 208 thousand MTs through Food For Work, 64 thousand MTs through Food For Education and 42 thousand MTs through Vulnerable Group Feeding. Note that these amounts already include the proposed increases of 26 thousand MTs of rice for VGF and 20 thousand MTs for the Water Development Board's FFW.) If this rice distribution actually takes place, by the end of June the minimum quantity of rice stock more than 8 months old will be only 29 thousand MTs.

In the short run, the wheat stock situation is less of a problem, in terms of age. Under current distribution plans, at least 1.34 lakh MTs at the end of June 2000 will be more than six months old, but the minimum quantity of projected stocks over seven months old at the end of the fiscal year is zero (Table 2).

The problems of ageing rice and wheat stocks will, however, likely carry over into fiscal year 2000-2001. Given total boro procurement of 4.40 lakh MTs of rice from May through July, 2000 (2.90 lakh MTs in May and June, and 1.50 lakh MTs in July and August), but only 3.40 lakh MTs of rice distribution planned for July through December 2000, old rice stocks will again begin to accumulate in November 2000, with 79 thousand MTs of rice more than eight months old at the end of February 2001 (Table 3).

Old wheat stocks are projected to increase sharply in August through October 2000 (Table 4). By the end of September 2000, under current distribution plans at least 1.22 lakh MTs of wheat will be more than eight months old. Moreover, at least 31 thousand MTs of wheat will be more than ten months old at the end of October 2000.

Reasons for the Accumulation of Ageing Stocks

The accumulation of ageing (and deteriorating) stocks in 1999/2000 and in the projections for 2000/2001 indicate that the PFDS stock levels and annual distribution are

not consistent with the storage capabilities of the system. Following the increase in stock targets to 1 million MTs in 1998/99 and the record boro harvest in May/June 1999, domestic rice procurement surged. Total boro procurement from May through September 1999 equalled 6.02 lakh MTs (3.58 lakh MTs in May and June, and 2.44 lakh MTs from July through September). Continued inflows of 7.73 lakh MTs in the first six months of 1999/2000 also increased stocks, which reached a record high of 15.63 lakh MTs (net) at the end of December 1999. However, rice and wheat distribution were not increased accordingly. Thus, stocks could not be rotated quickly. This would not be a problem if grain quality could be maintained for longer periods of time. But under current storage conditions (and the quality of the foodgrain when procured), storage past six months is problematic.

Alternative Solutions to the Problem of Ageing Stocks

Several broad strategies for solving the ageing stocks problem are available with widely varying fiscal costs. Increased distribution through ration channels (FFW, FFE, VGF) involves large fiscal costs. Distribution through regular sales channels reduces costs, but in the medium-term could lead to re-creating a ration system involving very high leakages and high costs. A third option would be to simply sell grain at the wholesale level at market prices (perhaps through auctions) so as to quickly rotate stocks. In the medium-term, other options include investment in higher quality storage or reductions in average stock levels (e.g. through setting a stock target level of 1 million MTs for particular times of the year, such as end-July and end-January). Shifting the composition of stocks with more wheat and less rice would also reduce costs by reducing the subsidies involved in distribution.

Options for 2000-2001

Table 5 illustrates several of these alternatives for reducing the ageing stock levels in 2000-2001. Under option 1, the base scenario, total rice and wheat distribution are 7.25 and 10.65 lakh MTs, respectively. The monthly average quantity of stocks is 10.15 lakh MTs, split nearly equally between rice and wheat, and the average quantity of rice stocks more than six months old is 1.39 lakh MTs.

In order to reduce the size of old rice stocks, option 2 increases FFE rice distribution by 0.75 lakh MTs (and reduces wheat FFE distribution by 1.00 lakh MTs). Year-end rice stocks fall by 0.75 lakh MTs to 4.75 lakh MTs and year-end wheat stocks rise to 4.66 lakh MTs from 3.67 lakh MTs in scenario 1. The monthly average rice stock more than six months of age falls from 1.39 lakh MTs to 1.03 lakh MTs. This option involves an increase in the total spending in non-sales channels by 124 crore Taka in 2000/2001.

If 1 lakh MTs of rice stocks are sold through increased OMS (either at wholesale or retail level) at an average price of 10.8 Tk/kg, then the increase in cost is only 28 crore Taka in 2000/2001 since most of the cost of the rice is recovered.

Finally, if rice procurement is reduced by 1.00 lakh MTs and 0.5 lakh MTs of wheat are swapped for 0.37 lakh MTs of rice in FFE distribution, then the average stocks for the year are 9.85 lakh MTs (year end stocks are 8.30 lakh MTs) and the average quantity of rice more than six months old is only 0.70 lakh MTs. Moreover, the increase in the total subsidy is only 79 crore Taka in 2000/2001.

Policy Implications

Ageing rice and wheat stocks pose several major problems for the Government of Bangladesh.

- First, distributing this foodgrain through normal PFDS channels may lead to increasing complaints by consumers, project managers, and donors regarding the quality of the rice and wheat.
- Second, increases in distribution through sales channels, while reducing the fiscal costs, reduces the share of grain distributed through targeted channels.
- Third, the large potential fiscal costs of increased distribution and/or foodgrain storage losses are very large.
- Finally, all the above problems threaten to tarnish the image of the Ministry of Food in the eyes of food aid donors, and could lead to an accelerated decline in food aid inflows.

Possible solutions to the problem of ageing stocks include:

- In the short run, correcting the problem of ageing stocks will require increased distribution of foodgrain.
- Open market sales of grain at market prices may be considered as an option to rotate stocks quickly at minimal fiscal cost.
- To avoid a recurrence of the problem of ageing stocks again in December 2001, if the boro procurement target is raised, a clear distribution plan for rice should be specified at the same time. Delaying boro procurement may also enable the D.G. Food to make it easier to procure rice that has been adequately dried and to help stabilize local markets later in the procurement season.
- One option for increased rice distribution in late 2000, (assuming sufficient stocks and a good outlook for aman) would be for donor-financed procurement of rice, either for food aid to Bangladesh or for donor food aid to a third country in a “tri-angular transaction”. This option may be analyzed and discussed further in the coming months.

Table 1: Projected Quantity and Age of Rice Stocks, 1999-2000 (Base Scenario)

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July 1999	745	58	0	0	0
August	845	90	11	0	0
September	800	85	30	0	0
October	715	86	0	0	0
November	647	256	17	0	0
December	648	367	224	0	0
January 2000	648	332	250	107	0
February	663	439	292	210	0
March	631	392	378	230	6
April	525	258	254	240	11
May	530	144	143	140	0
June 2000	587	64	31	29	12

Note: Old stock is defined as old stock in addition to the projected typical 1.0 thousand MTs of rice storage losses per month.

Source: Ministry of Food, FPMU.

1 May 2000

Table 2: Projected Quantity and Age of Wheat Stocks, 1999-2000 (Base Scenario)

	End Stock Wheat Total	End Stock Wheat > 6 months	End Stock Wheat > 7months	End Stock Wheat > 8months	End Stock Wheat > 10months
July 1999	411	0	0	0	0
August	405	0	0	0	0
September	499	49	0	0	0
October	622	139	0	0	0
November	763	176	70	0	0
December	915	141	71	0	0
January 2000	820	4	3	0	0
February	726	0	0	0	0
March	612	0	0	0	0
April	587	0	0	0	0
May	503	0	0	0	0
June 2000	450	134	0	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 - 1.5 thousand MTs of wheat storage losses per month.

Source: Ministry of Food, FPMU.

1 May 2000

Table 3: Projected Quantity and Age of Rice Stocks, 2000-2001 (Base Scenario)

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July 2000	608	126	10	0	0
August	600	98	43	0	0
September	514	42	12	0	0
October	472	32	1	0	0
November	435	114	0	0	0
December	441	240	70	0	0
January 2001	516	241	166	0	0
February	530	230	155	79	0
March	429	129	129	54	0
April	387	62	62	62	0
May	501	26	26	26	0
June 2001	550	50	0	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 thousand MTs of rice storage losses per month.

Source: Ministry of Food, FPMU.

1 May 2000

Table 4: Projected Quantity and Age of Wheat Stocks, 2000-2001 (Base Scenario)

	End Stock Wheat Total	End Stock Wheat > 6 months	End Stock Wheat > 7months	End Stock Wheat > 8months	End Stock Wheat > 10months
July 2000	439	165	123	0	0
August	508	144	144	102	0
September	521	122	122	122	0
October	522	198	73	73	31
November	546	202	122	0	0
December	641	166	97	17	0
January 2001	623	73	73	4	0
February	536	26	0	0	0
March	525	0	0	0	0
April	528	0	0	0	0
May	440	0	0	0	0
June 2001	367	0	0	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 - 1.5 thousand MTs of wheat storage losses per month.

Source: Ministry of Food, FPMU.

1 May 2000

Table 5: Options for Reducing the Quantity of Aging Stocks, 2000-2001

	1	2	3	4
	Base Scenario	Increased Rice FFE Distribution	Increased Rice OMS Wholesale	Swap FFE Wheat to Rice
Procurement ('000 MTs)				
Rice	700	700	700	600
Wheat	1000	1000	1000	1000
Total	1700	1700	1700	1600
Total Distribution ('000 MTs)				
Rice	725	800	825	762
Wheat	1065	966	1065	1015
Total	1790	1766	1890	1777
Non-Sales Distribution ('000 MTs)				
Rice	490	565	490	527
Wheat	835	736	835	785
Total	1325	1301	1325	1312
Year-end Stocks ('000 MTs)				
Rice	550	475	450	413
Wheat	367	466	367	417
Total	917	941	817	830
Average Quantity of Stocks ('000 MTs)				
Rice	499	458	452	381
Wheat	516	533	516	604
Total	1015	991	968	985
Average Quantity of Rice Stocks by Age				
Stocks > 6 months old	116	83	83	48
Stocks > 8 months old	18	13	2	0
Stocks > 10 months old	0	0	0	0
Fiscal Costs (crore Taka)				
Food Subsidy	374	374	402	379
Rice	194	194	222	198
Wheat	115	115	115	115
Edible Oil	66	66	66	66
Non-Sales Channels (inc. FFE)	1644	1653	1644	1658
Rice	751	866	751	819
Wheat	893	787	893	839
Total Current Cost (crore Taka)	2018	2028	2046	2037
(million \$, @ 51.25 Tk/\$)	394	396	399	397

(1) Base Scenario (current procurement and distribution plans).

(2) Increased rice distribution by swapping wheat to rice (1.00 lakh MTs) in FFE.

(3) Increased 1 lakh MTs of OMS rice sales in Sept. October, January, February, March and April at 10.8 Tk/kg.

FMRSP/FPMU memo
22 May, 2000

The 1999/2000 Boro Harvest, Market Prices, and Private Imports

Projections for the 1999/2000 boro harvest are 10.4 million MTs, compared to x.x million MTs in 1998/99. Wholesale market prices of coarse rice averaged 11.x Tk/kg in Dhaka in April, and fell to 11.x Tk/kg at the start of May. Some concerns have arisen because of a possible negative impact of recent rainfall on the boro harvest and news of recent private sector rice imports.

Production Outlook

The rice production outlook remains positive in spite of recent rainfall. Potential additional crop damage by the recent rains is unlikely to have a major effect on supply. Normal post-harvest losses, plus seed and feed use are only about 10 percent. Even if post-harvest losses, seed and feed increased to 10 percent, 1999/2000 net rice availability from boro production would be a record x.x million MTs (0.85 x 10.4, compared with .9 x 10.x in 1998/99).

Market Prices

It remains too early to evaluate movements in market prices. In 1998/99, wholesale HYV coarse rice prices began to fall in the fourth week of April, dropping quickly from 14.5 Tk/kg in mid-April to 11.7 Tk/kg in mid-May. But this steep drop is not typical of other years when a good boro harvest follows a good aman harvest. As shown in Figure 1, the price decline was less steep in 1992/93, when prices gradually began to fall in the second week of May. Moreover, in 1996/97 there was essentially no trend in rice market prices despite a good boro harvest. More generally, the average seasonal pattern of rice over the years, 199x-9y has been a xx percent drop between April

and May, with a further yy percent drop in June. Paddy prices (average Rajshahi division wholesale) were about 620 Tk/quintal at the start of May, slightly below their price at the start of May in 1999 (650 Tk/quintal).

Imports

World market prices of rice ex: Thailand are currently only \$25x/MT FOB Bangkok, xx percent broken, their lowest level in six years. Because of this drop in Bangkok prices, along with an increase in India's market prices for rice, the import parity price of Thai 15 percent broken rice (at the Dhaka wholesale market) is only 13.9 Tk/kg, xx percent below the import parity price of rice from India (16.x Tk/kg), (Figure 3). Note, however, that this is still almost 2 Tk/kg above the Dhaka wholesale market price, so that there is no incentive for private rice imports from Thailand to the Dhaka market. The gap between the wholesale price in Chittagong and Thai import parity is smaller, however, about 1.0 Tk/kg.

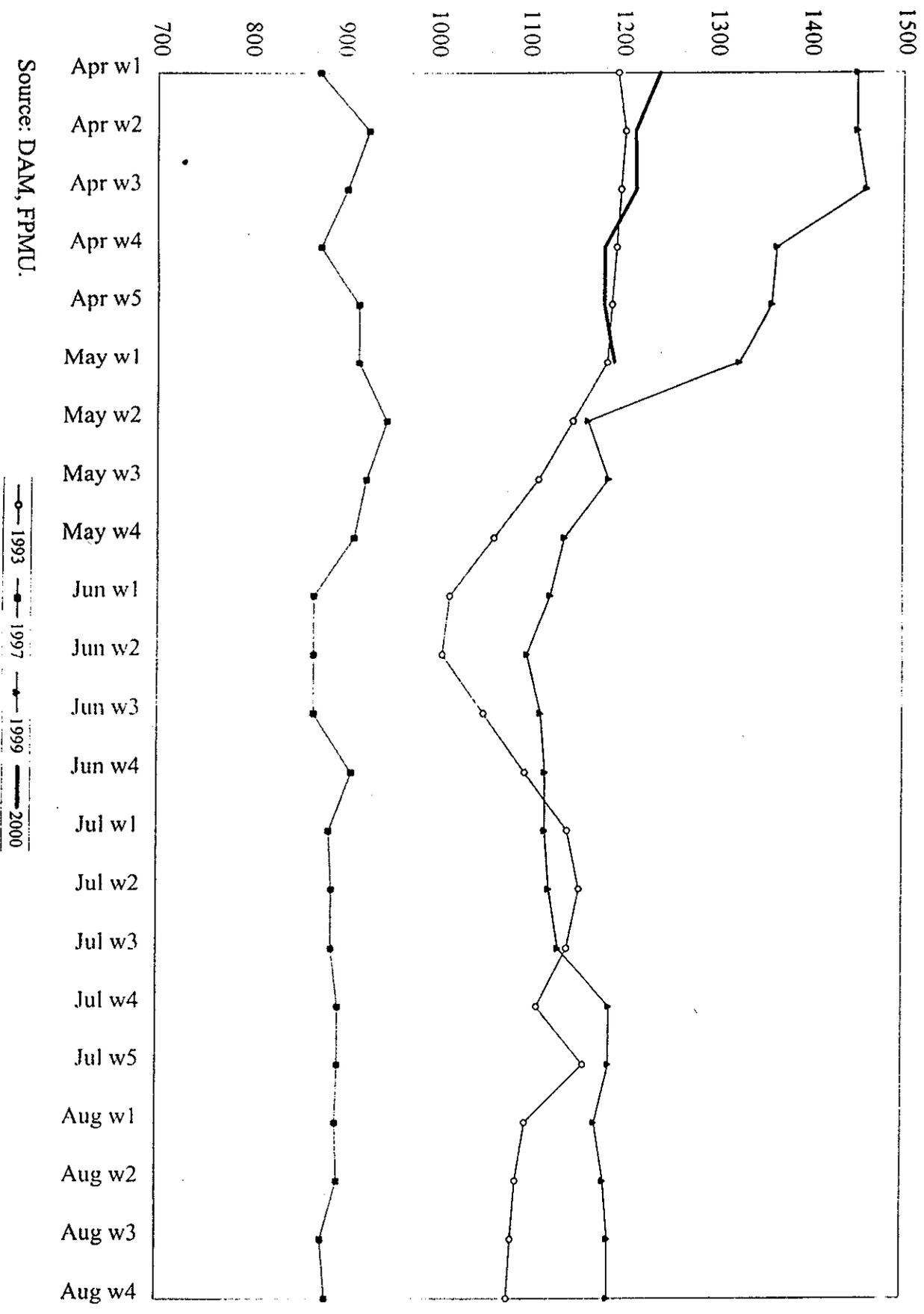
India's Rice Import Policy and Stocks

Recently, India raised its import tariff on rice to 70 percent and its tariff on paddy to 80 percent, effectively stopping imports in the official market. (About xx,000 MTs of rice had been imported by India's private sector in the first three months of 2000.) This policy protects the Indian market from low cost imports, thus supporting producer prices. Rice procurement during the rice marketing year 1999-2000 was 14.5 million MTs, 48.3 percent higher than in 1998-99 (when 9.8 million MTs were procured). Note that India's rice stocks were 15.2 million MTs at the end of February 2000, 4.2 million MTs higher than the buffer stock norm; wheat stocks were 14.5 million MTs. Thus, **in spite of the droughts in parts of the country, India has more than adequate supplies of rice at this time.**

Conclusions

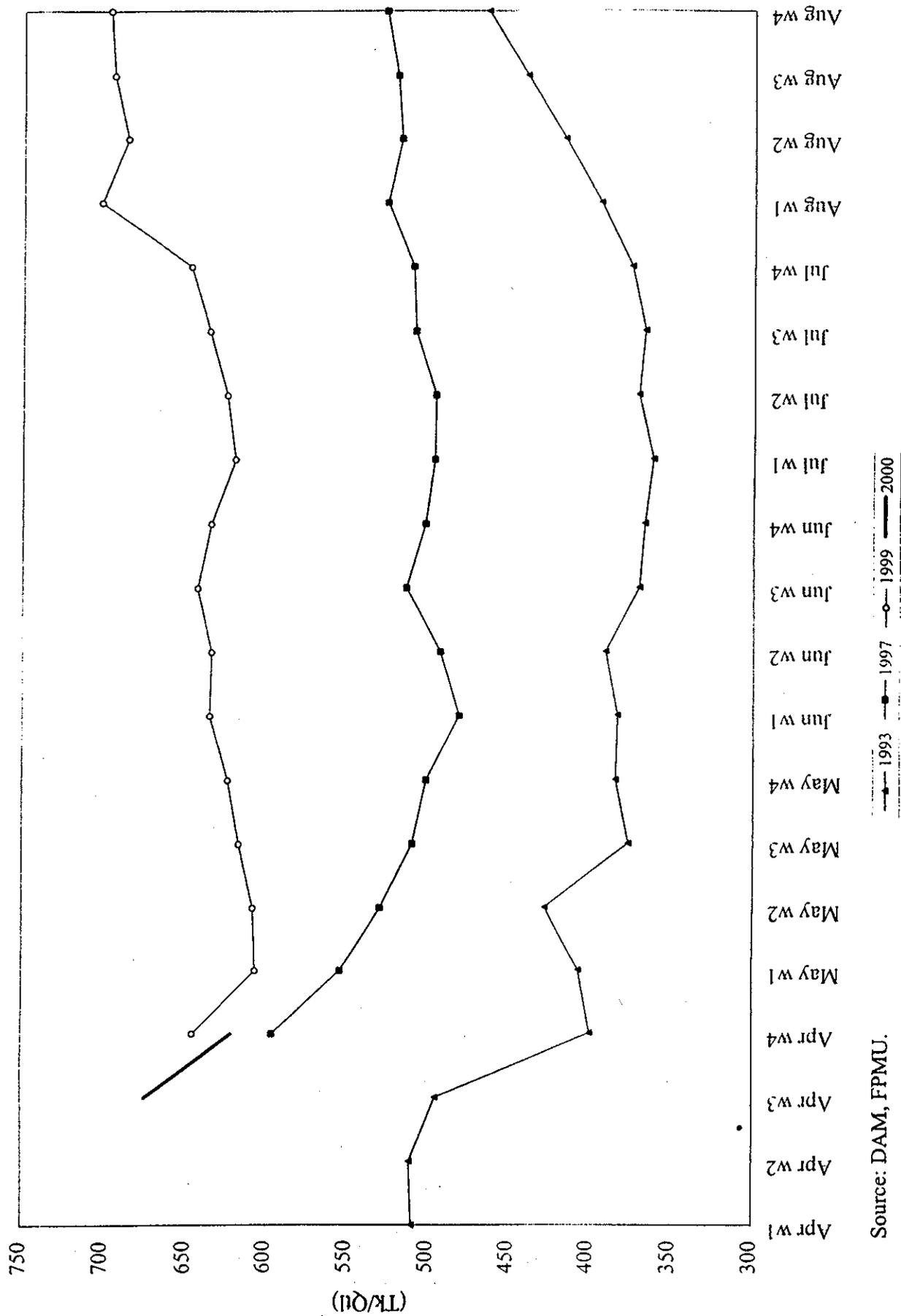
As of mid-May 2000, **the rice supply situation in Bangladesh is more than adequate.** Prospects for the boro harvest are good; world market prices (ex: Bangkok) are low; and India's rice stocks and market supply so large that their major concern regarding rice markets appears to be how to boost farmer prices. Private sector rice imports into Bangladesh in the coming months are likely to be very small, and mainly limited to high quality rice. Bangladesh rice stocks are also adequate (x.xx lakh MTs at the end of April) and are projected to increase to y.y lakh MTs after boro procurement is completed at the end of August. Too large a buildup of rice stocks should be avoided, however, since boro rice is especially difficult to store.

Figure 1 - Weekly HYV Coarse Rice Prices, Dhaka Wholesale



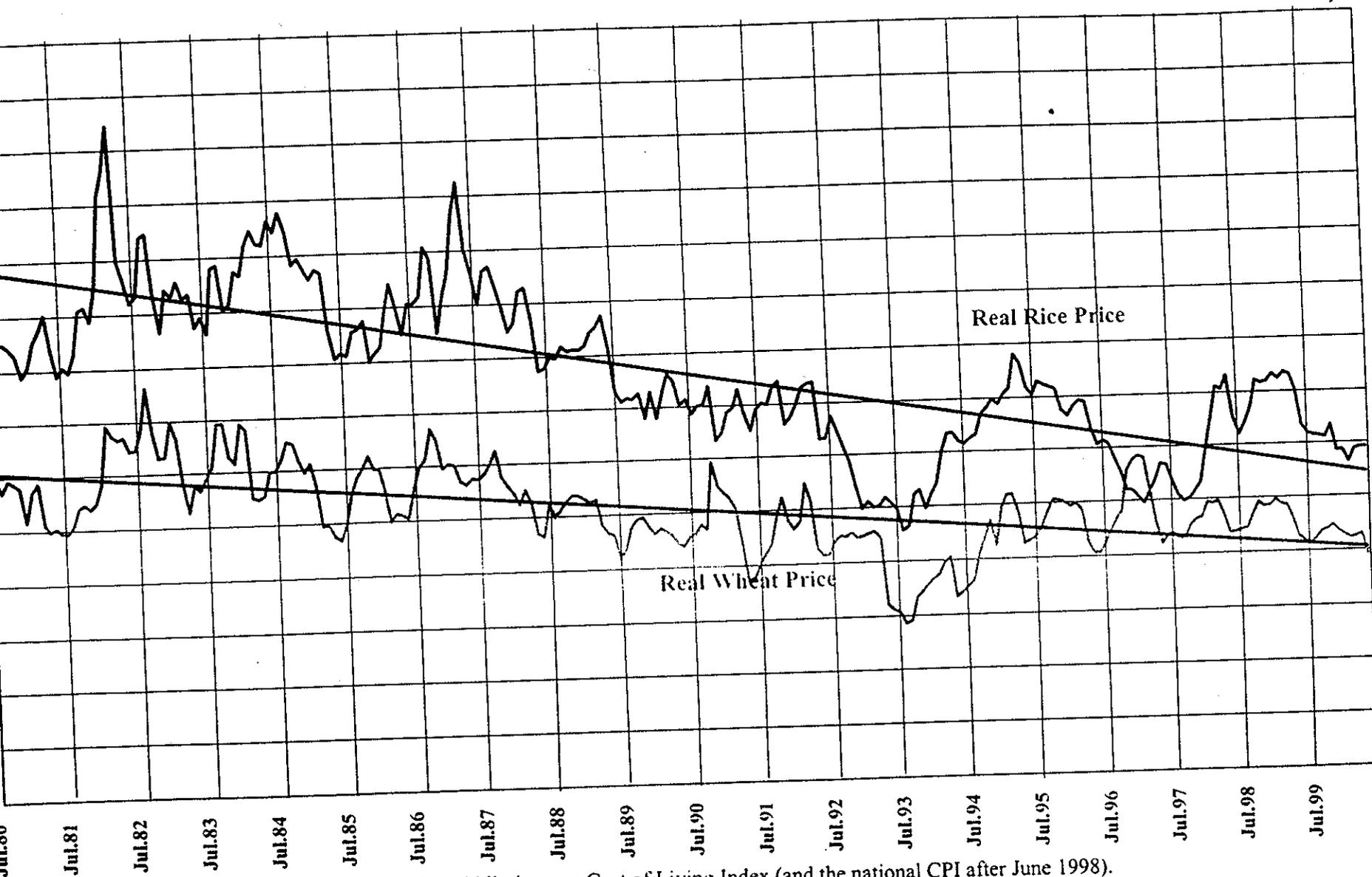
Source: DAM, FPMU.

Figure 2 - Weekly Average Boro HYV Paddy Prices, Rajshahi Division Wholesale



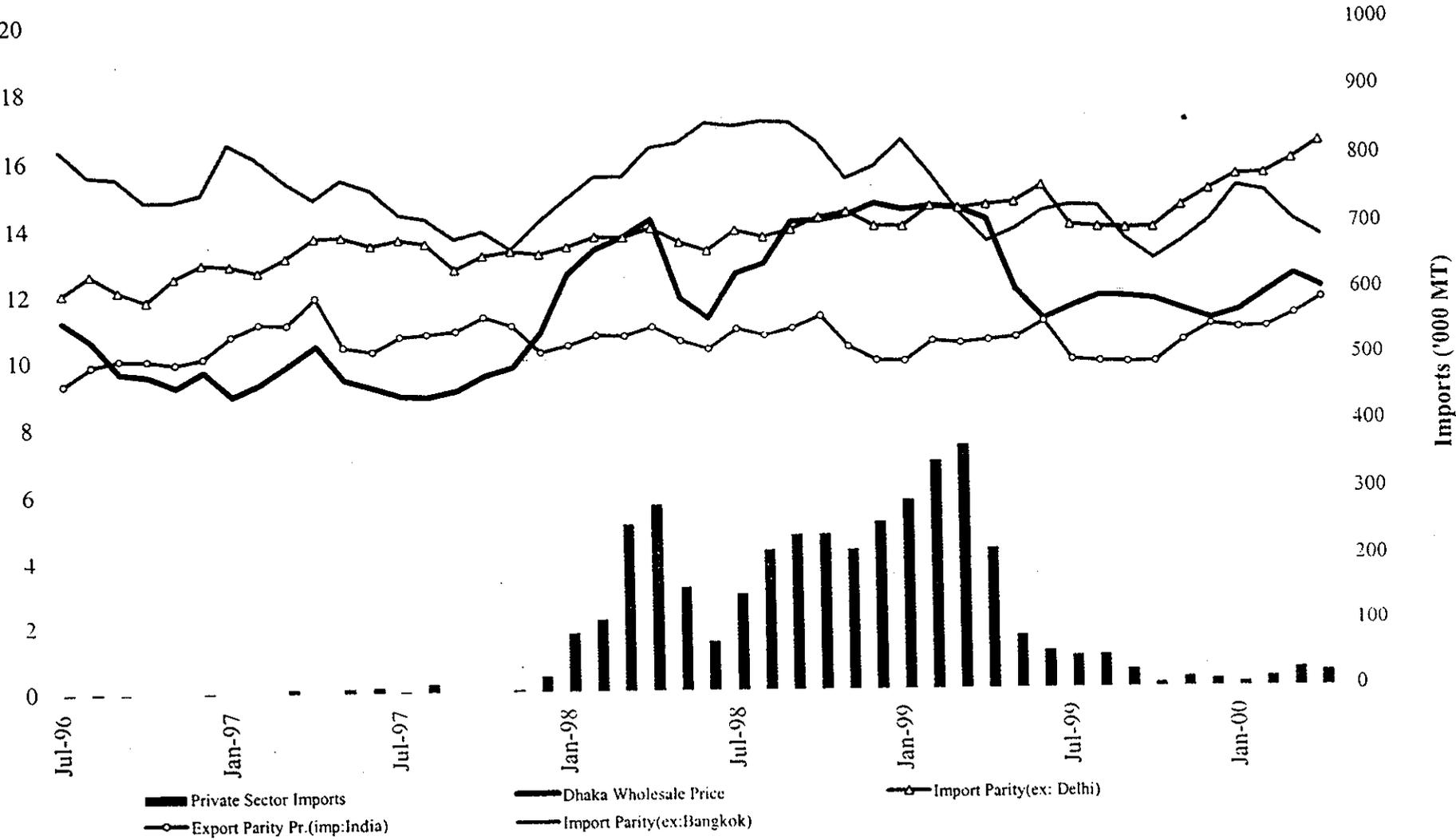
Source: DAM, FPMU.

Figure 3 - National Average Real Wholesale Price of Rice and Wheat, 1980-2000



Note: Prices are deflated using the non-food Dhaka middle-income Cost of Living Index (and the national CPI after June 1998).
Source : FPMU data and author's calculation.

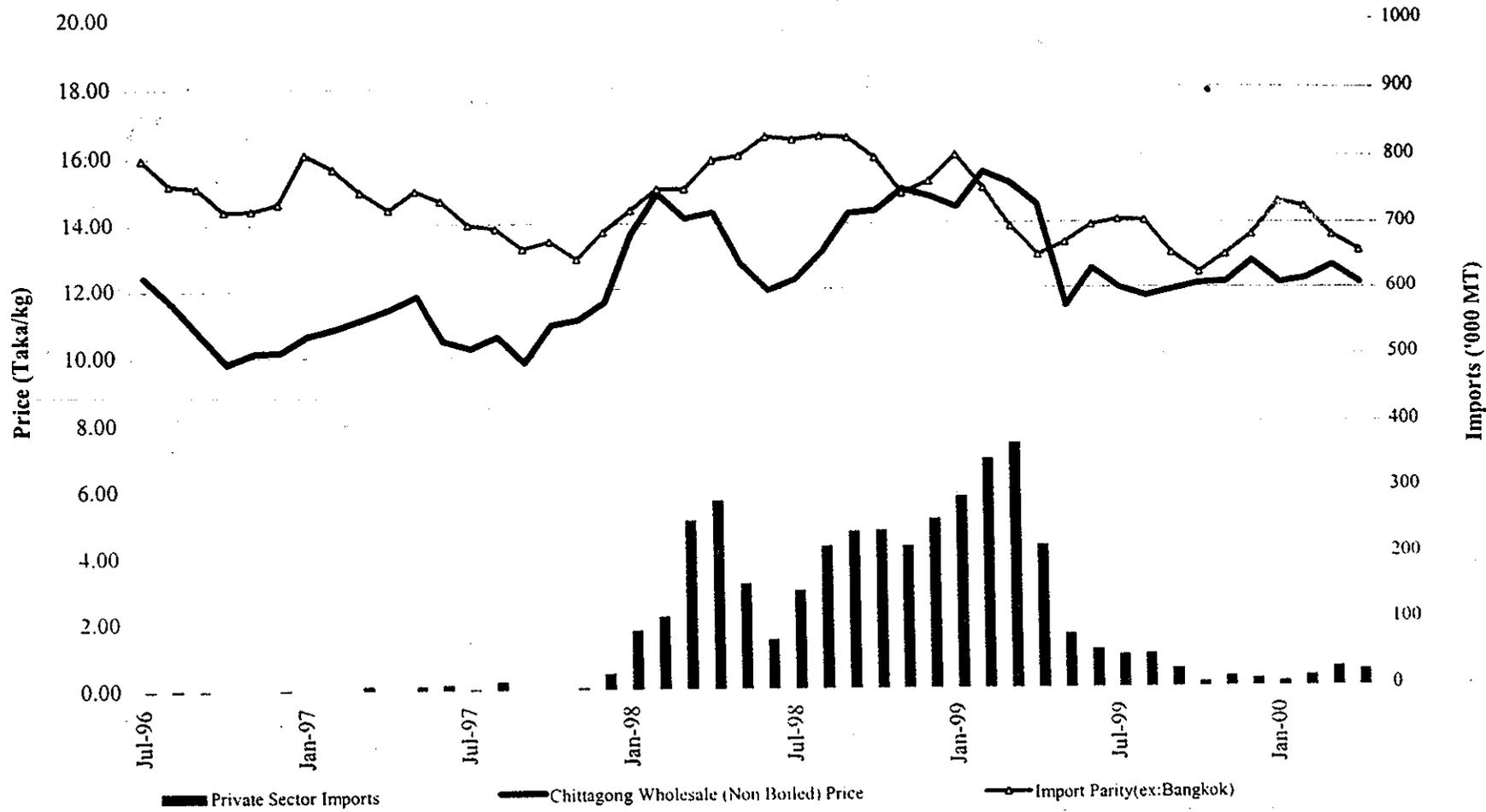
Figure 4 - Rice Prices and Quantity of Private Rice Imports in Bangladesh, 1996-2000



Note : Price data for April 2000 is up to the fourth week only; private sector imports are as of 26th April, 2000. From November 1998, the carrying cost has increased by 1.1 Tk/kg to 4.1 Tk/kg. Export parity price includes Bongaon price from July 93 to Nov 1997; and Delhi wholesale price thereafter. From January 2000, 5% tax imposed on rice import.

Source : Dorosh (1999), calculated using data from DAM, FPMU and MIS, DG Food, CMIE (1998, 1999, 2000), USDA and Baulch, Das et. al, (1999).

Figure 5 - Rice Prices and Quantity of Private Rice Imports in Bangladesh, 1996-2000



Note : Price data for April 2000 is up to the fourth week only; private sector imports are as of 26th April, 2000. From January 2000, 5% tax imposed on rice import.
 Source : Dorosh (1999), calculated using data from DAM, FPMU and MIS, DG Food, USDA and Baulch, Das et. al, (1999).

FPMU/FMRSP memo
27 July, 2000

Benefits and Costs of Additional Boro Procurement

The good 1999/2000 boro harvest, estimated at 11.0 million MTs by the Ministry of Agriculture, has resulted in ample supplies of rice in markets throughout Bangladesh. With this increase in supply, market prices are low in comparison with levels of recent years. To help support the producer price as well as to build up additional rice stocks, it has been proposed to increase boro procurement from the current target of 4.0 lakh MTs to 5.0 lakh MTs. This memo discusses the impacts of additional boro procurement in terms of total stocks, the projected age of stocks later in 2000/2001, and market prices.

Current Market Prices

Prices for paddy and rice fell in June 2000 following the boro harvest. The national average wholesale price of coarse rice fell by 8.3 percent from 12.86 Tk/kg in May to 11.79 Tk/kg in June. However, during the same period the national wholesale price of HYV paddy actually rose slightly, from 7.36 Tk/kg in May to 7.49 Tk/kg in June (Figure 1). Wholesale market prices for coarse rice have been relatively stable in July, and during the third week of July they averaged 11.50 Tk/kg. Real prices, (nominal prices adjusted for inflation), are low, but still above their levels in late-1996 and mid-1997, (Figure 2).

Current stock situation

Total foodgrain stocks are adequate, comfortably above the official target of 1.0 million MTs. At the end of June 2000, total net stocks (gross stocks less a 1.16 lakh MT deduction for transit losses and non-received quantities¹), were 1.001 million MTs, (5.49

¹ The transit deduction is 0.90 lakh MTs (15 thousand MTs of rice and 75 thousand MTs of wheat) and non-received quantity is 0.26 lakh MTs (6 thousand MTs of rice and 20 thousand MTs of wheat).

lakh MTs of rice and 4.53 lakh MTs of wheat). Even without additional procurement, total net foodgrain stocks are projected to increase to 1.178 million MTs at the end of February, 2001, and average 1.029 million MTs for 2000/2001 as a whole (Table 1).

Direct Fiscal Implications of Additional Boro Procurement

With the proposed 1 lakh MTs increase in boro rice procurement and an offsetting 1 lakh MTs reduction in currently planned rice imports, total foodgrain stocks would increase to 1.228 million MTs at the end of February 2001, and average 1.082 million MTs for 2000/2001 as a whole (Table 2). At 13.0 Tk/kg, an additional 1 lakh MTs of boro procurement would cost 130 crore Taka. The projected cost of importing 1 lakh MTs of rice in January 2001 at \$210/MT FOB Bangkok plus \$40/MT shipping is \$25.0 million CIF Chittagong or 125 crore Taka, about the same cost as domestic procurement.²

The Problem of Aging Stocks

Though additional boro procurement increases stocks and leads to a fiscal savings in comparison with budgeted rice imports later in 2000/2001, procurement of rice in August 2000 rather than January 2001 increases the amount of projected aging rice stocks in early mid-2001. As shown in Table 3, under current procurement and distribution plans, at least 2.03 lakh MTs of rice will be more than seven months old at the end of February 2001. However, by the end of June 2001, if oldest stocks are distributed first, there would be no rice stocks more than seven months old and only 96 thousand MTs more than six months old.³

If procurement is increased by 1.0 lakh MTs (0.80 lakh MTs in August and 0.20 lakh MTs in September 2000), then the quantity of aging rice stocks will rise accordingly.

² Note that approximately 1.0 Tk/kg is needed for internal handling and transportation to domestic godowns, but approximately the same amount per kilogram would be required for handling and transport of domestically procured rice.

By the end of June 2001, at least 0.94 lakh MTs of rice will be at least eight months old and 0.74 lakh MTs of rice will be at least ten months old (Table 5). Moreover, boro rice (harvested around the onset of the monsoons) is difficult to dry properly, increasing the likelihood of storage losses. Thus, if boro procurement is increased by 1.0 lakh MTs without a change in rice distribution plans, substantial storage problems are likely by the end of fiscal year 2000-2001.

Implications for Market Prices

Increasing boro procurement by 1.0 lakh MTs in August and September will likely have only minimal impact on average market prices, though if procurement is highly concentrated in a few regions, the impact on local markets could be more substantial. Assuming no change in stocks and insignificant private imports, total consumption of rice from June through December, should be approximately equal to boro plus aus rice production, 11.0 plus 1.7 million MTs less 10 percent for seed, feed and wastage, i.e. 11.43 million MTs. The 1.0 lakh MTs of rice removed from the market through the proposed additional boro procurement would be approximately 1.2 percent of total consumption of rice from August through December, (roughly 5/7 of the June through December figure). Assuming an own-price elasticity of demand of rice of -0.5 , the average rice price would be up to 2.5 percent higher (about 0.3 Tk/kg) with additional procurement than it otherwise would have been. If private traders and farmers reduce their own stocks rather than their consumption, the price increase would be smaller.

Direct Beneficiaries of Procurement

Of course, the major direct benefits of increased boro procurement go to those who are able to sell rice or paddy to the DG Food, since the procurement price of 13.0 Tk/kg is 1.5 to 2.0 Tk/kg above wholesale market prices in major boro producing regions.

³ Note that under the current procurement and distribution plan, there would be no wheat

Farmers generally sell paddy rather than rice to procurement centers (LSD's). However, survey evidence from the 1998/99 boro procurement season indicates that very few farmers participate in procurement because of problems with drying the paddy, disputes over weighing, and uncertainty regarding whether paddy brought to the LSD would be purchased. Through 24 July 2000, only 0.80 lakh MTs of paddy were procured out of a target of 1.54 lakh MTs. The rice target of 3.00 lakh MTs has already been achieved, though. If additional procurement is mainly in the form of rice, few farmers will directly benefit.

Summary

Additional boro procurement in the form of rice would likely raise market prices slightly, especially in the immediate regions of procurement. If this additional boro procurement was balanced by a reduction in government commercial imports of the same quantity, the fiscal effects would likely be approximately neutral, given the expected costs of importing rice from Thailand in early 2001. However, much of the additional boro rice procured will remain in government stocks through the end of June 2001, seriously deteriorating in quality, unless the public foodgrain distribution is increased beyond the current plan. Such an increase in distribution, however, would entail additional fiscal costs.

Another option for supporting farmgate prices without resulting in major storage problems is to procure additional aman rice if the aman crop is good. Because aman rice stores better, and because the rice would be procured later in the year, serious storage problems could be avoided, at least during fiscal year 2000-2001. In any case, it will remain important to analyze the implications of future policy changes on both the volume and age of foodgrain stocks. Various alternatives to minimize the quantity of

deteriorating stocks through adjustments in rice and wheat distribution should also be analyzed in the coming months.

Thus, there is a tradeoff involved in increasing boro procurement. Farmers and traders who are able to sell at the procurement centers will benefit from 1-2 Taka/kg margin between the market price and the procurement price. But, the Ministry of Food will face difficulties with aging rice stocks by the end of the 2000/2001 fiscal year unless rice distribution is also increased by approximately the same amount as the additional procurement.

Figure 1: National Average Wholesale Prices of HYV Paddy and Coarse Rice

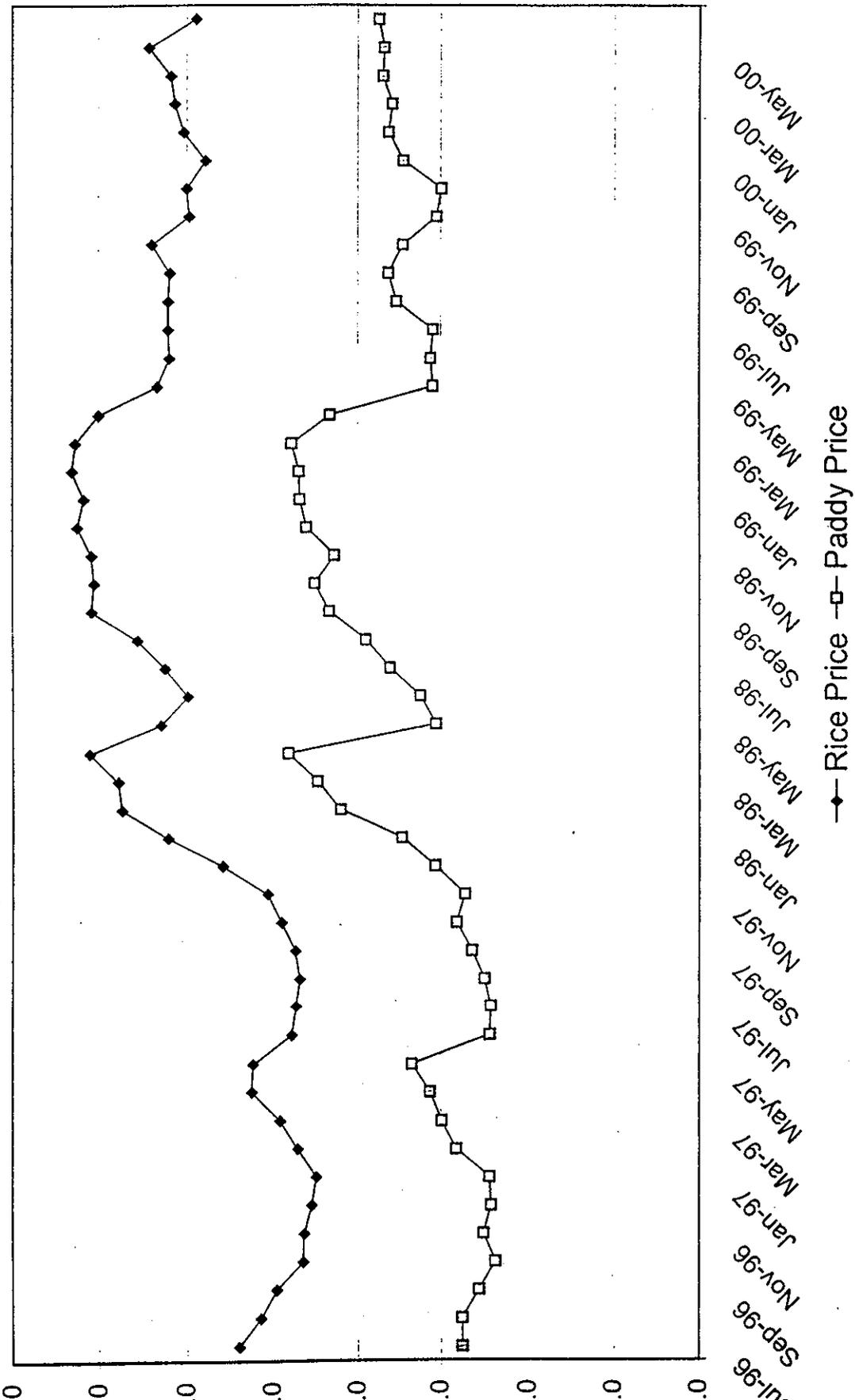
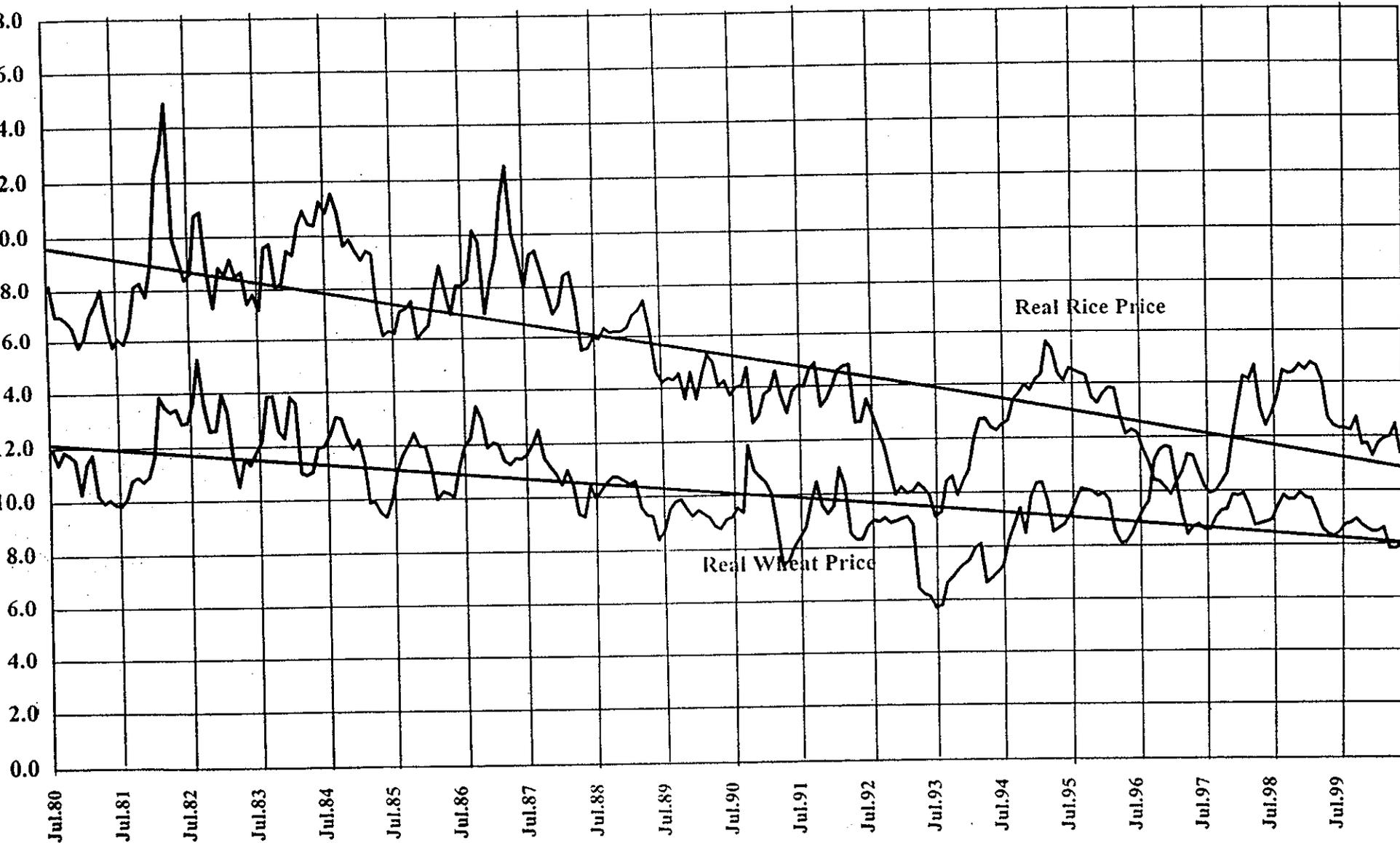


Figure 2 - National Average Real Wholesale Price of Rice and Wheat, 1980-2000



Note: Prices are deflated using the non-food Dhaka middle-income Cost of Living Index (and the national CPI after June 1998).

Source : FPMU data and author's calculation.

Table-1: Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice & Wheat during 2000/2001 (Base Scenario)

25-07-2000

('000 MT)

Total	ADDITION									TOTAL ADDITION	OFF-TAKE																							TOTAL OFF-TAKE	Stock net of transit deduct					
	Domestic Procurement			Import							RICE											WHEAT											Wheat		Rice	Wheat	Total			
	Rice	Wheat	Total	Rice	Wheat	Commercial	Rice	Wheat	Total Import		Priced					Non-Priced						Priced					Non-Priced													
											DMSI	OP	EP	Total	FFW	VDG	FFE	TR	VGf	GR	Divers	Total	DMSI	DP/PM	LEI	EP	Total	FFW	VDG	FFE	TR	Other						Total		
1,091	124	40	164	0	0	0	0	0	0	164	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	2.0	3.0	0.0	42.0	54.0	0.0	1.0	1.0	0.0	10.0	0.0	5.0	0.0	0.0	0.0	5.0	15	69	618	477	1094	
1,134	0	0	0	0	65	0	0	0	65	65	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	5.0	3.0	1.0	46.0	58.0	0.0	1.0	1.0	0.0	10.0	0.0	5.0	0.0	0.0	0.0	5.0	15	73	559	526	1085	
1,175	0	0	0	0	0	0	0	0	0	0	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	5.0	3.0	4.0	49.0	61.0	0.0	1.0	1.0	0.0	10.0	0.0	5.0	0.0	1.0	6.0	16	77	497	509	1006		
1,096	0	0	0	0	25	0	0	0	25	25	0.0	1.0	10.0	11.0	0.0	5.0	13.0	0.0	5.0	0.0	5.0	28.0	38.0	10.0	1.0	1.0	0.0	20.0	0.0	10.0	0.0	1.0	31.0	51	90	457	482	939		
1,029	0	0	0	0	90	0	0	0	90	90	0.0	1.0	10.0	11.0	0.0	5.0	13.0	0.0	5.0	0.0	7.0	30.0	41.0	20.0	1.0	1.0	0.0	30.0	15.0	10.0	20.0	12.0	1.0	56.0	88	129	416	483	909	
898	120	0	120	0	120	0	0	0	120	120	0.0	0.0	10.0	10.0	10.0	5.0	13.0	0.0	5.0	0.0	5.0	39.0	49.0	39.0	1.0	1.0	0.0	40.0	35.0	10.0	20.0	12.0	1.0	78.0	119	166	467	494	961	
1,041	150	0	150	0	70	50	100	50	170	220	20.0	0.0	11.0	31.0	20.0	5.0	12.0	0.0	3.0	0.0	5.0	45.0	76.0	25.0	2.0	2.0	0.0	37.0	50.0	10.0	20.0	12.0	1.0	93.0	130	206	590	523	1114	
1,204	50	0	50	0	100	50	100	50	200	250	30.0	1.0	11.0	42.0	25.0	4.0	12.0	0.0	2.0	0.0	2.0	45.0	87.0	15.0	2.0	2.0	0.0	27.0	75.0	10.0	20.0	14.0	1.0	120.0	147	234	603	575	1178	
1,268	0	0	0	0	50	50	0	50	50	100	30.0	1.0	10.0	41.0	40.0	4.0	12.0	0.0	1.0	3.0	2.0	62.0	103.0	0.0	2.0	1.0	0.0	12.0	80.0	10.0	20.0	14.0	3.0	127.0	139	242	548	485	1034	
1,124	0	35	35	0	60	50	0	50	60	110	20.0	1.0	10.0	31.0	20.0	0.0	0.0	0.0	2.0	3.0	2.0	27.0	58.0	0.0	1.0	1.0	0.0	11.0	80.0	15.0	25.0	12.0	3.0	135.0	146	204	540	434	974	
1,064	80	80	160	0	20	0	0	0	20	20	0.0	1.0	10.0	11.0	10.0	0.0	0.0	0.0	3.0	3.0	1.0	17.0	28.0	0.0	1.0	1.0	0.0	11.0	80.0	15.0	25.0	12.0	2.0	134.0	145	173	592	388	980	
1,070	186	95	281	0	0	0	0	0	0	0	0.0	1.0	10.0	11.0	0.0	0.0	0.0	0.0	3.0	2.0	1.0	6.0	17.0	0.0	1.0	1.0	0.0	11.0	88.0	15.0	30.0	12.0	1.0	146.0	157	174	770	325	1095	
	700	250	950	0	600	200	200	200	800	1000	1950	100	10	125	235	125	64	150	0	41	20	35	435	670	100	15	14	100	229	503	120	200	100	15	938	1167	1837			

FPMU

Table-2: Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice & Wheat during 2000/2001 (Option - 1)

26/7/2000

('000 MT)

Sl. No.	ADDITION										TOTAL ADDITION	OFF-TAKE																				Stock Net of							
	Domestic Procurement			Import								RICE										WHEAT										Transit Deduct							
	Food Aid			Commercial				Total Import				Priced					Non-Priced					Priced					Non-Priced					Wheat							
	Rice	Wheat	Total	Rice	Wheat	Rice	Wheat	Rice	Wheat	Total		OMSI	OP	EP	Total	FFW	VGD	FFE	TR	VGF	GR	Total	OMSI	OP/FM	LEI	EP	Total	FFW	VGD	FFE	TR	Other	Total	Total	OFF-TAKE	Rice	Wheat	Total	
31	124	40	164	0	0	0	0	0	0	164	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	2.0	3.0	42.0	54.0	0.0	1.0	1.0	8.0	10.0	0.0	5.0	0.0	0.0	0.0	5.0	15	69	618	477	1094	
34	80	0	80	0	65	0	0	0	65	145	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	5.0	3.0	46.0	58.0	0.0	1.0	1.0	8.0	10.0	0.0	5.0	0.0	0.0	5.0	15	73	639	526	1165		
35	20	0	20	0	0	0	0	0	0	20	0.0	1.0	11.0	12.0	0.0	12.0	25.0	0.0	5.0	3.0	49.0	61.0	0.0	1.0	1.0	8.0	10.0	0.0	5.0	0.0	0.0	5.0	16	80	557	508	1065		
36	0	0	0	0	25	0	0	0	25	25	0.0	1.0	10.0	11.0	0.0	5.0	13.0	0.0	5.0	0.0	28.0	39.0	10.0	1.0	1.0	8.0	20.0	0.0	10.0	20.0	0.0	1.0	31.0	51	90	557	492	1039	
39	0	0	0	0	90	0	0	0	90	90	0.0	1.0	10.0	11.0	0.0	5.0	13.0	0.0	5.0	0.0	30.0	41.0	20.0	1.0	1.0	8.0	30.0	15.0	10.0	20.0	12.0	1.0	58.0	88	122	515	492	999	
39	100	0	100	0	120	0	0	0	120	220	0.0	0.0	10.0	10.0	10.0	5.0	13.0	0.0	5.0	0.0	38.0	48.0	30.0	1.0	1.0	8.0	40.0	35.0	10.0	20.0	12.0	1.0	78.0	118	166	567	494	1051	
41	150	0	150	0	70	0	100	0	170	320	20.0	0.0	11.0	31.0	20.0	5.0	12.0	0.0	3.0	0.0	45.0	76.0	25.0	2.0	2.0	8.0	37.0	50.0	10.0	20.0	12.0	1.0	93.0	130	206	640	523	1164	
54	50	0	50	0	100	50	100	50	200	300	30.0	1.0	11.0	42.0	25.0	4.0	12.0	0.0	2.0	0.0	45.0	87.0	15.0	2.0	2.0	8.0	27.0	75.0	10.0	20.0	14.0	1.0	120.0	147	234	653	575	1228	
58	0	0	0	0	50	50	0	50	50	100	30.0	1.0	10.0	41.0	40.0	4.0	12.0	0.0	1.0	3.0	62.0	103.0	0.0	2.0	1.0	9.0	12.0	80.0	10.0	20.0	14.0	3.0	127.0	139	242	598	485	1084	
54	0	35	35	0	60	0	0	0	60	95	20.0	1.0	10.0	31.0	20.0	0.0	0.0	0.0	2.0	3.0	27.0	58.0	0.0	1.0	1.0	9.0	11.0	80.0	15.0	25.0	12.0	3.0	135.0	146	204	540	434	974	
54	80	80	160	0	20	0	0	0	20	180	0.0	1.0	10.0	11.0	10.0	0.0	0.0	0.0	3.0	3.0	17.0	28.0	0.0	1.0	1.0	9.0	11.0	80.0	15.0	25.0	12.0	2.0	134.0	145	173	592	388	980	
70	195	95	291	0	0	0	0	0	0	291	0.0	1.0	10.0	11.0	0.0	0.0	0.0	0.0	3.0	2.0	6.0	17.0	0.0	1.0	1.0	9.0	11.0	88.0	15.0	30.0	12.0	1.0	146.0	157	174	770	325	1095	
	800	250	1050	0	600	100	200	100	800	900	1950	100	10	125	235	125	64	150	0	41	20	435	670	100	15	14	100	229	503	120	200	100	15	938	1157	1837			

ent increased by 1.0 lakh MTs (0.80 lakh MTs in August and 0.20 lakh MTs in September) and public commercial rice imports reduced by 1.0 lakh MTs.

Table 3: Projected Quantity and Age of Rice Stocks, 2000-2001 (Base Scenario)

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July 2000	618	131	14	0	0
August	559	127	72	0	0
September	497	95	66	11	0
October	457	56	56	26	0
November	416	95	14	14	0
December	467	243	47	0	0
January 2001	590	290	166	0	0
February	603	203	203	79	0
March	549	99	99	99	0
April	540	40	40	40	0
May	592	12	12	12	12
June 2001	770	94	0	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 thousand MTs of rice storage losses per month.

Source: Ministry of Food, FPMU.

25-07-2000

Table 4: Projected Quantity and Age of Wheat Stocks, 2000-2001 (Base Scenario)

	End Stock Wheat Total	End Stock Wheat > 6 months	End Stock Wheat > 7months	End Stock Wheat > 8months	End Stock Wheat > 10months
July 2000	477	183	140	0	0
August	526	167	167	125	0
September	509	150	150	150	0
October	482	252	98	98	55
November	483	243	164	9	9
December	484	149	124	45	0
January 2001	523	53	18	0	0
February	575	0	0	0	0
March	485	0	0	0	0
April	434	0	0	0	0
May	388	0	0	0	0
June 2001	325	0	0	0	0

Note: Old stock is defined as old stock in addition to the projected typical 1.0 - 1.5 thousand MTs of wheat storage losses per month.

Source: Ministry of Food, FPMU.

25-07-2000

Table 5: Projected Quantity and Age of Rice Stocks, 2000-2001 (Option 1)*

	End Stock Rice Total	End Stock Rice > 6 months	End Stock Rice > 7months	End Stock Rice > 8months	End Stock Rice > 10months
July 2000	618	131	14	0	0
August	639	127	72	0	0
September	597	95	66	11	0
October	557	56	56	26	0
November	516	95	14	14	0
December	567	243	47	0	0
January '2001	640	290	166	0	0
February	653	283	203	79	0
March	599	199	179	99	0
April	540	140	140	120	0
May	592	112	112	112	12
June	770	194	94	94	74

Note: Old stock is defined as old stock in addition to the projected typical 0.7 thousand MTs of rice storage losses per month.

* Option 1: Additional boro rice procurement of 1.0 lakh MTs total in August and September, and rice imports reduced by 1.0 lakh MTs.

Source: Ministry of Food, FPMU.

FMRSP-IFPRI memo
3 October, 2000

Some Notes on the State of the PFDS: October, 2001

Two years ago at this time, flood waters that had covered two-thirds of the country were receding, the aman rice crop had been severely damaged, and prices were high (14.2 Taka/kg for coarse rice, wholesale Dhaka). Moreover, total foodgrain stocks (net of transit) were only 501 thousand MTs and the private sector was importing more than 200 thousand MTs of rice per month from India. Since then, the foodgrain availability situation has dramatically changed for the better.

Though West Bengal (India) has been hard-hit by recent floods, flood damage in Bangladesh is confined mainly to western parts of the country around Jessore. At this point, it appears that less than 5 percent of the rice crop has been adversely affected. High prices are not a concern; instead the GOB has been attempting to boost the low price of rice¹ through additional domestic procurement. Foodgrain stocks are 1.160 million MTs (as of 27 September, 2000) and apart from trade barriers on the Indian side of the border, Bangladesh traders could be exporting moderate amounts of rice to India.

Projections for 2000/2001 indicate that adequate food availability, pro-poor targeting, and the market orientation of the PFDS will continue. However, political pressures may be building for a large expansion of the PFDS with potentially large increases in costs and leakages.

Indicators of PFDS Efficiency and Market-Orientation

USAID's two indicators of the efficiency and market-orientation of the Public Foodgrain Distribution System, the share of public distribution targeted to the poor and

the share of private sector imports in total non-food aid imports, both pointed to an efficient and pro-poor PFDS in 1998/99 and 1999/2000. 84.7 percent of foodgrain distribution in 1999/2000 was through targeted programs, down only slightly from the record 87.9 percent in the 1998/99 flood year. These shares compare very favorably with the 39.4 percent share in 1991/92, before the major reforms that eliminated the rural and statutory (urban) rationing programs that suffered from extremely high leakages.

In the four year period from 1996/97 through 1999/2000, apart from Open Market Sales and Fair Price Card sales (begun in 1999/2000), the other sales channels averaged 252,000 MTs of foodgrain per year (127,000 MTs of rice and 125,000 MTs of wheat) with only minor fluctuations. Changes in the share of PFDS foodgrain distributed through targeted programs in these years have been mainly due to changes in the level of targeted distribution (such as the 465,000 MTs distributed through Vulnerable Group Feeding during 1998/99) and fluctuations in OMS/FPC distribution.

For 2000/2001, the share of PFDS foodgrain distributed through targeted programs is projected to fall to 75.2 percent, mainly because of 200 thousand MTs of planned Fair Price Card sales (half rice and half wheat). At the same time, the volume of targeted distribution is expected to decline from 1.609 to 1.410 million MTs. Arguably, Fair Price cards are also a means of targeting subsidized foodgrain sales to the poor. In principle, recipients of these cards are chosen based on legitimate needs. It is possible, however, that this program could expand to become a permanent ration channel, rather than simply a means to help poor households (and stabilize markets) in periods of high

¹ 10.5 Tk/kg for Boro HYV coarse rice, wholesale Dhaka in early September, 2000, 26 percent below the September 1998 price.

prices. Authorized fair price card dealers might be expected to become advocates of such an expanded program.²

The other measure of PFDS efficiency and market orientation, the share of the private sector in total non-food aid imports is likely to be about 83 percent in 2000/2001. Private sector wheat imports are expected to be about 800 thousand MTs, similar to their levels in the previous two years (820 thousand and 806 thousand MTs, respectively). Private rice imports, mainly low-cost, non-parboiled rice from Viet Nam, to be sold in Chittagong and perhaps Sylhet markets, are likely to total about 200 thousand MTs.

Given a bumper boro rice crop May-June 2000, the domestic rice procurement has been raised to 900 thousand MTs, eliminating the need for 200 thousand MTs of government commercial imports, as originally planned. Rice stocks are projected to be at 777 thousand MTs (net of transit) on July 1, 2001. The GOB still plans to procure 200 thousand MTs of wheat through commercial tenders, however, as wheat stocks, even with this procurement are projected to be only 320 thousand MTs (net of transit) on July 1, 2001. The GOB thus faces an imbalance of rice and wheat stocks, and possible significant storage losses of rice by mid-2001.

Expansion of the PFDS

To deal with perceived problems of lack of storage capacity, the Directorate General of Food is in the process of building more godowns and hiring 800 to 1000 new employees, adding to the current work force of about 11,000 employees. (Note that reforms in the early 1990s reduced the size of the DG Food work force from about

² Note, however, that the planned 200 thousand MTs of Fair Price Card sales may not occur. Currently, market prices of comparable quality grain are below the stipulated sales prices of rice and wheat (13.0 Tk/kg for rice and 9.0 Tk/kg for wheat). Thus, no significant sales have taken place thus far.

13,000 in 1992 to about 9,000 in 1994.) To what extent the possibility of expansion in fair price card distribution and the planned increase in storage capacity and work force indicate a potentially major expansion of the PFDS is not clear at this time.

Intermediate Result Indicator

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001P
10. Improved food and agriculture policies										
10.1 % of public food distribution going to the poor	39.4%	57.5%	61.4%	67.7%	63.8%	80.7%	75.5%	87.9%	84.7%	75.2%
% of public food distribution through OMS/FPC	11.7%	6.7%	21.5%	14.4%	22.5%	0.0%	10.1%	0.7%	1.9%	10.7%
% of public food distribution to poor including OMS/FPC	51.1%	64.2%	82.9%	82.1%	86.4%	80.7%	85.6%	88.5%	86.6%	85.9%
% of public food distribution to VGD and FFE	9.8%	12.4%	17.8%	22.7%	22.9%	29.9%	35.2%	23.0%	26.5%	28.5%

Figure 1: Targeted Foodgrain Distribution as Share of Total PFDS

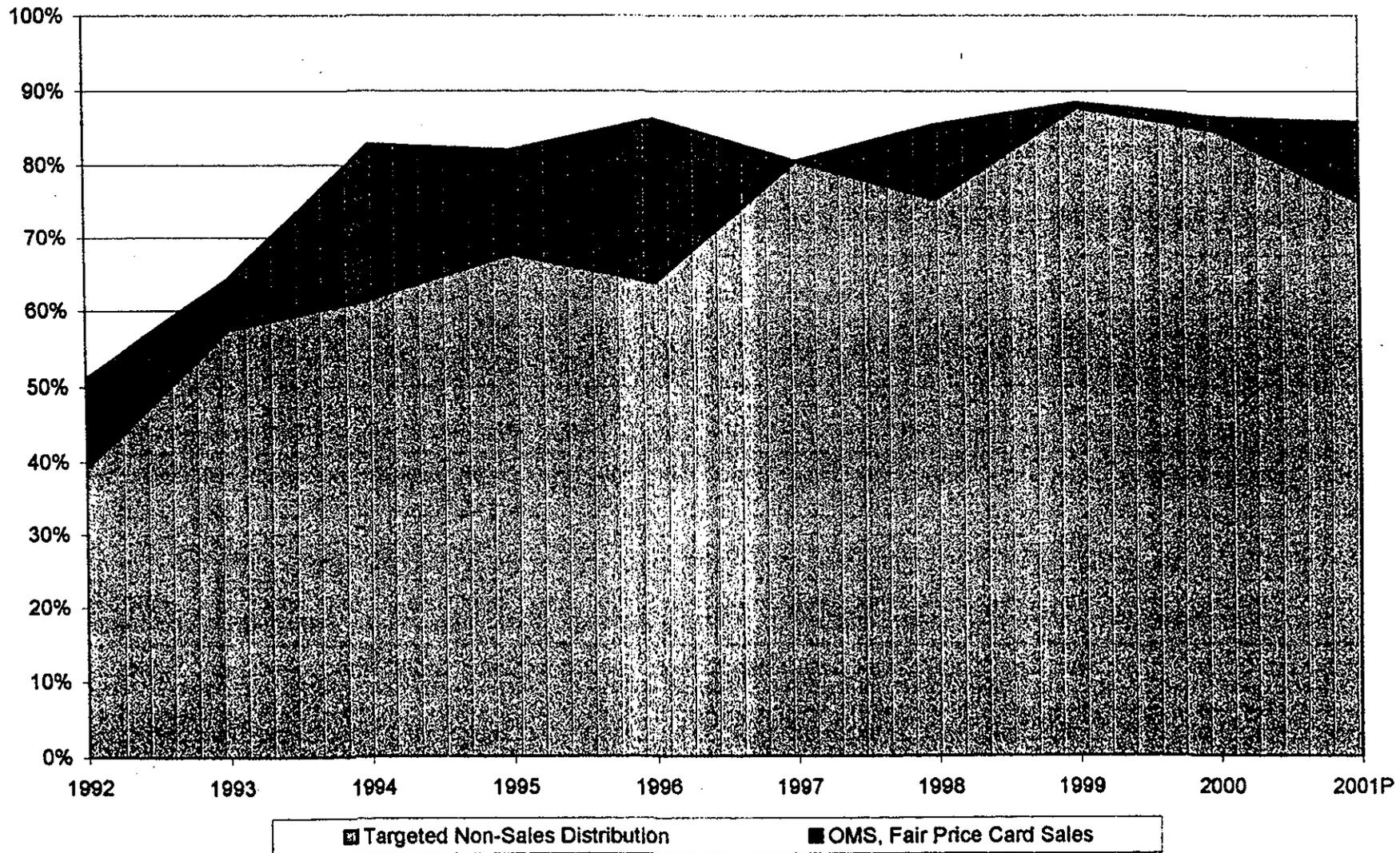
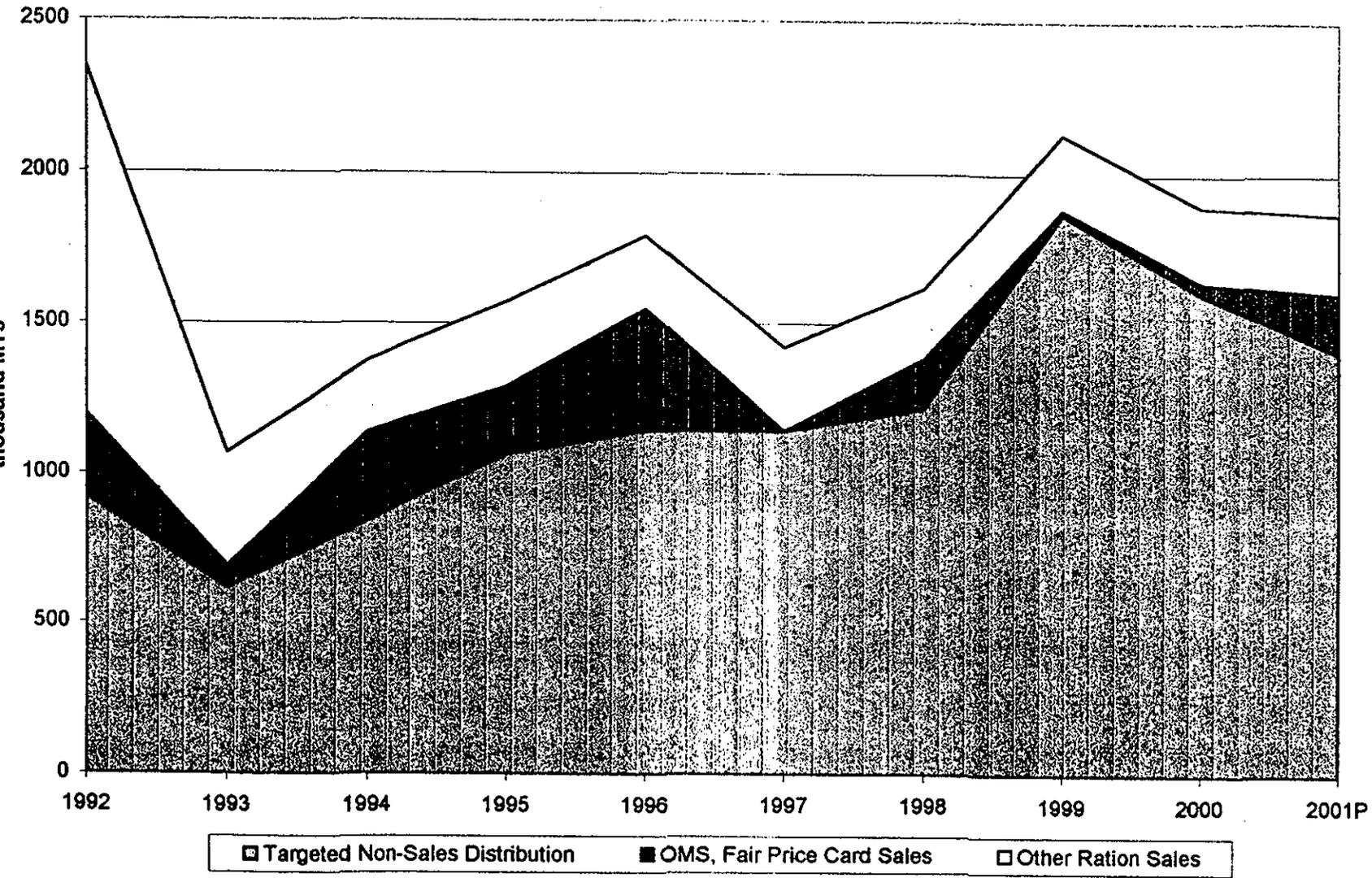


Figure 1a: Targeted and Non-Targeted Foodgrain Distribution



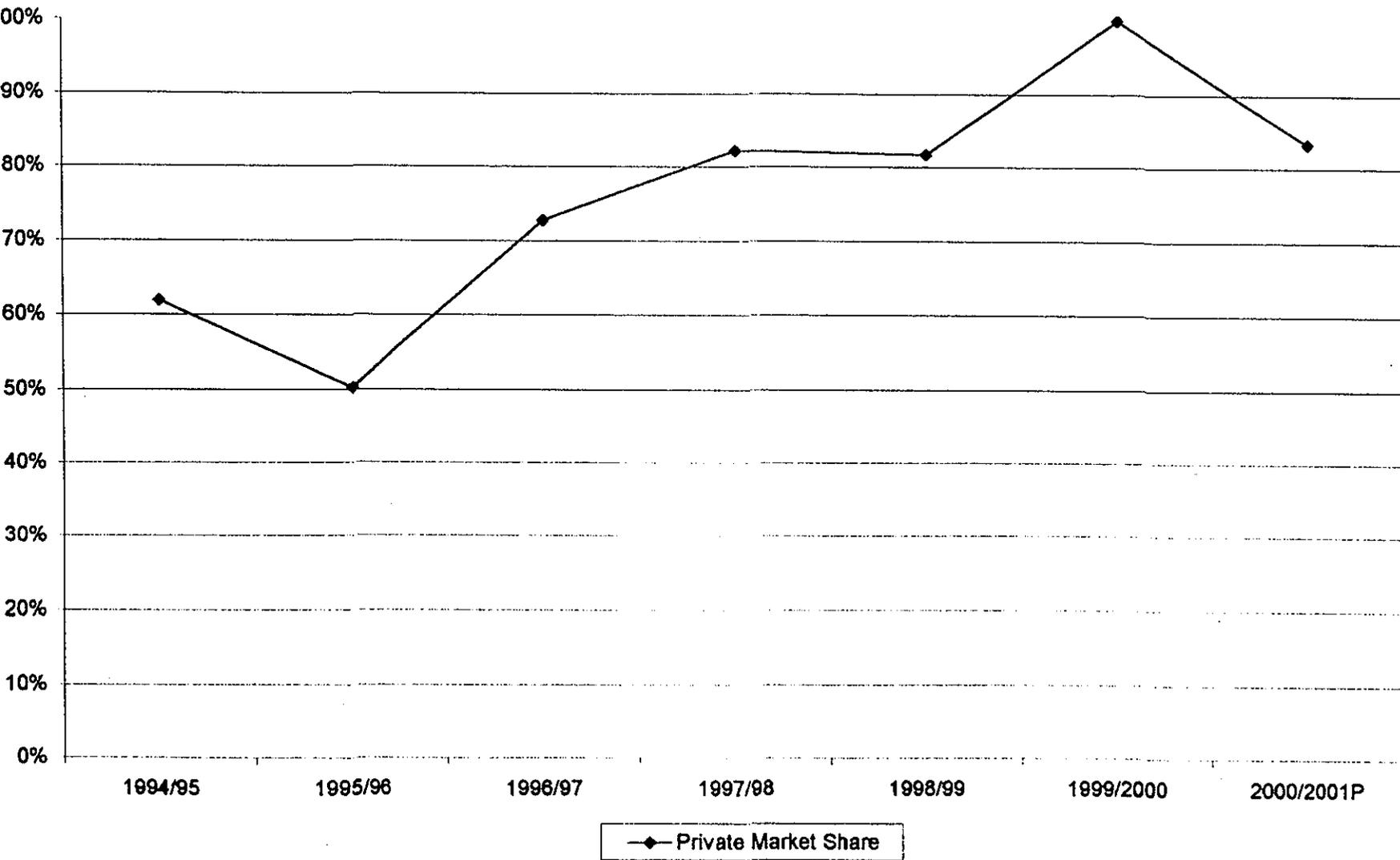
Public Foodgrain Import as Share of Total Imports

(000 m. tons)

Year	Aid/Grant			Government Commercial			Private Imports			Private / Govt Comm. Imports		
	Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total
1990/91	10	1530	1540	0	37	37						
1991/92	39	1375	1414	0	150	150	0	0	0			
1992/93	19	716	735	0	93	93	0	355	355	--	79.2%	79%
1993/94	0	654	654	0	0	0	74	238	312	100.0%	100.0%	100%
1994/95	0	935	935	230	390	620	583	430	1013	71.7%	52.4%	62%
1995/96	1	737	738	487	352	839	650	200	850	57.2%	36.2%	50%
1996/97	10	608	618	9	103	112	30	270	300	76.9%	72.4%	73%
1997/98	0	549	549	92	156	249	1007	142	1149	91.6%	47.6%	82%
1998/99	60	1174	1235	348	429	777	2660	820	3480	88.4%	65.7%	82%
1999/2000	5	865	870	0	0	0	428	806	1234	100.0%	100.0%	100%
2000/2001	37	600	637	0	200	200	200	800	1000	100.0%	80.0%	83%

Source: FPMU, MIS DG Food.

Figure 2: Private Market Share of Total Commercial Foodgrain Imports



FPMU/FMRSP memo
16 November, 2000

Food Aid Levels and Producer Price Incentives

Food aid to Bangladesh in 2000/2001 is projected to be 629 thousand MTs (589.2 thousand MTs of wheat and 39.8 thousand MTs of rice). Though this level is far below food aid levels in 1998/99 (a year of massive floods) and 1999/2000 (when substantial food aid deferred from the previous year arrived), the current level of food aid is consistent with normal food aid levels in the last five years. The long-term trend in food aid is sharply downward, however. Projected food aid in 2000/2001 is only 58.9 percent of average food aid flows in the five year period 1992/93 to 1996/97, (1.068 million tons), and only 32.3 percent of the 1.945 million MTs of food aid per year in the previous five year period (1987/88 to 1991/92), (Figure 1).

Lower food aid to Bangladesh is consistent with a global reduction in food aid in recent years as policy changes in donor countries have reduced donor government grain holdings. This global trend is likely to continue because of planned reductions in agricultural subsidies in donor countries in accordance with Uruguay Round and World Trade Organization agreements. A more important factor in recent years, however, is that conditions in Bangladesh have changed. Increased domestic production of foodgrains has reduced the country's so-called food gap, suggesting that, in terms of availability of foodgrain, there is less need for food aid. Domestic demand for wheat has also increased sharply, however, so that in spite of increased production, private sector imports continue. Nonetheless, currently, a succession of bumper harvests of rice and wheat has sharply reduced domestic prices of both commodities. If good domestic rice and wheat harvests continue, domestic prices may fall below the import parity price of non-milling wheat, discouraging domestic production and lowering farmer incomes.

The Food Gap and the Argument for Continued Food Aid

Since the flood-damaged aman harvest in December 1998, Bangladesh has enjoyed successive bumper harvests of boro rice in May-June, 1999 (10.552 million MTs), aman rice in November 1999, (11.027 million MTs), and boro rice in May-June, 2000. Because of the surprisingly large harvests in 1999/2000, the food gap, (the difference between a target level of 454 grams/person/day and net foodgrain production), was actually negative. Moreover, in 2000/2001, for the first time, the projected food gap was negative: -1.441 million MTs (Table 1, Figure 2).

In spite of relative abundance of foodgrain in the country, however, a case can be made for continued food aid, not to increase availability of foodgrain, but to provide increased access to food for poor households. Thus, food aid resources, targeted to the poor through various Public Foodgrain Distribution System channels (e.g. Food For Work, Food For Education, and Vulnerable Group Development), can still have a major positive impact on household food security even when the overall supply situation might suggest that no food aid is needed.

Producer Price Incentives: Domestic versus International Wheat Prices

Food aid can potentially have adverse effects, as well, particularly for producers of wheat. Since food aid ultimately increases market supply of wheat, it has the potential to lower prices. Whether food aid actually lowers market prices, however, depends on whether food aid is simply replacing public or private imports, or whether food aid is actually increasing total domestic supply of wheat.

For much of the last three years, private sector imports have been substantial and Bangladesh domestic prices for wheat have closely tracked import parity prices (Figure

1).¹ Private sector wheat imports surged in the months immediately after the mid-1998 floods, averaging 111 thousand MTs per month from September through December 1998. Imports were again high from September through December 1999, (averaging 75 thousand MTs per month), and totalled 1.611 million MTs from July 1998 through June 2000.

In general, in order to avoid depressing market prices below import parity prices, the total level of food aid must not exceed the amount of wheat that would be imported by the private sector under free trade in the absence of food aid. As shown in Figure 1, if wheat imports (e.g. in the form of food aid) exceed the free-trade level of imports (M1), the domestic price of wheat will fall below import demand to encourage consumers to consume more wheat. Unfortunately, the lower price also discourages domestic wheat production and lowers farmer incomes. How much wheat would be imported under free trade (M1) depends on the import price of wheat, and the responsiveness of domestic production and demand to changes in the wheat price.²

In 1999/2000, the private sector imported 806 thousand MTs of wheat, and domestic wheat prices (national wholesale) averaged 8.64 Tk/kg. In addition, public net distribution (total distribution less domestic procurement) added 813 thousand MTs of wheat to domestic supplies. Thus, a total of 1.619 million MTs of wheat was supplied to domestic markets through private imports and the PFDS in 1999/2000. Given that domestic prices remained close to estimated import parity prices for most of the year, and perhaps more important, that large amounts of wheat were imported by the private sector,

¹ Import parity prices were in fact lower than shown in 1993 due to the U.S. Export Enhancement Program which subsidized wheat exports.

² In the calculations below, the responsiveness of supply and demand to changes in wheat prices are captured by the elasticities of supply and demand, which are defined as the percentage change in supply (demand) resulting from a one percent change in market price.

it appears that food aid did not lead to price disincentive effects for Bangladesh wheat farmers in 1999/2000.

Three caveats should be noted, however. First, there are important quality differences for wheat. Domestically produced wheat is soft wheat with a relatively low gluten content, and is not suitable for many baking purposes (biscuits, cakes, and many types of breads). To meet the demand for these products, wheat millers use imported wheat with higher gluten content (so-called milling wheat). Discussions with a large international grain company representative indicate that roughly 30 thousand MTs of milling wheat per month is used in Bangladesh, totalling about 360 thousand MTs per year. Thus, private sector imports of wheat of comparable quality to Bangladesh wheat in 1999/2000 were about 540 thousand MTs, (360 thousand MTs less than the total 806 thousand MTs of private sector wheat imports).

Second, the Bangladesh wheat harvest is concentrated in a few months (March-April), and that the bulk of Food For Work wheat distribution typically occurs from January through May (when soils are dry enough to permit heavy earthwork for road-building and repair), there are potentially large seasonal effects of PFDS distribution. Spreading the distribution of wheat throughout the year through other channels (such as Food For Education), is one means of minimizing the risk of depressing market prices to the detriment of producers.

Third, bumper rice harvests (which reduce rice prices and thereby reduce consumer demand for wheat), high world market prices for wheat, and bumper wheat harvests all reduce the gap between domestic demand and domestic supply at the import parity price level, (i.e. total demand for privately imported or PFDS wheat). As shown in Table 1, an increase in the import parity price of wheat (due to the recent exchange rate

devaluation plus an increase in expected domestic production could lower the total demand for privately imported or PFDS wheat (non-production net-supply) from 1.62 to 1.48 million MTs. An increase in international wheat prices (U.S. Hard Red Winter #2, FOB Gulf) to \$152/MT (the average level of the previous five years), could reduce demand for privately imported or PFDS wheat to about 1.20 million MTs, as domestic production increases and total demand declines.

The biggest potential impacts on wheat demand could come, however, from continued bumper crops of rice. A reduction in the average wholesale price of rice from 12.0 Tk/kg to 10.5 Tk/kg could reduce demand for privately imported or PFDS wheat to 1.24 million MTs at 1999-2000 world wheat price level, or to about 940 thousand MTs at the higher, five-year average world price level. Given that import demand for milling wheat is about 360 thousand MTs per year, total demand for privately imported or PFDS ordinary wheat would be only about 580 thousand MTs in the latter scenario. Net PFDS distribution greater than this amount would drive domestic prices below import parity levels.

There are some indications that this last scenario may not be unrealistic. Since April 2000, national average domestic wheat prices have fallen to an average of 1.1 Tk/kg below estimated import parity levels. Nonetheless, private sector imports remained high. From April through June, this was apparently due to imports of exceptionally low-priced wheat (about \$130/MT C&F Chittagong) from the EU and Turkey. This low-priced wheat is reportedly no longer available in the international market, however. Reportedly, private market imports have considerably slowed in recent months, though no official data on imports in September and October are yet available.

Conclusions

Unlike the situation throughout much of the last three years, there is a realistic possibility that food aid inflows, distributed through the PFDS, could result in price disincentive effects for Bangladesh wheat producers in 2000/2001. Further analysis is required, taking into consideration population growth, long-term changes in taste leading to increased consumer demand for wheat, and sensitivity of the results to alternative assumptions of world prices and economic parameters. If bountiful rice harvests continue and world wheat prices rise, possible price disincentives of food aid (and Ministry of Food commercial imports) could once again become a major food policy issue for Bangladesh.

1- Foodgrain Availability and Requirement in Bangladesh, 1980/81 to 2000/2001p

(000 m. tons)

Year	Domestic Production (Gross)			Net Production (deducting 10% for Seed, Feed & Wastage)	Mid-year Population (million)	Foodgrain Consumption Requirement ((@ 16oz day/cap)	Food Gap (7- 5)	Private Imports	Public Distribution	Internal Procurement	National Availability (5-9+10-11)	Per Capita Availability (oz/day)
	Rice	Wheat	Total									
	2	3	4									
1	13883	1092	14975	13478	89.9	14419	942		1542	1017	14003	15.05
2	13631	967	14598	13138	91.9	14740	1602		2067	303	14902	15.67
3	14217	1095	15312	13781	93.9	15061	1280		1935	192	15524	15.98
4	14508	1211	15719	14147	96.0	15397	1250		2051	266	15932	16.04
5	14622	1464	16086	14477	98.1	15734	1257		2562	349	16691	16.44
6	15041	1042	16083	14475	100.3	16606	2131		1541	349	15667	15.09
7	15407	1091	16498	14848	102.5	16970	2122		2120	188	16780	15.82
8	15414	1048	16462	14816	104.7	17335	2519		2503	375	16944	15.64
9	15544	1021	16565	14909	106.8	17682	2774		2941	416	17433	15.77
0	17710	890	18600	16740	108.9	18030	1290		2164	960	17944	15.92
1	17785	1004	18789	16910	111.0	18378	1468		2372	783	18499	16.11
2	18252	1065	19317	17385	113.0	18709	1323		2345	1016	18714	16.00
3	18341	1176	19517	17565	115.0	19040	1475	355	1073	233	18761	15.77
4	18042	1131	19173	17256	117.0	19371	2115	312	1376	166	18778	15.51
5	16833	1245	18078	16270	119.0	19702	3432	1013	1573	277	18580	15.09
6	17688	1369	19057	17151	121.0	20033	2882	850	1795	422	19374	15.47
7	18880	1454	20334	18301	123.0	20364	2064	237	1392	616	19314	15.17
8	18862	1803	20665	18599	125.0	20696	2097	1135	1621	618	20736	16.03
9	19905	1908	21813	19632	127.0	21027	1395	3468	2135	751	24483	18.63
0	23067	1840	24907	22416	129.0	21358	-1059	1234	1900	967	24583	18.42
1p	23700	2000	25700	23130	131.0	21689	-1441	800	1874	1150	24654	18.19

(i) before 1985/86 requirement was calculated @15.5 oz./day /capita and (ii) before 1991/92 private import of foodgrain was not allowed.

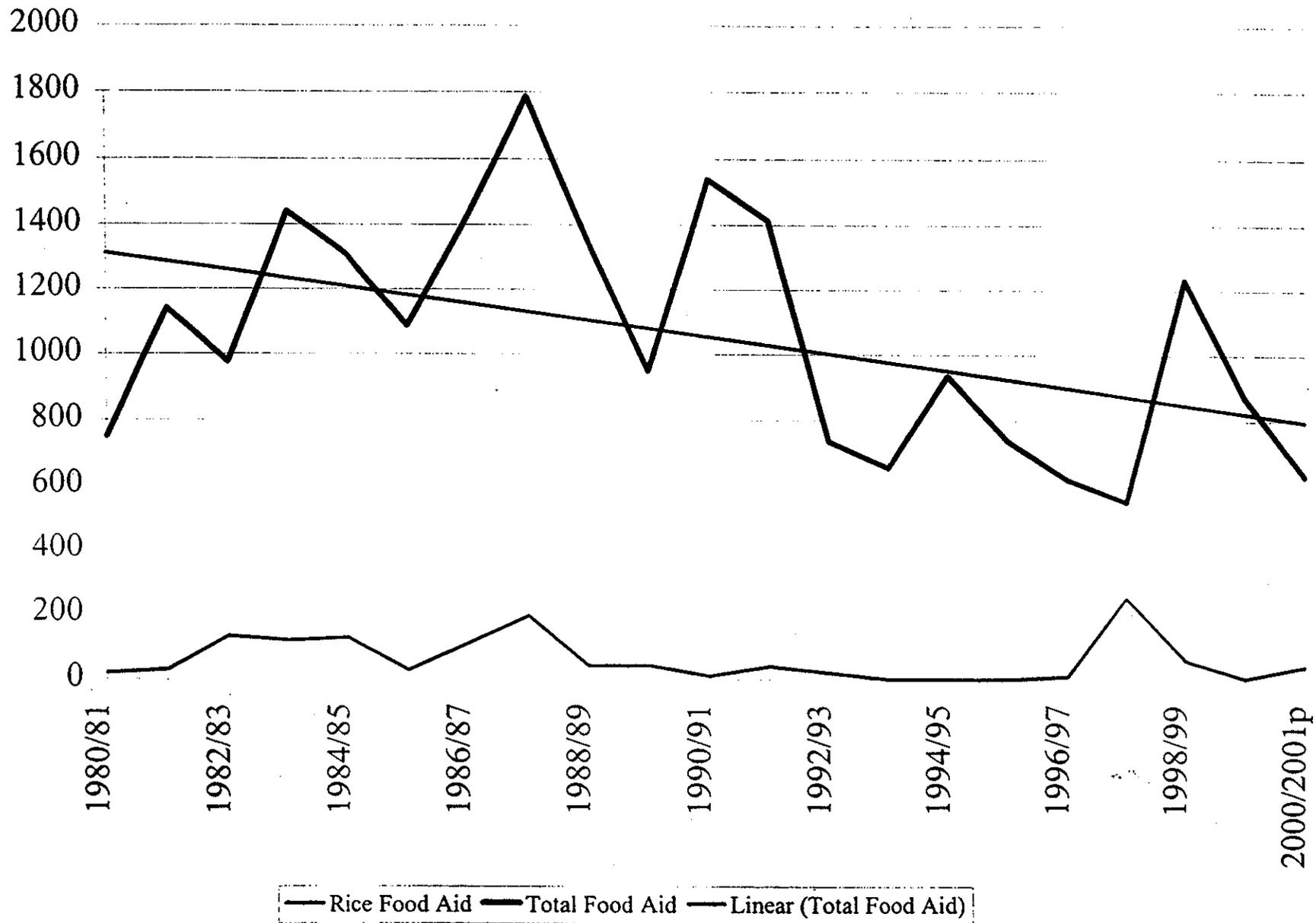
Source: Bangladesh Bureau of Statistics and Directorate of Food

Table 2: Wheat Imports and Domestic Prices Under Alternative Scenarios

	Base 1999-2000	Scenario 1 2000/2001 Production and World Price	Scenario 2 Higher World Price (FOB \$155)	Scenario 3 Low Rice Price (11.2 Tk/kg)	Scenario 4 Low Rice Price High World Wheat Price (FOB \$155)
Supply					
Production	1.840	1.877	1.975	1.927	2.020
Losses	0.100	0.100	0.100	0.100	0.100
Less 10 Percent Losses	0.184	0.188	0.197	0.193	0.202
Net Production	1.656	1.689	1.777	1.735	1.818
Public Net Distribution	0.813	0.917	0.917	0.917	0.917
Private Imports	0.806	0.563	0.217	0.327	0.019
Total Supply	3.275	3.169	2.911	2.978	2.754
Total Imports	1.671	1.363	1.017	1.127	0.819
Non-production Net Supply	1.619	1.480	1.134	1.244	0.936
PFDS					
Food Aid	0.865	0.600	0.600	0.600	0.600
Govt Commercial Imports	0.000	0.200	0.200	0.200	0.200
Domestic Procurement	0.211	0.250	0.250	0.250	0.250
Offtake	1.024	1.167	1.167	1.167	1.167
Stock Loss	0.018	0.017	0.017	0.017	0.017
Change in Public Stocks	0.034	-0.134	-0.134	-0.134	-0.134
Demand					
Total Demand	3.275	3.169	2.911	2.978	2.754
CIF Price of Wheat (\$/MT)	162	162.00	197	162	194
Exchange Rate (Taka/\$)	50	54.00	54	54	54
CIF price (Tk/kg)	8.10	8.75	10.64	8.75	10.48
Handling, Transport (Tk/kg)	1.45	1.45	1.45	1.45	1.45
Import Parity (Tk/kg)	9.55	10.20	12.09	10.20	11.93
Quality Calibration factor	0.905	0.90	0.90	0.90	0.90
Domestic Wheat Price (Tk/kg)	8.64	9.23	10.94	9.23	10.79
Percent Change Price		6.79	26.58	6.79	24.88
Percent Change Production		1.99	7.33	4.74	9.78
Percent Change Demand		-3.23	-11.12	-9.06	-15.91
Elasticity of Supply of Wheat	0.30	0.30	0.30	0.30	0.30
Elasticity of Demand of Wheat	-0.50	-0.50	-0.50	-0.50	-0.50

Note: Domestic price of wheat is national average wholesale price from DAM.

Figure 1: Food Aid to Bangladesh, 1980/81 - 2000/2001p



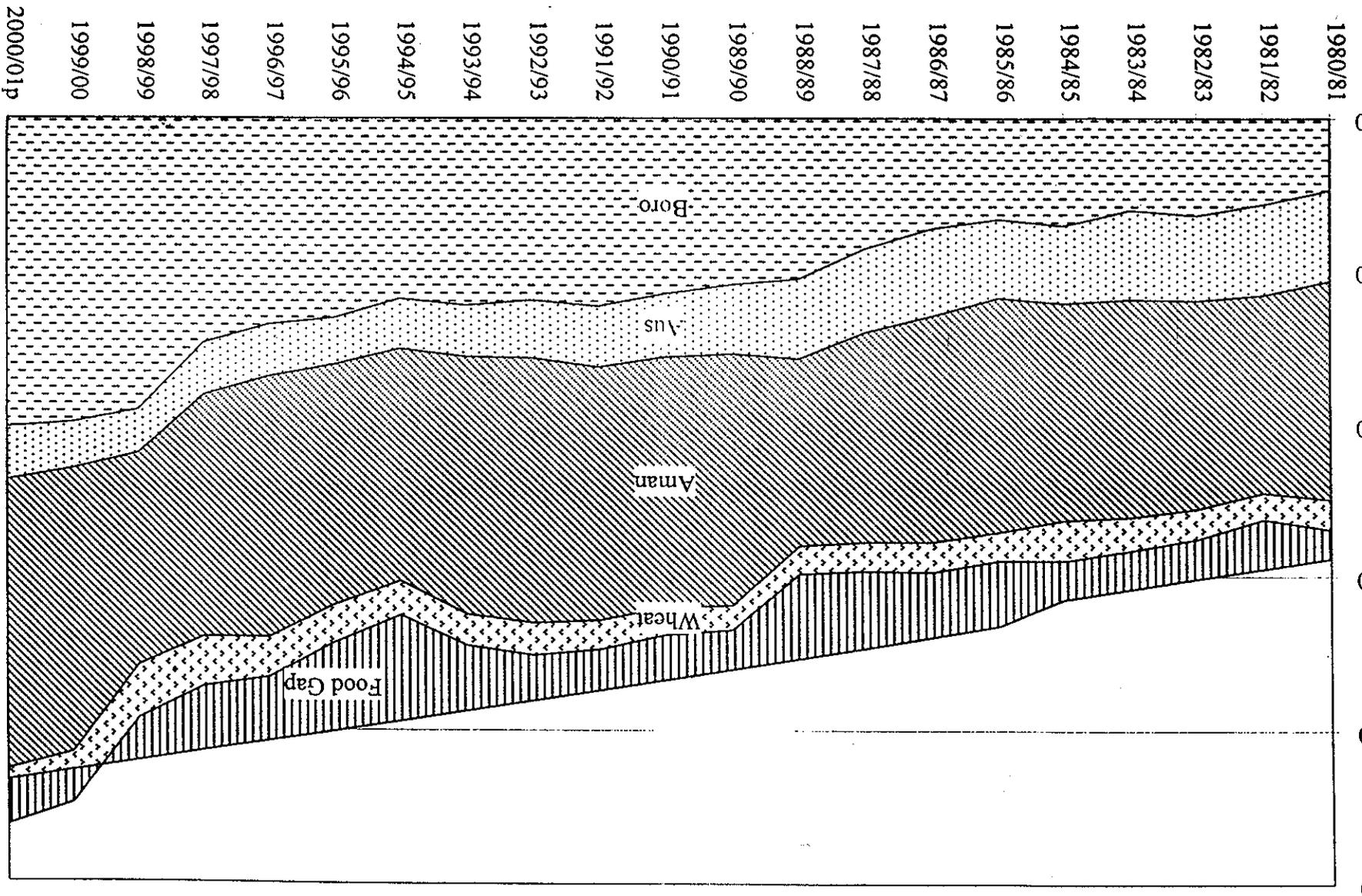


Figure 2 - Foodgrain Gap in Bangladesh, 1980/81-2000/2001P

FPMU/FMRSP memo
22 February, 2001

Implications of a 1 lakh Increase in FFW Rice Distribution

Recently, it has been proposed that distribution of rice through Food For Work (FFW) channels be increased by a total of 1 lakh MTs during the remainder of the 2000/2001 fiscal year. Currently, 193 thousand MTs of rice and 418 thousand MTs of wheat are budgeted for FFW distribution. Of this total, only 43 thousand MTs of rice and 65 thousand MTs of wheat had been distributed as of the end of January 2001.

This memo discusses the implications of the proposed 1 lakh MT increase in FFW rice distribution in terms of public foodgrain stocks, fiscal costs and leakages, and market prices of rice.

Implications for Public Foodgrain Stocks

In the original 2000/2001 budget, 125 thousand MTs of rice and 503 thousand MTs of wheat were allocated for FFW programs. All 125 thousand MTs of rice and 115 thousand MTs of wheat were budgeted for Rural Infrastructure Development (RID) managed by the Ministry of Relief, a non-ADP channel. In December 2000, planned distribution of rice through this channel was increased by 68 thousand MTs, and wheat distribution was decreased by 85 thousand MTs in a rice for wheat swap at a ratio of 1 MT of rice per 1.25 MT of wheat.

Under the current distribution plan, closing stocks (net of stock in transit) are projected to be 684 thousand MTs of rice and 407 thousand MTs of wheat, (a total of 1.091 million MTs of foodgrain). Of this total, at least 1.19 lakh MTs of rice (and no wheat) would be more than six months old at the end of June 2001 and at least 65

thousand MTs of rice would be more than eight months old.¹ Moreover, with normal total PFDS foodgrain distribution of only about 110 thousand MTs in July and August, the problem of old rice stocks would likely persist until at least September 2001. A rice for wheat swap of about 70 thousand MTs of rice would be needed by September 2001 to avoid having this amount of rice stock reach 9 months of age.

An increase in FFW rice distribution by 1 lakh MTs over the last four months of the 2000/2001 fiscal year would lower **(net) rice stocks to 584 thousand MTs and total (net) stocks to 991 thousand MTs.** (Gross stocks would still be 1.083 million MTs.) The minimum amount of rice stocks at least six months old would be only 19 thousand MTs as of the end of June 2001.

Note that these stock projections include 1 lakh MTs of public sector wheat imports. Given low market prices and adequate public foodgrain stocks, if these imports are cancelled, total wheat stocks would still be 307 thousand MTs net (384 thousand MTs gross), and total foodgrain stocks would be 891 thousand MTs (net) and 984 thousand MTs gross.

Thus, foodgrain stocks are adequate to meet projected distribution needs, even with an additional 1 lakh MTs of rice distribution. Moreover, additional rice distribution (above what is currently planned along with normal July-September rice distribution) is needed by September 2001 in order to avoid having approximately 70 thousand MTs of rice reach 9 months of age.

Fiscal Costs and Leakages

Distribution of an additional 1 lakh MTs of rice through FFW involves **significant fiscal costs**, however. At an economic price of about 14.0 Tk/kg (the average

¹ These figures indicate the minimum amount of old stocks assuming old stocks are distributed before newer stocks. Depending on stock rotation, the actual amount of old

cost of government rice stocks), the additional FFW distribution costs are **140 crore Taka (25.9 million dollars)**. Moreover, it may be difficult to plan and administer new FFW projects in the relatively short span of time available before the end of the fiscal year (and the onset of the monsoons). As a result, there is an **increased risk of leakages**, in light of a rapid increase in program size over a short period of time, as was the case with the expansion of FFW in early 2000. Finally, if FFW distribution coincides with boro procurement in May and June, 2001, there is the possibility that rice designated for FFW distribution could be **repurchased as part of domestic rice procurement without ever leaving the godowns**, through simple book transfers.

Market Prices

Market prices of rice have been relatively low since May 1999, following the record post-1998 flood boro harvest. In January, 2001, the national average wholesale price of coarse rice was only 11.3 Tk/kg, 1.2 Tk/kg below the 2000/2001 domestic procurement price of aman rice. Aman procurement through the end of January 2001 was 161 thousand MTs out of a target of 250 thousand MTs. Procurement through mid-February was about 180 thousand MTs and the aman procurement season may be extended to mid-March 2001. Adjusting for inflation, real prices of rice in 2000/2001 have been at their lowest levels since 1997, (Figure 1).

An additional 1 lakh MTs of rice distribution in the March-May 2001 period would add about 1.9 percent to available supplies of rice, estimated at about 5.1 million MTs.² This additional rice supply could **potentially lower rice prices by 4 to 10**

stocks could be higher.

² Total available rice supplies for consumption for the December 2000 through May 2001 period are estimated as equal to 11.2 million MTs of aman production less 10 percent for seed, feed and wastage, plus 79 thousand MTs of private sector rice imports and 381 thousand MTs of rice distribution less 250 thousand MTs of aman procurement. Note

percent below their levels in the absence of the distribution. If without additional distribution, rice prices would rise by 4 percent between January and March-May (as they did on average during the 1990s), then an additional 1 lakh MT of distribution could lower average wholesale prices of coarse rice in March-May 2001 by 0.5 to 1.1 Tk/kg, to perhaps 10.9 to 11.6 Tk/kg (Appendix Table 1). Thus, additional rice distribution concentrated during the March-May period could have a significant negative impact on pre-boro harvest prices.

Conclusions

Current and projected foodgrain stocks, coupled with relatively low market prices following the successful 2000/2001 aman harvest, are **more than sufficient** to permit a 1 lakh MT increasing in rice distribution through FFW from March to May 2001. Even with the additional distribution, foodgrain stocks are projected to be **991 thousand MTs (net) and 1.083 million MTs (gross)**. Moreover, some increase in rice distribution (beyond current plans and normal July-September distribution) is needed to avoid having about 70 thousand MTs of rice reach nine months of age by the end of September 2001.

However, fiscal costs of additional distribution are high -- **140 crore Taka (25.9 million dollars)**. Moreover, rapid increases in distribution entail **increased risk of leakages and diversion of resources** that could be embarrassing to the Government. Finally, additional distribution could lower wholesale market prices of coarse rice in March-May 2001 by **4 to 10 percent (0.5 to 1.1 Tk/kg)**, compared to prices in the absence of additional distribution. A smaller increase in FFW rice distribution would have proportionately less fiscal costs and market price impacts.

that these calculations assume no change in stock between the start of the aman harvest and the start of the boro harvest.

Thus, increased distribution, while feasible, comes at a potentially high cost both to the government budget and to farmers, in general. A more moderate increase in FFW rice distribution (of 50 to 70 thousand MTs) would limit the direct fiscal costs and adverse price effects for farmers, while easing the problem of aging stocks. Swapping rice for wheat in various channels would solve the aging rice stock problem at even lesser fiscal cost, however.

Table 1: Summary of PFDS Foodgrain Stock Scenarios

	Rice	Wheat	Total
Original 2000/2001 Budget			
Opening Stock	563	528	1,091
Government Procurement	900	450	1,350
Food Aid	0	600	600
Total Distribution	670	1,167	1,837
FFW	125	503	628
Closing Stock	777	395	1,172
Current 2000/2001 Budget			
Opening Stock	563	528	1,091
Government Procurement	900	400	1,300
Food Aid	35	579	614
Total Distribution	783	1,007	1,790
FFW	193	418	611
Closing Stock (net)	684	407	1,091
Stock > 6 months old	119	0	119
Stock > 9 months old	0	0	0
Distribution with 1 lakh Extra FFW Rice			
Opening Stock	563	528	1,091
Government Procurement	900	400	1,300
Food Aid	35	579	614
Total Distribution	883	1,007	1,890
FFW	293	418	711
Closing Stock (net)	584	407	991
Stock > 6 months old	19	0	19
Stock > 9 months old	0	0	0

Foodgrain Balance - 2000/2001

(figure in lakh m. tons)

	FY 2000/2001			FY 1999/2000			
1. Opening Public Stock (1st July):	Rice	Wheat	Total	Rice	Wheat	Total	
	5.63	5.28	10.91	6.95	5.04	11.99	
2. Mid-Year Population Estimate (million)			131.00			129.00	
3. Requirement (@16 Oz./Capita/Day)			216.89			213.58	
4. Gross Domestic Production:	(Target)			(Actual)			
	Rice	Wheat	Total	Rice	Wheat	Total	
Aus	19.27	/Maize		17.34			
Aman	112.46	20.00		103.06			
Boro	112.00	1.25		110.27			
Total	243.73	21.25	264.98	230.67	18.40	249.07	
5. Net Domestic Production (after deduction 10% as seed, feed and wastage)			238.5			224.16	
6. Domestic Production Gap			-21.59			-10.58	
7. Foodgrain Import through Formal Sources	Source	Rice	Wheat	Total	Rice	Wheat	Total
	Aided Imports	0.35	5.80	6.15	0.05	8.65	8.70
	GOB Commercial Imports	0.00	1.00	1.00	0.00	0.00	0.00
	Private Sectr Imports	4.00	6.00	10.00	4.28	8.06	12.34
	Total Imports	4.35	12.80	17.15	4.33	16.71	21.04
8. Net Requirement Surplus after Import: (item 7 - item 6)			38.74			31.62	
9. Public Internal Procurement	Rice	Wheat	Total	Rice	Wheat	Total	
Domestic Procurement of Foodgrain	9.00	3.00	12.00	7.56	2.11	9.67	
10. Public Foodgrain Distribution Programe:	Channels	Rice	Wheat	Total	Rice	Wheat	Total
	OMS/FPC	0.10	0.50	0.60	0.01	0.35	0.36
	Ration (EP/OP/LE) and FM	1.35	1.29	2.64	1.31	1.24	2.55
	FFE (PMED)	1.50	2.00	3.50	1.12	1.74	2.86
	FFW (RD and General) GOB + Donar	1.93	4.18	6.11	3.34	4.20	7.54
	VGD GOB + Donar	0.64	1.20	1.84	0.62	1.55	2.17
	VGF GOB	1.32	0.21	1.53	1.27	0.22	1.49
	TR/GR/HT (MDMR)	0.99	0.69	1.68	1.09	0.94	2.03
	Total Public Distribution	7.83	10.07	17.90	8.76	10.24	19.00
11. Closing Public Stock (30th June):	Rice	Wheat	Total	Rice	Wheat	Total	
	7.82	4.05	11.87	5.63	5.28	10.91	

Detailed Food Distribution Plan, 2000-2001

Original Budget, 2000-2001

(000 mt)

Channels	Rice	Wheat	Total
A1. OMS (Open Market Sales)/ FPC	100.0	100.0	200.0
A2. OP (Other Priorities)	10.0	5.0	15.0
A3. FM (Govt. Flour Mill)		10.0	10.0
A4. LEI (Large Employer Industries)		14.0	14.0
A5. EP (Essential Priorities)	125.0	100.0	225.0
A. Total - DGF Sales	235.0	229.0	464.0
B1. FFE (Food for Education Programme)	150.0	200.0	350.0
B. Total - PMED Sales	150.0	200.0	350.0
C1. FFW-Rural Development (WFP)		200.0	200.0
C2. FFW-Rural Infra. Development		50.0	50.0
C3. FFW-PM's Commitment		15.0	15.0
C4. FFW-River/ Canal Excavation		25.0	25.0
C5. FFW-Special Programme		28.0	28.0
C. ADP (RD/FFW-General)		318.0	318.0
D1. Border Roads Construction		5.0	5.0
D2. FFW-Rural Infra. Development	125.0	115.0	240.0
D3. Cantt./Police Area Development		19.0	19.0
D4. Canal Digging		15.0	15.0
D5. Ashrayan Project		20.0	20.0
D6. Adarsha Gram Project		5.0	5.0
D7. Dhaka Chittagong City Corp.		0.0	0.0
D8. Reserve		6.0	6.0
D. Non-ADP (FFW-General)	125.0	185.0	310.0
E1. VGD (Vulnerable Group Development)	64.0	120.0	184.0
E2. TR (Rural Maintenance)		100.0	100.0
E3. VGF (Vulnerable Group Feeding)	15.0		15.0
E4. GR (Gratitous Relief)	46.0		46.0
E5. Special Test Relief (CHT)	35.0	15.0	50.0
E. Total - Others (VGD/VGF/GR/CHT)	160.0	235.0	395.0
F. Total non-ADP FFW/ Others [D+E]	285.0	420.0	705.0
Total Non-Sales (ADP and non-ADP) [C+F]	285.0	738.0	1023.0
Grand Total (A+B+F)	670.0	1167.0	1837.0

Revised Budget, 2000-2001

(000 mt)

Channels	Rice	Wheat	Total
A1. OMS (Open Market Sales)/ FPC	10.0	50.0	60.0
A2. OP (Other Priorities)	10.0	5.0	15.0
A3. FM (Govt. Flour Mill)		10.0	10.0
A4. LEI (Large Employer Industries)		14.0	14.0
A5. EP (Essential Priorities)	125.0	100.0	225.0
A. Total - DGF Sales	145.0	179.0	324.0
B1. FFE (Food for Education Programme)	150.0	200.0	350.0
B. Total - PMED Sales	150.0	200.0	350.0
C1. FFW-Rural Development (WFP)		200.0	200.0
C2. FFW-Rural Infra. Development		50.0	50.0
C3. FFW-PM's Commitment		15.0	15.0
C4. FFW-River/ Canal Excavation		25.0	25.0
C5. FFW-Special Programme		28.0	28.0
C. ADP (RD/FFW-General)		318.0	318.0
D1. Border Roads Construction		5.0	5.0
D2. FFW-Rural Infra. Development	193.0	30.0	223.0
D3. Cantt./Police Area Development		19.0	19.0
D4. Canal Digging		15.0	15.0
D5. Ashrayan Project		20.0	20.0
D6. Adarsha Gram Project		5.0	5.0
D7. Dhaka Chittagong City Corp.		0.0	0.0
D8. Reserve		6.0	6.0
D. Non-ADP (FFW-General)	193.0	100.0	293.0
E1. VGD (Vulnerable Group Development)	64.0	120.0	184.0
E2. TR (Rural Maintenance)	40.0	50.0	90.0
E3. VGF (Vulnerable Group Feeding)	132.0	21.0	153.0
E4. GR (Gratitous Relief)	24.0	4.0	28.0
E5. Special Test Relief (CHT)	35.0	15.0	50.0
E. Total - Others (VGD/VGF/GR/CHT)	295.0	210.0	505.0
F. Total non-ADP FFW/ Others [D+E]	488.0	310.0	798.0
Total Non-Sales (ADP and non-ADP) [C+F]	488.0	628.0	1116.0
Grand Total (A+B+F)	783.0	1007.0	1790.0

Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice and Wheat during 2000/2001

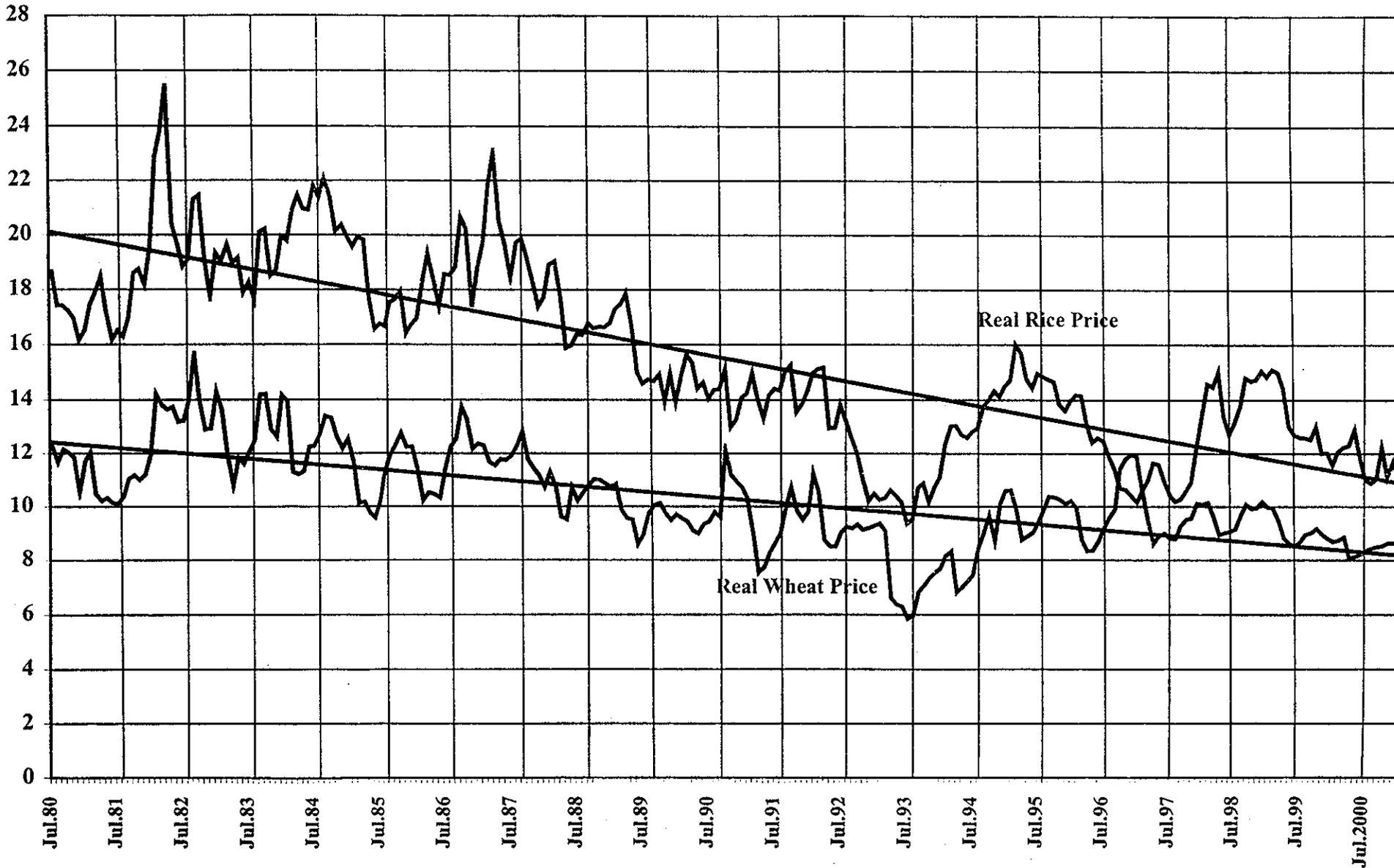
(000 metric tons)

Net Opening Stock			ADDITION									OFF-TAKE						Net Closing Stock (net of stock-in-transit = 93,111 mt)			Estimated Age of Rice Stock *						Estimated Age of Wheat Stock *								
			Domestic Procurement			Imports			TOTAL ADDITION	Rice Distribution			Wheat Distribution			TOTAL OFF-TAKE	Month-end Rice Stock				Age more than 6 months	Age more than 7 months	Age more than 8 months	Age more than 9 months	Age more than 10 months	Month-end Wheat Stock	Age more than 6 months	Age more than 7 months	Age more than 8 months	Age more than 9 months					
Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total		Rice	Wheat	Total	Rice	Wheat	Total			Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat		Total	Rice	Wheat	Total	Rice	Wheat	Total		
548.2	450.2	998.3	105.6	1.6	107.2	0.0	0.0	0.0	0.0	0.0	0.0	107.2	10.6	0.7	11.2	13.7	14.6	28.3	39.5	641.9	423.1	1065.0	641.9	189	72	39	38	35	423.1	241	198	0	0	J	
641.9	423.1	1065.0	101.4	0.0	101.4	0.0	54.1	0.0	0.0	0.0	54.1	155.4	10.7	0.9	11.6	14.7	41.4	56.0	67.7	730.9	420.7	1151.6	730.9	232	177	60	27	26	420.7	184	184	141	0	A	
730.9	420.7	1151.6	9.4	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	9.4	10.2	3.6	13.7	13.7	44.0	57.7	71.4	726.1	361.4	1087.5	726.1	247	218	162	46	13	361.4	125	125	125	82	S	
726.1	361.4	1087.5	99.2	0.0	99.2	0.0	0.0	0.0	0.0	0.0	0.0	99.2	10.3	42.8	53.0	15.4	50.5	65.9	118.9	771.7	295.0	1066.6	771.7	194	194	164	109	0	295.0	163	58	58	58	O	
771.7	295.0	1066.6	6.6	0.0	6.6	0.0	27.5	0.0	0.0	0.0	27.5	34.1	10.9	42.7	53.6	14.4	78.5	92.9	146.5	722.1	229.0	951.1	722.1	219	137	137	108	52	229.0	199	70	0	0	N	
722.1	229.0	951.1	45.5	0.0	45.5	2.0	15.3	0.0	0.0	2.0	15.3	62.8	11.4	55.6	67.0	9.3	97.9	107.2	174.2	700.8	135.6	836.4	700.8	346	150	69	69	39	135.6	115	90	0	0	D	
700.8	135.6	836.4	115.7	0.0	115.7	0.0	175.5	0.0	0.0	0.0	175.5	291.2	11.2	78.5	89.7	9.7	31.0	40.7	130.4	725.2	267.0	992.2	725.2	345	255	58	0	0	267.0	0	71	46	0	J	
725.2	267.0	992.2	38.8	0.0	38.8	3.0	21.5	0.0	0.0	3.0	21.5	63.2	14.8	82.9	97.7	17.3	43.8	61.1	158.8	667.8	225.9	893.6	667.8	348	246	156	0	0	225.9	0	0	0	0	F	
667.8	225.9	893.6	50.0	0.0	50.0	0.0	79.5	0.0	0.0	0.0	79.5	129.5	15.0	91.5	106.5	18.8	72.7	91.5	197.9	609.8	212.4	822.2	609.8	249	240	138	48	0	212.4	0	0	0	0	M	
609.8	212.4	822.2	0.0	80.0	80.0	0.0	129.1	0.0	100.0	0.0	229.1	309.1	14.0	87.6	101.6	20.6	114.9	135.4	237.1	506.7	384.5	891.2	506.7	245	146	136	35	0	384.5	0	0	0	0	A	
506.7	384.5	891.2	130.0	120.0	250.0	30.0	11.9	0.0	0.0	30.0	11.9	41.9	14.0	77.3	91.3	15.9	131.1	147.0	238.3	573.9	367.9	941.8	573.9	159	152	53	44	0	367.9	0	0	0	0	M	
573.9	367.9	941.8	197.8	98.4	296.2	0.0	65.0	0.0	0.0	0.0	65.0	361.2	12.0	74.0	85.9	15.7	107.6	123.3	209.3	684.2	406.5	1090.7	684.2	119	71	65	0	0	406.5	0	0	0	0	J	
			900.0	300.0	1200.0	35.0	579.3	0.0	100.0	35.0	679.3	714.3	1914.3	145.0	638.0	783.0	179.0	828.0	1007.0	1790.0															

* The figures show the lowest possible quality of stock of each respective age.

OPENING STOCK (GROSS)			TOTAL	OFF-TAKE																							TOTAL OFF-TAKE	CLOSING STOCK (GROSS)							
				RICE											WHEAT																				
Rice	Wheat	Total	Priced			Non-Priced					Rice			Priced			Non-Priced					Wheat	Rice	Wheat	Total										
			O/S /FPC	OP	EP	Total	FFW	VGD	FFE	TR	VGF	GR	Other	Total	O/S /FPC	OP /FM	LEI	EP	Total	FFW	VGD	FFE	TR	VGF	GR	Other	Total	Total							
563.4	528.0	1091.5	107.2	0.0	0.6	9.9	10.6	0.0	0.0	0.0	0.3	0.1	0.3	0.66	11.2	5.0	0.9	1.0	6.8	13.7	0.0	14.5	0.0	0.0	0.0	0.0	0.0	14.6	28.3	39.5	657.1	501.0	1158.1	J	
657.1	501.0	1158.1	155.4	0.0	0.7	10.0	10.7	0.0	0.0	0.0	0.3	0.4	0.3	0.90	11.6	5.5	1.2	1.0	7.0	14.7	0.0	14.8	26.2	0.0	0.0	0.0	0.4	41.4	56.0	67.7	746.1	498.6	1244.7	A	
746.1	498.6	1244.7	9.4	0.0	0.8	9.3	10.2	0.7	0.2	0.0	0.3	1.3	1.1	3.57	13.7	4.7	0.9	1.0	7.1	13.7	0.6	14.4	27.3	0.0	0.0	1.4	0.4	44.0	57.7	71.4	741.3	439.2	1180.6	S	
741.3	439.2	1180.6	99.2	0.0	0.7	9.5	10.3	0.4	0.8	0.1	0.0	21.8	15.2	4.5	42.8	53.0	6.2	1.3	0.9	7.0	15.4	5.8	14.1	24.9	3.0	0.4	2.2	50.5	65.9	118.9	786.9	372.9	1159.8	O	
786.9	372.9	1159.8	34.1	0.0	0.8	10.0	10.9	1.6	0.9	0.3	0.1	30.3	5.2	4.3	42.7	53.6	5.6	0.9	0.9	6.9	14.4	9.6	14.3	31.8	21.4	0.3	0.0	1.1	78.5	92.9	146.5	737.3	306.9	1044.2	N
737.3	306.9	1044.2	62.8	0.0	0.8	10.6	11.4	12.5	9.6	0.9	0.1	26.6	0.2	5.6	55.6	67.0	0.3	0.7	1.2	7.2	9.3	26.7	6.9	28.0	15.0	19.4	1.7	0.3	97.9	107.2	174.2	716.0	213.5	929.5	D
716.0	213.5	929.5	291.2	0.0	0.7	10.6	11.2	27.7	14.8	20.2	3.8	3.8	0.1	8.1	78.5	89.7	0.0	1.0	1.0	7.7	9.7	22.2	0.2	0.6	4.6	0.0	0.2	3.2	31.0	40.7	130.4	740.4	344.9	1085.3	J
740.4	344.9	1085.3	63.2	3.0	0.8	11.0	14.8	25.0	14.0	25.0	6.0	8.6	0.3	4.0	82.9	97.7	4.0	2.0	1.5	9.8	17.3	33.1	1.5	0.0	6.1	0.9	0.2	2.0	43.8	61.1	158.8	683.0	303.8	986.7	F
683.0	303.8	986.7	129.5	3.0	1.0	11.0	15.0	30.0	14.0	25.0	9.0	10.0	0.3	3.2	91.5	106.5	5.8	2.0	1.2	9.8	18.8	70.0	1.5	0.0	0.0	0.2	1.0	72.7	91.5	197.9	625.0	290.3	915.3	M	
625.0	290.3	915.3	309.1	2.0	1.0	11.0	14.0	35.0	9.7	24.0	7.0	10.0	0.3	1.7	87.6	101.6	7.0	1.8	2.0	9.8	20.6	90.0	8.8	15.0	0.0	0.0	0.1	1.0	114.9	135.4	237.1	521.9	462.4	984.3	A
521.9	462.4	984.3	291.9	2.0	1.0	11.0	14.0	35.0	0.0	24.0	7.0	10.0	0.3	1.0	77.3	91.3	3.0	1.2	1.9	9.8	15.9	100.0	14.5	15.0	0.0	0.0	0.1	1.6	131.1	147.0	238.3	589.1	445.8	1034.9	M
589.1	445.8	1034.9	361.2	0.0	1.0	11.0	12.0	25.1	0.0	30.5	7.0	10.0	0.3	1.0	74.0	85.9	3.0	1.1	1.5	10.1	15.7	60.0	14.5	31.1	0.0	0.0	0.0	2.0	107.6	123.3	209.3	699.4	484.4	1183.8	J
			1914.3	10.0	10.0	125.0	145.0	193.0	64.0	150.0	40.0	132.0	24.0	35.0	638.0	783.0	50.0	15.0	15.0	99.0	179.0	418.0	120.0	200.0	50.0	21.0	4.0	15.0	828.0	1007.0	1790.0				

Figure 1 - National Average Real Wholesale Price of Rice and Wheat, 1980-2001



Note: Prices are deflated using the non-food Dhaka middle-income Cost of Living Index (and the national CPI after June 1998).

Source : FPMU data and author's calculation.

Appendix Table 1: Estimation of Price Impact of an Additional 1 Lakh MTs of Rice Distribution
(Figures in million MTs unless otherwise noted)

Aman Production 2000/2001	11.200	
Net Production	10.080	
Private Imports	0.079	
Domestic Procurement	0.250	
Domestic Distribution	0.381	
Total Supply	10.290	
Supply per month (December-May)	1.715	
Supply (March-May)	5.145	
Additional FFW Rice Distribution	0.100	
% Increase in Supply	1.9%	1.9%
Elasticity of Demand	-0.5	-0.2
% Change Price	-3.9%	-9.7%
January 2001 Wholesale Price (Tk/kg)	11.3	11.3
Seasonality Factor	1.0703	1.07
Projected Average Price March-May (Tk/kg)	12.1	12.1
Estimated Wholesale Price, March-May (Tk/kg)	11.6	10.9

FMRSP memo
April 10, 2001

Some Observations on Food Aid, Food Stocks and the Public Foodgrain Distribution System

Although food aid has declined by more than half since the late 1980s, it remains an important component of the Public Foodgrain Distribution System (PFDS). The 615 thousand MTs of food aid expected in 2000/2001 (579 thousand MTs of wheat and 35 thousand MTs of rice) are equivalent to 33.5 percent of total expected distribution (1.833 million MTs).

Food Aid and Food Security

Food aid contributes to food security in Bangladesh in two major ways. First, it increases **availability of foodgrain** in the country. This was particularly important prior to the liberalization of private sector wheat and rice imports in 1992, when the only sources of foodgrain availability were domestic production, government commercial imports and a small amount of private sector smuggling. Since the early 1990s, however, private sector imports have added to domestic supplies, particularly following major production shortfalls when domestic prices rose to import parity levels.

Food aid also contributes to food security by providing the resources for programs targeted to poor households that increase their **access to food**. Over time, the PFDS distribution has been increasingly targeted to poor households, as distribution through so-called "sales channels" like ration shop sales (eliminated in the early 1990s), Open Market Sales and sales to select groups such as the military have declined.

Levels of food aid to Bangladesh have historically been determined to a large extent by the "food gap", a measure of the shortfall in availability in foodgrain. As reflected in the Comprehensive Food Security Policy being formulated, however, the

Government of Bangladesh is placing increased emphasis on access and nutrition (two other major components of food security), as well as availability of non-foodgrains.

With two years of good harvests, it appears likely that there will be a national food surplus (a negative food gap) in both 1999/2000 and 2000/2001. This does not mean that all poor people in Bangladesh have access to sufficient calories from foodgrains, but simply that total net availability of foodgrains is greater than the target of 464 grams/person/day. This increase in availability is reflected in market prices which have fallen in real (i.e. inflation-adjusted) terms.

In spite of this increase in supply and corresponding decrease in market prices, the Government of Bangladesh continues to request food aid both for development programs and in late 2000, for emergency relief to areas of southwestern Bangladesh hit by floods. This food aid is not needed to augment availability of foodgrain; it does, however, provide the resources to enable the GOB to increase access to food for poor households. Of course, food aid is not the only means to increase access to food by the poor. In principle, cash transfers or cash wage payments in employment schemes could be used instead of food to augment household incomes.

The Public Foodgrain Distribution System

In recent years, there has been significant pressure for expansion of the Public Foodgrain Distribution System. Several factors appear to contribute to this pressure, including a desire to expand the potential financial benefits of procurement (often at a price considerably higher than the market price) or distribution (often involving substantial leakages). In addition, there has been a gradual shift in policy in favor of increased foodgrain stocks. Following the flood of 1998, for a short period of time (September through November 1998), shortage of wheat stocks constrained expansion of the Vulnerable Group Feeding program). This experience has led many to conclude that a

higher level of stocks is needed. Note that in the mid-1990s the operational stock target was effectively in the range of 600 to 700 thousand MTs. Shortly after the flood, the Prime Minister announced that the target stock level would be 1.0 million MTs. Recently, the mid-term evaluation of the 5 year plan included a statement that the target level would be 1.2 million MTs.

Note that the level of stocks, the level of distribution and the fiscal cost of the system are closely linked. Rice stored in government godowns can generally not be kept more than six months without significant deterioration in quality, in part because much rice is procured during the monsoon season (following the boro harvest in May and June), when the moist conditions make drying and storage especially difficult. Thus, in order to maintain quality, annual rice distribution must be approximately twice the stock target level. The implication is that when the stock target is raised, the distribution must ultimately be increased (or storage capabilities significantly improved). At present time, the system is somewhat out of balance and the Ministry of Food is experiencing problems with aging stocks of rice. These problems do not always lead to a visible financial loss, however, since old rice (still safe to eat, but of lower market value) may be distributed through the PFDS.

Neither large foodgrain stocks nor large levels of food aid are needed to maintain foodgrain availability, however. Private sector imports of rice and wheat, not government commercial imports or food aid, were the major components of increased supplies of rice and wheat immediately following the July through September floods of 1998. Food aid's main role in flood rehabilitation was in providing the resources for a major expansion in food for work programs in the January through May 1999 period. Cash transfers of a sufficient magnitude to permit the government to import the wheat through commercial channels could have served the same purposes. A cash for work program would also have been feasible given that the private sector was already

supplying the market with wheat and rice at import parity prices (world prices plus transport and marketing costs).

Assessing the Need for Food Aid in an Emergency Situation

Availability of foodgrain is not a major problem in the context of good harvests, free private sector trade and relatively low world prices, but there may still be an important role for food aid in increasing availability in times of production shortfalls or natural disasters, particularly when world prices are high. In assessing the needs for food aid (beyond regular program or project food aid), several general considerations are important:

1. In times of a major production shortfall, the **public assurance of significant food aid resources** may help calm foodgrain markets, and more importantly, give the GOB confidence that sufficient financial and in-kind resources will be available. Overall assessment of food aid needs should take into account likely private sector imports as well as government commercial imports, however.
2. **Short-term stock constraints** can limit post-disaster food distribution. Following the 1998 floods, the expansion in distribution of wheat through Vulnerable Group Feeding was limited by available wheat stocks, as well as a lack of definite assurance that the food aid would be available in coming months to maintain an expanded program if one were started immediately. Thus, **immediate delivery or at least immediate written agreements** can be very helpful in dealing with a major disaster.
3. If short-term stocks are constraining relief operations, and if private markets are adequately supplying markets through imports from abroad or another region of the country, then **cash programs** (cash-for-work or cash

transfers to households) may meet household's needs for **access to food**, without a direct food distribution program.

4. However, **if government stocks are already high** and the projected increase in distribution to handle the emergency needs is small, (so that stocks are sufficient to cover the next three to four months of projected total foodgrain distribution), then **cash resources may be more efficient**. (If needed, the Ministry of Food could procure additional wheat by tender on international markets within this period.)

Concluding Observations

Food aid has made a major positive contribution to food security and development in Bangladesh through providing the resources for increased access to food by poor households as well as funding programs for rural infrastructure, training and other projects. Food aid's role in increasing availability of foodgrain has diminished over time, but its usefulness for increasing access to food by the poor continues. Evaluating the levels of non-emergency food aid should take into account, however, options for using cash-funded programs as an alternative to food transfers. It is important that reductions in food aid, if they occur, do not lead to reductions in overall funding for programs to increase food security. Finally, further efforts are needed to reduce leakages within the PFDS and to explore options for non-food programs to increase access to food by the poor.

FPMU/FMRSP memo
3 May, 2001

Implications of a 1.25 lakh Increase in Wheat Distribution

In late April it was proposed that distribution of wheat be increased by a total of 1.25 lakh MTs during the remainder of the 2000/2001 fiscal year (1.0 lakh in Food For Work (FFW) and 0.25 lakh in Test Relief). Earlier this year, in February 2001, an increase of 1 lakh MT increase in FFW rice distribution had been proposed, but ultimately not approved.

This memo discusses the implications of the proposed 1.25 lakh MT increase in wheat distribution in terms of public foodgrain stocks, fiscal costs and leakages, and draws some comparisons to the earlier proposal to increase rice distribution.

Implications for Public Foodgrain Stocks

As of the end of April 2001, rice stocks (net of transit) were estimated at 481 thousand MTs and wheat stocks (net of transit) were 350 thousand MTs. Given planned rice procurement of 328 thousand MTs in May and June, along with 205 thousand MTs of planned rice distribution in the same period, projected rice stocks at the end of June are 601 thousand MTs. Wheat stocks at the end of June, after 230 thousand MTs of procurement and 315 thousand MTs of distribution in the next two months, are projected to be only 263 thousand MTs. Under this current distribution plan, age of stocks is not expected to be a major problem by the end of June. Assuming a first in – first out stock rotation policy, only 51 thousand MTs of rice and no wheat stock will be more than six months old on 30 June, 2001.¹

¹ These figures indicate the minimum amount of old stocks assuming old stocks are distributed before newer stocks. Depending on stock rotation, the actual amount of old stocks could be higher.

However, an **increase in wheat distribution** by 1.25 lakh MTs over the last two months of the 2000/2001 fiscal year would lower (**net**) **wheat stocks to only 138 thousand MTs** and **total (net) stocks to 739 thousand MTs**. This would bring wheat stocks to dangerously low levels (Table 1).

Wheat stocks will be replenished to some extent by the expected arrival of 75 thousand MTs of wheat food aid from Canada. (65 thousand MTs of wheat food aid was initially scheduled to arrive in May 2001. At the request of the Canadian government, this shipment has been deferred and the quantity has been increased by 10 thousand MTS.) Nonetheless, even with this food aid, projected wheat stocks at the end of August 2001 would only be 1.66 lakh MTs.

As an alternative if 1.00 lakh MTs of rice are distributed instead of wheat, then wheat stocks at the end of August 2001 are projected to be 291 thousand MTs, and total foodgrain stocks would be 815 thousand MTs, only 1 lakh MTs below the projected total in the current base scenario.

Fiscal Costs and Leakages

Distribution of an additional 1.25 lakh MTs of wheat or 1 lakh MTs of rice would involve **significant fiscal costs**, however. At an "economic" (financial) price of 12.2 Tk/kg,² the additional wheat distribution would cost **152.5 crore Taka (28.2 million dollars)**. An additional 1 lakh MT of rice distribution under option 2 would cost **149 crore Taka (27.6 million dollars)**. Moreover, it may be extremely difficult to plan and administer new FFW projects in the relatively short span of time available before the end of the fiscal year (and the onset of the monsoons). As a result, there is an **increased risk of leakages**, in light of a rapid increase in program size over a short period of time. Finally, if FFW distribution of rice coincides with boro procurement in May and June,

² This price is the estimated average cost of government wheat stocks.

2001, there is the possibility that rice designated for FFW distribution could be **repurchased as part of domestic rice procurement without ever leaving the godowns**, through simple book transfers.

Market Prices

Additional wheat distribution could have a significant impact on wheat prices, though wheat farmers are likely to have already sold the bulk of the wheat they intend to sell, already. If this extra wheat distribution does reduce prices substantially, then donors may be compelled to reduce food aid deliveries in future years. Extra wheat distribution would unlikely have a major impact on rice prices, though, additional rice distribution of 1 lakh MTs in May and June would add about 1.0 percent to available supplies of rice, potentially lowering harvest rice prices by at least 2 to 5 percent below their levels in the absence of this distribution, (about 0.2 to 0.5 Tk/kg).

Conclusions

Under current distribution and procurement plans, wheat stocks at the end of June 2001 are expected to be 263 thousand MTs, with total stocks of 915 thousand MTs. An **increase in wheat distribution** by 1.25 lakh MTs over the last two months of the 2000/2001 fiscal year would lower **(net) wheat stocks to only 138 thousand MTs and total (net) stocks to 739 thousand MTs**. This would bring wheat stocks to **dangerously low levels**.

Fiscal costs of additional wheat distribution are high – **152.5 crore Taka (28.2 million dollars)**. Distributing an extra 1 lakh MTs of rice instead of the additional wheat would conserve wheat stocks, but still cost 149 crore Taka (**27.6 million dollars**). Moreover, rapid increases in distribution of either rice or wheat entail **increased risk of leakages and diversion of resources** that could be embarrassing to the Government.

Table 1: Summary of Policy Options

	Rice	Wheat	Total
Base Scenario			
Stock (end April, 2001)	481	350	831
Procurement (May, June 2001)	328	230	558
Domestic	328	133	461
Food Aid	0	97	97
Distribution (May, June 2001)	205	315	520
End Stock (end June, 2001)	601	263	864
Projected Stock (end August, 2001)	624	291	915
Option 1: Extra 1.25 lakh MT Wheat Distribution			
Extra Distribution (May, June 2001)	0	125	125
End Stock (end June, 2001)	601	138	739
Projected Stock (end August, 2001)	624	166	790
Extra Fiscal Cost of Distribution: 1.25 lakh MTs wheat @ 12.2 Tk/kg =		152.5 crore Taka	
Option 2: Extra 1.00 lakh MT Rice Distribution			
Extra Distribution (May, June 2001)	100	0	100
End Stock (end June, 2001)	501	263	764
Projected Stock (end August, 2001)	524	291	815
Extra Fiscal Cost of Distribution: 1.00 lakh MTs rice @ 14.9 Tk/kg =		149 crore Taka	

Note: All stock figures shown are for net stocks.

Base

FPMU
02-May-01

Monthly Projection of Govt. Stock, Procurement, Import, Offtake of Rice and Wheat during 2000/2001

(000 metric tons)

Opening Stock	ADDITION											OFF-TAKE						Net Closing Stock			Estimated Age of Rice Stock *						Estimated Age of Wheat Stock *							
	Domestic Procurement			Imports				TOTAL ADDITION	Rice Distribution			Wheat Distribution			TOTAL OFF-TAKE	(net of stock-in-transit = 93,111 mt)			Month-end Rice Stock	Age more than 6	Age more than 7	Age more than 8	Age more than 9	Age more than 10	Month-end Wheat Stock	Age more than 6	Age more than 7	Age more than 8	Age more than 9					
	Rice	Wheat	Total	Rice	Wheat	Commercial	Rice		Wheat	Total	Rice	Wheat	Total	Rice		Wheat	Total	Rice		Wheat	Total	months	months	months		months	months	months	months	months	months			
	Priced/	Non-	Total	Priced/	Non-	Total	Priced/		Non-	Total	Priced/	Non-	Total	Rice		Wheat	Total	Stock		months	months	months	months	months		Stock	months	months	months	months	months			
450.2	998.3	105.6	1.8	107.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.2	10.6	0.7	11.2	13.7	14.6	28.3	39.5	641.9	423.1	1065.0	641.9	155	39	0	0	0	423.1	0	0	0	0	0
423.1	1065.0	101.4	0.0	101.4	0.0	54.1	0.0	0.0	0.0	54.1	54.1	155.4	10.7	0.9	11.6	14.7	41.4	56.0	67.7	730.9	420.7	1151.6	730.9	190	143	27	0	0	420.7	0	0	0	0	0
420.7	1151.6	9.4	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	10.2	3.6	13.7	13.7	44.0	57.7	71.4	726.1	361.3	1087.4	726.1	233	176	128	13	0	361.3	0	0	0	0	0
361.3	1087.4	99.2	0.0	99.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.2	10.3	42.8	53.0	15.4	50.5	65.9	118.9	771.7	294.9	1066.6	771.7	197	180	122	75	0	294.9	0	0	0	0	0
294.9	1066.6	6.6	0.0	6.6	0.0	27.5	0.0	0.0	0.0	27.5	27.5	34.1	10.9	42.7	53.6	14.4	78.5	92.9	146.5	722.1	229.0	951.0	722.1	270	140	123	66	18	229.0	0	0	0	0	0
229.0	951.0	45.5	0.0	45.5	2.0	15.3	0.0	0.0	2.0	15.3	17.3	62.8	11.4	55.6	67.0	9.3	97.9	107.2	174.2	700.8	135.6	836.3	700.8	399	202	72	55	0	135.6	0	0	0	0	0
135.6	836.3	115.7	0.0	115.7	0.0	175.5	0.0	0.0	0.0	175.5	175.5	291.2	11.2	78.5	89.7	9.7	31.0	40.7	130.4	725.2	267.0	992.1	725.2	361	308	110	0	0	267.0	72	0	0	0	0
267.0	992.1	47.7	0.0	47.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	10.5	98.1	108.6	9.8	26.5	36.3	144.9	663.3	228.6	891.9	663.3	352	251	199	1	0	228.6	88	34	0	0	0
228.6	891.9	27.3	5.9	33.2	30.0	100.5	0.0	0.0	30.0	100.5	130.5	163.8	11.4	113.9	125.3	9.5	32.0	41.5	166.7	594.2	292.5	886.7	594.2	235	226	125	72	0	292.5	46	46	0	0	0
292.5	886.7	13.8	160.0	173.8	3.2	43.6	0.0	0.0	3.2	43.6	46.7	220.5	12.6	115.9	128.5	15.6	129.4	145.0	273.5	481.3	350.1	831.4	481.3	205	106	96	0	0	350.1	0	0	0	0	0
350.1	831.4	130.0	120.0	250.0	0.0	67.0	0.0	0.0	0.0	67.0	67.0	317.0	12.6	105.0	117.6	15.0	133.3	148.3	265.9	492.2	387.8	879.9	492.2	92	86	0	0	0	387.8	0	0	0	0	0
387.8	879.9	197.8	12.5	210.3	0.0	30.0	0.0	0.0	0.0	30.0	30.0	240.3	12.7	74.4	87.1	18.4	147.9	166.3	253.4	601.3	262.5	863.8	601.3	51	4	0	0	0	262.5	0	0	0	0	0
		900.0	300.0	1200.0	35.1	513.4	0.0	0.0	35.1	513.4	548.5	1748.5	135.0	732.0	867.0	159.0	827.0	986.0	1853.0															

* The figures show the lowest possible quality of stock of each respective age.

OPENING STOCK (GROSS)	TOTAL ADDITION	OFF-TAKE																							TOTAL OFF-TAKE	CLOSING STOCK (GROSS)							
		RICE											WHEAT											Wheat		Rice	Wheat	Total					
		Priced					Non-Priced						Priced					Non-Priced															
		OMS /FPC	OP	EP	Total	FFW	VGD	FFE	TR	VG	GR	Other	Total	Total	OMS /FPC	OP /FM	LEI	EP	Total	FFW	VGD	FFE	TR						VG	GR	Other	Total	Total
528.0	1091.5	107.2	0.0	0.6	9.9	10.6	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.66	11.2	5.0	0.9	1.0	6.8	13.7	0.0	14.5	0.0	0.0	0.0	0.0	0.0	14.6	28.3	39.5	657.1	501.0	1158.1
501.0	1138.1	155.4	0.0	0.7	10.0	10.7	0.0	0.0	0.0	0.0	0.3	0.4	0.3	0.90	11.6	5.5	1.2	1.0	7.0	14.7	0.0	14.8	26.2	0.0	0.0	0.0	0.4	41.4	56.0	67.7	746.1	498.6	1244.7
498.6	1244.7	9.4	0.0	0.8	9.3	10.2	0.7	0.2	0.0	0.0	0.3	1.3	1.1	3.57	13.7	4.7	0.9	1.0	7.1	13.7	0.6	14.4	27.3	0.0	0.0	1.4	0.4	44.0	57.7	71.4	741.3	439.2	1180.5
439.2	1180.5	99.2	0.0	0.7	9.5	10.3	0.4	0.8	0.1	0.0	21.8	15.2	4.5	42.8	53.0	6.2	1.3	0.9	7.0	15.4	5.8	14.1	24.9	3.0	0.4	0.2	2.2	50.5	65.9	118.9	786.9	372.8	1159.7
372.8	1139.7	34.1	0.0	0.8	10.0	10.9	1.6	0.9	0.3	0.1	30.3	5.2	4.3	42.7	53.6	5.6	0.9	0.9	6.9	14.4	9.6	14.3	31.8	21.4	0.3	0.0	1.1	78.5	92.9	146.5	737.9	306.9	1044.1
306.9	1044.1	62.8	0.0	0.8	10.6	11.4	12.5	9.6	0.9	0.1	26.6	0.2	5.6	55.6	67.0	0.3	0.7	1.2	7.2	9.3	26.7	6.9	28.0	15.0	19.4	1.7	0.3	97.9	107.2	174.2	716.0	213.5	929.4
213.5	929.4	291.2	0.0	0.7	10.6	11.2	27.7	14.8	20.2	3.8	3.8	0.1	8.1	78.5	89.7	0.0	1.0	1.0	7.7	9.7	22.2	0.2	0.6	4.6	0.0	0.2	3.2	31.0	40.7	130.4	740.4	344.8	1085.2
344.8	1085.2	47.7	0.0	0.7	9.8	10.5	37.9	15.3	19.8	0.7	18.2	2.2	4.1	98.1	108.6	0.1	1.0	0.9	7.8	9.8	24.6	0.0	0.4	0.1	0.0	0.3	1.2	26.5	36.3	144.9	678.5	306.5	985.0
306.5	985.0	163.8	0.0	0.7	10.7	11.4	32.7	16.1	21.6	10.9	22.6	1.9	8.0	113.9	125.3	0.0	0.6	1.3	7.6	9.5	29.3	0.0	0.2	0.1	0.1	0.9	1.5	32.0	41.5	166.7	609.4	370.4	979.8
370.4	979.8	220.5	0.0	1.1	11.5	12.6	30.0	6.3	28.0	10.4	40.0	0.4	0.8	115.9	128.5	0.0	2.6	2.0	11.0	15.6	100.0	10.7	15.0	2.0	0.3	0.4	1.0	129.4	145.0	273.5	496.5	428.0	924.5
428.0	924.5	317.0	0.0	1.1	11.5	12.6	30.0	0.0	28.0	7.0	40.0	0.0	0.0	105.0	117.6	0.0	2.0	2.0	11.0	15.0	100.0	15.0	15.0	2.0	0.3	0.0	1.0	133.3	148.3	265.9	507.4	465.7	973.0
465.7	973.0	240.3	0.0	1.2	11.5	12.7	19.5	0.0	31.1	7.0	16.8	0.0	0.0	74.4	87.1	2.7	2.0	1.8	11.9	18.4	99.3	15.0	30.5	2.0	0.2	0.0	0.9	147.9	166.3	253.4	616.5	340.4	956.9
		1748.5	0.0	10.0	125.0	135.0	193.0	64.0	150.0	40.0	221.0	27.0	37.0	732.0	867.0	30.0	15.0	15.0	99.0	159.0	418.0	120.0	200.0	50.0	21.0	5.0	13.0	827.0	986.0	1853.0			

Public Foodgrain Balance - 2001/02

(figures in lakh m. tons)

	FY 2001/2002	FY 2000/2001	FY 1999/2000																																																																																										
1. Opening Public Stock (1st July):	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Rice</td><td style="text-align: center;">5.16</td></tr> <tr><td>Wheat</td><td style="text-align: center;">3.40</td></tr> <tr><td>Total</td><td style="text-align: center;">8.57</td></tr> </table>	Rice	5.16	Wheat	3.40	Total	8.57	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Rice</td><td style="text-align: center;">5.63</td></tr> <tr><td>Wheat</td><td style="text-align: center;">5.28</td></tr> <tr><td>Total</td><td style="text-align: center;">10.91</td></tr> </table>	Rice	5.63	Wheat	5.28	Total	10.91	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Rice</td><td style="text-align: center;">6.95</td></tr> <tr><td>Wheat</td><td style="text-align: center;">5.04</td></tr> <tr><td>Total</td><td style="text-align: center;">11.99</td></tr> </table>	Rice	6.95	Wheat	5.04	Total	11.99																																																																								
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2. Mid-Year Population Estimate (million)	133.00	131.00	129.00																																																																																										
3. Requirement (@16 Oz./Capita/Day)	220.20	216.89	213.58																																																																																										
4. Gross Domestic Production :	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Target Aus</td><td style="text-align: center;">20.00</td></tr> <tr><td>Target Aman</td><td style="text-align: center;">112.00</td></tr> <tr><td>Target Boro</td><td style="text-align: center;">112.00</td></tr> <tr><td>Target Wheat</td><td style="text-align: center;">20.00</td></tr> <tr><td>Target Total</td><td style="text-align: center;">264.00</td></tr> <tr><td>Target Maize</td><td style="text-align: center;">1.25</td></tr> </table>	Target Aus	20.00	Target Aman	112.00	Target Boro	112.00	Target Wheat	20.00	Target Total	264.00	Target Maize	1.25	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Actual Aus</td><td style="text-align: center;">19.16</td></tr> <tr><td>Actual Aman</td><td style="text-align: center;">112.48</td></tr> <tr><td>Target Boro</td><td style="text-align: center;">112.00</td></tr> <tr><td>Target Wheat</td><td style="text-align: center;">20.00</td></tr> <tr><td>Target Total</td><td style="text-align: center;">263.64</td></tr> <tr><td>Target Maize</td><td style="text-align: center;">1.25</td></tr> </table>	Actual Aus	19.16	Actual Aman	112.48	Target Boro	112.00	Target Wheat	20.00	Target Total	263.64	Target Maize	1.25	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Actual Aus</td><td style="text-align: center;">17.34</td></tr> <tr><td>Actual Aman</td><td style="text-align: center;">103.06</td></tr> <tr><td>Actual Boro</td><td style="text-align: center;">110.27</td></tr> <tr><td>Actual Wheat</td><td style="text-align: center;">18.40</td></tr> <tr><td>Actual Total</td><td style="text-align: center;">249.07</td></tr> <tr><td>Maize</td><td style="text-align: center;">1.20</td></tr> </table>	Actual Aus	17.34	Actual Aman	103.06	Actual Boro	110.27	Actual Wheat	18.40	Actual Total	249.07	Maize	1.20																																																						
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5. Net Domestic Production (after 10% deduction for seed, feed & waste)	237.60	237.27	224.16																																																																																										
6. Domestic Production Surplus	17.40	20.38	10.58																																																																																										
7. Foodgrain Imports through Formal Sources	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>Sources</th><th>Rice</th><th>Wheat</th><th>Total</th></tr> </thead> <tbody> <tr><td>Aided Imports</td><td style="text-align: center;">0.00</td><td style="text-align: center;">5.75</td><td style="text-align: center;">5.75</td></tr> <tr><td>GOB Commercial Imports</td><td style="text-align: center;">1.50</td><td style="text-align: center;">2.00</td><td style="text-align: center;">3.50</td></tr> <tr><td>Private Sector Imports</td><td style="text-align: center;">3.00</td><td style="text-align: center;">7.00</td><td style="text-align: center;">10.00</td></tr> <tr><td>Total Imports</td><td style="text-align: center;">4.50</td><td style="text-align: center;">14.75</td><td style="text-align: center;">19.25</td></tr> </tbody> </table>	Sources	Rice	Wheat	Total	Aided Imports	0.00	5.75	5.75	GOB Commercial Imports	1.50	2.00	3.50	Private Sector Imports	3.00	7.00	10.00	Total Imports	4.50	14.75	19.25	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>Rice</th><th>Wheat</th><th>Total</th></tr> </thead> <tbody> <tr><td style="text-align: center;">0.35</td><td style="text-align: center;">5.13</td><td style="text-align: center;">5.49</td></tr> <tr><td style="text-align: center;">0.00</td><td style="text-align: center;">0.00</td><td style="text-align: center;">0.00</td></tr> <tr><td style="text-align: center;">5.50</td><td style="text-align: center;">4.50</td><td style="text-align: center;">10.00</td></tr> <tr><td style="text-align: center;">5.85</td><td style="text-align: center;">9.63</td><td style="text-align: center;">15.49</td></tr> </tbody> </table>	Rice	Wheat	Total	0.35	5.13	5.49	0.00	0.00	0.00	5.50	4.50	10.00	5.85	9.63	15.49	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th>Rice</th><th>Wheat</th><th>Total</th></tr> </thead> <tbody> <tr><td style="text-align: center;">0.05</td><td style="text-align: center;">8.65</td><td style="text-align: center;">8.70</td></tr> <tr><td style="text-align: center;">0.00</td><td style="text-align: center;">0.00</td><td style="text-align: center;">0.00</td></tr> <tr><td style="text-align: center;">4.28</td><td style="text-align: center;">8.06</td><td style="text-align: center;">12.34</td></tr> <tr><td style="text-align: center;">4.33</td><td style="text-align: center;">16.71</td><td style="text-align: center;">21.04</td></tr> </tbody> </table>	Rice	Wheat	Total	0.05	8.65	8.70	0.00	0.00	0.00	4.28	8.06	12.34	4.33	16.71	21.04																																								
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FMRSP Bangladesh

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



The FMRSP is a 3.5 year Project of the Ministry of Food, Government of the People's Republic of Bangladesh, providing advisory services, training and research, related to food policy. The FMRSP is funded by the USAID and is being implemented by the International Food Policy Research Institute (IFPRI) in collaboration with the Food Planning and Monitoring Unit (FPMU) of the Ministry of Food, the Bangladesh Institute of Development Studies (BIDS), the University of Minnesota and International Science & Technology Institute (ISTI).

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*

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*