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Management of Public Stock for Improved Effectiveness of PFDS in Bangladesh[1]

This Policy Brief suggests how to improve the management of public stock for enhanced effectiveness of public food distribution system (PFDS) in Bangladesh.

1. Introduction

Public intervention in the food grain market in Bangladesh has been quite pervasive in the past. However, the remarkable change in agriculture and the food economy that have occurred since independence, especially over the last two decades, have lessened the need for government intervention in the market to stabilize prices. Increased domestic food grain production, lower real prices of rice, better integrated and more efficient food grain markets, reduced seasonal price variations and trade liberalizations in the early 1990s have combined to reduce variability in supply and prices. Nevertheless, the government must provide emergency relief during periods of natural disasters, alleviate chronic food insecurity through targeted food distribution to the poor households and intervene, if necessary, to stabilize prices. To accomplish these tasks, adequate public stocks are needed for emergencies as well as for regular distribution. Moreover, in view of the recent escalation in food prices and the increased exposure of the domestic market to external shocks, the need for expanded role of government in general and for strengthening the Public Food Distribution System (PFDS) in particular has assumed greater significance in recent years.

Despite wide differences in political philosophy, successive governments in Bangladesh have been alive to the need for publicly-held food grains stocks. In a fragile democracy such as Bangladesh, these stocks are sound political insurance. Regardless of who is in power, opportunistic opposition parties are guaranteed to score political points if rice prices fall too low or rise too high or if cyclones and flooding catch an unwary government flat footed and unable to respond. Thus emergency stocks and price stabilization remain strong pillars on which political leaders in Bangladesh lean, despite the heavy financial costs of large-scale public rice and wheat stocks. In such circumstances, it becomes useful to estimate the costs and benefits of various policy and stock options; if the government decides to hold food grain stocks to stabilize prices, it should do so in least expensive manner (Goletti 2000).

Private sector rice trade has played a major role in stabilizing domestic supplies and prices following

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production shortfalls since liberalization of imports in the early 1990s. Private sector rice trade, mainly with India, continued through the mid-2000s, a period of highly stable prices in Bangladesh. However, when India banned rice exports for a short period in the mid-2008, rice prices in Bangladesh rose sharply and have remained high and volatile, as imports from India have fallen substantially. This more recent experience prompted many in Bangladesh to question the wisdom of relying on the international market for rice supplies and has led to calls for substantial increases in public rice stocks.

Interrelationship among prices of different qualities of rice has potential implications for government interventions by way of procurement and distribution. In general, it reveals whether government interventions would likely to have impact across different qualities of rice and across markets in different regions. This has potential implications for public stocks of rice in different locations.

Policy advisors and policy makers frequently ignore results from policy-related economic analyses because these analyses fail to take into account the political and economic environment within which decisions are made. Analysts often ignore political trade-offs, conflicting goals among public sector agencies, rent seeking by public and private sector agents, opportunities for coalition building and related political economy issues.

Following neoclassical political economy theory, the actors who perceive that they can influence policy decisions to enhance their gains and reduce their losses will do so unless their expected costs of such actions exceed expected gains. Some actors may be able to exert stronger influence on the policymaking process at certain times, and some may be more susceptible to political pressure than others, but all of them may affect the policymaking process. Analysts must understand how each actor fits into the institutional, social and political structure in order to come up with and promote workable, effective recommendations (Pinstrup-Anderson 1993). In this context, the political economy of public policies in general and food policy reforms in particular assumes special significance.

2. Bangladesh Rice Trade and Price Stabilization: Implications for Public Stocks

The role of international trade and public stocks for rice price stabilization is a highly contentious subject in Bangladesh. Private sector rice trade, as mentioned earlier, has played a major role in stabilizing domestic supplies and prices. The rice price stability that Bangladesh enjoyed in the early 2000s was largely due to private trade with India. Co-integration analysis shows a strong significant relationship between domestic wholesale prices and import parity prices derived from the price of subsidized BPL (Below Poverty Line) rice in India. These private sector rice imports thus implied a substantial transfer of resources to the benefit of rice consumers but to the detriment of rice producers in Bangladesh. The disruption in this private sector trade in the second half of 2007 when India first banned rice exports and subsequently negotiated a fixed volume of rice exports at prices substantially higher than the BPL price severely destabilized Bangladesh rice markets. Estimates of the amount of total rice injections that would have been required to stabilize prices at various levels in 2007/08 would provide crucial information pertinent to the question of optimal levels of public rice security stocks for Bangladesh or other arrangements for emergency rice imports.

Evolution of rice trade policy in Bangladesh

Bangladesh rice trade policy and its rice import trade have undergone numerous changes in the past several decades that have greatly affected domestic rice prices. During the 1970s and the 1980s, only relatively small amounts of rice imports (all by the public sector since private imports were banned) took place. Wheat food aid helped fill in the gap between domestic supplies and target levels of national food grain consumption in the 1970s and the 1980s. Liberalization of private sector rice import trade in the early 1990s, however, made possible large scale imports of rice (and wheat) in years of major domestic production shortfalls. In years of normal harvests such as 1996/97, Bangladesh rice prices were below import parity prices for rice originating from both India and Thailand. As a result, private trade was negligible (Table 1). Private sector rice import was particularly important in adding to food grain supply and stabilizing rice prices following the 1998 flood which had resulted in a 2.2 million ton monsoon season (aman) rice production shortfall (Dorosh 2001).

Table 1: Bangladesh rice import trade regimes

Period	Trade Regime	Private Imports (000 tons/ year)	Description
1996/97	Autarky	30	Abundant harvests keep domestic prices below import parity
1997/98-98/99	Private imports from India	1,834	Consecutive poor aman harvests raise domestic prices to import parity (ex: wholesale India)
1999/00-01/02	Autarky/ minimal private imports	358	Good harvests keep domestic prices below import parity (Bangkok and BPL)
2000/01, 2002/03-07/08	Private imports from India (BPL rice?)	948	Domestic prices track BPL import parity
2007/08	Transition from import parity (BPL) to autarky	1,681	India bans private rice exports as world prices rise; domestic prices rise sharply but generally far below import parity ex: Bangkok
2008/09-10/11	Autarky	172	Domestic prices above BPL India import parity, but generally below import parity ex: Bangkok and Delhi import parity.

Source: Authors' compilation.

India's wholesale prices of rice rose in the early 2000s making private sector exports to Bangladesh sourced from open markets unprofitable. During this period, however, India accumulated large public rice and wheat stocks, reaching 65 million tons in the summer of 2001, due to a series of good harvests and relatively high procurement prices (Rashid et al. 2007). In order to reduce some of these stocks, the Government of India implemented a program in 2002/03 to subsidize exports of rice obtained from Food Corporation of India stocks at the subsidized Below Poverty Line (BPL) price. Bangladesh imported 1.6 million tons of rice that year and Bangladesh domestic prices closely tracked import parity based on BPL sales prices (as opposed to import parity based on India's wholesale market prices as following the 1998 flood). Large private sector rice imports continued through 2006/07, and Bangladesh wholesale prices closely tracked import parity based on BPL sales prices throughout this period, resulting in a high degree of price stability in Bangladesh.

Bangladesh rice markets was severely destabilized in the second half of 2007 as world prices of rice and other cereals rose sharply and India cut off rice exports in October 2007 due to relatively low public wheat stocks (Dorosh 2009). Average wholesale rice prices in Bangladesh rose sharply and for the November 2007 to April 2008 period were 45 percent higher in real terms than one year earlier. India later agreed to fixed quantities of rice exports to Bangladesh at a price higher than the BPL prices. Yet, total rice imports by Bangladesh ultimately reached 1.7 million tons of rice in 2007/08.

Since 2008, domestic rice prices in Bangladesh have remained well above BPL import parity but below import parity based on India wholesale market prices. Moreover, Bangladesh domestic wholesale prices have generally been below import parity of Thai rice. As a result, Bangladesh private sector imports have been minimal. Thus, from mid-2008 to mid-2011, apart from small scale Bangladesh government commercial imports, rice was essentially a non-traded commodity. In the absence of high levels of imports to boost domestic supply, Bangladesh real prices since 2008 have fallen about 15 percent relative to their peak of early 2008, but remained about 40 per cent higher than in the 2002-03 to 2006-07 period.

Analysis of the 2008 rice price increase and stabilization options

Various simulation exercises reveal that an additional 300 thousand tons (in addition to approximately 700 thousand tons of net rice oftake that actually occurred in the November 2007 to April 2008 period) would have been sufficient to stabilize prices. These calculations suggest that ready availability of approximately 1 million tons of rice through drawdown of public stocks or imports would enable Bangladesh to handle similar disruptions in the future, provided that private imports could supply an amount similar to that in 2008 (1.25 million tons).

Since 2008, Bangladesh domestic prices have generally been below import parity sourced from either Thailand or wholesale markets in India, but far above export parity. As a result, there have been relatively large domestic price fluctuations. In the absence of interventions in the domestic market, this price volatility would likely to continue due to fluctuations in domestic rice harvests. In this environment, private trade at import parity prices still provides a price ceiling and can dramatically reduce the volume of stocks needed for price stability (though in some years an import parity price ceiling may be unacceptably high as it was in 2008).The medium term solution to maintaining real rice prices at moderate levels thus remains investments in agriculture.

3. Market Integration for Different Qualities of Rice

Successive governments have taken various steps to ensure fair price for the growers and maintain stable prices for the consumers. In doing so, the government intervenes in the coarse end of the rice markets with the expectation that the ripples would reach the shores of the medium rice market. However, such expectation critically hinges on whether the markets for coarse and medium rice are integrated and hence if the two qualities are close substitutes to consumers. Against such a backdrop, it is important to examine how far markets for the coarse and medium quality rice are integrated. The estimates of the cointegrating vector between wholesale prices of coarse and medium rice for each of the seven cities considered testify that markets are integrated but the two varieties of rice are not perfect substitutes.

Co-integration analysis of prices of various qualities of rice and how these price links are changing over time have potential implications for government interventions as to procurement and distribution and hence for public stock. The results of cointegration analysis indicate that the prices of different qualities of rice are highly cointegrated which has the following policy implications:

- The government interventions by way of procurement and distribution, especially through open market sale (OMS) of coarse rice, would have price stabilizing effect on other qualities of rice as well.

- Any intervention in one market would have impact through spatial arbitrage on other markets as well.

- The government interventions as to both procurement and distribution would most likely to have impact both across different qualities of rice and across markets in different regions.

4. The Political Economy of Food Policy Reforms in Bangladesh

The political economy of food policy reforms carried out over the last two decades, especially since the early 1990s, geared around policy reforms pertaining to the restructuring of the PFDS, especially on public rationing system and related issues. The major reforms leading to significant downsizing of the PFDS were the outcome of the pressure and counter pressure, lobbying and anti-lobbying, motives and tactics of both reformers and resistors to change. A summary of major food policy reforms since 1972 is presented in Table 2. In terms of the entire policy cycle, the events presented in the table can be divided into three main thematic times: realization of the problems, experimentation with alternatives and innovation and reforms (Ali et al. 2008).

Table 2: Chronology of food policy reforms

Year	Policy Decision
Long waves in food policy reform	
1972-74	Urban ration channels were expanded significantly
1974	Food-for-Works programme was introduced
1975	Vulnerable Group Feeding programme was introduced
1978	Planning Commission advocated phasing out ration subsidies
1981	Subsidy reduction began with Public Law 480 agreement linking ration price to procurement price
1983	Rural Maintenance Programme was introduced
1988	*Atta chakkis* distribution targeted rural areas
1989	Modified Rationing was replaced by Rural (Palli) Rationing
1989	Restriction on in-country movement of foodgrain was removed
1991	Rural Rationing was suspended in December
Short bursts in food policy reform	
1992	Rural Rationing was abolished in May
1992	Private wheat import was allowed in July
1992	Restrictions on food grain lending were rescinded in October
1992	Domestic Procurement was stalled in November
1992	Millgate contract was abandoned in November
1992	Staff reduction was proposed in the Directorate General of Food
1992	Rice distribution was stopped in Statutory Rationing
1993	Private rice import was allowed in July
1993	Wheat distribution was stopped in statutory rationing
1993	Food-for-Education was introduced
2002	Food-for-Education was abolished
2002	Integrated Food Security Program was introduced

Source: Chowdhury and Haggblade 2000, Ali et al. 2008.

Beginning since independence, the government devoted its energies to expansion and reform of the ration channels. In contrast, a contingent, centered primarily in the Ministry of Finance and allied with a group of food-aid donors, became convinced that the ration system had grown corrupt and far too expensive to maintain. This group, starting in 1981, patiently implemented a long-term plan to erode the system by gradually reducing the ration subsidy. After independence in 1972, the newly elected government roughly doubled ration allocations through urban statutory rationing and expanded the overall ration system off take by 50 percent. At the same time, it carved out a bevy of new channels to guarantee rations to key groups formerly served (irregularly) under modified rationing. Despite sincere efforts by the government to reduce widespread abuses in the rationing system, heavy leakage persisted. A series of major evaluations during the early and mid-1980s highlighted the irregularity and nutritional insignificance of rations supplied through modified rationing. Shortly thereafter, in 1989, the modified rationing shops ware replaced with a successor program known as rural (pally) rationing. Billed as a major reform, this facelift did little to improve performance of the system. The government permanently abolished rural rationing in May 1992, a step that closely followed two evaluation studies documenting leakage in excess of 70 percent (BRAC 1991, Ahmed 1993). On fiscal grounds alone, the abolition of rural rationing saved roughly $60 million in annual subsidy costs that had gone primarily to rent seeking ration dealers, food officials, and members of parliament (Ahmed 1993).

The second long wave of food policy reform aimed to squeeze the subsidies gradually out of the ration system. Slowly and almost imperceptibly, over more than a decade, deliberate subsidy reduction eroded incentives for cardholders to draw rations and for rent seekers to misappropriate grain. Ultimately, the bulk of the ration system died from lack of interest by both its exploiters and its intended beneficiaries. The two long waves of food policy reform, as discussed above, converged in mid-1992. At the same time, liberalization of private food grain imports (from July 1992 for wheat and July 1993 for rice) made the large employers' and flour millers' channels redundant. Now able to import directly by themselves, these large institutions no longer needed to purchase government imported grain at a controlled price. After mid-1992, only the small but highly subsidized military and police rations continued on any significant scale.

During the same period, in keeping with the general policy of liberalization of Bangladesh, the government not only reduced its own role in food grain markets but also facilitated expansion of private trade to fill the gap. Overall, these reforms have significantly reduced the scale of government involvement in food grain markets, generating about $75 million in cost savings annually since 1992.

Speaking of counterattacks, the largest overt opposition to the general reformist movement in food policy has come from the millers who formerly supplied government mill gate contracts. When the government curtailed both procurement and the fixed-price mill gate contracts in November 1992, the millers fought back furiously with a widespread, well-orchestrated campaign to reinstitute large scale government rice procurement at fixed prices. The media blitz highlighted the welfare of farmers, which the millers purported to advance by insisting on high procurement prices that they could then pass on to the farmers. Research, however, indicates that individual farmers rarely, if ever, received the government procurement price from the millers. Instead, they received the market price, while the millers retained the intervening rents (Chowdhury 1992, Shahabuddin and Islam 1999). The role of the government's food officials in combating reform is difficult to assess since it is never overt. However, that they are involved in sharing rents in the system is clear.

The political economy of food reforms in Bangladesh related to abolition of rationing system in particular and downsizing the PFDS have been a fascinating and complex story. The implications for managing reforms in the light of past experience in Bangladesh, lessons learnt from these food policy reforms and the dynamics and politics embedded in these changes may well constitute interesting subject-matter of further research and/or analysis.

5. Major Policy Implications

- Proper management of public stock is essential for improved effectiveness of the PFDS. This calls for careful planning and management of the amount of grains to be stocked and distributed, for the establishment of storage facilities and for improved monitoring of existing storage quality.

- A comprehensive and rigorous analysis of costs and benefits of alternative stock options determines what feasible options the PFDS has to meet its objectives in a cost effective manner. Public stock management policies also involve, among others, analysis of stock movement, stock rotation and storage as well as transit losses and how to minimise these losses.

- One important indicator of efficient stock management is the good balance between actual stock of food grains and a carefully estimated budgetary target of stock at a specific point of time. However, the target itself may require revision because of unforeseen events such as natural disasters.

- The direct costs of increased distribution are shown in government accounts. However, the costs to consumers of quality deterioration of the PFDS food grains are not accounted for. Closer attention should be paid to the quality of food grains in storage and the link between the size of the stock and the amount of distribution needed to rotate stocks.

- The role and effectiveness of food-based safety net programmes need re-evaluation, keeping in view such considerations as whether greater use of cash-based transfers is warranted and whether targeting effectiveness and flexible use of stocks can be improved. Early Warning Information System, both within the country and regionally/globally, to anticipate and prepare for possible future food price hikes and volatility needs to be strengthened.

- The potential trade-offs between different uses of public stocks for regular distribution, emergency distribution and price stabilisation need to be further analysed. Also, since the PFDS is costly, the possibilities for balancing distribution through priced and non-priced channels should be further explored.

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