# Agricultural and Food Policy Framework in Bangladesh: An Assessment

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Since the liberation of Bangladesh, the government of Bangladesh introduced a series of policy measures in agriculture and food sectors to encourage promarket distribution of seeds, fertilizers, pesticides and diesel fuel for irrigation. The dominant feature of the policy reform had been the government's liberalisation of the fertilizer and irrigation equipment markets. These reforms can be reasonably credited with the success in rice production during the 1984-1992 period. Reforms in the foodgrains market in the 1990s reduced the public sector involvement in these markets. Public procurement to stabilise prices and provide production incentives to farmers suffered from certain inefficiencies, although the overall impact of public procurement and price support programmes could be considered positive. The policy reforms were surprisingly smooth partly reflecting the absence of organised lobby by peasants and partly the fact that the policy reforms have benefitted, by and large, all groups of farmers.

Keywords: Agricultural Policy, Liberalisation, Public Procurement, Food Policy, Agricultural Inputs

# I. INTRODUCTION

Over the years, Bangladesh has undertaken a series of policy measures for the development of the agricultural sector. The policies, which started in the years after the liberation of Bangladesh with direct hands-on interventionist policies to a more market-oriented approach, broadly following the prodding of Bretton Woods institutions, evolved over time. The policies touched on almost all aspects of agricultural development; they were related to inputs (seed, fertilizer, irrigation, farm machinery and agricultural credit), outputs (production, procurement and distribution of food grains) and investments for agricultural development, including those for agricultural research and extension for the generation and diffusion of new technologies. Pro-market reforms in the

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distribution of seeds, fertilizers, pesticides and diesel fuel for irrigation were introduced to improve the availability of these inputs to farmers.

The evolution of the policies, however, has been gradual; it built on past policies by adding new elements to maintain the sustainability of agricultural productivity growth and growth of non-farm activities in the country. A broad treatment of these policy measures, how these have evolved over time and their current relevance are addressed in this paper.

The paper first deals with the nature and extent of past policy reforms in input markets (especially in fertilizer and irrigation) and their impacts (Section II). It then examines the food policies, dealing successively with domestic and external procurement (Section III). The political economy of agricultural policy making is taken up in the penultimate section (Section IV); the last section (Section V) presents the concluding remarks.

### **II. POLICY REFORMS AND THEIR IMPACTS**

#### 2.1 Reforms in Input Markets

The liberalisation of the fertilizer and irrigation equipment markets was a dominant feature of the reform which was expected to produce a substantial impact on production. In the case of fertilizer, the reform led to a vigorous increase in private sector involvement with about 8,000 wholesalers and 50,000 retailers entering the fertilizer market by 1988 (for the chronology of reforms, see Table I). It is, however, questionable how far the reform could improve market competitiveness.

The 1995 fertilizer crisis resulting from acute fertilizer shortage<sup>1</sup> led to a policy reversal related to input, especially fertilizer market in Bangladesh. It was undeniable that urgent action (even going back to government intervention) was needed to address the crisis. But the crisis did not necessarily imply a return to the old model of public marketing. The crisis was not necessarily a failure of the liberalised market approach, but rather the oligopolistic structure and behaviour at certain points of the distribution network, primarily at the beginning of the supply chain. There was a failure in controlling the emergence (probably continuation of the vestiges) of the oligopolistic behaviour, with few privileged controlling the supply chain. The remedial action that could have eliminated this

<sup>&</sup>lt;sup>1</sup>The shortage led to severe agitation among farmers, and police firing to control them. About half a dozen farmers died in the clash.

unwanted feature was largely neglected in the reform process; perhaps it was too difficult to introduce it, as noted by Ahmed (1999).<sup>2</sup>

The assumption of market power by the government, as was done by empowering government functionaries (Deputy Commissioners) to distribute fertilizers during the fertilizer crisis, was not an appropriate policy response to deal with the evolving situation. The crisis pointed out the need to induce farmers to apply more phosphatic and potassic fertilizers (to conserve soil quality) through price mechanisms, reduce their prices relative to urea (which farmers were applying in larger quantities than needed). The solution of fertilizer crisis was not in managing logistics of supply through government executive orders, but in the application of correct dosage at the field level.

There was thus a lack of clarity within the government regarding what was the fundamental nature of the fertilizer crisis and how it could be resolved. This crisis, which is not unique in Bangladesh,<sup>3</sup> was the beginning of a fresh intervention by the government, but such policy reversal was not based on accurate diagnosis through credible research of the root causes. This resulted in claims and counterclaims of mishandling of the situation; the government blamed market imperfections and the wholesalers and other observers blamed excessive government interventions as responsible for the 1995 crisis (Abdullah, Shahabuddin and Hasanullah 1995).

Several factors could have impacted the crisis, depending on the time and place of occurrence. These include fluctuations in domestic fertilizer production (due to an inadequate supply of natural gas or other technical factors), shortfalls or delays in imports of required fertilizers, smuggling of fertilizers out of the country through the porous borders, hoarding by traders to reap abnormal profits, etc. The fertilizer crisis in 2008, for example, was largely attributed to the lack of availability of urea and high price of non-urea fertilizers. One may thus observe that the crisis occurred during periods of both excessive and relaxed government control irrespective of the degree of competitiveness in the fertilizer market. This

<sup>&</sup>lt;sup>2</sup>The solution lies in (a) organising a management monitoring system that can anticipate problems so that policymakers can formulate corrective action and (b) developing a regulatory mechanism for the supply and pricing of fertilizers at the factory gates (Ahmed 1999).

<sup>&</sup>lt;sup>3</sup>For instance, there had been major fertilizer crisis in 1984 and 2008. In addition, local level crises are almost a regular phenomenon.

points to the significant fundamental weakness in the fertilizer distribution system which requires in-depth analysis and appropriate policy interventions (Mujeri and Chowdhury 2014).

Public interventions have often been alleged to have created distortions in the fertilizer market. Rules and regulations dictated the types and kinds of fertilizers that could be sold and marketed at the field level. These often restricted the free movement of fertilizers across upazilas, impeded the private sector from an effective operation and failed to serve the farmers in remote areas. Moreover, assessment of fertilizer demand was made at the central level which was not need-based. The import of fertilizers remained uncoordinated, often leading to surplus stocks or deficits.<sup>4</sup>

Perhaps, the most significant effect of reforms was on irrigation equipment. By early 1989, the cost of a shallow tube well complete with sinking, pipe, pump and engine to irrigate 4-5 hectares of land had fallen below Tk. 20,000, which was about 60 per cent of the subsidised price for such equipment through BADC. As a result, during the 1988-1990 period, irrigated area expanded at a rate roughly twice that in the 1978-1986 period. The use of power tillers for cultivation continued to be marginal, although its price fell to Tk. 50,000 in 1989 from Tk. 83,500only a few months before the liberalisation of import (Guisselquist 1992). However, the use of power tillers is spreading fast on account of the removal of import restrictions. Liberalisation of markets for seeds and pesticides has only modest implications for impact in the short run, but in the long run, the impact, particularly of seed, is likely to be perceptibly large (Ahmed 1999).

<sup>&</sup>lt;sup>4</sup>The import of urea is a monopoly of Bangladesh Chemical Industries Corporation (BCIC) with no participation of the private sector, while import of Triple Super Phosphate (TSP), Muriate of Potash (MoP) and Diammonium Phosphate (DAP) is done by both the BADC and the Bangladesh Fertilizer Association (BFA).

TABLE I
STEP-BY-STEP LIBERALISATION OF AGRICULTURAL
INPUT MARKETS

Actions		Time-	Remarks
		span	
Ferti	lizer Market		
1.	BADC withdrew from retail and wholesale markets at all levels	1978-83	This was done at Chittagong Division first. Response from the trader
2.	Licensing requirement was abolished and restriction on movement removed (except for 5-mile border zones with India)	1982-83	
3.	Deregulation of fertilizer price	1982-84	Real competition started
4.	Allowing private traders direct purchase from factory gate and port points	1989	Vigorous response from traders
5.	Free import from world market	1992	Good response, but fear of oligopoly persisted
Irriga	ation Devices		
1.	BADC sold all its low-lift pumps to private parties backed by special credit arrangement for purchasers	1980-82	Good response from farmers
2.	BADC sold all its tube wells for irrigation to farmers and cooperatives; sale supported by special credit arrangement for purchases	1983-85	Good response from farmers
3.	Restriction on import of engines and pumps withdrawn	1988	Drastic fall in prices of engines
4.	Standardisation restrictions limiting makes and models removed	1988	Drastic fall in prices of engines
Powe	r Tillers, Pesticides and Seeds		
1.	Restriction on power tiller import and standardisation requirement removed	1989	Modest response
2.	Restriction on import by brand names liberalised for pesticides	1989	Modest response
3.	Except for rice and wheat, all seed import liberalised	1990	Modest response

Source: Ahmed (1999).

# 2.2 Impact of Policy Reforms

The impact of liberalisation consisted of two elements: (i) direct impact on agriculture due to changes in the level of input use, and (ii) indirect impact on the production of both agricultural and non-agricultural products arising from reallocation of budgetary savings through reduction and/or elimination of input

subsidies. While the direct impact is primarily discussed here, some assessment of the fiscal impact or the magnitude of subsidy that was eliminated from the budget is also provided below.

The budgetary subsidy on fertilizer increased by 9.8 per cent between 1979/1980 and 1983/1984 (from Tk. 1,286 million to Tk.1,426 million). But then it declined by 10.7 per cent to Tk. 1,273 million in 1988/1989 and a rather a sharp decline to Tk.25 million in 1992/1993. The 1983/1984 figure was equivalent to about 14 per cent of the total development expenditure on agriculture and rural development and the 1979/1980 figure was equivalent to 28 per cent of such expenditure. Thus, budgetary savings arising from the liberalisation of the fertilizer market were quite significant. A comparable estimate of the subsidy for irrigation as a whole is not available. However, the budgetary subsidy on the low-lift pump and tubewell irrigation programme of BADC was estimated to be Tk. 1,035 million in 1979/1980 and Tk. 830 million in 1983/1984. By 1986, almost the entire subsidy on low-lift and tubewell irrigation of BADC was eliminated.

There is a dearth of empirical studies on the measurement of the impact of market reform in Bangladesh. A counterfactual estimation of the direct impact of input market reforms using a multi-equation model shows that the reforms in the fertilizer and irrigation markets could be credited with 20-32 per cent increase in rice production during the 1984-1992 period. The reform was estimated to have contributed approximately 20 to 32 per cent of the increase in production (Ahmed 1995), primarily through its impact on fertilizer consumption and private sector irrigation development. The author of the study also concluded that foodgrains shortages and higher food prices would have persisted had there been no changes in the fiscally unsustainable public intervention in agriculture input markets in Bangladesh.

Assuming that the conclusion of the study is a correct depiction of the impact of reform on production, three sets of questions can be raised: (a) What further actions were necessary to complete the process and sustain the market reforms undertaken in agriculture and what roles should the government play in agricultural markets?; (b) Was market reform enough for accelerating agricultural growth? If not, what else was necessary? Should higher growth come at any cost?; and (c) If all the reforms were completed and agricultural markets operated competitively, would that be sufficient for accelerating agricultural growth to the range of 3 to 4 per cent annually? It is doubtful that market reforms alone could achieve 4 per cent growth in agriculture. In general, the supply response from price incentives of market reforms results in a one-time increase in production, realised within a short-tomedium term of three to five years. Long-term large and sustained supply response depends on basic structural factors that cannot be tackled by individual efforts of agricultural producers. It is now generally and rather widely recognised that policy reform in trade and marketing of inputs can only have a "once-for-all" effect through its influence on price mechanism. When these effects are fully adjusted, the non-price factors such as the development of infrastructure and new technology will remain the major forces behind the sustainability of agricultural growth in general and food security in particular (Hossain 1996).

#### 2.3 More Recent Policies Related to Fertilizer Markets in Bangladesh

Unresolved issues and questions on efficiency and effectiveness of the fertilizer distribution system and the quality of fertilizers available to the farmers led the government to bring back some interventionist measures. Recently the government has made drastic changes in the dealership system for fertilizer distribution. Under the Dealership Policy 2008, it was made mandatory to appoint at least one dealer in each *union* (the lowest-tiered administrative unit in Bangladesh) by cancelling the previous upazila-based system. But the policy was weak in implementation and this was followed by the Dealership Policy 2009, in which abolition of sales representative of dealers, restriction of dealership within the district, introduction of retail sale and arrangement of ID cards are noteworthy features.

It is, however, maintained that there still persists a shortage of retail outlets, especially in the remote areas, requiring farmers to travel long distances to purchase fertilizers. Often, the outlets fail to deliver fertilizer to farmers on time and in right quantity. The dealer network lacks competition and the margin for fertilizer distribution built into the price structure to cover the actual cost of transport, storage and overheads is often considered inadequate by the dealers. Another issue is the frequent emergence of fertilizer shortages, mainly due to inadequate estimation methods used to determine fertilizer requirements.

Moreover, despite the reforms, especially with respect to the privatisation of sale, distribution and import of fertilizers, sudden and unexpected price hikes, unbalanced use of fertilizers, adulteration of fertilizers and similar other problems continued to affect the efficient operation of the fertilizer market in the country (Mujeri and Chowdhury 2014).

These deficiencies indicate the scope of increasing the efficiency and effectiveness of the country's fertilizer distribution system and ensuring the availability of quality fertilizers to the farmers by re-designing the existing policies. Well designed and implemented, the policies could have important contribution towards employment generation and poverty reduction through sustained productivity growth in agriculture and other sectors through its linkage effects.

Various options were noted which could increase the effectiveness of the policies through desirable changes in the marketing system. For example, Bangladesh could dampen the impact of fluctuations in domestic prices (caused by fluctuations in world prices and Bangladesh's dependence on imports to meet its domestic needs) through a better marketing system, primarily through development of a well-functioning distribution system, through promoting nutrition based subsidies (as in India) to counter unbalanced use of fertilizer, creation of data base on fertilizer use for better targeting of subsidies, reducing adulteration through check and controls, reallocating resources to more productive channels such as agricultural education, research and creation of rural infrastructure, etc. (Mujeri and Chowdhury 2014).

To conclude, the use of fertilizer has increased steadily in Bangladesh over the last three decades and its use is quite widespread compared to other developing countries in South and South-East Asia. However, the increase in fertilizer use has come at a significant cost. The fiscal burden of fertilizer subsidy has sharply increased over the years, putting heavy pressure on public resources. There had been other costs too such as the long-term soil damage and less than optimal yields due to unbalanced fertilizer use. Targeting of subsidies had also been less precise; most of the subsidies directed at farmers were largely captured by the producers and distributors of fertilizers. And whatever benefits reached the farmers have also been unevenly distributed.

#### 2.4 Policies Related to Irrigation and Water Management

Irrigation and water management policies in Bangladesh also went through different stages, from public ownership with bureaucratic management, to public

ownership with cooperative management and then to private ownership for development of competitive water markets. In the pre-independence years, the public authorities had the virtual monopoly in procuring, installing and maintaining irrigation equipment. In the early years of independence, this role was taken up by the Bangladesh Agricultural Development Corporation (BADC) and the Bangladesh Krishi Bank (BKB), who distributed different types of irrigation equipment. In the 1970s, farmers' cooperatives gradually emerged and were entrusted with the responsibility for the operation and maintenance (O&M) of the equipment. The system continued until 1978/1979 when the government decided to go for privatisation of the BADC-owned equipment in phases.

A major aspect of the government policy was to give subsidies for irrigation in the forms of the differential between the prices at which it purchased the equipment and the price at which they sold the installed equipment to the farmers, group of farmers or to their cooperatives. This form of subsidy continued until the late 1980s. Supply of energy in terms of electricity and diesel fuel for pumping played an important role in the steady expansion of irrigated area in the country. Low-cost energy supply (in the form of electricity) implied a heavy subsidy for irrigation (compared to the almost double price for equivalent energy supply through diesel fuel), but this advantage was muted greatly by erratic electricity supplies. However, increasing price of diesel fuel (which doubled between 1996 and 2006) and inadequate coverage of electric network squeezed farmers' profits and hindered the growth of irrigation.<sup>5</sup>

Since 1988, when the government eliminated restrictions on the import of agricultural machinery and reduced import duties, farmers started investing own resources for the procurement of shallow tubewells (STWs), and the implicit subsidies on minor irrigation equipment through agricultural credit got substantially reduced.

With the rapid expansion of groundwater irrigation, especially due to the expansion of privately owned STWs, informal water markets for irrigation have

<sup>&</sup>lt;sup>5</sup>The subsidy on irrigation remains high, particularly in large-scale water development projects implemented and operated by the Bangladesh Water Development Board (BWDB). Nominal water charges (at 3 per cent of incremental benefits) also remained largely unrealised, reflecting both procedural complexities and administrative deficiencies. There had been efforts to streamline the procedures (such as in the Barind Multipurpose Development Authority), but in general public cost recovery was weak and subsidies hardly reached the targeted beneficiaries. They were mostly appropriated by privileged groups (i.e. large farmers, contractors, and managers of irrigation facilities).

quickly developed in Bangladesh. Although the groundwater market is characterised by larger well-owning farmers selling water to the smaller and marginal farmers, the widespread expansion of tube wells created a condition for competitive pricing in the water market. With the expansion of water market in the private sector, the pricing system has also changed over time from crop sharing to seasonal flat fee to hourly charge, which encouraged farmers to adopt supplementary irrigation during the *aman* season and to cultivate modern varieties in the wet season.<sup>6</sup>

The policy changes led to an increase in the coverage of irrigation in the country. Over 75 per cent of the cultivated land was irrigated with groundwater, mostly by privately installed STWs. But like expansion in the use of fertilizer, expansion of irrigation came at some cost. The arsenic contamination of drinking water in large parts of the country increased, and water table sunk to low levels. The country needed to give greater attention to surface water irrigation which, however, would require massive public sector investment.

The management of large public irrigation projects also came under increasing criticism for poor manageability (Hossain and Deb 2011). There were concerns about disjointed and often conflicting policies such as in the legal and regulatory frameworks for the expansion of irrigation in the country, in developing institutions for managing water supply and relating them with flood and drought management, salinity, arsenic contamination and public health, poverty reduction, environmental protection and, most importantly, regulation of private use of water (Faruquee and Chowdhury 1998).

Such conflicts, which even persist today, exacerbate the conflicts of interest inherent in the water sector. The importance of irrigation in sustaining the growth of food production calls for extreme caution in formulating and implementing laws and regulations governing water management and irrigation. Rationing of scarce water can lead to rent seeking behaviour by those who control this scarce resource. They can be made accountable and kept under control through developing countervailing power through participation of local entities like NGOs and clients, and through developing transparent regulations which are understood and accepted by all (Shahabuddin, Yunus and Islam 2014).

<sup>&</sup>lt;sup>6</sup>The water market expansion not only benefitted all classes of farmers but also created new associated business opportunities in rural areas, thus providing alternative livelihoods for many (Hossain and Bayes 2009).

#### **III. REFORMS AND ASSESSMENT OF FOOD POLICIES**

# **3.1 Past Food Policies**

The government's food policy after the disastrous famine of the mid-1970s had been basically a two-track approach: a price support programme to producers of food grains (rice and wheat) in order to increase food production and subsidised food grain distribution to targeted groups (both poor and non-poor). The government administered a large foodgrains procurement programme to ensure stable and fair prices to producers, and distributing the procured food, through monetised and non-monetised channels of the public distribution system, to urban dwellers through statutory public rationing, to rural consumers through modified rationing, and to defence, law enforcing agencies and some public sectors employees, at subsidised prices. In addition to these, the government also operated a non-monetised channel of distribution with a massive public works programme, financed mostly with food aid under the Food-for-Work (FFW) programme (with the twin objectives of providing relief to landless workers during slack seasons of agricultural activities and augmenting the capacity of agricultural production through development of rural infrastructure) and targeted non-monetised channel of distribution called Vulnerable Group Feeding (VGF) programme to provide food to the identified destitute women and female- headed households.<sup>7</sup> These policies served well under emergency situation in the postfamine period, but, over time, the gap between the ration and the open market prices reduced, resulting in the significant and rather drastic reduction in the demand for "rationed foodgrains" (often claimed to be of inferior quality due to poor handling of foodgrains after procurement) offered through public distribution system. In order to reduce the stockpile of foodgrains and stabilise prices in specific instances (such as during the food price crises in 2008 and 2010), the government adopted an Open Market Sale (OMS) programme.

As in the case of other policies, the government's food policies also evolved over time. The FFW programme generated much-needed employment during slack seasons and was self-targeted to the poor, but the development impact was limited because of the low quality of construction and lack of supporting

<sup>&</sup>lt;sup>7</sup>Later, this was converted into a Vulnerable Group Development (VGD) Programme, under which the government collaborates with NGOs for training the distressed women in income generating activities and generating employment in road maintenance programmes.

investment in appurtenant structures. The negative effect of the unplanned expansion of earth roads and embankment on drainage congestion and water logging became apparent during 1987 and 1988 floods. The government, therefore, decided in 1990 to put greater emphasis on development objective of FFW and started channeling food aid through the Local Government Engineering Department (LGED) for implementing construction of durable feeder roads and small-scale irrigation schemes. The government also started to support school education programme through a school lunch programme, which later led to the development of Food-for-Education (FFE) programme, with the twin objectives of reducing of drop-out rates and improving nutrition.

The evolution of food policy reforms is provided in Table II. With the reduction of the demand for food through the rationing system, rationing was suspended.<sup>8</sup> However, the role of government in price stabilisation through domestic procurement and open market sale continued to be the major forms of public intervention in addition to non-priced targeted distribution (e.g. FFW and VGD). The decision to abolish public monopoly in the import and export of foodgrains had been the most effective policy in bridging the gap between domestic and the world price of foodgrains. An assessment of rice price by S. H. Rahman (1994) has shown that the coefficient of nominal rate of protection has increased, on an import-parity basis, from 0.70 in the 1980-1984 period (implying domestic price at 70 per cent of world price) to about 0.97 in the 1989-1992 period (implying a virtual equality between world and domestic prices). The reform in the foodgrain sector thus led to an increase in price incentive of rice and possibly other agricultural products, at least until 1991-1992 (Shahabuddin and Zohir 1995).

As a result of the above changes, the size of the Public Food Distribution System (PFDS) was significantly reduced – this resulted in the reduced need for internal procurement of foodgrains, to feed the PFDS. The seasonal fluctuation in foodgrain prices also became less severe due to a reduction in peaks in seasonal harvests of cereals as the dry season *boro* rice emerged as a major crop. All these reduced the public sector involvement in foodgrain markets in Bangladesh.

<sup>&</sup>lt;sup>8</sup>Some forms of public distribution, however, were retained (for example to essential service groups like armed forces, police and other law enforcing agencies).

# 3.2 An Assessment of Policies Related to Domestic Procurement of Foodgrains

The public sector presence in the food sector had been substantial in the early years of the country, especially after the famine of 1975, and, in general, it had a very positive influence for price support i.e. incentive to farmers, and for food support to vulnerable groups and other targeted groups. The government began to reduce the level of domestic procurement of rice in the early 1990s, but started to increase the level of procurement since the late 1990s. However, the proportion of procured rice to the total rice production remained small (about 3 to 4 per cent of total production which is equivalent to about 6 to 8 per cent of the total marketed surplus of rice). Wheat procurement was substantial when production of wheat was high, but in recent years, the domestic procurement declined along with the decline in wheat production. In recent years, the government has taken steps to increase domestic procurement of *boro* rice. The government policy became more specific and tried to address specific issues, rather than having the same envelope policy covering all aspects of foodgrains production.

Vear	Policy Decision			
T cai	Toney Decision			
Long waves in food policy reform				
1972-74	Urban ration channels were expanded significantly			
1974	Food-for-Work 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			

TABLE II CHRONOLOGY OF FOOD POLICY REFORMS

(Contd. Table II)

Year	Policy Decision
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 Programme was introduced

Source: Chowdhury and Haggblade (2000), Ali and Rashid (2008).

Gradual withdrawal of the public sector from foodgrain procurement and distribution programme created the space for the private sector to enter the domestic foodgrains market. Private sector imports did a good job in meeting the shortfalls in production, and, in general, prevented the rise in foodgrain prices. However, the private sector's performance in exporting rice in periods of the surplus was not satisfactory. On a number of occasions in the past, rice prices in Bangladesh fell below those in the neighbouring countries after good harvests, but this did not trigger exports because market links were not established and there was no internationally recognised grading system in place in the country.<sup>9</sup>

Government procurement was an alternative to exporting rice, to support domestic prices and provide production incentives to farmers.<sup>10</sup> However, the cost of setting a high enough procurement price that could send proper signal became a major challenge to the government due to meeting the cost of production, storing the procured volume well (without too much loss due to

<sup>&</sup>lt;sup>9</sup>There is an asymmetry in trade-based mechanism of price stabilisation in that while import parity serves as a ceiling price in times of large production shortfall, export parity does not provide an effective floor price of rice at present, in the absence of exports due to lack of market links and international grading and processing facilities. Also, assessment of comparative advantage of rice production (in terms of net economic profitability and domestic resource cost ratio) has shown that Bangladesh has a comparative advantage of rice production for import substitution (at import parity price) but not for exports (at export parity price) (Shahabuddin 2000). Domestic procurement programme, therefore, has an important role to play in providing price support and production incentives to the farmers.

<sup>&</sup>lt;sup>10</sup>The domestic procurement programme was used earlier just to build government stocks of foodgrains for distribution.

humidity and pest attacks), and the subsidy that is implied when the procured rice was to be released for public distribution.

The procurement process, however, was beset with inefficiency and bureaucratic rent seeking behaviour. An example of such behaviour is the public procurement of irrigated *boro* rice, whose production is easier to forecast than *aman* that is grown during the monsoon season. *Boro* procurement has, therefore, been much more reliable than the *aman* procurement. During 2000 to 2009 period, procurement of *boro* rice exceeded 80 per cent of the target in 8 out of the 10 years and failed to reach at least 60 per cent of the target in only one year. In contrast, *aman* procurement exceeded 80 per cent of the target in 8 out of the 10 years and failed to reach at least 60 per cent of the target in 8 out of 10 years. During the late 1990s, the procurement price set for the *boro* harvest was excessively high in 3 out of 4 years, resulting in extra costs to the government and windfall profits to those fortunate enough to sell at the procurement centres. Moreover, setting procurement prices substantially above market prices encourage rent-seeking behaviour and corruption among public officials involved in the public procurement system (Dorosh, Shahabuddin and Farid 2004).

There had been other elements of unsatisfactory performance of the domestic procurement programme in the past. Some of these had been due to (a) excessive public sector imports, particularly in years of good harvests (even in some flood years), which took up limited warehouse space, thereby severely restricting the ability to procure in the next harvest; and (b) limited access of farmers to procurement centres so that they are obliged to sell to private traders at a lower price.<sup>11</sup> A sizeable share of procurement was from large farmers and traders, not from small and medium farmers (Shahabuddin and Islam 1999).<sup>12</sup>

<sup>&</sup>lt;sup>11</sup>Other limitations include: too few procurement centres to allow for comprehensive coverage of producing areas, limited government financial resources; institutional impediments to speedy purchases from and payments to small sellers; and collusion between traders and officials, enabling traders to capture the margins between market and procurement prices.

<sup>&</sup>lt;sup>12</sup>The survey showed that only 10 per cent of the sample farmers participated in the 1998 *boro* procurement programme, of which 5 per cent were small, 13 per cent were medium and 22 per cent were large farmers. The alleged collusion between traders and government officials at the procurement centres and lack of effective functioning of the local committee are among the major factors contributing to such sorry state of affairs.

To improve effectiveness of domestic procurement and price support to the farmers would involve (a) proper fixing and appropriate timing of announcement of procurement price so that these send correct signals to producers, while minimising budgetary costs to the government and (b) identifying suitable institutional mechanism for enhancing reliability of procurement, especially during the *aman* season when, as observed earlier, procurement often failed to meet the target. Domestic procurement depends on the capacity and willingness of the farmers and traders/millers to sell. Unless some forced arrangement is put into effect, procurement is constrained by the supply decisions of traders/millers and farmers. These supply decisions depend, among others, on both their capacity and willingness which, in turn, depend on the size of harvest/marketed surplus as well as on the differential between procurement prices and market prices.

Domestic procurement programme gave the public sector adequate stocks of rice, but the objective of such procurement in terms of providing the needed incentive to the producers remained largely elusive. Farmers were less than enthusiastic in participating in selling rice to the public procurement centres (the share of paddy directly procured from the farmers was less than 10 per cent of total rice procurement) due to the low prices they received at procurement centres. The millers from whom the bulk of rice was procured by the government did not pay the farmers the procurement price of paddy fixed by the government. The lack of incentive to the farmers thus defeated the much-hyped trickle down impact of keeping farmers' income high and ensuring a good production next year. This created a major challenge to the government in terms of ensuring the welfare of farmers and a stable supply of foodgrains over the years.

Lack of data makes it difficult to measure the magnitude of direct support provided by the government procurement programme to the farmers. Most farmers did not participate in the procurement programme due to lack of incentive of the government programme.<sup>13</sup> However, empirical evidence suggests that procurement programme provides indirect price support to farmers through raising the overall market price of paddy and thus benefiting the farmers who sell

<sup>&</sup>lt;sup>13</sup>There are many factors/reasons preventing farmers from participating in the procurement programme. For an elaborate discussion on this, see Shahabuddin and Islam (1999) and Sattar and Mandal (2012). It may be specifically pointed out here that farmers will sell to the procurement centres if they believe that the procurement price is higher than the market price plus the risk premium for rejection at the procurement centres plus the informal payments required at the procurement centres (Sattar and Mandal 2012).

most of their paddy in the market. Nevertheless, the government's procurement system often affected market prices as much as it could. Further, the farmers often received lower prices than the procurement prices announced by the government. But, in general, it can be suggested that all farmers benefitted from the general rise in prices due to the programme. Without the programme, the prices would certainly have been lower.<sup>14</sup>

The general benefits could have been higher if the farmers had better knowledge of maintaining the quality of foodgrains which were sold to the government procurement centres, and they had adequate knowledge of the rules and regulations to strike better deals on prices (prices paid by procurement centres often lower than the prices set by the government), if the centres were more dispersed and decentralised, and were able to reach farmers at low costs, thus cutting down on transaction costs. Reduction of the rather endemic corruption and irregularities could come as a great relief to the majority of poor farmers who were often at the receiving end of bad deals.

Public procurement policy got diffused as it tried to pursue multiple objectives such as augmentation of public stocks and providing price support to farmers. It obviously could not do justice to both.

# **3.3 External Procurement**

The government policies on food and agriculture have been largely successful in steering the country from the state of acute food shortage in the early 1970s to the relative comfort zone of near self-sufficiency in the more recent years. Fluctuations in domestic prices of rice and other food items have been smoothened by opening up the domestic market in 1993 to external procurement of foodgrains by the private sector. But the opening-up of the

<sup>&</sup>lt;sup>14</sup>Ahmed, Chowdhury and Ahmed (1993) supported the indirect benefit hypothesis by arguing that most farmers sell their rice in the market and hence procurement contributes to producer's incentives through its impact on market prices. Indirect effects are difficult to prove though. However, Sattar and Mandal (2012) recently found that there is a high correlation between farmgate price and procurement price, the estimated correlation coefficient being 0.63. As correlation does not signify any cause and effect relationship, the study regressed procurement price on farmgate price of paddy and found statistically significant results. In fact, it was observed that if (real) procurement price is increased by one unit (Tk.), the difference between last year's and current year's price increases by 1.13 unit (Tk.). The coefficient of other two variables (world price of rice and agricultural wage), however, was found to be statistically insignificant.

market to external procurement introduced a new source of instability, i.e. the volatility of world market prices got transmitted to the domestic market without much of a filter, as it happened in 2008 and then again in 2010. The volatility of prices in the world market for these basic necessities contributed to food insecurity of low-income households (Hossain and Deb 2011). The government had to take immediate cautionary measures to avoid the impacts of such volatilities on low income households through public food distribution as well as setting price guidelines for the private food dealers.<sup>15</sup>

Currently, most of the import of rice and wheat is done by the private sector. The import of rice has declined in normal years but increases substantially in the years of floods and cyclones. Import of wheat has increased in recent years due to (a) decrease in domestic production, (b) substantial reduction in food aid that the government used to receive in the form of wheat for implementing disaster relief and safety net programmes, and (c) increase in demand for products made from wheat flour in urban areas. Import of pulses, edible oils, spices and sugar has been rising at an alarming rate.

The 1975 crisis could have been avoided if the government could foresee the emerging crisis and, more importantly, if they had enough resources to procure food externally. Post-famine, the government became much more cautious in monitoring food situation in the country, boosting up policies for increased food production, and improving food storage situations. At the same time, the government put emphasis on procuring food externally using whatever resources it could muster. But like all public procurements, external food procurement was subjected to the same inefficiencies in terms of quality control and corruption.

The policy of external procurement, however, changed with the increasing involvement of the private sector in the post structural reform period. The government, under pressure of both non-availability of resources and the Bretton Woods Institutions for privatisation, allowed private sector imports of foodgrains since 1993. This allowed the country to resort to imports in situations when the need was greatest, such as when the country faced crisis in supplies due to floods and cyclones. With increase in domestic production, the imports of rice and

<sup>&</sup>lt;sup>15</sup>It would be unfair to attribute the 1975 food crisis to government's failure in managing food policies; the crisis was triggered by withholding of food supplies as a political tool by a major donor country, which diverted a ship with full load of foodgrains just before it was going to unload its supplies at Chittagong. Severe cash shortages of the new government constrained the country to engage in large scale external procurement.

wheat both decreased in normal years, but increased sharply in period of crisis, especially when there was a need to provide disaster relief, or keep up the supplies for government safety net programmes. The increasing urban demand for quality food (and of items with the high-income elasticity of demand such as sugar, milk products, spices, canned products) led to the increase in food imports by the private sector.

There hardly any in-depth study on the impact of imports of food, and of public procurement and distribution on the food production. Undoubtedly, the policy of import of foodgrains blunted the spikes in prices and helped to establish more stable lower prices. It thus eased the economic hardship caused by the sharp increase in food prices on low-income groups. It may be possible that the dampening of prices could have impacted negatively on the production incentives, but it is not possible to draw any firm conclusion. Food production, in general, maintained an upward trend, helped by government support policies, technology improvements in the use of fertilizers, use of high yielding varieties and irrigation facilities. The overall economic impact could have been positive, but, once again, it is more of speculation rather than an evidence-based conclusion.

# IV. THE POLITICAL ECONOMY OF AGRICULTURAL POLICY<sup>16</sup>

While the formulation of any policy by governments can be subjected to pressure group lobby, the agricultural policy can probably be subjected to most intense pressure, both because of the impact of such policies on the economy and the sheer number of people, the interest groups (consumers, producers, businesses) affected by such policies. Treading the right path is critical for the correct formulation of effective policies. There are situations where effective pressure groups do not exist or can be successfully set off against one another, and the state can pursue its own agenda, which could be purely "predatory," purely altruistic, or a blend of the two (Grindle 1991).

One major feature of Bangladesh policymaking on food (and agriculture in general) is the relative weakness of the peasantry as a pressure group. They are numerous, but their geographical dispersion, internal differentiation, ideological orientation and poor resource base–all contribute to making them largely ineffective. In contrast, the urban "formal sector" working class and the

<sup>&</sup>lt;sup>16</sup>This section draws on Abdullah and Shahabuddin (1997).

bureaucracy (a "pressure group" within the state apparatus), and more recently private entrepreneurs, constitute organised and powerful pressure groups that few governments, democratic or autocratic, would wish to antagonise.

Beyond the domestic interest and pressure groups, there are other major players in determining policy stances on food and agriculture, those consisting of the principal aid agencies such as the World Bank, Asian Development Bank, and the United States Agency for International Development (USAID). They have played, and continue to play (although with reduced effect now due to the greater reliance of Bangladesh on its own resources to procure food from external sources) especially important role in the evolution of agricultural policy by tying programme loans and import credits to the fulfilment of policy reform measures. Indeed, hard-core radical critics of the policy reforms are inclined to attribute the policy changes to the influence of aid agencies.

Donor pressure undoubtedly has played roles in the years of overwhelming dependence on foreign assistance for the country's development, for securing sufficient food to avert food crisis, and in neutralising the opposition (often from sections of the bureaucracy who were opposed to subsidy reduction and privatisation of the distribution of fertilizer as well as irrigation equipment). But in many instances, a genuine, if at times misplaced, concern for the equity aspects of these changes played a major role. The reduction of the fertilizer subsidy became the symbol, or index, of the government's proclivity to inflict costs on the weak and disorganised while pampering the strong and organised, for example, the industrialists, or even urban industrial workers. There is much truth in this that reducing the subsidy would have been much harder, perhaps impossible, in the face of determined opposition from a strong and well-organised peasant lobby. A further implication is that introducing economically "rational" policies has been, and will continue to be, easier in agriculture than in industry and trade, even for a democratically elected government.

The fact that a certain set of policies was adopted, at least partly under donor pressure, and could be adopted because those adversely affected could not protest effectively, does not by itself prove that the policies were wrong. However, economically right policies must also be socially and politically acceptable; otherwise, they cannot be sustained. Either the regime in power will be forced to retreat to less "rational" policies, or it may be replaced by a more "populist" regime that will abandon economic rationality in an attempt to maximise instant support by giving something to everyone, thus sowing the seeds of their own eventual ouster when the economy runs a ground. These conflicts between "rationality" and "populist" leanings can be further accentuated by the conflicts of interests between different bureaucratic groups (who may differ among themselves based on different trainings), different groups of policymakers who may two different lines based on their perceived "populist" leanings. These are the general outcomes of a democracy in the making, of immaturity, and hopefully, they will mature one day to have sound policies for food and agriculture through better consensus building, communication to the public and through refraining from announcing different and controversial policies.

The governments can try to sweeten the pill of agricultural policy reforms by offering much- needed compensation in terms of greater local autonomy and participation, infrastructure development (roads, electrification) and better health and education services. The provision of social safety nets is fraught with administrative difficulties, (e.g. the ill-fated *Palli* ration system), but attempts to evolve innovative delivery mechanisms that would be relatively free from these problems must continue.

Even in such cases, donor and government relations present a dilemma. On the one hand, tough conditionalities can help the reform process by providing the government with a convenient scapegoat for its own reform agenda. On the other hand, this lays the government open to charges of being "agents" or "tools" of "imperialist vested interests." The donors own "political" environment can also make them "tough" on recipient governments, and also make them unable to see beyond the technical merit of particular propositions. Loans can be stopped or suspended because certain conditionalities are not met. But it is also true that quite often government "rationality" is based on partisan views. In Bangladesh, the policymaking in the case of agriculture is often burdened with one or more (if not all) of these "ills." There is a need to have a more rigorous analysis of different options, to weed out false assertions and bad policy decisions, and have a clear-cut perception about the criteria for separating good policies from the bad.

Despite these potentially conflicting views and dilemmas facing governments, the policy reform process in Bangladesh has been surprisingly smooth so far. This has been partly due to the fact that the peasants do not constitute an organised lobby; otherwise, the progressive rise in fertilizer prices (at least since 1991) would have been resisted. However, it is probably due in good part to the fact that the policy reforms have, by and large, benefited all classes of farmers-removal of de-standardisation of imported irrigation equipment, especially engines, in particular, must have been a popular move. The opposition came more from the public sector (such as BADC) employees. If the decline in prices continues, matters might become more complicated making it harder for the government not to intervene in input and/or output markets. But with some consensus between contending political forces, and more informed and tactful firmness on the part of donors, the reform process can be successfully sustained.

# V. CONCLUDING REMARKS

Bangladesh agriculture has already gone through a major structural transformation over the last four decades or so.<sup>17</sup> The strategies and policies that Bangladesh has been following, focusing mainly on public sector support for water control, procurement and distribution of agricultural inputs, intervention in foodgrain marketing and research and extension for technology generation and dissemination, were developed largely around the crop production sector, especially for rice and wheat. The strategies and policies have also changed over time. There is a need for a comprehensive review to see whether further changes are warranted to meet the emerging challenges of the sector.

Despite many problems and constraints, a quiet agricultural revolution has taken place that has enabled the country to achieve its national food security targets in the production of foodgrains. Agriculture continues to evolve in response to numerous factors, including natural calamities, socio-political changes, population growth, urbanisation, new technology, opportunities in the rural nonfarm sector, and commercialisation. Government macroeconomic, trade and agricultural pricing policies have played a major role in shaping price incentives in production and consumption and will continue to be important determinants of agricultural growth.

Although trade liberalisation has faced substantial opposition, the government nonetheless undertook major reforms in trade policy, including reducing tariffs on industrial products in the 1980s and the early 1990s and liberalising private sector trade in rice and wheat in the 1990s. As a result, the domestic output price for wheat and rice has been close to the border price in

<sup>&</sup>lt;sup>17</sup>For a comprehensive discussion of major structural transformation (in terms of resource base and organisation of production) of Bangladesh agriculture, see Shahabuddin (forthcoming).

most years since the early 1990s. Thus, price distortions in agriculture have averaged less than 5 per cent of the value of domestic production since 1990, despite the ongoing price distortions on a few products (notably, sugarcane) and inputs (chemical fertilizers) (Ahmed *et al.* 2009). The country has reaped great benefit from trade liberalisation through enhanced food security because private sector imports have helped stabilise markets following significant production shortfalls. Keeping the domestic prices of most agricultural commodities close to the respective border prices has also generated overall efficiency gains in the agricultural sector.

Reducing the remaining disincentives for agricultural production, caused by the protection for non-agricultural producers, will be a necessary part of any future strategy aimed at agricultural growth and rural poverty reduction. But a liberalised trade policy would not necessarily guarantee higher incomes among farmers. For example, in the early part of this decade, the upward trend in the ratio of fertilizer prices to paddy prices that was partly driven by movements in world prices eventually reduced the price incentive for paddy production and contributed to lower returns to farmers. In 2007-2008, the world prices for fertilizer and rice rose substantially and, combined with the ban imposed by India on rice exports to Bangladesh, contributed to large increases in the domestic prices for fertilizer and rice in Bangladesh in early 2008. Policies aimed at increasing production and stabilising prices need not rely mainly on price subsidies or substantial increases in public stocks, however. Indeed, productivityenhancing investments in agricultural research and extension, improvements in post-harvest management and agro-processing, and investments in market infrastructure can complement agricultural price and trade policies and enable rapid agricultural growth and higher farmer incomes even in a context of shifting world prices.

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