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Inflation and Food Security: Some Emerging Issues in Developing Countries

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***Abstract:** The rapid rise of cereal and other food prices in the current phase have provoked deep concern regarding food security in developing countries. Whilst a vast majority of people in developing countries are already suffering from widespread malnutrition, the rapid rise of prices of food items is likely to make these people more vulnerable. Most of the poor are net buyers of food items, and the impact of food price shocks on their livelihood are pronounced. Using Bangladesh as a case study of developing countries, this paper describes how soaring inflation has affected food security, it elicits the causes of the crisis, details the government responses, and summarises the lessons learned with regard to monetary policy and food security measures.*

Key words: Bangladesh, consumer price index, monetary policy.

1.0 Introduction

Along with the global concern of maintaining macroeconomic stability, the unprecedented increase in prices of food items in recent years has raised concern for developing countries, especially in respect to ensuring food security for the poor (ADB, 2008a; IFPRI, 2008; van Braun, 2008). Food items constitute a major share of the consumption basket for the vast majority of people living in these countries. Higher prices of food restrict accessibility to adequate and appropriate food. Thus, food inflation has become one of the pressing economic problems facing most developing economies.

Recent sharp increases in food prices have raised serious concerns about food security and the safety net of poor people in developing countries. Studies on sources of food inflation, both in developed and developing countries, are extensive. Key sources and features of recent increases of food prices in developing countries have been identified as being the underinvestment in agricultural innovation and rural infrastructure, shift of land and crops toward biofuel feedstocks, natural disasters, high global energy prices, inequal distribution of resources, mismanagement of natural resources, strong income and population growth and competing demand for land and water (ADB, 2008b; IRRI 2008; Mitchell, 2008; Rosegrant, 2008; van

Braun, 2008; Naylor *et al.*, 2007; Pinstруп-Andersen and Cohen, 1999). It is revealed that the present inflation pressure on food items is largely attributed to structural factors augmented by adverse cyclical events (ADB, 2008b).

The literature on determinants of food inflation in developing countries, both as a group and in the context of a specific country, is growing in volume. However, studies of the impact of inflation on issues of food security in developing countries, particularly in the context of the recent phase of rising inflation, are fairly limited. Tibaijuka (2004) identified war and conflict as the single most serious cause of food insecurity in much of Africa. Rena (2005) identified both the demand and supply side factors as causes of food insecurity in Eritrea, these being lack of employment opportunity, insufficient transport services, constraints on boosting the supply, protracted war, drought and high population growth rates, sharp changes in purchasing capacity of consumers and sharp reduction in the domestic or imported supply of food. Feleke *et al.* (2005) investigated the relative importance of supply-side versus demand-side variables in influencing food security in southern Ethiopia at the household level and found that supply-side variables were more powerful determinants of food security than demand-side variables. Based on a sample of 25 developing countries between 1961 and 2002, Subervie (2008) found high inflation, weak infrastructure and a poorly developed financial system intensified the effect of the world price instability on the supply of agricultural products.

With the current surge of food prices, sources of inflation and its impact, both at the national and household levels, have taken a new dimension. Inflation is the consequence of a number of factors that create this problem in an economy. As argued by ADB (2008b), IFPRI (2008) and IRRI (2008), there is a need to refine our understanding about food insecurity issues in the context of the current phase of rising inflationary pressure in most developing countries.

This study documents the food insecurity issues originating from rising inflation in Bangladesh. Although the country implemented economic liberalisation measures, eliminated direct government interventions in the production and distribution of agricultural products and experienced macroeconomic stability for a long period, it is now, like many others, facing soaring inflation in recent years. Therefore, the country's more recent experiences with the issues of inflation and food security can be of interest to policy makers.

2.0 Recent Inflationary Build-up and the Policy Responses

The secular rise in consumer prices in Bangladesh since 2003 in general, and specifically food prices, have grabbed the attention of all stakeholders. While prudent macroeconomic policies exercised by the government have allowed average inflation to be contained at moderate levels by global and developing country standards, its stubbornness and bias against the food component have an adverse bearing on the wellbeing of the poor and on the country's growth potential. While the average consumer price index (CPI) for non-food items increased from 4.6 percent in 2001-02 to 6.3 percent in 2007-08, food inflation rose from 1.6 percent to 12.3 percent during the same period (Table 1). Holding the major weight of the food items in the basket of goods in CPI constant, the general CPI inflation also rose from 2.8 percent in 2001-02 to 9.9 percent in 2007-08. In addition, general CPI inflation reached to a double digit level in March 2008, affected by the resurgence of prices of primary food articles, particularly rice and wheat in the international market (Figure 1). It is therefore

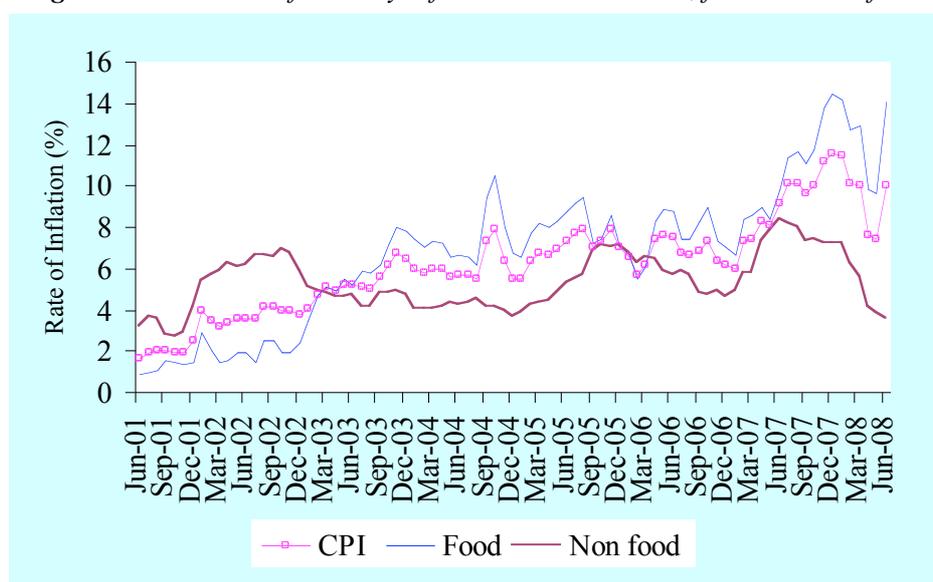
suggested, that like many other developing countries, inflation pressure in the current phase in Bangladesh is largely attributed to the increase in prices of the food articles, which places immense food security concern for Bangladesh economy.

Table 1: Average inflation rates and standard deviations of monthly CPI inflation

Fiscal year ¹	Average Inflation Rates (%)			Standard Deviations		
	General	Food	Non-food	General	Food	Non-food
2001-02	2.8	1.6	4.6	0.8	0.5	1.4
2002-03	4.4	3.5	5.7	0.6	1.5	1.0
2003-04	5.8	6.9	4.4	0.5	0.7	0.4
2004-05	6.5	7.9	4.3	0.8	1.3	0.4
2005-06	7.2	7.8	6.4	0.7	1.3	0.6
2006-07	7.2	8.1	5.9	0.9	0.9	1.3
2007-08	9.9	12.3	6.3	1.3	1.7	1.7

Source: Consumer Price Index (CPI) and Average Retail Prices of Selected Commodities in Dhaka City, Bangladesh Bureau of Statistics, various issues and authors' own calculation.

Figure 1: Movement of monthly inflation rates: General, food and non-food²



Source: Consumer Price Index (CPI) and Average Retail Prices of Selected Commodities in Dhaka City, various issues, Bangladesh Bureau of Statistics.

The recent inflationary episode in Bangladesh started in early 2003, and has been driven by a surge in food prices. Two clear phases of accelerated inflation can be identified; one in 2001-02 to 2003-04 and another in the most recent period of time since the second half of 2007 (Figure 1). In between these two phases, the period 2004-2006, although the inflation rates did not decline from the previous ups and food inflation rates witnessed considerable volatility, they showed a tendency to converge towards the mean values. As shown in Table 1, the average inflation for food increased by 5.3 percentage points from 2001-02 to 2003-04 and 1.2 percentage points from 2003-04 to 2006-07 and 4.2 percentage points 2007-08. As a whole,

¹ Fiscal year refers to the period of July each year to June next year (12 months period). As for example 2001-02 refers to July 2001 to June 2002.

² Throughout the paper, inflation rate refer to the point-to-point inflation rate, e.g. percentage changes of CPI in the said month from the CPI in same month of previous year.

inflation showed an upward bias, causing the price level to reach a new level. Continued price hikes in the last few years have led the price level to reach a level of significance such that even a moderate rate of inflation becomes large in absolute terms, affecting the purchasing power of Bangladesh people.

The average contribution of food price inflation to overall inflation has increased significantly in recent years (Table 2). Accordingly, the contribution of the non-food group declined. The average contribution of the food group increased from 34.3 percent in 2001-2002 to 71.7 percent in 2004-2005 before narrowing down marginally in 2005-2006 and 2006-2007. After that, the contribution of food group inflation increased sharply to as high as 73.5 percent in 2007-2008. As evident in Table 2, the contribution of non-food items declines from 65.7 percent in 2001-2002 to as low as 26.5 percent in 2007-2008. These figures imply that increasing food prices explains the largest part of the inflationary pressure in Bangladesh in the current phase, raising significant concerns regarding the adverse impact on the poor and vulnerable groups.

Table 2: Average contribution³ of food and non-food categories to CPI inflation (2000-2001 to 2007-2008)

Fiscal Year	Food (% contribution)	Non-food (% contribution)
2000-2001	41.9	58.1
2001-2002	34.3	65.7
2002-2003	46.4	53.6
2003-2004	73.3	26.7
2004-2005	71.7	28.3
2005-2006	63.8	36.2
2006-2007	66.3	33.7
2007-2008	73.5	26.5

Source: Authors' calculation based on data from *Consumer Price Index (CPI) and Average Retail Prices of Selected Commodities in Dhaka City*, various issues, Bangladesh Bureau of Statistics.

The consumption pattern and thus the composition of CPI in Bangladesh suggest overwhelming concentration in the consumption of cereals. Many households, especially in the poor and middle-class, spend a significant portion of their income on food. Within the food-group rice alone accounts for 20.1 percent share in CPI in Bangladesh and including other cereal (wheat and rice products) the share is 23.0 percent (Table 3). Figure 2 suggests that the price of rice in Bangladesh experienced a rapid acceleration beginning in 2007. Yearly increases in rice prices stood at 39.5 percent in March 2008 as compared with 4.4 percent in March 2007 and 3.3 percent in March 2006.

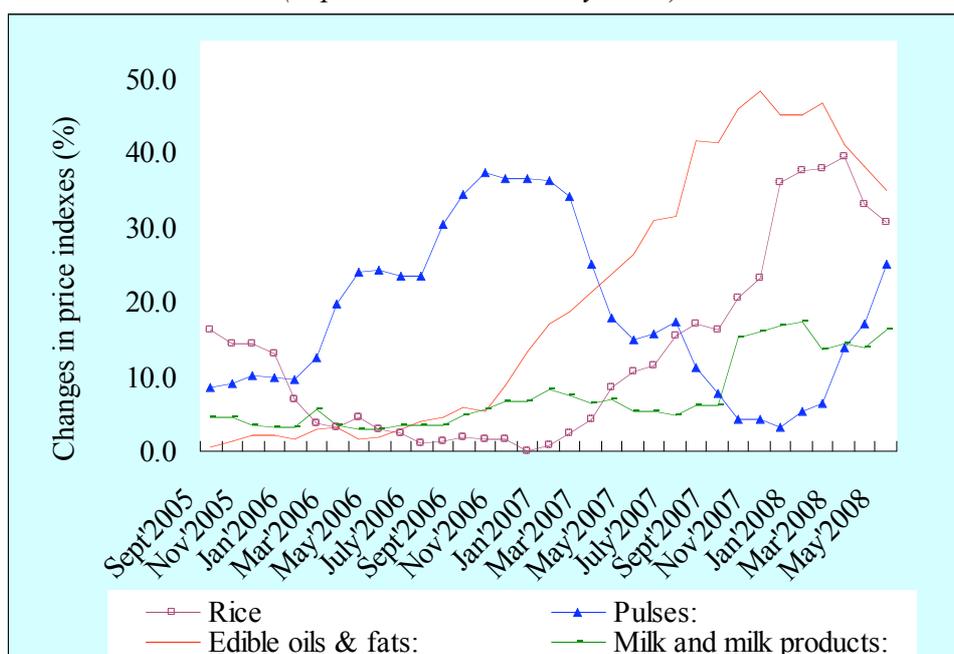
³ The contribution is calculated as the share of food in the CPI multiplied by food group inflation divided by overall inflation.

Table 3: Weights of food and non-food items in national CPI in Bangladesh (base 1995-96)

Group/Item	% weight	Group/Item	% weight
Food, beverage and Tobacco	58.8	Non Food	41.2
Rice	20.1	Clothing & footwear	6.9
Other cereal	2.9	Gross house rent	9.3
Pulses	1.6	Fuel & Lighting	7.6
Fish & dry fish	9.3	Furniture & fixture	2.7
Eggs & meat	4.0	Medical & health	2.8
Vegetable	5.6	Public transport	2.7
Fruits	1.3	Maintenance means of transport	0.9
Spices	2.8	Miscellaneous	0.5
Edible oil & fat	2.4	Recreation	0.2
Milk & milk products	2.6	Educational	3.4
Miscellaneous food	3.3	Radio & musical	0.5
Beverage	1.4	Servant wage	0.7
Tobacco and Tobacco Products	1.6	Luxury	2.1
		Laundry & cleaning	0.8

Source: Bangladesh Bureau of Statistics.

Figure 2: Monthly movement of inflation rates of selected food items in Bangladesh (September 2005 to May 2008)



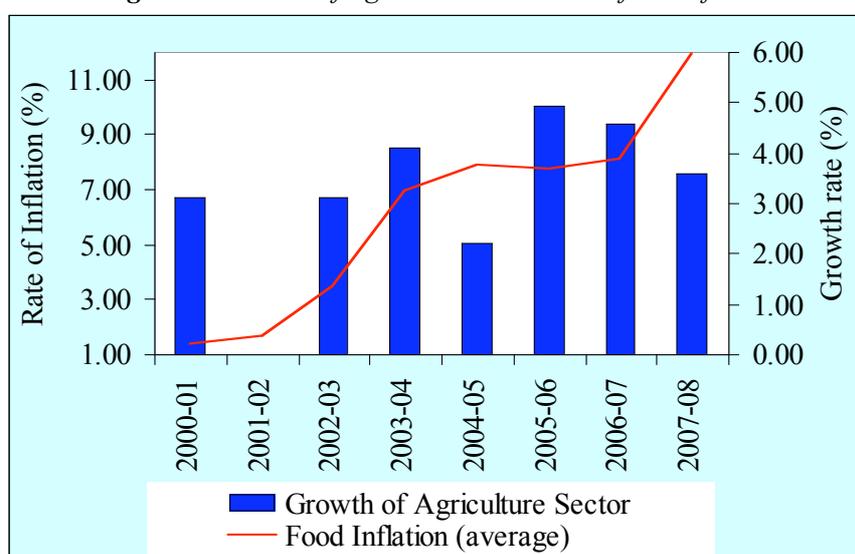
Source: Constructed by the authors' based on data from Bangladesh Bureau of Statistics.

A recent ADB (2008b) study shows that the average share of food in total expenditure is inversely related to household income across quintile groups; the poorest 20% spend a larger share of their total expenditures (69%) on food, compared to the richest 20% who spend 45% of their income on food. The food group occupies about 59 percent of national CPI as compared with 41 percent for the non-food group (Table 2). Any upward revision of food prices places a considerable impact on the living expenditure and CPI inflation in Bangladesh.

2.1 Domestic and International Supply Side Factors

Since food items have the major share in the consumption basket, food prices have become the key factor in determining inflation in Bangladesh in the current cycle. Indeed, the apparent difficulty in curbing inflationary expectations by adjusting the key policy rates raises questions as to the nature of inflation, the efficacy of the monetary transmission mechanism as well as the necessity to monitor the supply side factors. On the domestic side, disruption of the agricultural sector due to natural calamities led the food inflation to spike. In the early cycle, growth of the agriculture sector declined sharply from 3.1 percent in 2000-01 to 0.0 percent in 2001-02 due to adverse natural conditions (Figure 3). The crops and horticulture sub-sector witnessed a negative 2.4 percent growth in 2001-02 as compared with 6.2 percent in 2000-01. Given the domestic supply side disruptions in agriculture, food prices followed an upsurge, and were boosted further by the floods in July-August 2004, while at the same time high commodity prices were experienced in the international market.

Figure 3: Growth of agriculture sector and food inflation

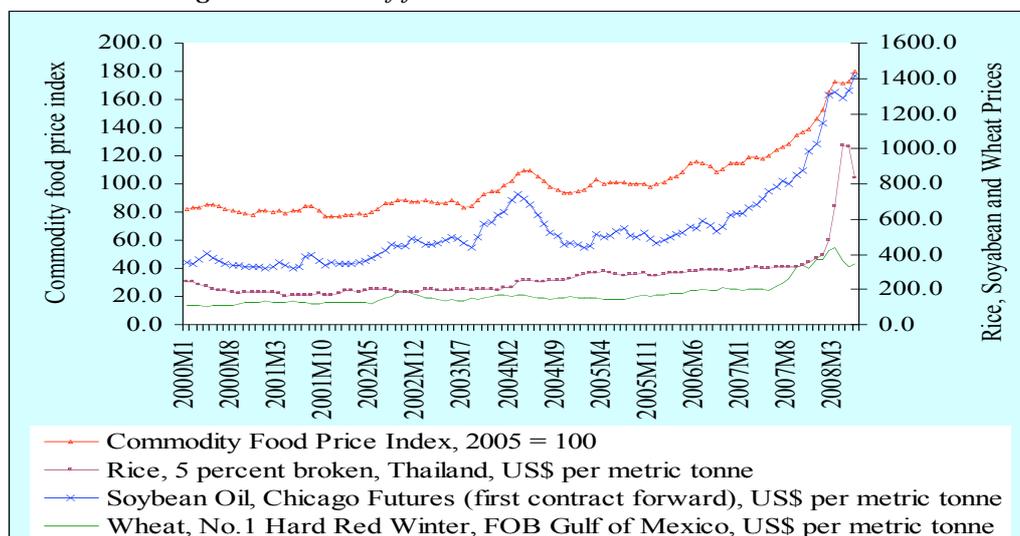


Source: Constructed by the authors based on data from National Accounts Statistics, various issues, Bangladesh Bureau of Statistics.

While there is no denying domestic supply side shocks in agriculture caused inflation rates to spike, the general expectation is that responses of the supply side shocks should be short-term or transitory in nature. However, this is not the case in present inflation dynamics. Inflation increased at a sustained rate and there has been no tendency for it to trend down. This is not only due to domestic supply side factors, but also to the rise of international prices of commodities caused by global supply side disruptions and an increase in global demand. Indeed, being a net importing country,

the inflation rates in Bangladesh in recent years remained largely aligned with the commodity prices in the international market.⁴ Falling global stock of rice and other cereals, combined with unprecedented growth in China, India and elsewhere in the emerging markets have led to a steady climb in the demand for industrial raw materials and commodities in general. It has been argued that these factors have had a significant impact on Bangladesh CPI.

Figure 4: Prices of food articles in the international market



Source: IMF Primary Commodity Prices, available: <http://www.imf.org/external>

Figure 4 shows the recent pattern of the global food price index and prices for rice, soybean oil and wheat in the international market. The international market scenario suggests that prices of rice increased steadily during 2004 to 2007 before accelerating sharply in 2008 (Figure 4). Indeed, since 2003 there has been simultaneous rises in prices of most commodities in the international market and in the consumption basket of Bangladesh CPI. As a persuasive example, the food price index in the international market increased by 12.0 percent per year during January 2004 to December 2007 as compared with 3.9 percent per year during January 2000 to December 2003. Average yearly increases for rice and wheat prices in the international market was 20.6 percent and 30.4 percent respectively in January 2004 to December 2007 as compared with 5.1 percent and 14.1 percent in January 2000 to December 2003. Similar types of secular price rises were witnessed in other food items, agricultural raw materials and other non-food items. On the domestic side, the food price index increased by an average 9.7 percent per year during January 2004 to December 2007 as compared with 3.7 percent during January 2000 to December 2003 in Bangladesh (Figure 1).

2.2 The Policy Responses

In order to dampen the inflationary pressure, Bangladesh Bank (BB) reversed its accommodative monetary policy stance to a cautious and restrained policy since the first half of 2005, which continued until 2007 (Table 4). The present policy, however, is an accommodative policy with a view to regain the losses due to natural disasters and to recoup the slowdown of economic activities. The accommodative policy also

⁴ In 2007-08, import payment (settlement of LCs) on rice and wheat in Bangladesh increased by as high as 830.2 percent over 2006-07 creating a high pressure on the trade balance and overall balance of payment situation; the trade balance deteriorated by 60.2 percent in one year period (BB, 2008b).

aims at expanding economic activities and removing supply side constraints by encouraging adequate credit flow to the productive sectors like agriculture, small and medium scale enterprises, infrastructure and other rural activities (BB, 2008c). Given the soaring international prices and domestic food supply situation, the present stance also facilitates the import of essential commodities to ensure smooth supply from the international market.

Table 4: Six-monthly developments of monetary policy stance in Bangladesh (July 2004 - December 2008)

Period	Monetary Policy Stance
July – December 2004	Accommodative
January – June 2005	Cautious and restrained
July – December 2005	Cautious and restrained
January – June 2006	Cautious and restrained
July – December 2006	Cautious and restrained; higher credit flow to productive sector
January – June 2007	Cautious and restrained; higher credit flow to productive sector
July – December 2007	Cautious and restrained; higher credit flow to productive sector; attention to private sector
January – June 2008	Accommodative; special attention to agriculture sector; facilitating import of essential commodities
July – December 2008	Accommodative; special attention to productive sectors including agriculture

Source: *Monetary Policy Statement*, various issues, Bangladesh Bank.

During the period of cautious and restrained monetary policy (2005 to 2007), key monetary policy rates such as the repo, reverse repo and 28-day T-bill yield rates have increased gradually but steadily. The three policy rates have increased from the levels of 4.0, 4.5 and 2.5 percent, respectively, in June 2004 to 7.3, 9.3 and 6.5 percent, respectively, in June 2007 and 7.5, 8.5 and 6.5 percent, respectively, in June 2008. The cash reserve ratio (CRR) and statutory liquidity ratio (SLR) for scheduled banks, however, were last raised to 5.00 and 18.00 percent, respectively, on October 1, 2005. Due to the restrained monetary policy until 2007, growth of monetary aggregate such as reserve money (RM) and broad money (M2) have declined in 2006-07 (Table 5). Year-on-year growth of RM and M2 stood at 28.1 and 19.5 percent in 2005-06 to 17.7 and 17.0 percent in 2006-07 respectively. The recent accommodative stance however allowed increase RM and M2 growth to 19.6 and 17.6 percent in 2007-08 and facilitated private sector credit to grow at a rate of 25.2 percent in order to boost domestic production. Accordingly, as the major focus of the central bank's monetary policy stance is to support sustainable and high output growth, the real GDP growth experienced in the intervening period has been broadly consistent at 6.3, 6.0, 6.6, 6.4

and 6.2 percentage points in successive years from 2003-04 to 2007-08, the last being a provisional estimate by the Bangladesh Bureau of Statistics (BBS, 2008a).

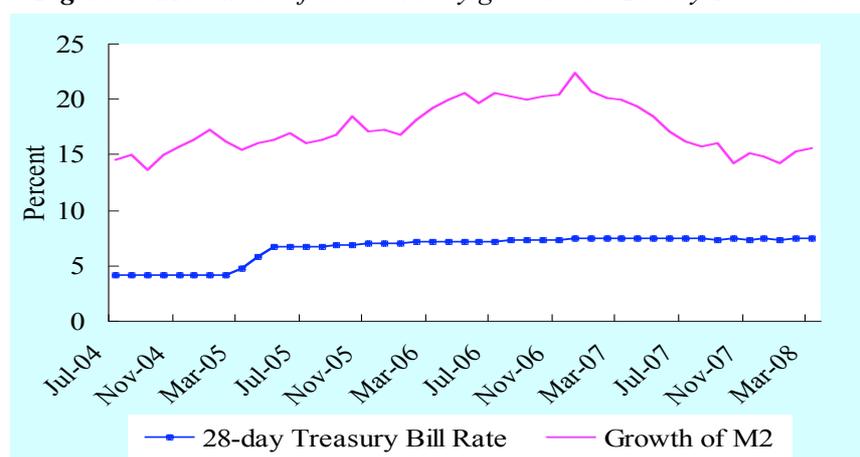
Table 5: The key monetary policy parameters in Bangladesh

Parameters	2003-04	2004-05	2005-06	2006-07	2007-08
CRR (%)	4.0	4.5	5.0	5.0	5.0
SLR (%)	16	16	18	18	18
Repo Rate (1-2 day) (%)	4.5	8	8.5	9.3	8.5
Reverse Repo Rate (1-2 day) (%)	2.5	4.5	6.0	6.5	6.5
28-Day T. Bill Rate (%)	4.0	6.6	7.1	7.3	7.5
RM growth (%)	8.0	12.5	28.1	17.7	19.6
M2 Growth (%)	13.8	16.8	19.5	17.0	17.6
Domestic Credit (%)	7.7	17.5	20.5	14.9	21.1
Private Sector Credit (%)	14.2	17.0	18.3	15.1	25.2
Exchange Rate (BDT/USD)	60.4	63.8	69.7	68.8	68.5
	<i>Memorandum Items</i>				
Nominal GDP Growth (%)	10.8	11.3	12.6	14.1	14.7 (P)
Real GDP Growth (%)	6.3	6.0	6.6	6.4	6.2

Note: Figures are for end-June (fiscal year) unless otherwise specified.

Source: *Bangladesh Bank Quarterly (BBQ)* and *Major Economic Indicators*, various issues, Bangladesh Bank.

Figure 5: Movement of broad money growth and 28-day T-bill rates



Source: Constructed by the authors based on data from *Bangladesh Bank Quarterly*, Bangladesh Bank, various issues.

While monetary policy in Bangladesh has been implemented to attain price and macroeconomic stability, the government also took extensive fiscal measures to curb inflation and to ensure food security in the economy, especially for the poor. Import duty previously applied to a number of essential commodities including rice, wheat, crude edible oil and lentils have been completely withdrawn in recent years to reduce the pass-through impacts of high international prices (Table 6). Government also took

the initiative to build an adequate buffer stock of food grain, by increasing imports and procuring from internal sources during the harvest season in order to maintain a smooth supply in the market so that price volatility is minimised. In order to foster agricultural activities and food production, government extended direct agricultural subsidies to farmers for electricity and diesel, and allocated funds for research and development to improve agricultural productivity. Government also implemented open market sales of food grains at subsidized prices and increased market monitoring to stabilize the prices of essentials in the market.

Table 6: *Some important fiscal measures taken by the government to curb inflation*

<ul style="list-style-type: none"> ∞ Withdrawal of import duty on a number of essential commodities including rice and wheat. ∞ Open market sale of food grains and some essential food items at subsidized prices (around 3 million metric tons in 2008-09). ∞ Increase direct imports of rice and wheat by the government to create buffer stock (around 1.02 million metric tons in 2008-09). ∞ Encourage private imports of food grain by simplifying import procedures and reducing interest rates on import credit. ∞ Government subsidy to fertilizer and direct subsidy to farmers on electricity and diesel. ∞ Improving food management system with a view to maintaining price stability and ensuring food security. ∞ Allocating funds to stimulate agricultural research in order to increase productivity (Taka 3.5 billion in 2008-09). ∞ Strengthen Food for Works Programs (1440 million man-day of employment in 2008-2009). ∞ Proposal to create fund to combat climate change and allocate Taka 3.0 billion to the "Fund for Climate Change".
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Source: *Budget Speech 2008- 09*, Ministry of Finance, Dhaka (Available at <http://www.mof.gov.bd>)

3.0 Food Security in Bangladesh: Emerging Threats

Rapid rise of cereal and other food prices during recent years have provoked deep concern regarding food security in Bangladesh, where about 40 percent or 56 million people live in poverty according to 2005 estimations (World Bank, 2008). A vast majority of people in the country are unable to provide themselves with sufficient food and suffer from widespread malnutrition. With 30% of the Bangladesh population undernourished, the number of undernourished people has increased from 39.2 million in 1990-92 to 44.0 million in 2002-04 resulting in the prevalence of undernourishment in the country is higher than the average in South Asia and Asia and the Pacific (FAO, 2006). The World Bank (2008) suggests that the impact of rice price shocks (38.8 percent in rural and 36.8 percent in urban areas) on national poverty indicators in Bangladesh is quite large ranging from a 5 to 6 percentage point increase in poverty headcount rate in cases of without wage response and a 3 to 4 percentage point increase in poverty headcount rate with wage response. This is due to the real expenditure/income impacts and the concentration of people very close to the poverty line. Therefore, food security is a major concern for Bangladesh, especially from periodic production shortfalls due to consecutive natural disasters (frequent floods in recent years and Cyclone Sidr in 2007), in the presence of elevated food prices in the international market and global supply side threats.

There are winners and losers of the global commodity boom. The surge in food prices has been transmitted in varying degrees across population groups in different countries. As a net food buyer, Bangladesh suffers heavily. Available data suggests that the share of internationally traded staples in food consumption of the poor was 41.2 percent in Bangladesh in 2001 (World Bank 2007). Whilst the net domestic production of food grain in Bangladesh increased from 23.5 million metric tonnes in 2004-05 to 26.0 million metric tonnes in 2007-08, total food grain import increased from 3.4 million metric tons to 3.9 million metric tons during the same period (Table 6). It is suggested from Table 6 that foodgrain imports have increased significantly in 2007-08 and are forecast to increase in the next fiscal year. However, world food stock has continued to deplete in recent years (Figure 6). On the domestic front, the growth rate in net production of rice and wheat has slowed down in recent years (Figure 7). In addition, given the current stock situation in the face of high world demand, many rice exporting countries including India imposed export bans and increased minimum export prices on several occasions in 2007-08.⁵

Table 6: Foodgrain production, import and stock in Bangladesh in recent years
(million metric tonnes)

Period	Net Domestic Production*	Foodgrain Import			Public foodgrain stock (end period)
		Government and food aid	Private	Total	
2004-05	23.5	0.4	3.0	3.4	0.7
2005-06	24.5	0.3	2.3	2.6	0.7
2006-07	25.2	0.2	2.2	2.4	0.6
2007-08 [†]	26.2	0.5	2.9	3.5	1.0
2008-09 ^{††}	32.2	1.6	2.1	3.7	1.2

Source: BB (2008b).

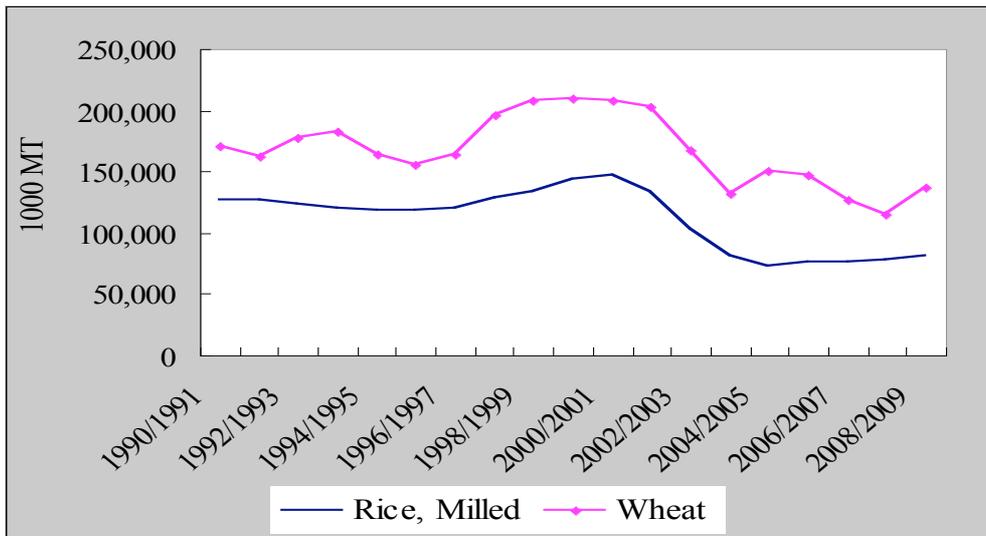
Note: *net food production stands gross production minus seed, feed and wastage (12 percent for 2007-08 and 10 percent for other years); [†] revised estimate; ^{††} target.

Globally, export of rice is concentrated to a few countries in Asia and subject to extreme regulations, while around half of the world population consumes rice. Annual growth of total rice (milled) production in the world decreased from 4.2 percent in 2005-06 to 0.5 in 2006-07 and 2.3 percent in 2007-08 (USDA, 2008) due to the slowing growth of yield in most rice producing countries. Comparable to China and India, the yield rate for rice declined slightly in Bangladesh from 2005-06 to 2006-07 (USDA, 2008).⁶ These competing supply constraints are bringing intense food insecurity concerns for the poor in Bangladesh.

⁵ The minimum export price of non-basmati rice in India increased to US\$425 per metric tons in October 2007, US\$ 505 per metric ton in December 2007 and US\$ 1000 per metric tons on March 2008.

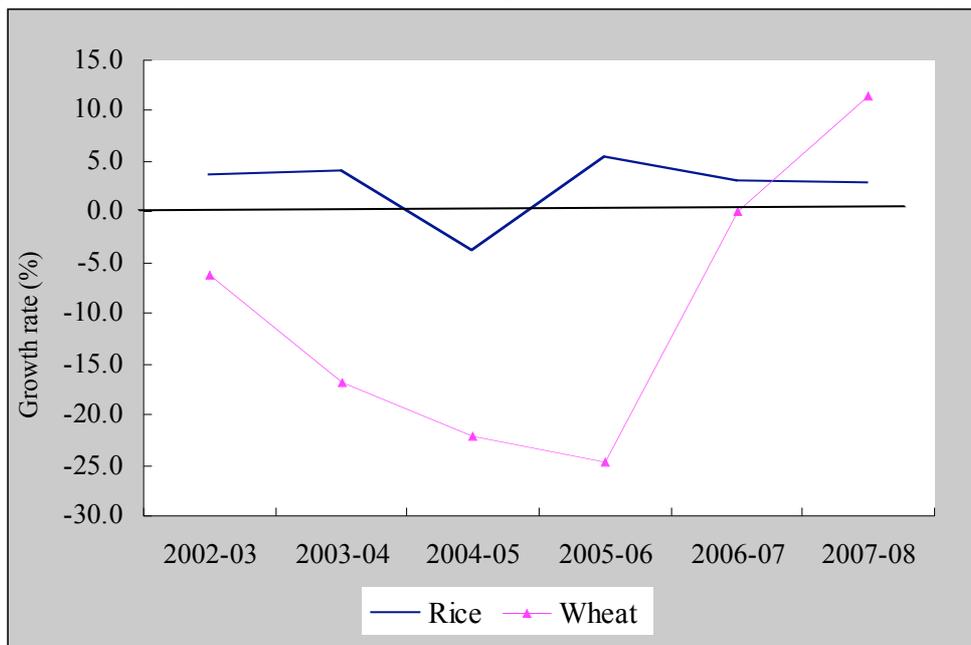
⁶ Data from Bangladesh Bureau of Statistics, however, reports a slight increase of yield rate for rice in Bangladesh from 2.51 metric tons per hectare in 2005-06 to 2.58 metric tons per hectare in 2006-07 (BBS, 2008b).

Figure 6: World rice and wheat stocks (ending stocks)



Source: Constructed by the authors based on data from Foreign Agriculture Service, United States Department of Agriculture (<http://www.usda.gov>)

Figure 7: Yearly growth rate of net domestic production of rice and wheat in Bangladesh



Source: Bangladesh Bureau of Statistics and Ministry of Food and Disaster Management, GOB

While the smooth supply of food items has now become a national priority in Bangladesh, at the micro level food security depends largely on purchasing power of the households. The impact of inflation along with natural disasters on household food security, particularly on the poor, is expected to be significant in Bangladesh as most of the households are net food buyers who are adversely affected by higher prices. The proportion of net staple food seller households in Bangladesh is only 3.3 percent in urban areas and 18.9 percent in rural areas according to 2000 statistics (FAO, 2008). This has evidently placed the net food buyers at a greater risk of hunger and malnutrition, which in turn has threatened to undermine the gains from poverty reduction that Bangladesh has achieved in recent years. For most poor people, higher food prices led them to consume more food of low nutritional value. Many made

adjustments by cutting education and health costs which further aggravated their overall living standard.

Although economic growth during 2005-2008 was the highest in the country's history, the World Bank (2008) study found that food price shocks had slowed down Bangladesh's poverty reduction rate during the same period. Since the GDP grew at around six percent annually during 2005-08, the study revealed that the poverty rate would have been expected to be reduced by around five percentage points, however, when the impact of food price shock (equivalent to three percentage point increase in the poverty rate) is factored in, the decline rate is estimated to be two percentage points over the same period. FAO (2008) simulated the welfare impact of food price changes (e.g. a 10 percent increase in the price of the staple food) on different household groups. In Bangladesh, the study identified the welfare loss for the landless is as high as 3.5 percent in the bottom quintile (bottom 20 percent as the most affected group). Therefore, poor people in Bangladesh are bearing double the burden as they are feeling the effect on their purchasing power. Some of this effect is reflected in the declining ratio of wages of unskilled labor to food prices.

Stability in food supplies was achieved mainly through increasing domestic production and food aid during mid-1970s to the early 1990s, however, Bangladesh's current foodgrain price stabilisation program and food security policies relied largely on private sector imports (Dorosh, 2008). As food consumption in Bangladesh is largely dependent on imports for most of the essential food items, any inflationary pressure in the international prices is, therefore, expected to be passed on to the domestic prices through the import channel. As such, domestic prices of major food items such as rice, wheat, edible oil, pulses and milk and cream increased at a rapid pace. This indirectly affects the monetary policy and macroeconomic stability through the operation of fiscal support via the subsidy and safety net required to feed the population at an affordable price, which is below the market price.

Furthermore, an effort to reduce the import tariff⁷ on food articles puts the country in further fiscal restraint. While Bangladesh generally faces fiscal difficulties due to the narrow tax base, increasing demand for rural infrastructure and agricultural development impose additional challenges for the government. The increase in budget deficit and domestic borrowing may lead to difficulties for monetary policy – prospects of higher inflation, reduced credit availability to businesses and consumers and higher interest rates. The underlying fiscal imbalances can lead to an increase in inflation either by triggering higher money growth, or by prompting a balance-of-payments crisis and forcing exchange rate depreciation.

Increased food import bills led to substantial widening of the trade deficit in Bangladesh in recent years. Trade deficit increased from US\$2.9 billion in FY2006 to US\$3.5 billion in FY2007 and as high as an estimated US\$5.5 billion in FY2008 (BB, 2008a and ADB, 2008d), caused mainly by the steep rise of the import of food items. While the current account remained positive due to robust growth of remittances (24.8 percent and 24.5 percent in FY2006 and FY2007), accelerated import payments is likely to put substantial pressure on the domestic foreign exchange and credit markets. Central bank's intervention in the foreign exchange becomes essential to combat the threat of potential loss of domestic currency value that is also associated with higher import costs. For example, Bangladesh Bank sold a net amount of US\$518 million

⁷ Import tariffs on essential food items like rice, wheat and edible oil have been reduced to zero in Bangladesh given the high international prices of the commodities.

during July 01, 2007 to June 11, 2008 to maintain the domestic currency value (Shahiduzzaman and Naser, 2008). An intervention of the foreign exchange market by the central bank may cause reduction of liquidity in the money market leading to tight conditions in the credit market. On the other hand, an effort to follow a tighter monetary policy stance in order to curb inflation pressure may crowd out private investment and cause slower growth, which can exacerbate the poverty situation. The food inflation may lead to an increase in fiscal deficit and adverse balance of payment situation, which can diminish the role of monetary policy in controlling inflation.

4.0 Conclusions and Possible Policy Responses to Address Food Insecurity

This study focuses on the recent inflationary process of the country in the context of domestic and global food shortages. The present inflation in Bangladesh, particularly food inflation, has been variously attributed to both domestic and international supply side factors. Disruption in the production due to natural disasters in the face of persisting demand because of population and income growth are seen as major domestic supply shocks. On the international front, slowdown in the yield-growth and other structural and cyclical factors in the presence of high demand are found to be key drivers of inflation pressure in the current phase.

While inflation in the current phase is largely attributed to the supply side factors, higher inflation also limits access to the food articles. The rapid rise of prices of food articles in the international market along with supply side developments have become a particular concern for developing countries with respect to availability and accessibility to staple foods. This situation has become more threatening given the growing uncertainty of production caused by the adverse climate change and climate variability. As the poor usually spend a major part of their income on food items, rising prices will limit their access to staple foods in the marketplace and push millions more below the poverty line.

Taking into account the buoyant demand, especially in developing countries, and supply side constraints in agriculture sector, there is little hope that food prices will come down significantly in the near future. Given the setback, food security will remain a top priority in the humanitarian agenda in the years to come.

Policies are therefore required to address the causes and consequences of food inflation in developing countries like Bangladesh. It is true that a combination of factors, domestic and global, demand-driven and supply-side, is driving food inflation in Bangladesh. One of the key external factors responsible for rising food prices is the high price of energy. Due to increasing mechanisation of agricultural production, prices of outputs and energy have become progressively more linked. Higher energy prices have made agricultural production more expensive for marginal farmers. No doubt, the current situation poses policy challenges on several fronts – short term and long term, domestic and global, macroeconomic and microeconomic. For instance, subsidising food supplies for target groups, introducing food-rationing and strengthening safety net programs to meet the immediate needs of the most food insecure and vulnerable people can ease the hunger crisis, but in the long run, agricultural production needs to be enhanced to stabilise food shortages and to meet the growing demand. The country should adopt measures to improve food security both at the national and household levels, through an increase in food production and productivity. Rice and wheat are grown throughout the year and thus the country is able to respond to the seasonal variability of production. Action is required to help

farmers swiftly respond to the opportunity posed by the rising demand for their products, by expanding productive capacity through industry development assistance and knowledge development within the farming sector, and to bring more stability to highly volatile food markets.

Secondly, to increase agricultural production, global communities should look for a new era of investment on agricultural research and development. The Green Revolution of the 1960s and 1970s enhanced farm productivity, albeit others, at a high social, economic and environmental cost. Focus should be on sustainable use of natural resources including land, soil and water and reducing the environmental degradation and carbon impact on one hand and the increase of farm productivity on the other.

And finally, high global prices of food and energy can cause serious balance-of-payments problems. Conventional 'inflation targeting' monetary policy via raising interest rates do not have much impact on global prices of food and fuel because of the dominance of supply side factors. In addition, interest rate channel of monetary transmission is not found well-established in the inefficient financial market settings of the developing countries. Indeed, in the era of globalization, domestic inflation becomes largely dependent on external demand and supply side factors. The internationalization of inflation also means diminished role of national measures in managing domestic inflation. Therefore, this is not only the national action but the well coordinated and comprehensive global actions that can redeem the current pressure of food inflation and the problem of food insecurity in developing countries.

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