

Food Security Status in Bangladesh: An Analytical Overview

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Abstract

Food is a basic human need for human survival. To achieve Millennium Development Goals, food security has become top most concern for Bangladesh. This paper examines performance, challenges and policies in food security in terms of availability, access, and absorption or nutrition. Specifically, this paper focuses on the progress in supply side of food in terms of availability at the national level and how far has Bangladesh progressed in attaining access to food and nutrition requirements at the household level. The paper argues in favor of strengthening the role of various social safety net programs, increasing subsidy in agriculture sector and enhancing purchasing power of the people food security production and availability of food grains. This paper has also given attention on the effect of inflation on price of food grains. The paper concludes that Bangladesh should target self-sufficiency in food grains production to satisfy domestic demand in normal production years.

Index terms— availability, access, and absorption or nutrition.

1 Introduction

To achieve food security at national level, Bangladesh adopted policies designed to increase rice production with the objective of achieving rice self-sufficiency. According to 15(a) of the constitution of Bangladesh it shall be a fundamental responsibility of the state to secure its citizens to the provision of basic necessities of food. As the government has started to inspire agricultural research and development, irrigation and rural road infrastructure, liberalized private sector and imports of pumps for tube-well irrigation in the late 1980s and also able to import food grains to relief pressure on domestic production. As a result Bangladesh has made impressive progress in agriculture sector in the last three decades and Bangladesh per capita food grain production exceeded the target level of 454 grams a day for the first time in 1999/2000 and then again in 2000/2001, with only small volumes of rice imports. This is a tremendous achievement owing to its small territory and huge population and this was achieved through agricultural mechanization and modernization. It cannot be denied that Bangladesh has come a long way ahead in achieving food security and has witnessed steady growth in the production and consumption of food grains. However, recent hike in the prices of agricultural commodities especially rice and wheat has posed a major threat on food security. In the span of little over three and a half year four major cyclones and several floods have struck Bangladesh. In 2007 it was cyclone Sidr-the meanest hurricane of all time, And in 2009 the infamous cyclone Aila, are the most devastating seen by the people of Bangladesh. In rice production, Bangladesh saw a massive loss to the tune of 1.5 to 2.0 million tons. And post Sidr, Bangladesh got huge amount of foreign aid by various donor agencies and countries. In addition to it, many of the rice exporting countries have imposed restrictions on exports.

2 II.

3 Data and Methodology

Data used in this exercise were obtained mainly from the BBS documents namely Yearbook of Agricultural Statistics, Statistical Yearbook and Statistical Pocketbook of Bangladesh. Some unpublished data were also

43 obtained from the office of the Director, Agriculture Wing, Bangladesh Bureau of Statistics and the Department
44 of Agricultural Extension. Total food grain production in the respective years for the districts was arrived at
45 by adding production of individual varieties of rice and wheat. For the purpose of determining surplus/deficit
46 status, however, net production data were used by deducting 10 percent as seed, feed and wastage from gross
47 production. Population of the districts and for the country for the years 1995-96, 1999-2000 and 2000-2001 were
48 obtained from the Statistical Pocket Book of Bangladesh (various issues).

49 4 III.

50 5 Progress towards Food Security

51 With a per capita gross national product (GNI) of \$700 in FY2010, Bangladesh is considered as a developing
52 country. Nonetheless, over the past 3 decades, the country was able to achieve near self-sufficiency in rice
53 production, overcoming its food deficiency. However, during the second half of 2007, twin floods and a destructive
54 cyclone in Bangladesh severely affected the food security of about 25 million people. The condition was further
55 aggravated by the escalation of food grain prices brought about by rising international prices. Being a net food
56 importing country, Bangladesh had to deal with soaring international prices, which eventually caused a significant
57 increase in domestic prices. Considering that about 40% of the population is under the upper poverty line and
58 25% is below the lower poverty line, a 50% price increase in rice can significantly reduce the intake of the poor.
59 The surge in food prices severely affected the purchasing power of poor and vulnerable people, exposing them
60 to hunger and malnutrition. Consequently, an additional 2.5 million households or 12 million people have fallen
61 below the poverty line in 2008; according to a study by the Center for Policy Dialogue. The study likewise
62 confirmed that from January 2007 to March 2008, people below the poverty line experienced an income erosion
63 of 36.7% because of higher food prices. The government is therefore faced with the challenge of strengthening its
64 safety net programs to enable the poor and its vulnerable population to cope with increases in food prices and
65 to ensure adequate food supply (Supporting the Safety Net Programs for Food Security in Bangladesh).

66 The Government of Bangladesh (GoB) considers agriculture, food security and nutrition to be major priorities.
67 The Government considers the fight against food and nutrition insecurity a key strategy for Bangladesh to become
68 a middle-income country. The election manifesto of the present Government, as well as relevant constitutional
69 provisions, provides the latest evidence of this commitment. Over the last 40 years rice production in Bangladesh
70 has been tripled (ref-1). Government declares 2021 as the year of achieving food security. To achieve this goal govt.
71 targets to build up nine food storages which capacity will be 8.34 lac mt. To improve food security situation
72 country investment plan was initiated which provides a strategic and coherent set of 12 priority investment
73 programs to improve food and nutrition security in an integrated way. 1). Between 1992 and 2005, poverty
74 headcount ratio has fallen down from 56.6% to 40%. Despite the national level food security and strong economic
75 growth, the total number of undernourished people has not declined in recent years. The World Bank and GoB-
76 UN in their respective reports on MDGs, put the target of 34% children being underweight as non-attainable at
77 present rates of progress. Thus, while adequate production and income growth at the national level are necessary,
78 these are not sufficient for eradicating under nutrition and poverty. Specific measures must, therefore, be adopted
79 to address the different components of comprehensive and effective (household and individual level) food and
80 nutritional security.

81 Here the status of food security in Bangladesh is explained in terms of three conditions of food security: Food
82 availability, access to food and food utilization and safety.

83 6 a) Food Availability

84 Availability of food depends on production, import and food aid. Though Bangladesh is on the threshold of
85 achieving self sufficiency in food production yet world wide trend in food aid is decreasing. We have calculated
86 SSR in monetary terms and found that for rice and wheat combined the ratio is 99.13 and 99.29 for year 2006
87 and 2007 respectively. Yet when the price was increased in the international market enough volume for import
88 was also scant.

89 7 i. Domestic production

90 Food grain production, particularly rice production has doubled in the last two decades with the use of
91 Green Revolution technology (high yielding varieties, fertilizer, irrigation and pesticide) coupled with growth
92 of institutional infrastructure and a positive shift in public policy and market forces. As a major staple, rice
93 occupies 71 percent of the gross cropped area and accounts for over 94 percent of food grain production. Its
94 contribution to total per capita calorie and protein intake is 74 percent (Hossain et al, 2004). Rice thus occupies
95 the centre stage of food security and continues to draw major attention of the Government for further increasing
96 the production.

97 Remarkable progress has been made in rice production during the last ten years. In 1994-95, rice production
98 was 16.83 million tons, which has steadily increased to 26.19 million tons in 2003-04 (Table 2). Rice production
99 estimated for the year 2004-05 is 25.16 million tons. Wheat production also increased from 1.25 million tons in
100 1994-95 to 1.91 million tons in 1998-99. It then started declining and the production has come down to 0.97

101 million tons (estimated) in 2004-05. Similarly, pulses and oilseed production steadily declined mainly because of
102 the loss of areas under these crops to Boro rice and other remunerative winter crops. Production of vegetables
103 and fruits has increased, but at a slow pace from 1.21 million tons and 1.41 million tons in 1994-95 to 1.61 million
104 tons and 1.55 million tons in 2002-03 respectively. But the production of vegetables jumped to 6.13 million
105 tons in 2003-04 and 7.28 million tons in 2004-05 according to the Department of Agriculture Extension (DAE).
106 Fruit production has also jumped to 4.60 million tons in 2004-05. Spectacular success has been achieved in the
107 production of potato. It has made a quantum jump from 1.47 million tons in 1994-95 to 5.95 million tons in
108 2004-05 (Table 2). Production of non-cereals such as pulses, oilseeds, vegetables and fruits, which are the chief
109 sources of protein, mineral and vitamin, still remains far below the actual requirements, making it difficult to
110 provide balanced diet for all. Fish production increased from 1.17 million tons in 1994-95 to 2.10 million tons
111 in 2003-04 (National Fish week-2005). The current per capita intake of animal protein is less than 2g per day
112 against the FAO recommendation of 28g per day (GOB paper 2005).

113 8 ii. Growth

114 Crop sub-sector growth has been highly unstable varying from -1.7% in 1994-95 to 1.67% in 2003-04 (Bangladesh
115 Economic Review, 2004). The highest growth rate of 8.1 percent was registered in 1999-00, followed by 6.4 percent
116 in 1996-97 and 6.2 percent in 2000-01. This shows that it is possible to enhance growth of crop agriculture with
117 appropriate use of production inputs under favorable climatic conditions.

118 iii. Per capita availability In estimating the per capita availability of food items, BARC based its calculation
119 on the population size of 119, 130 and 139 million for the year 1994-95, 1999-00 and 2004-05 respectively and
120 the per capita food intake figure published by BBS in 2003 (Household Income and Expenditure Survey, 2000).
121 Accordingly, per capita availability of cereals (rice and wheat) has been found to increase from 374 gm/day
122 in 1994-95 to 464 gm/day in 2004-05 (Table 3). Sharp increase in per capita availability of potato, fruits and
123 vegetables is seen in the last two years, while the per capita availability of pulses and oilseeds has remained
124 stagnant or declined. Availability of meat, milk and egg has also increased as shown in Table 3. Fish availability
125 increased from 27 gm in 1994-95 to 41 gm in 2003-04.

126 iv. Import For the sake of convenience, public import and food aid data are taken together for discussion as
127 the volume is not large compared to domestic production and private import. Import of food grains either by
128 the private sector or by the public sector does not follow any pattern or trend (Table 4). It depends on the gaps
129 in production created by flood damage or damage due to other natural disasters (of course, private sector import
130 can be affected, if the Government imported stock is sold in the open market at a subsidized price). Table -4
131 shows that with gradual increase of private sector import, public sector import of food grains has decreased.
132 Public sector import is expected to level off with further increase of private sector import which is more likely to
133 happen in the future. In the domain of import either by the Government or by the private sector, quality, price
134 and timing of import are important parameters that need to be taken into account in ensuring food security.
135 From the very beginning of the figure-1; it is caught sighted that the demand and supply of food grains in
136 2006-07 is in imbalanced situation. There is a poor capability of our nation to meet the current demand due to
137 the insufficient of production. From the view point of potato it is much better in production. From the figure
138 here is enough doubt in the issue of food security where it shows that the vegetables production among all the
139 items is not adequate to satisfy the current demand. Therefore, price hike climbing up due to the shortage of
140 production than its demand. It is really a matter of stun and awe for our nation.

141 9 b) Access to food

142 Food security is a function not only of availability of food, but also of the purchasing power of the people. It
143 is therefore important that every household should either have capacity to produce adequate food for all the
144 members, or have the purchasing power to acquire it. It has to be appreciated that a country may be food
145 surplus, but all its citizens may not be enjoying food security, as some may have no purchasing power.

146 Agriculture sector contributed to about 22% of total GDP, out of which crop sector shared 73%, fisheries 10%,
147 livestock 10% and forestry 7%. Bangladesh has been hit by a doubling in the price of the main staple, low paid
148 workers say that they have been forced to have only one meal a day. In terms of loss in income, the results
149 show that the poorest households are hardest hit by rising food prices in both urban and rural areas. Across all
150 income groups, landless households are on average worse affected by high food prices. In Bangladesh, where land
151 distribution is not as equitable and rural households have more limited access to land, the impact of rising food
152 prices is negative for most households.

153 According to latest Household Income and Expenditure Survey (HIES 2000) of Bangladesh Bureau of Statistics
154 (BBS) the malnutrition problem is desperately serious for the poorest 14% of the rural population consuming
155 fewer than 1600 calories per capita per day, levels barely adequate for survival. Another 10% consume between
156 1600 and 1800 calories per day, while roughly 23% consume more than 1800 calories but less than the minimum
157 caloric requirement set in Bangladesh at 2122 per day. It has been evident that increased domestic production,
158 supplemented by imports and overall public food management contributed to relatively adequate availability of
159 food at national level over the recent past years. Food security at household level is closely linked with poverty.

12 CONCLUSION

160 These poverty and food security problems are massive, with approximately half of the population lacking the
161 resources to acquire enough food and consequently remaining below the poverty line.

162 10 i. Price Trend

163 Prices have been rising in Bangladesh over time particularly during the last few years. In 2000-01, the year to
164 year annual inflation rate based on consumer price index (base year 1995/96=100) has been only 1.9 percent.
165 Since then the inflation rate is steadily rose to 7.2 percent by 2003-04. Food prices began to rise much faster
166 compared to non-food prices ??Economic Survey, 2007).

167 As rice dominantly constitutes the food basket of our population, price of rice influence the other commodity
168 prices. During 1995-96 to 2003-04, the average annual wholesale price of coarse rice remained stable at around
169 Tk. 1200 per quintal. Since then it began to rise sharply. The annual average price was Tk.

170 11 c) Utilization /Absorption

171 Food absorption in the body is a major problem in rural areas as well as in urban slums. In the words of
172 AmartyaSen and Jean Dreze, 'the capability to be nourished depends crucially on other characteristics of a
173 person that are influenced by such non-food factors as medical attention, health services, basic education,
174 sanitary arrangements, provision of clean water, eradication of infectious epidemics and so on'. This can be
175 termed absorption food insecurity when the body is not in a position to absorb the nutrients from the food
176 taken, due to factors mentioned above.

177 i. Food consumption Average per capita daily intake of major food items (in group) in the country was 886.

178 12 Conclusion

179 Food availability, food access and food absorption are not separate phenomenon but are interlinked. Food
180 production is linked to livelihood access and food consumption. Livelihood access in turn influences the demand
181 for food and better prices and production thereof. Better livelihood access also leads to improved living standard,
182 better education, better knowledge on health and hygiene, etc. Ensuring food security would continue to be a
183 major challenge for Bangladesh in coming years. To meet this challenge, Apart from being calorie deficient,
184 the Bangladeshi diet is very unbalanced. About 75% of energy comes from cereals when according to FAO the
185 proportion ideally should be around 55%. Protein intake during 1985-86 to the year 2000 moves within the range
186 62.50 grams to 64.96 grams with a high intake of 64.96 grams in 1995-96 to a low 62.50 grams in 2000. The intake
187 over the years ranges between 61.88 grams to 64.45 grams with a low intake of 61.88grams in 2000 and a high
188 intake of 64.45 grams in 1995-96 in the rural area, but in the urban area, the intake ranges between 64.96 grams
189 to 68.27 grams with a low intake of 64.96 grams in 2000 and a high 68.27 grams in 1988-89. Bangladesh must
190 increase its domestic production so that availability of food increases substantially. As a net food importing
191 least developed country, Bangladesh may also put forward its concerns and demand for food aid to the WTO.
192 Bangladesh in the past has been successfully able to increase food production and consumption of all segments
193 and hopefully Bangladesh will also be able to meet the current challenges. ^{1 2}

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Figure 1: Food

1

Year	Dietary energy supply (kcal/person/day)	Proportion of undernourishment (%)
1990-92	1960	38
1995-97	1930	41
2000-2002	2170	29
2005-2007	2250	27

Source-FAO 2010

Bangladesh has achieved significant progress towards improving food security by a 11% decrease in the proportion of undernourished between 1990-1992 and 2005-2007 down to 27% (Table-1). However, mainly due to population growth, the number of undernourished actually increased from 54.2 in 1995-97 million to 41.7 million in 2005-07. According to the assumed population of 181.4 million in 2015, attaining the MDG hunger target implies that the number of undernourished people must decrease to 31.8 million. Meeting the WFS (World food summit) hunger, i.e. reducing the number of undernourished to 19.65 million by 2015, implies that the MDG1 target needs to be overachieved with the proportion of the undernourished brought down to 11%. Correspondingly, Per capita dietary energy supply (DES) increased from 1960 kcal/day in 1990-92 to 2250kcal/day in 2005-07, and prevalence of under-nourishment in total population decreased correspondingly from 25 to 20 percent (Table

Figure 2: Table 1 :

2

(1994-95 to 2004-05)
(000' m. tons)

[Note: Source: BBS, DAE]

Figure 3: Table 2 :

3

Source: BBS, DAE, DLS, DOF, BARC; * 2003-04 figure

Figure 4: Table 3 :

4

Source: Food Department
Note: R -Rice W -Wheat T -Total
including Food Aid wheat receipts for Direct Distribution by USAID Projects.

Figure 5: Table 4 :

5

Year	Mid-Year population (million)	Food grain requirement (million)	Rice	Wheat	Production	Net total Production (Maize, Wheat)
v. Current availability and gaps					gm/capita/day consumption	(BBS Household Income and Expenditure Survey 2000) for a population size of
The total requirement of cereals in 2004-05 is estimated to be 23.03 million tons, based on 487					139 million.	

Figure 6: Table 5 :

6

DAE Statistics; ** Based on PPRC April, 2007 Consumption data and inclusive of 10% markup to accommodate non-household and unforeseen demand.

[Note: Figure 1 : Aggregate Supply (AS) vs. Aggregate Demand (AD)]

Figure 7: Table 6 :

8

Figure 8: Table 8 :

9

Source: Department of Agricultural Marketing (DAM)

Figure 9: Table 9 :

10

Figure 10: Table 10 :

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208 *From January to February wholesale price increased rapidly and from March to May it is nearly consistent
209 in Figure-2. During June it falls down From July to November it is started to increasing in 2006, 2007. June
210 and July. 2008. 2000 1991-92 1995-96 2000. (it slow down in the next year. it is increasing till to the end of
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