Impacts of Increasing Production Costs on Rice Price: Implications for Food Security

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Executive Summary

This study has focused on impacts of increasing production costs on rice price as well food security situation in Bangladesh. The research report has estimated rice demand according to the consumption rate of growing people. Paddy rice production cost and rice price, and in the same time to find out the earning level of local farmers, is one of the main objectives of this current study. The report has also shown the rice import, procurement and distribution status compared to total food grain situation in recent years. This study has been conducted on the basis of field survey data and secondary data are collected from books, journals, articles and reports of different government and non-government organisations of the last 47 years.

A twofold challenge for the present government is to keep prices of rice within an accessible limit of the poor and to maintain fair price for the local farmers. The study has estimated that if boro paddy's price is Tk. 750 for 40 Kg, then the local market price of each kilogram of rice Tk. 34.11 and it will be Tk. 38.11 in Dhaka. According to the same paddy price farmer gets only Tk. 735.9 for each month during January to May from one biga of land which is very negligible an amount compared to their total investments made in, land, fertilisers, labour, etc. On the contrary, if the paddy price is more than Tk. 750, then it would create a huge pressure on the purchasing capacity of the poor to meet daily food requirement. Similar result has also been found for T.aman rice from the field level data.

It is estimated that cost of boro rice production may be increased further by Tk. 1.30 to 1.50 per Kg due to increased paddy production cost of Tk. 0.90 per Kg. The production cost will increase because of the increased input costs in this sector. In recent years, government has increased the price of urea fertiliser from Tk. 12 to Tk. 20 (increase Tk. 8 per Kg) and fuel price by Tk. 2 per liter (diesel). For aman paddy it may also increase by Tk. 0.70 per Kg, and as a result price of aman rice may witness an increase by Tk. 1.0 to 1.20 per Kg which could hamper the poor people's rice purchasing capacity to meet their daily food demand. Moreover, the study has also estimated that price of coarse rice increased by 100 percent, medium rice by 105 percent and for fine rice by 91.7 percent in the last six years (2005 to 2011).

From this study it is found that the ratio between total population and production in FY 1974-75 was 6.36:1 whereas it was 4.61:1 in 2009-10. However, rice production in Bangladesh has increased by 2.91 times in the last 36 years. According to the population data of the United Nation's Population Division, the study has found that total rice demand will be 49.07 million ton in 2050 which is more than 30 percent compared to total rice production in FY 2009-10. In every year two million people add to current generation.

In the FY 2010-11, public sector imports have been increased by four times due to increased need of public stocks for operating a larger public food distribution system. Moreover, special incentive programme may be taken to influence farmers. Besides, disbursement of agriculture credit within a proper time is a major issue and government can take a special consideration about it. Furthermore, government can increase food distribution and create new employment opportunities through its different social welfare programme for the poor people. Otherwise it would be very difficult to meet their daily rice demand in current market price.

INTRODUCTION

Agriculture is the only source that provides adequate food to prevent widespread hunger and starvation. However, food insecurity is aggravating day by day, resulting in an increasing number of undernourished/malnourished persons in the world. The ever-increasing population in the developing and the least developed countries like Bangladesh is also a major constraint to supply enough food daily as per their basic demand. Besides, cost of agriculture inputs is also following an increasing trend in the recent years which also enhances the food price significantly. Production cost of agriculture commodities has been increased by several times in the last few years. Moreover, decreasing arable agricultural land in Bangladesh, together with increasing population and changing climatic conditions make this challenge more acute.

Bangladesh has a large agrarian base with 76 percent of total population living in the rural areas and 90 percent of the rural population directly involved in agriculture (Bangladesh Economic Review, 2009) and around 43.6 percent of the total labor force is engaged in agricultural activities (Bangladesh Economics Review, 2011). In order to control the increasing food production and to attain food sufficiency in Bangladesh requires sustainable growth of agricultural sector. However, it would be a great challenge to attain food security maintains a sustainable agriculture practices simultaneously due to the huge food demand as well as decreasing cultivable land and soaring/high production cost.

Food security refers to the availability of food and one's access to it. A household is considered food secure when its occupants do not live in hunger or fear of starvation. According to the Food and Agricultural Organisation (FAO, 2002), food security exists when all people at all times have physical, social, and economic accesses to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. To achieve food security four components such as availability, accessibility, stability and utilization must be sufficient.

Food production of Bangladesh will face a great challenge while facing the demands of its growing population in the coming decades; and consequently the rice demand will increase by many folds. Furthermore, Bangladesh still has a very low level of nutrition as a whole. Many households and individuals do not eat a balanced diet, even in years that fruits good production. According to the World Bank, 2008 approximately 33 million of the 150 million people in Bangladesh cannot afford an average daily intake of more than 1800 kilocalories (the minimum standard for nutrition as set by the World Food Program). For people in most of the developing countries, the daily calorie average is 2,828. On the contrary, in Bangladesh, that average is only 2,190 (Foshol, 2009). Therefore, it is imperative to increase rice production in order to meet the growing demand of food. At the same time rice price should be controlled within an accessible limit of the poor and to maintain fair price for the local farmers.

The present research report has focused on the rice demand according to the consumption rate of growing people. Paddy rice production cost and rice price, and to find out the earning level of local farmers at the same time, is one of the main objectives of this current study. The report has also shown the rice import, procurement and distribution status compared to total food grain situation in recent years. This study has been conducted on the basis of field survey in a selected

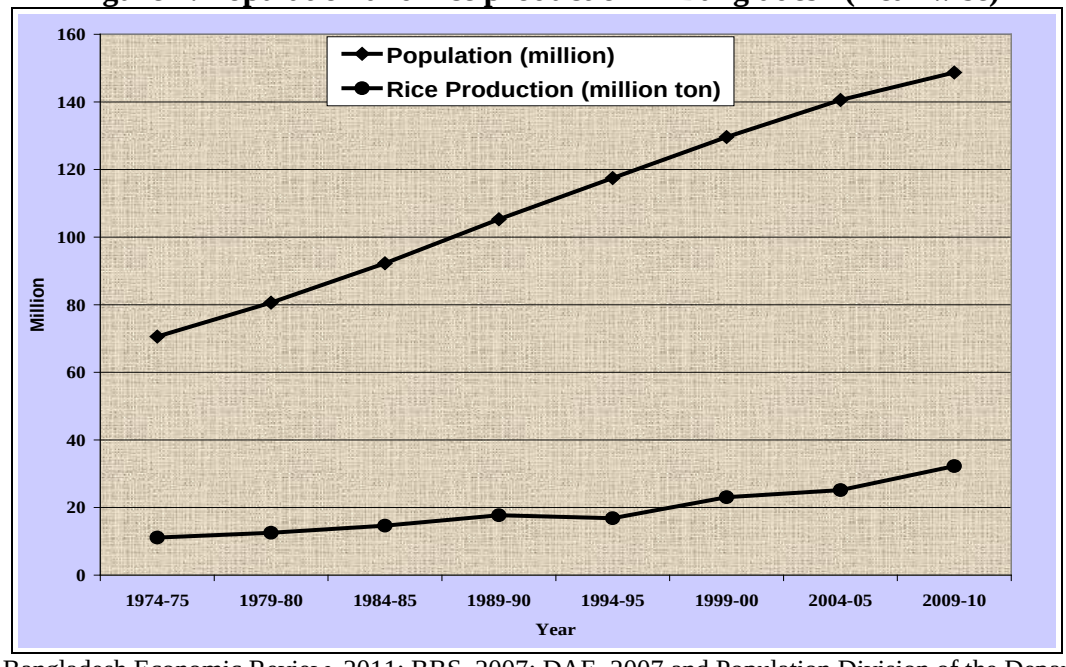
region of Bangladesh (Northern region, Naogaon) and secondary data have been collected from books, journals, articles and reports of different government and non-government organisations.

I. Rice Production and Population Growth in Bangladesh

Rice production system (94.55 percent to the total cereal production, Bangladesh Economics Review, 2011) plays a significant role to generate employment opportunity in rural level and in the same time makes a vital contribution to the reduction of hunger and poverty in Bangladesh. In fiscal year (FY) 1974-75, when the country's population was only 79.90 million, total rice production was 11.1 million ton and the cultivated rice areas was 10.32 million hectare. However, the country is now producing 32.257 million ton for its 148.69 million populations in the year of 2009-10. From this figures, it is shown that the ratio between total population and production in FY 1974-75 was 6.36:1 whereas it was 4.61:1 in 2009-10. Therefore, rice production in Bangladesh has been increased by 2.91 times in the last 36 years (Figure 1).

Population of Bangladesh is increasing at a rate of two million every year (Basak, 2009). United Nation's, Population Division has projected the total population of Bangladesh will be 194.353 million in 2050 (Table 1). According to the total population for the targeted year, total rice demand will be 49.07 million ton which is more than 30 percent compared to total rice production in FY 2009-10. Rice consumption rate is calculated from the last 40 years' data (1964 -2003) from rice consumption data (Food and Agriculture Organization, FAOSTAT, 2009). Therefore, rice production must be increased at a certain rate for ensuring rice security in future. However, it will be a great challenge due to huge pressure that may come from cultivating high value crops, urban and industrial development and expansion of human settlement area.

Figure 1: Population and rice production in Bangladesh (Year wise)



Source: Bangladesh Economic Review, 2011; BBS, 2007; DAE, 2007 and Population Division of the Department of Economic and Social Affairs of the United Nations, 2011

By analyzing rice yield data for the years 1971-72 to 2005-06 (35 years), it is found that rice production rate is continuously increasing over the year. In 1971-72, the average rice yield was 1.05 metric ton per hectare, while in 2005-06, it was 2.52 metric ton. Therefore, average rice yield increased 2.4 times in the last few decades. Most of the agriculture productions are carried out in small pieces of lands. Moreover, the cropping intensity along with the cropping pattern played a vital role in the whole production system. Besides, high yielding crop varieties, modern technology, new management practices such as irrigation, fertiliser, crop management etc. are used as well to improve the production rate.

In 2008-09, high yielding varieties covered more than 72 percent of the total cultivable land area in Bangladesh (Table 2). Therefore, a large amount of fertiliser is being used to cultivate high yielding varieties and consequently the demand of chemical fertilisers follows an increasing trend. For an example, application of fertilisers increased several times in same piece of land. In 1975-76, fertiliser application was 0.36 kg per hectare of agricultural land, whereas it was above 298 kg in 2007 (Titumir and Basak, 2010). So, it is clear that fertilisers create a force to increase rice yield. On the other hand, soil fertility is decreasing due to the use of huge amount of chemical fertilisers, which is not at per (?) with sustainable conception.

Table 1: Rice demand in Bangladesh

Year	*Population (million)	**Paddy rice demand (mmt)
2010	148.692	37.542
2015	158.317	39.972
2020	167.256	42.229
2025	175.195	44.234
2030	181.863	45.917
2035	187.103	47.240
2040	190.934	48.208
2045	193.344	48.816
2050	**194.353**	**49.071**

Source: *Population Division of the Department of Economic and Social Affairs of the United Nations, 2011; **Rice consumption rate is calculated from the last 40 years data (1964 -2003). Data source: Food and Agriculture Organization, FAOSTAT Update as of July, 2009

Similarly HYV, cropping intensity also influences fertiliser application over the years. Cropping intensity has increased dramatically from the last decades. In 1980, the cropping intensity was 153.74 percent, whereas it was 176.91 in 2004-05. The Department of Agriculture Extension (DAE) claims that the current cropping intensity is 195 percent. Therefore, cropping intensity increased more than 23 percent in the last 15 years (1980-81 to 2004-05).

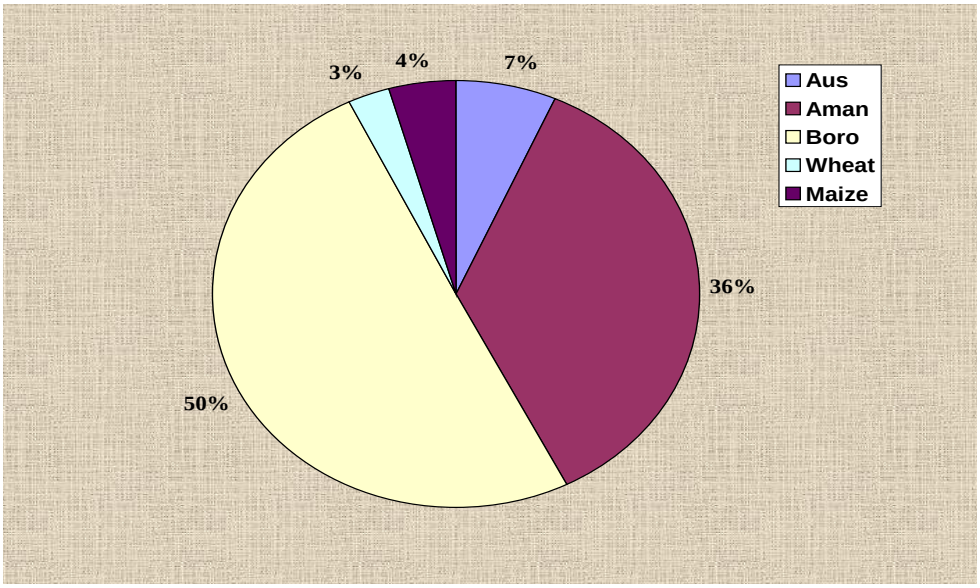
The food grain production target has been set by the DAE at 37.042 million metric tons (mmt) (aus 2.5 mmt, aman 13.20 mmt, boro 18.65mmt, wheat 1.05 mmt and maize 1.642 mmt) for the FY 2010-11 (Figure 2). BBS has estimated the production of aus, aman and wheat at 2.13 mmt, 12.79 mmt and 0.97 mmt, respectively. If the total food grain production is achieved, it would be 8.6 percent more than that of the total food grain production in FY 2009-10.

Table 2: Comparative land use scenario under rice production of different varieties

Seasons	% area coverage		
	Local varieties	HYV	Hybrid
Aus	28.67	71.33	0.00
Aman	32.11	67.89	0.00
Boro	2.29	78.56	19.16
Total	19.79	72.55	7.66

Source: DAE, 2008-09

Figure 2: Annual food grain production and crop-wise contribution in FY 2010-11



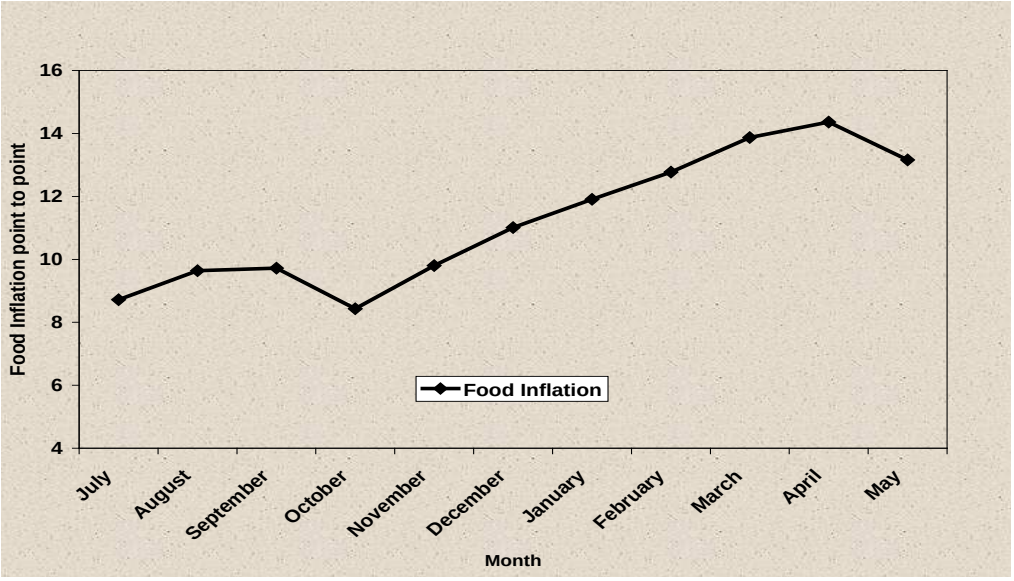
Source: Bangladesh Economic Review, 2011

II. Food Price and Food Security

Food security is in a severe threat due to food inflation. One of the major challenges for the present government en route to attaining food security is to maintain access to food at affordable price. Given the ensuring of food security is contingent upon major staple like rice, it is essential to maintain the access to this vital commodity. The supply of rice depends upon either domestic production or importation. Therefore, to attain food security, rice production must be increased in domestic level, as well as rice price should be controlled with considering production cost as well. However, in recent few months (July 2010 to May 2011), food inflation follows an increasing trend and in May, it goes to 13.16 percent (Figure 3).

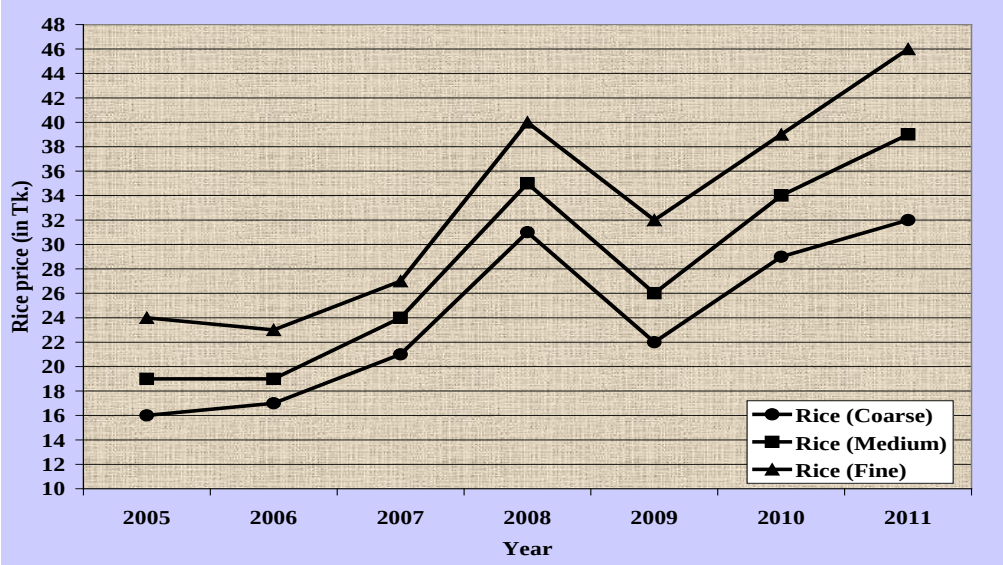
Figure 2 shows the change of rice price for the year 2005 to 2011. In 2005, average price of coarse rice was Tk. 16 per Kg, medium rice was Tk. 19 per Kg and fine rice was Tk. 24 per Kg. whereas in 2011, the price of coarse rice is Tk. 32 per Kg, medium rice Tk. 39 per Kg and fine rice Tk. 46 per Kg (Figure 4). Therefore, rice price of the three qualities has increased by 100, 105and 91.7 percent, respectively.

Figure 3: Food inflation rate in the Fiscal year 2010-11



Source: Bangladesh Bank, 2011

Figure 4: Rice price in Bangladesh



Source: Department of Agricultural Marketing, MoA , June 2011

III. Paddy Rice Production Cost in Bangladesh

Government has faced a difficult situation in controlling food price at a reasonable rate for the poor in the last FY 2010-11. Similarly, in the current year, food price also follows an increasing trend due to increase in production costs in both national and international levels. Rice and wheat prices in the international market have increased, between June 2010 and March 2011, by 20 percent and 84 percent, respectively (NFPCSP, 2011).

The production costs for boro and aman paddy in domestic level are given below (Table 3 and 4). High production input's costs have enhanced food prices in recent years. Compared to aman, production costs of boro paddy are higher at the stages of transplanting to harvesting. For producing each Kg of boro paddy, according to the field survey data, Tk. 13.57 is required while Tk. 13.23 is required for aman paddy which is Tk. 0.34 more per Kg (Figure 5).

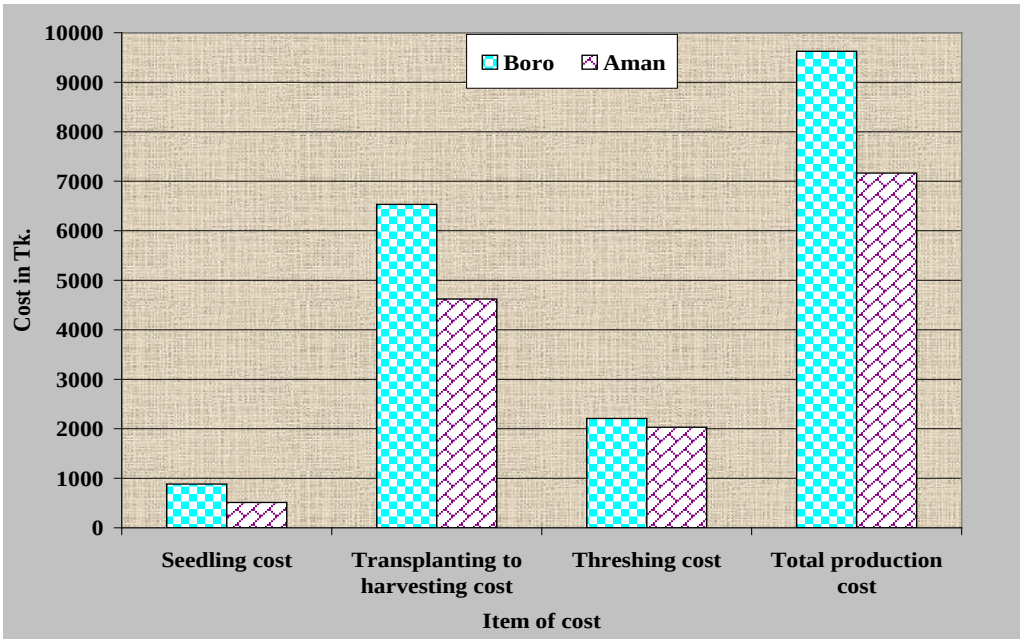
During boro rice production, local farmers spend about 17.55 percent of their total production costs for fertiliser application purpose, 20.77 percent for irrigation and 32.10 percent for harvesting to threshing period. Therefore, more than 70 percent of the total production cost is spent on these three purposes. Likewise, farmers have to spend about 18.73 percent for fertilisers, 7.1 percent as a supplemental irrigation and 41 percent for harvesting to threshing period for boro paddy. From the period wise analysis, it is found that maximum production cost reaches to the maximum level during the harvesting and threshing period both types.

Table 3: Farmer level cost for boro paddy production per biga (33 decimal)

	Item of cost	Cost	Total Cost
Seedling Cost	Seed	113	113
	Preparing seed bed	200	200
	Fertiliser cost	180	180
	Irrigation cost	110	110
	Uproot from seed bed	280	280
			883
Transplanting to harvesting cost	Land preparation (Power tiller)	600	600
	Transplanted seedling	400	400
	Fertiliser • Urea 30 Kg • TSP 10 Kg • DAP 10 Kg • Other ($ZnSO_4$, Cow dung, etc.) • Labour (Total two days)	 360 230 270 350 300	1510
	Irrigation Cost • STW • DTW	 2200 1000	2000*
	Weeding • Labour two times • Herbicide + labour	 1400 885	1143
	Harvesting cost	880	880
			6533
Threshing Cost	Threshing • Carrying (0.5 to 1 Km) • Threshing and packing	 970 1240	 970 1240
			2210
Total Cost			**9626**

Source: Authors' calculation based on field survey data at Naogaon district; * Maximum farmers used STW in the selected location

Figure 5: Production costs of boro and aman paddy in farmer levels



Source: Authors' calculation based on field survey data at Naogaon district

Table 4: Farmer level cost for aman paddy production per biga (33 decimal)

	Item of cost	Cost	Total Cost
Seedling Cost	Seed	113	113
	Preparing seed bed	200	200
	Fertiliser cost	80	80
	Irrigation cost	-	-
	Uproot from seed bed	120	120
			513
Transplanting to harvesting cost	Land preparation (Power tiller)	600	600
	Transplanted seedling	300	300
	Fertiliser • Urea 20 Kg • TSP 10 Kg • DAP 10 Kg • Other ($ZnSO_4$, Cow dung, etc.) • Labour (Total two days)	 240 230 270 220 280	1240
	Supplemental Irrigation Cost • STW • LLP	500	500
	Weeding • Labour two times • Herbicide + labour	 1120 885	1003
	Harvesting cost	860	860
			4503
Threshing Cost	Threshing • Carrying (0.5 to 1 Km) • Threshing and packing	 790 1240	 790 1240
			2030
Total Cost			**7046**

Source: Authors' calculation based on field survey data at Naogaon district

IV. Production Cost and Rice Price in Bangladesh

A twofold challenge for the present government is to keep prices of rice within an accessible limit of the poor and to maintain fair price for the local farmers. An example can be inferred from field data that if the boro paddy's price (BRRI dhan 28) is less than Tk. 750 per 40 Kg, farmer will get a minimal benefit compared to their total investments. On the other hand, if boro paddy's price is Tk. 750 for 40 Kg, then the local market price of each Kg of rice is going to be Tk. 34.11 and in Dhaka, it will be Tk. 38.11 (Table 5; Figure 6 and 8). According to the paddy price, Tk. 750 for 40 Kg, farmer gets only Tk. 735.9 for each month during January to May from one biga of land which is meager an amount compared to their total investments made in, land, fertilisers, labour, etc. On the contrary, if the paddy price is more than Tk. 750, then it would create a huge pressure on the purchasing capacity of the poor and they will fail to meet up the daily food requirement.

Likewise, in case of boro paddy, one farmer will get a total earning of Tk. 3665.28 (Tk. 733.10 for each month) for one biga of land, when the paddy price is Tk. 800 for 40 Kg after five months of investments. If the paddy price is Tk. 800, rice price in local market will be Tk. 36.10 and Tk. 40.10 in Dhaka (Table 6; Figure 7 and 9). From the analysis, it is clear that it would be an ordeal for the present government to keep the price of paddy in a reasonable level, considering farmer's earnings. It should be mentioned that rice price in Dhaka is not indicated in retail market level. In retail market, Tk. 5 to 6 is more than the Dhaka market level. It should also be necessary to mention that rice price in different markets level varies due some internal factors during mill level processing to retail market.

Table 5: Boro paddy and rice production cost

Paddy price (Tk. per 40 Kg)	Farmer Level (paddy)			*Mill level cost (rice)				Market level (rice)	
	Production cost (Tk. per 40 kg)	Benefited (Tk. per 40 Kg)	Benefited [Tk. per biga (33 decimal)]	Direct collection from farmers (Tk. per 40 Kg) (Step 1)	Indirect collection (Tk. per 40 Kg) (step 2)	Total cost in Mill level (Tk. per Kg rice)		Local level (Tk./Kg)	Dhaka (Tk./Kg)
						Step 1	Step 2	Average	Average
500	542.60	-42.60	-755.72	30	35	22.08	22.29	23.69	27.69
550	542.60	7.40	131.28	30	35	24.17	24.38	25.78	29.78
600	542.60	57.40	1018.28	30	35	26.25	26.46	27.86	31.86
650	542.60	107.40	1905.28	30	35	28.33	28.54	29.94	33.94
700	542.60	157.40	2792.28	30	35	30.42	30.63	32.03	36.03
750	542.60	207.40	3679.28	30	35	32.50	32.71	34.11	38.11
800	542.60	257.40	4566.28	30	35	34.58	34.80	36.20	40.20
850	542.60	307.40	5453.28	30	35	36.67	36.88	38.28	42.28
900	542.60	357.40	6340.28	30	35	38.75	38.96	40.36	44.36

Source: Authors' calculation based on field survey data at Naogaon district
* Distance from mill to farmer level up to 40 km is considered

However, the production cost of both aman and boro paddy might be increased due to the increased input costs in this sector. It is estimated that cost of boro rice production may be increased further by Tk. 1.30 to 1.50 per Kg due to increased paddy production cost of Tk. 0.90 per Kg. The production cost will increase because of the increase in prices of fertiliser and fuel.

In recent years, government has increased the price of urea fertiliser from Tk. 12 to Tk. 20 (increase Tk. 8 per Kg) and fuel price by Tk. 2 per liter (diesel).

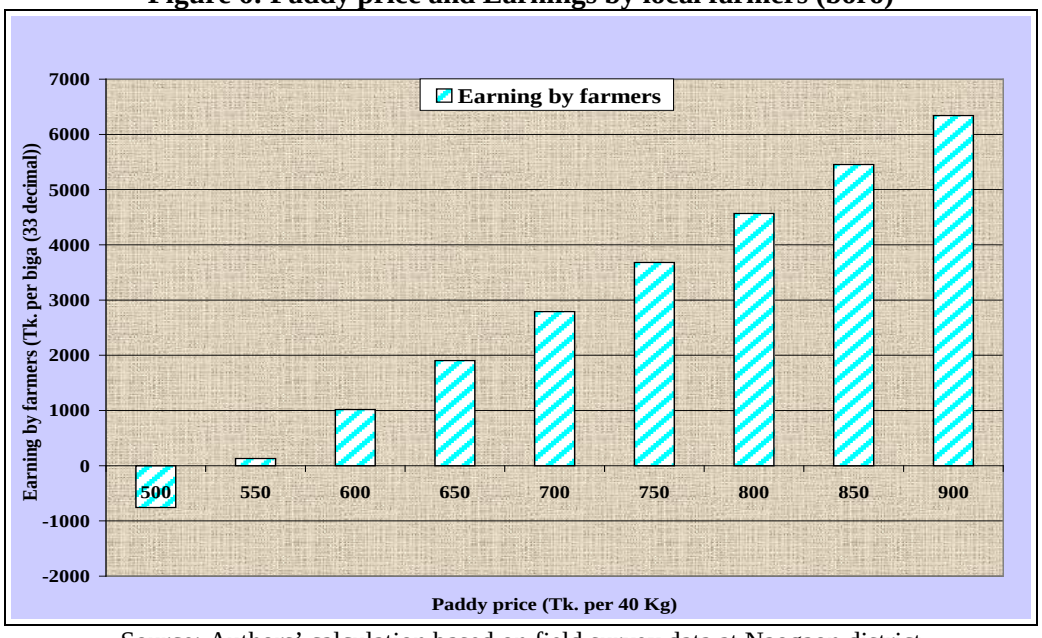
Table 6: Aman paddy and rice production cost

Paddy price (Tk. per 40 Kg)	Farmer Level (paddy)			Mill level cost (rice)				Market level (rice)	
	Production cost (Tk. per 40 kg)	Benefited (Tk. per 40 Kg)	Benefited (Tk. per biga (33 decimal))	Direct collection from farmers (Tk. per 40 Kg) (Step 1)	Indirect collection (Tk. per 40 Kg) (step 2)	Total cost in Mill level (Tk. per Kg rice)		Local level (Tk. per Kg)	Dhaka (Tk. per Kg)
						Step 1	Step 2	Average	Average
500	529.3	-29.3	-396.72	28	33	22.00	22.208	23.60	27.60
550	529.3	20.7	280.28	28	33	24.08	24.291	25.69	29.70
600	529.3	70.7	957.28	28	33	26.17	26.375	27.78	31.78
650	529.3	120.7	1634.28	28	33	28.25	28.458	29.85	33.85
700	529.3	170.7	2311.28	28	33	30.33	30.541	31.94	35.95
750	529.3	220.7	2988.28	28	33	32.42	32.625	34.02	38.02
800	529.3	270.7	3665.28	28	33	34.50	34.708	36.10	40.10
850	529.3	320.7	4342.28	28	33	36.58	36.791	38.18	42.20
900	529.3	370.7	5019.28	28	33	38.67	38.875	40.27	44.27
950	529.3	420.7	5696.28	28	33	40.75	40.958	42.35	46.35

Source: Authors' calculation based on field survey data at Naogaon district

Likewise, the cost of aman paddy production may also increase by Tk. 0.70 per Kg, and as a result price of aman rice may witness an increase by Tk. 1.0 to 1.20 per Kg due to higher cost of fertiliser and fuel. It indicates that food inflation rate might be increased in the following months which might hamper the poor people's rice purchasing capacity to meet their daily food demand. Therefore, a considerable number of people may be food insecure and correspondingly they might fall below poverty line due to rice price, as well as most of their income might go for purchasing food.

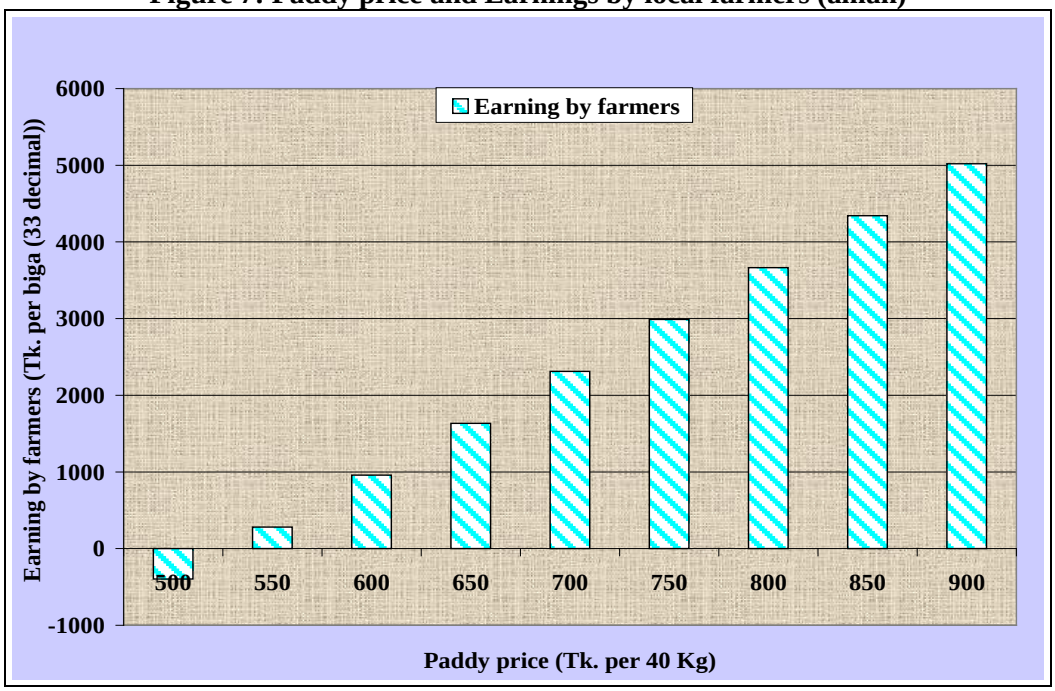
Figure 6: Paddy price and Earnings by local farmers (boro)



Source: Authors' calculation based on field survey data at Naogaon district

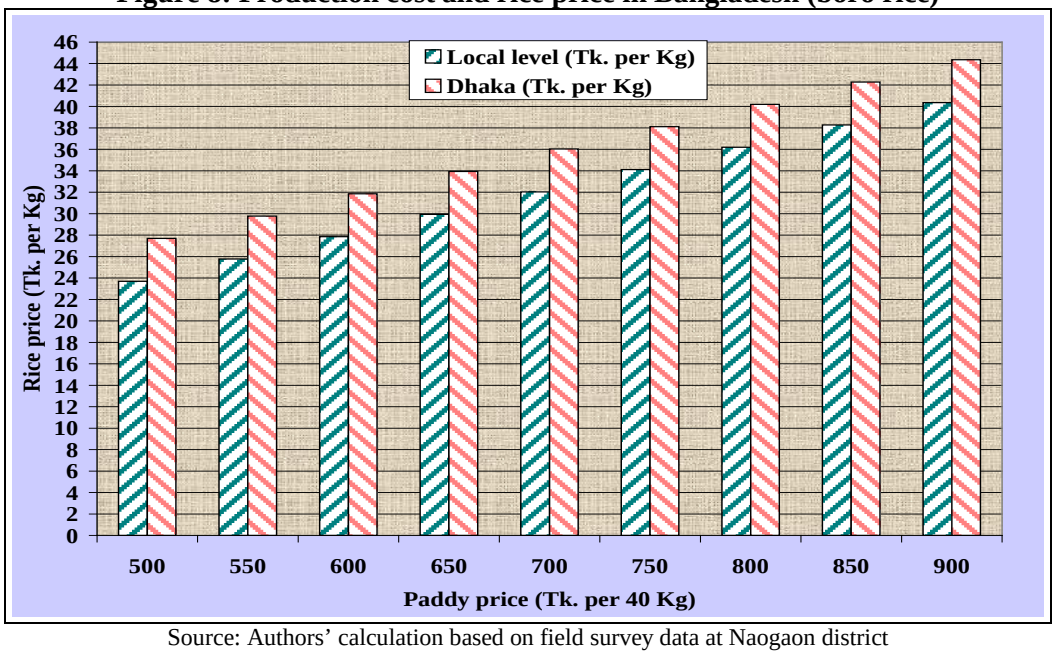
The government has decided to procure 0.60 mmt of rice for Tk. 29 per Kg during boro season in FY 2011-12. But, it would be very difficult to achieve this target. According to the set price of rice (Tk. 29 per Kg rice), price of paddy of Tk. 550 for 40 Kg; farmer will get a benefit of only Tk. 131.28 from one biga land.

Figure 7: Paddy price and Earnings by local farmers (aman)



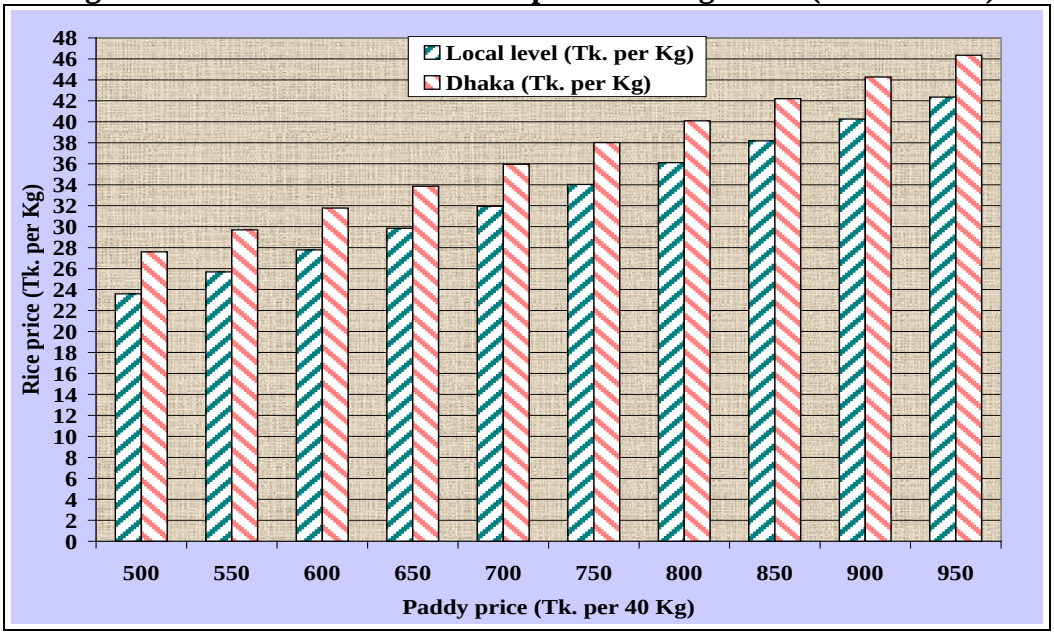
Source: Authors' calculation based on field survey data at Naogaon district

Figure 8: Production cost and rice price in Bangladesh (boro rice)



Source: Authors' calculation based on field survey data at Naogaon district

Figure 9: Production cost and rice price in Bangladesh (T.aman rice)



Source: Authors' calculation based on field survey data at Naogaon district

V. Food Grain Import and Procurement

In the FY 2010-11, public sector imports have increased four times due to an increased need of public stocks for operating a larger public food distribution system. Total public sector import was 1.51 mmt (rice 0.83 mmt and wheat 0.68 mmt) during July-2010 to March-2011. Over the same period, private sector imports (2.73 mmt) were comparable to private imports during the FY July 2009 to March 2010 (Table 7). These imports, however, have taken place in a context of the Indian export ban, (?) in place for the last three years. In addition, Russian wheat export ban since August-10, has squeezed world grain markets, which has aided in reducing food grain availability and thus increased food grain prices (NFPCSP, 2011).

Table 7: Food grain import

Category of import	Total 2009-10	2010-11							
		Actual Arrival by Month			Actual Arrival by Quarter			Projected Q4	Total Import (Prospect)
		January 2011	February 2011	March 2011	Q1	Q2	Q4		
					Jul-Sep 10	Oct-Dec 10	Jan-Mar 10	Apr-Jun 11	
Rice									
Govt	51.5	37.2	150.6	271.2	133.5	234.2	459.0	517.3	1344.0
Food Aid	3.6	2.3	0.0	1.9	0.7	0.4	4.2	0.7	6.0
Private	36.6	31.8	35.8	26.5	176.4	20.0	94.0	59.6	350.0
Total Rice	***91.7***	***71.3***	***186.4***	***299.6***	***310.6***	***254.6***	***557.2***	***577.6***	***1700.0***
Wheat									
Govt com	457.1	155.4	52.4	133.1	42.0	148.7	340.9	284.2	801.0
Food Aid	43.6	14.0	0.0	0.0	95.5	38.1	14.0	1.4	149.0
Private	2862.0	170.3	183.2	610.9	636.6	834.4	964.3	365.0	2850.0
Total Rice	***3362.7***	***339.7***	***235.6***	***744.0***	***774.1***	***1021.2***	***1319.2***	***685.5***	***3800.0***
Food grain	**3454.4**	**411.0**	**422.0**	**1043.6**	**1084.7**	**1275.8**	**1876.4**	**1263.1**	**5500.0**

(Source: FPMU/Food Division and MISM, DG Food)

For the FY 2010-11, domestic public food grain procurement target has been set at 1.65 mmt, wherein 0.20 mmt for aman, 1.35 mmt for boro and 0.10 mmt for wheat. During July-October 2010, procurement from last boro crop was 0.30 mmt. Subsequently, the government has decided not to procure any more aman and wheat crops because of high prevailing post-harvest price in the producer's market. Hence, the target for domestic procurement in the FY 2010-11 was revised to 0.995 mmt (0.895 mmt for rice and 0.1 mmt for wheat) and measures have been taken to fill up the procurement gap through import.

VI. Food Distribution Pattern

Total distribution planned for 2010-11 is 2.73 mmt against 2.68 mmt last year, of which 1.96 mmt was effectively distributed. Since July 2010, as of June 2nd, 2,016 thousand mt of food grain had been distributed (Table 8). However, 1,535 thousand MT had been distributed at the same time of the last year. The following table shows the channel wise distribution of food grain in Bangladesh in FY 2011-12. Therefore, the government has to increase the distribution target of food grain, otherwise for poor people; it would be very difficult to purchase food for the poor people, mainly rice and wheat in current market price.

Table 8: Channel-wise distribution of food grain

Sector	Channel	FY 2010-11 Distribution July-10 to March-11			FY 2009-10 Distribution July-9 to March-10			FY 2009-10 Distribution (Annual Distribution)		
		Rice	Wheat	Total	Rice	Wheat	Total	Rice	Wheat	Total
Monetized Channels of PFDS	EP	116.6	73.8	190.5	113.4	69.7	183.1	152.0	93.7	245.6
	OP	11.2	3.3	14.5	11.9	2.9	14.8	16.7	4.3	21.0
	LEI	0.3	12.7	13.0	9.7	1.4	11.1	9.7	5.6	15.3
	OMS	588.6	0.0	588.6	164.2	0.0	164.2	259.4	0.0	259.4
	FPC	78.3	49.0	127.4	1.1	0.0	1.1	6.1	0.0	6.1
	Garments	0.0	0.0	0.0	10.7	0.0	10.7	43.1	0.0	43.1
	Others	0.4	0.1	0.5	0.1	0.0	0.1	0.1	0.0	0.1
	Sub-total	***795.4***	***138.9***	***934.3***	***311.2***	***74.0***	***385.2***	***487.0***	***103.6***	***590.6***
Non-monetized Channels of PFDS	FEW	0.9	46.1	47.0	221.4	1.1	222.4	267.2	110.2	377.4
	TR	0.0	0.3	0.3	107.0	0.1	107.1	165.6	203.3	369.0
	VGF	97.7	0.2	97.3	235.1	0.0	235.2	248.3	0.1	248.3
	VGD	97.9	97.8	195.7	63.5	136.3	199.9	66.8	205.6	272.4
	GR	26.0	0.0	26.1	25.6	0.0	25.6	37.0	0.0	37.1
	Others	30.2	21.1	51.3	13.1	17.8	30.9	38.8	30.1	68.8
	Sub-total	***252.8***	***165.4***	***418.2***	***665.7***	***155.2***	***821.0***	***823.7***	***549.3***	***1373.0***
Total Public Distribution		**1048.2**	**304.3**	**1352.5**	**976.9**	**229.2**	**1206.1**	**1310.7**	**652.9**	**1963..5**

Source: MISM, DG Food

CONCLUSION

Agricultural is the main source of supplying adequate food to the people of Bangladesh. But the food security condition is aggravating day by day due to ever-increasing population as well high production cost of agriculture commodities and due to an increase of agriculture inputs. From this study, it is clear that the food production has increased by only creating huge pressure on agricultural lands and a large number of populations are dependent on it. Applications of huge amount of ground water, pesticide, herbicide, chemical fertiliser are continuously increasing in

the agricultural sector. Therefore production cost automatically rise by several times due to the intensive use of these inputs. Besides, in the last few years, price of agriculture inputs has increased significantly which also enhances food price. In the current year, government has increased urea fertiliser price by Tk 8 per Kg kilogram and diesel price by Tk. 2 per litter. As a result boro rice price may increase Tk. 1.30 to 1.50 per Kg due to increased paddy production cost of Tk. 0.90 per Kg. The study also estimates that price of coarse rice have increased 100 percent, medium rice by 105 percent and for fine rice 91.7 percent in the last six years.

Government has faced a great challenge to keep prices of rice within an accessible limit of the poor and to maintain fair price for the local farmers. From this study, it is found that farmers earn a very negligible amount from their one biga land compared to the total investments made in, land, fertilisers, labour, etc. On the contrary, if the paddy price will increase, then it would create a huge pressure on the purchasing capacity of the poor to meet daily food requirement. The study estimates that for producing each Kg of boro paddy Tk. 13.57 is required while Tk. 13.23 is required for aman paddy. Therefore, government must reduce the price of agriculture inputs such as fertiliser, diesel, machinery, seeds etc. Moreover, special incentive programme may be taken. For example, inertest of agriculture loan can be minimized, good quality seeds can be provided to the doorsteps of farmers in a minimum rate, etc. Besides, disbursement of agriculture credit within a proper time is a major issue and government may consider it especially. Furthermore, government can increase food distribution and create new employment opportunities through its different social welfare programme for the poor people. Otherwise it would be very difficult to meet their daily rice demand in current market price.

REFERENCES

Ministry of Finance. 2011. *Bangladesh Economics Review.* Dhaka. Government of the People's Republic of Bangladesh, Ministry of Finance.

Ministry of Finance. 2009. *Bangladesh Economics Review.* Dhaka. Government of the People's Republic of Bangladesh, Ministry of Finance.

Bangladesh Bureau of Statistics (BBS). 2009. *Statistical Year Book of Bangladesh.* Dhaka. Planning Division, Ministry of Planning Government of the People's Republic of Bangladesh, Dhaka.

Bangladesh Bureau of Statistics (BBS). 2007. *Statistical Year Book of Bangladesh.* Dhaka. Planning Division, Ministry of Planning Government of the People's Republic of Bangladesh, Dhaka.

Bangladesh Bureau of Statistics (BBS). 2006. *Statistical Year Book of Bangladesh.* Dhaka. Planning Division, Ministry of Planning Government of the People's Republic of Bangladesh, Dhaka.

Directorate of Agricultural Extension (DAE). 2009. *Statistical Hand book of Agriculture.* Dhaka Government of the People's Republic of Bangladesh. Ministry of Agricultural, Dhaka.

Directorate of Agricultural Extension (DAE).2007. *Statistical Hand book of Agriculture.* Government of the People's Republic of Bangladesh. Ministry of Agricultural, Dhaka.

Food and Agriculture Organisation (FAO). 2009. Available: http://faostat.fao.org/default.aspx. [Accessed date: 29August, 2009]

Food and Agriculture Organisation (FAO). 2002. *Trade Reforms and Food Security Conceptualizing: the Linkages.* Available: http://www.fao.org/docrep/005/y4671e/y4671e06.htm. [Accessed date: 20 July, 2011]

Ministry of Food and Disaster Management. 2011. *National Food Policy Capacity Strengthening Programme (NFPCSP).* Office at the Food Planning and Monitoring Unit (FPMU). Ministry of Food and Disaster Management.16 Abdul Ghani Road, Dhaka-1000, Bangladesh. http://www.nfpcsp.org/agridrupal/

Titumir, R.A.M. and Basak, J.K. 2010. A Long Run Perspective on Food Security and Sustainable Agriculture in South Asia; Dhaka University Journal of Development Studies, Vol. 1, No. 1, January, 2010; ISSN 2072-9545.

World Food Programme. 2008. Available online: http://web.worldbank.org. [Accessed date: 20 July, 2011]

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