Impact of Trade Liberalization on Agriculture: Evidence of Bangladesh

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Abstract

Bangladesh has liberalized its economy through reduction of tariff rates and withdrawal of agricultural subsidies although the country, as a least developed one, was exempted from reduction commitments. The un-weighted average tariff rate for all agricultural products declined to 15 per cent in 2002-03 from 55 per cent in 1991-92. Subsidies on irrigation and fertilizer declined from 2.53 per cent of the value of unassisted output in 1988-89 to 0.45 per cent in 2002-2003. Moreover, there is a very low rate of subsidies on agricultural exports. However, the impact of trade liberalization policies was not favourable on the agricultural economy of Bangladesh. Total agricultural export increased by about 2 per cent and agricultural import increased by 9 per cent per year over the 1990s. Import of maize and pulses increased significantly over that period. Besides commercial import of food grains increased and the magnitude of food aid dropped over the same period. Infact, Bangladesh had to face more loss than it enjoyed gains from eventualities of recent trade liberalization. In view of the above circumstances, more investment on yield increasing technology generation and adoption is necessary to meet the current deficit in food items and accelerate the speed of diversity in agriculture.

Introduction

The long-term objective of the Uruguay Round Agreement on Agriculture is to establish a fair and market-oriented agricultural trading system and initiate a reform process through the negotiation of commitments on support and protection. It was thought that a substantial progressive reduction in agricultural support and protection will be made over an agreed period of time that will result in correction and prevention of restrictions and distortion in world agricultural markets. The main objective of this paper is to make an assessment of Bangladesh's progress in the process of trade liberalization and analyze its impact on agricultural trade and production in the country.

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Methodology

This study is based on secondary data collected from published and unpublished sources of various national and international agencies. The main sources of data are various publications of the Government of Bangladesh (GOB), Bangladesh Bureau of Statistics (BBS), Bangladesh Bank, World Bank, and Food and Agriculture Organization of the United Nations (FAO). Some of the specific documents consulted are Bangladesh Economic Review (various issues), Handbook of Agricultural Statistics, Economic Trends, Statistical Yearbook of Bangladesh, National Accounts Statistics of Bangladesh and the Legal Text of the Uruguay Round of Multilateral Trade Negotiations. In addition, various unpublished documents of the Export Promotion Bureau, National Board of Revenue, Ministry of Food, Ministry of Finance, and Ministry of Commerce were intensively used for obtaining data for this study.

Bangladesh liberalized her economy very quickly during the early 1990s and continued her reform agenda in later years. For purpose of the study, data on tariff rates for different commodities and subsidies on agriculture have been assembled for the last decade of the 20^{th} century and after (reform period) for establishing trend of those variables over the years. The intention to see what happened to Bangladesh economy after the country was showing adherence to WTO rules on liberalization of trade in agriculture. For that purpose the trends of agricultural exports, imports, food aid and foreign assistance have been examined by tabular and graphical forms. The impact of trade liberalization and reform on the country's macro-economic performance has also analysed Finally, the magnitude of current food deficit has been determined by comparing recent dietary pattern with that of an expected pattern to reflect on policy issues for development of the country's agricultural sector.

Results and Discussion

Commitments on agriculture

The agenda for liberalization of agriculture consist of three components: market access, domestic support and export competition (WTO, 1995). The provisions under market access called for reduction of tariff and non-tariff barriers. Under domestic support, countries were required to reduce trade distorting domestic supports. Under the provision of export competition, countries committed to reduce the value of export subsidies. Being a least developed country (LDC), Bangladesh was exempted from those reduction commitments.

Market access

The URAoA under its provisions of of on market access called for conversion of all non-tariff trade barriers into tariff equivalents, reduction of bound tariffs over time, and setting of low import tariffs for a fixed quota of import. Under tariffication, member countries were required to convert non-tariff barriers during the base period (1986-88) into tariff equivalents and to establish a base rate of duty for individual commodities covered by the URAoA. The average reduction of tariffs after tariffication of non-tariff barriers was set at 24 per cent for developing countries and 36 per cent for industrialized countries. Industrialized countries had a time frame of six years within which to reduce their tariff levels while developing countries had 10 years. Minimum access had to be established at not less than 3-5 per cent of domestic consumption during the base period (1986-88). As an LDC, Bangladesh was not required to undertake any such commitment but she had to bind tariffs on all agricultural products.

Market access reform in Bangladesh began in the early 1980s with a reduction in import duties and was followed by a reduction in quotas in 1985 and a simplification of tariffs in 1986. The most intense trade reforms occurred in the 1990s with a movement toward lower tariff rates (Table 1).

Table 1: Un-weighted average tariff rates for different commodity groups in Bangladesh.

Commodity group	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99
Primary commodity	55.2	47.7	34.9	31.6	24.6	22.3	21.9	21.4
Intermediate inputs	49.5	41.6	31.8	23.2	20.2	19.6	19.2	18.9
Capital goods	45.0	38.7	26.2	13.9	12.3	12.5	12.1	12.3
Final consumer goods	80.3	63.6	49.9	38.6	33.7	32.3	30.6	29.0
All commodities	57.3	47.4	36.1	25.9	22.3	21.5	20.7	20.3

Commodity group	FY00	FY01	FY02	FY03
Primary commodity	17.1	17.7	15.6	14.9
Intermediate inputs	15.6	15.7	20.1	21.0
Capital goods	16.1	11.3	7.0	8.0
Final consumer goods	31.0	29.6	26.0	22.6
All` commodities	19.5	18.6	17.1	16.4

In 2002-2003, the un-weighted average tariffs for all agricultural products declined to 15 per cent from 55 per cent in 1991-92. In a similar way, the import-weighted average tariff fell to 12 per cent from 23 per cent in the same period. The magnitude of decline in tariff rates for all other commodities showed almost the same trend (Table 2).

Table 2: Import weighted average tariff rates for different commodity groups in Bangladesh

Commodity group	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99
Primary commodity	23.4	23.2	27.2	17.3	13.2	16.3	13.6	9.5
Intermediate inputs	24.1	23.7	22.9	26.3	22.7	22.2	21.3	21.3
Capital goods	18.7	18.5	16.2	12.5	9.5	10.4	8.2	8.1
Final consumer goods	47.3	36.5	36.7	26.5	24.1	23.1	20.1	17.6
All commodities	24.1	23.6	24.1	20.8	17.0	18.0	16.0	14.1

Commodity group	FY00	FY01	FY02	FY03
Primary commodity	13.6	14.9	9.4	12.0
Intermediate inputs	15.1	15.0	16.2	15.8
Capital goods	9.9	10.4	3.3	7.7
Final consumer goods	16.5	20.3	14.0	11.9
All commodities	13.8	15.1	9.7	12.4

Domestic support

The reduction of tariff rates for most of the crops including food grains and pulses was quite significant (Table A-1). Under the minimum access level provision, the current access opportunity is more than the threshold for all commodities, except for potatoes and sugar.

The Uruguay Round Agreement on Agriculture (URAoA) under its domestic support policies did not include expenditure on research, extension, disease control, food security, and rural development etc. (green box measures) in reduction commitments. Nevertheless, subsidies on inputs and price support for outputs were categorized under trade distorting policies and were required to be kept within the limit of 5% of the value of output for the developed countries, and 10% for the developing countries. The total aggregate measure of support (AMS) was to be reduced by 20% for developed countries and 13.3% for developing countries (with no reduction for LDCs) over the implementation period.

Bangladesh provides support to agricultural research, extension, training, marketing and infrastructure that are nondistortionary in character. These supports fall under the green box area and are excluded from AMS reduction commitments. During the 1970s and early 1980s agricultural inputs were heavily subsidized and price support for agricultural output were also significant. These subsidies and supports were gradually reduced and became quite insignificant during the 1990s. Table 3 shows that Bangladesh did not provide any price support to any of the agricultural commodities after the 1995-96 financial year. Subsidies on fertilizer and irrigation accounted for 2.53% of the value of unassisted output in 1988-89, which declined gradually to less than one-tenth of one per cent in 1998-99. The calculated producer subsidy equivalent (PSE) slightly increased over first three years of the new millennium, but still it hovers around a half of only one per cent, very insignificant in comparison with that of about 40% for European Union and 35% for OECD countries (Alam, 2004).

Table 3: Producer subsidy equivalent (PSE) in Bangladesh

Year	Input subsidy (% of unassisted output)	Price support (% of unassisted output)	Total subsidy (PSE)
1988-89	2.53	0.20	2.73
1995-96	0.83	0.01	0.84
1996-97	0.62	0	0.62
1997-98	0.43	0	0.43
1998-99	0.08	0	0.08
1999-2000	0.21	0	0.21
2000-2001	0.24	0	0.24
2001-2002	0.48	0	0.48
2002-2003	0.45	0.	0.45

Export subsidies

Under the commitment on export subsidies members were required to reduce the value of mainly direct export subsidies to a level 36 per cent below the 1986-90 base period level over the six-year implementation period, and the quantity of subsidized exports by 21 per cent over the same period. In the case of developing countries, the reductions were two-thirds of those of developed countries over a ten-year period and subject to certain conditions, there were no commitments on reduction of the costs of marketing of agricultural exports or internal transport and

freight charges on export shipments. LDCs were not obliged to reduce export subsidies but were required to freeze such subsidies at the 1986-90 period levels.

Bangladesh declared no export subsidies in her schedule of UR commitments. However, there may be some elements of subsidies enjoyed by the country's export regime. They include a small amount of direct subsidy on export of vegetables, export subsidies in the form of lower interest rates than market interest rates, tariff concessions on import of capital machinery, and some sort of subsidy on export credit guarantee schemes.

It appears from discussion on market access, domestic support and export subsidies that Bangladesh liberalized her economy quite early even though there were time and exemption provisions for the country in the WTO rules. This was due to pressure from international donors for reform and the country's inability to mobilize resources to support her development programmes without taking assistance from the donors. The country was not, however, benefited by such an early liberalization.

Impact of Liberalization

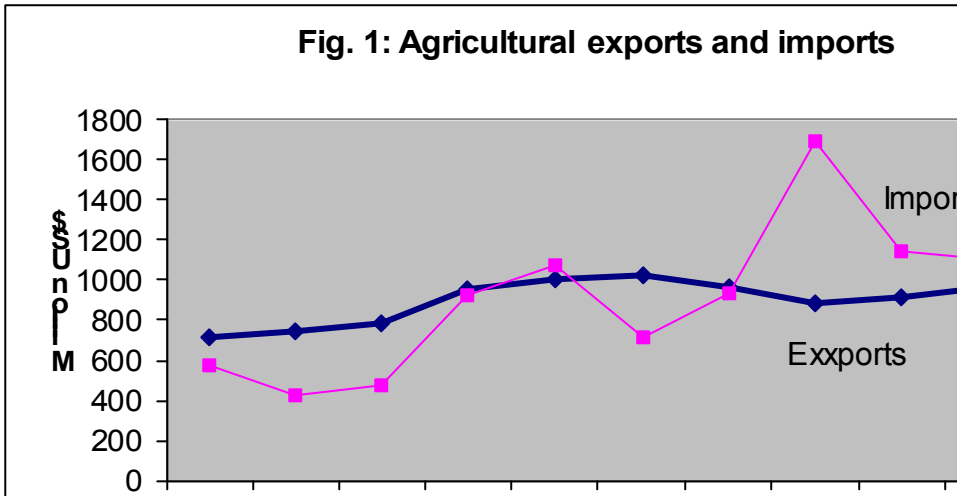
It would be interesting to see what has happened to Bangladesh economy after showing adherence to WTO rules on liberalization of trade in agriculture. First, the agricultural export and import situations of Bangladesh over the last eleven years (1991-92 to 2001-02) have been examined. It is observed that total agricultural export increased by about 2 per cent and agricultural import increased by 9 per cent per year over that period (Table A-2 and A-3). Figure 1 shows that agricultural imports exceeded the export figure in 1995-96 and after that the import curve continued to flow over the export curve for the rest of the years.

The total export earnings of the country increased by 11.9 per cent, while import expenditure increased by 9.59 per cent over the last eleven years. It may be mentioned that most export earnings in Bangladesh come through garment industry, where the bulk of the export earnings go back out of the country to pay for imported raw materials and machinery.

The average annual growth rate of export earnings was negative for jute, jute products, tea and total crops. However, the annual growth rate of export for greater agricultural sector was positive mainly due to high export earnings from frozen food, and hides and skins. The growth rates of import for all agricultural commodities were positive excepting wheat, and were very strong for pulses, maize, edible oil and raw cotton. The situation is unlikely to be changed unless

duty-free and quota-free access of Bangladeshi products are ensured to developed countries.

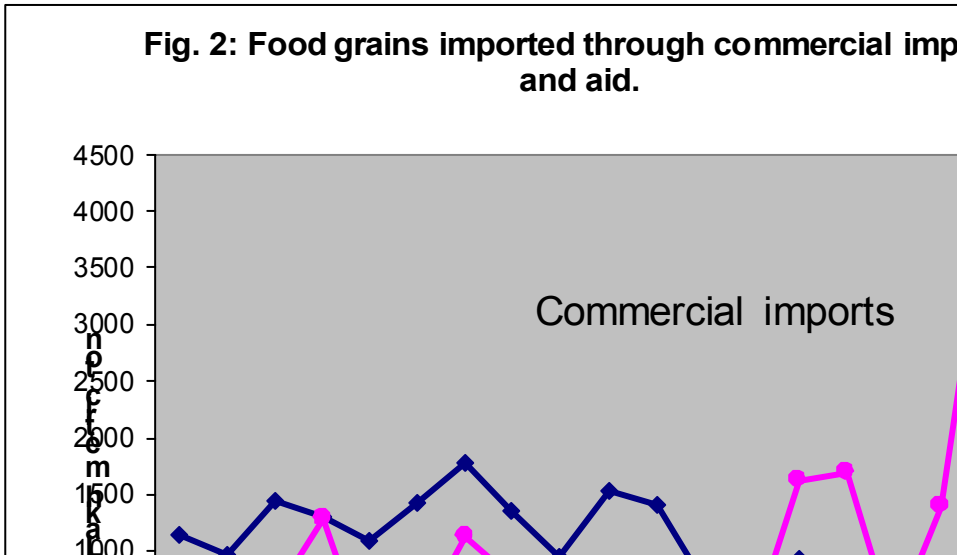
The WTO member countries attending Ministerial meetings recognized the special difficulties faced by LDCs and called for providing more technical assistance to LDCs for trade development. They also appealed for enhancing the magnitude of food aid and concessional loans to LDCs for their adjustment to a new global situation. Bangladesh, as an LDC, was supposed to be a beneficiary from this assistance. However, the country was not much benefited from such benevolent aid and assistance commitments in recent years.



Bangladeshi people depend more on cereals for consumption of food. The production of cereals has increased in the country over time, but at the same time imports of food-grains continued without any interval (Table A-4). This was not attributed exclusively to trade liberalization, but was related to other domestic factors like weather, natural calamities, management of the production system and governance. What is important to note is that the composition of food-grain imports has significantly changed after trade liberalization. The extent of food aid declined and the magnitude of commercial imports increased during the post liberalization period. Figure 2 shows that commercial imports crossed the line of food aid in 1994-95, reached its peak in 1998-99, and remained above the line of food aid till the last year of observation.

For further examination of the proposition, the growth and composition of foreign assistance to Bangladesh was analyzed. Data presented in Table A-5 shows that the annual growth rate of foreign assistance has declined over the last eleven

years. The amount of foreign loans has slightly increased but the amount of donations significantly dropped during the period of liberalization. The evidence confirms the view that Bangladesh had to face more loss than it enjoyed gains from eventualities of recent trade liberalization.



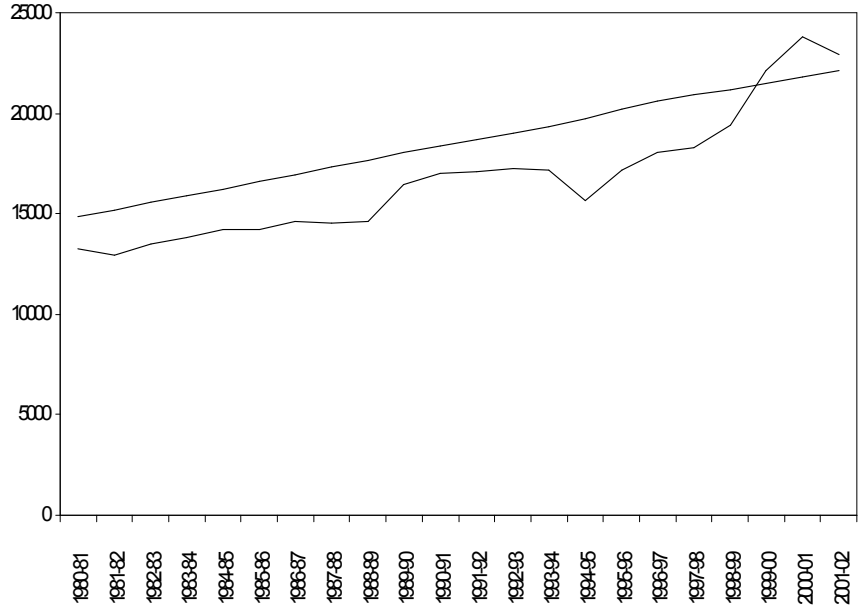
The impact of trade liberalization and reform was not very positive on macro-economic performance. The growth rate of GDP stagnated at around 5 per cent and the overall budget deficit did not show any sign of improvement. The amount of foreign exchange reserve increased in absolute terms but declined in relative terms (in months of imports). The rate of inflation has, however, declined over the years (Table A-6). The growth rates of real prices of most of the agricultural commodities have also declined.

Food self sufficiency and Diversification of Agriculture

Government of Bangladesh is committed to achieve self-sufficiency in food production. To that effect the farmers, agricultural scientists and policy makers are working hard for years together. Very recently, the country has produced a little surplus of food grains (Figure 3), but there is still a huge deficit in production of other crops. The deficit is much larger for pulses, edible oil, vegetables, fruits and non-crop agricultural products (Table A-7), which has accentuated over time with the increase in population. It is possible to have a significant increase in production of these crops and non-crop sub-sectors provided new technologies are generated and policies are framed conducive to technology adoption, which will

promote diversification. This is consistent with the policy of Bangladesh government (GOB, 2003a; 1999), which will require higher investment in agriculture and more support and subsidies in the process of technology generation and adoption.

Fig. 3: Food grain availability (000 MT) from domestic production, (excludes 11.58% of total production) deficit and surplus.



Source: MOA (2003).

Conclusion

Results of the study show that Bangladesh has liberalized her economy very quickly over 1990s through reduction of tariff rates and withdrawal of agricultural subsidies. However, there was hardly any positive impact of the liberalization efforts on the agricultural sector of Bangladesh. In fact, agricultural imports the grew faster than agricultural exports and the country became more dependent on commercial imports of food grains and other agricultural commodities. Thus it appears that the country should now pursue a policy of protecting her agricultural sector and increase support and subsidies on yield increasing technology generation and adoption to meet the current food deficit and accelerate the speed of agriculture diversification.

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Appendices

Table A-1:Un-weighted tariff rates and value-added tax on major agricultural products in Bangladesh

Group	CD+LF+IDS	VAT	SD	Total	CD+LF+IDS	VAT	SD	Total
	1991-92				**1992-93**			
01 Rice	16.44	14.81	0.00	31.25	8.98	12.38	0.00	21.36
02 Wheat	16.44	0.00	0.00	16.44	8.98	0.00	0.00	8.98
03 Maize								
04 Sugar	81.44	12.25	0.00	93.69	81.48	12.25	0.00	93.73
05 Oilseed	41.44	0.00	0.00	41.44	27.73	0.00	0.00	27.73
06 Edible oil: crude	58.94	8.88	0.00	67.82	50.23	6.72	0.00	56.95
07 Edible oil: refined	93.44	14.05	0.00	107.49	83.48	12.55	0.00	96.03
08 Onion	31.44	0.00	0.00	31.44	31.48	0.00	0.00	31.48
09 Chilies (dry)	1.44	5.08	0.00	6.52	12.73	8.63	0.00	21.36
10 Potato	101.44	0.00	0.00	101.44	76.48	0.00	0.00	76.48
11 Milk	44.77	8.08	0.00	52.86	45.41	4.86	0.00	50.27
12 Pulses	21.44	0.00	0.00	21.44	16.48	0.00	0.00	16.48
Group	CD+LF+IDS	VAT	SD	Total	CD+LF+IDS	VAT	SD	Total
	1995-96				**1996-97**			
01 Rice	1.22	0.04	0.00	1.26	1.28	0.00	0.00	1.28
02 Wheat	8.72	0.67	0.00	9.39	8.78	0.68	0.00	9.46
03 Maize								
04 Sugar	31.22	4.71	0.00	35.93	31.28	4.74	0.00	36.02
05 Oilseed	18.10	1.37	0.00	19.47	16.13	1.39	0.00	17.52
06 Edible oil: crude	31.22	5.46	0.00	36.68	31.28	4.06	0.00	35.34
07 Edible oil: refined	38.72	5.84	0.00	44.56	38.78	4.99	0.00	43.77
08 Onion	31.22	2.36	0.00	33.58	31.28	2.37	0.00	33.65
09 Chilies (dry)	23.72	0.00	0.00	23.72	23.78	0.00	0.00	23.78
10 Potato	46.22	3.48	0.00	49.70	46.28	3.50	0.00	49.78
11 Milk	46.22	5.73	0.00	51.95	46.28	10.10	0.00	56.38
12 Pulses	12.47	0.95	0.00	13.42	12.53	0.96	0.00	13.49
Group	CD+LF+IDS	VAT	SD	Total	CD+IF+IDS	VAT	SD	Total
	1998-99				**1999-2000**			
01 Rice	1.08	0.00	0.00	1.08	1.00	0.00	0.00	1.00
02 Wheat	7.08	0.57	0.00	7.65	5.50	0.50	0.00	6.00
03 Maize								
04 Sugar	33.58	4.74	0.00	38.32	28.50	3.99	0.00	32.49
05 Oilseed	14.71	1.18	0.00	15.88	12.58	1.01	0.00	13.59
06 Edible oil: crude	21.08	2.46	0.00	23.54	18.50	2.49	0.00	20.99
07 Edible oil: refined	36.91	4.46	0.00	41.37	33.86	4.16	0.00	38.02
08 Onion	33.58	2.37	0.00	35.95	28.50	2.00	0.00	30.50
09 Chilies (dry)	22.33	0.00	0.00	22.33	22.25	0.00	0.00	22.25
10 Potato	43.58	3.12	0.00	46.70	41.00	2.93	0.00	43.93
11 Milk	43.58	9.48	0.00	53.06	41.00	9.50	2.70	53.21
12 Pulses	6.08	0.54	0.00	6.62	4.75	0.41	0.00	5.16

Group	CD+LF+IDS	VAT	SD	Total	CD+LF+IDS	VAT	SD	Total
	2002-2003				**2003-2004**			
01 Rice	7.5	0	0	7.5	7.5	0	0	7.5
02 Wheat	13.5	0	0	13.5	7.5	0	0	7.5
03 Maize	6.5	0	0	6.5	7.5	0	0	7.5
04 Sugar	50.5	0	23.5	74.0	48.0	4.0	30.0	82.0
05 Oilseed	6.5	0	0	6.5	7.0	0	0	7.0
06 Edible oil: crude	22.5	0	0	22.5	22.5	0	0	22.5
07 Edible oil: refined	22.5	0	0	22.5	22.5	0	0	22.5
08 Onion	29.0	0	0	29.0	29.5	0	0	29.5
09 Chilies (dry)	22.5	0	0	22.5	22.5	0	0	22.5
10 Potato	39.0	0	0	39.0	37.0	0	0	37.0
11 Milk	39	15.0	15.0	74.0	37.0	15.0	25.0	77.0
12 Pulses	7.5	0	0	7.5	7.5	0	0	7.5

Note: CD = Customs duties; LF = License fees; IDS = Infrastructure development
SD = Supplementary duty; VAT = Value-added tax.
Source: National Board of Revenue.

Table A-2: Export of agricultural commodities from Bangladesh (Million US$).

Year	Raw Jute	Tea	Frozen food	Agril. pro-ducts	Jute pro-ducts	Hides & skins	Crops (Total)	Agri-culture (Total)	(Total) export	Agril. as a % total
1991-92	85	32	131	10	301	144	428	703	1994	35.26
1992-93	74	41	165	15	292	148	422	735	2383	30.84
1993-94	57	38	211	15	284	168	394	773	2534	30.51
1994-95	79	33	306	13	319	202	444	952	3473	27.41
1995-96	91	33	314	22	329	212	475	1001	3884	25.77
1996-97	116	38	321	29	318	195	501	1017	4427	22.97
1997-98	108	47	294	39	281	190	475	959	5172	18.54
1998-99	72	39	274	22	304	168	437	879	5324	16.51
1999-00	72	18	344	18	266	195	374	913	5752	15.87
2000-01	67	22	363	18	230	254	337	954	6467	14.75
2001-02	61	17	276	23	244	207	345	828	5986	13.83
Annual growth rate (%)	-1.25	-6.55	7.33	6.42	-2.23	3.59	-1.97	1.96	11.9	-

Source: Export Promotion Bureau.
Note: Growth rates have been calculated by fitting semi-logarithmic trend lines.

Table A-3: Import of agricultural commodities to Bangladesh (Million US$).

Year	Rice	Wheat	Oil seeds	Raw cotton	Edible oil	Maize	Pulses	Agri-culture (Total)	Total import	Agril. as a % of total
1991-92	4	251	30	95	185	0.000	14.666	579.67	3516	16.49
1992-93	0	176	35	91	113	0.002	14.154	429.16	4071	10.54
1993-94	23	145	65	71	140	0.013	28.450	472.46	4191	11.27
1994-95	220	256	80	135	220	0.448	9.279	920.73	5834	15.78
1995-96	358	228	89	185	179	1.959	23.604	1064.56	6947	15.32
1996-97	28	156	62	195	216	2.436	52.365	711.80	7152	9.95
1997-98	247	122	93	207	216	1.452	43.608	930.06	7520	12.37
1998-99	680	317	100	233	287	5.077	70.870	1692.95	8006	21.15
1999-00	115	266	90	277	256	18.923	112.999	1135.92	8374	13.56
2000-01	172	177	64	360	218	26.575	85.749	1103.32	9335	11.82
2001-02	15	171	72	312	251	32.574	92.890	946.46	8540	11.08
Annual growth rate (%)	30.83	-0.25	7.51	15.21	6.08	75.45	22.96	9.04	9.59	-

Note: Growth rates have been calculated by fitting semi-logarithmic trend lines.

Table A-4: Domestic production of cereals and import of food grains (000 metric tons).

Year	Production of cereals	Food aid imports	Commercial	Total imports
1981-82	14646	1141	114	1255
1982-83	15276	976	868	1844
1983-84	15740	1441	615	2056
1984-85	16182	1306	1287	2593
1985-86	16177	1087	113	1200
1986-87	16592	1425	342	1767
1987-88	16547	1787	1130	2917
1988-89	16650	1356	780	2136
1989-90	18679	949	584	1533
Growth rate (81-90) %	2.26 (2.70)	1.28 (-2.05)	10.18 (18.15)	2.6 (2.22)
1990-91	18869	1540	37	1577
1991-92	19400	1414	150	1564
1992-93	19598	735	448	1183
1993-94	19230	654	312	966
1994-95	18174	935	1633	2568
1995-96	19155	738	1689	2427
1996-97	20439	618	349	967
1997-98	20793	549	1402	1951
1998-99	21946	1235	4256	5491
1999-00	25087	870	1234	2104
2000-01	26968	491	1063	1554
2001-02	26138	509	1289	1799
Growth rate (90-02) %	3.29 (2.72)	-6.68 (-9.22)	26.15 (29.59)	4.32 (1.10)
Growth rate (81-02) %	2.63 (2.76)	-4.3 (-3.84)	7.83 (11.55)	0.78 (1.71)

Note: (a) Growth rates have been calculated by fitting semi-logarithmic trend lines.

(b) Compound growth rates are given within brackets. This growth rate is calculated depending on the value of a variable at the beginning of a period (first year) and the value of that variable at the end of a period (last year), which may be suddenly higher or lower. To avoid such a problem and to take into account the annual fluctuations of continuous values between the first and the last year, a growth rate of the semi-logarithmic from is usually preferred.

Table A-5: Foreign assistance to Bangladesh (Million US$).

Year	Donation	Loan	Total
1971-72	245	26	271
1972-73	486	65	551
1993-74	218	243	461
1974-75	375	526	901
1975-76	234	567	801
1976-77	256	279	535
1977-78	393	441	834
1978-79	502	528	1030
1979-80	650	573	1223
Growth rate (71-80) %	7.99	32.02	14.28
1980-81	593	553	1146
1981-82	654	588	1240
1982-83	587	590	1177
1983-84	733	535	1268
1984-85	703	566	1269
1985-86	546	760	1306
1986-87	661	934	1595
1987-88	823	817	1640
1988-89	673	995	1668
1989-90	766	1044	1810
Growth rate (80-90) %	2.2	7.89	5.19
1990-91	831	901	1732
1991-92	817	794	1611
1992-93	818	857	1675
1993-94	710	849	1559
1994-95	890	849	1739
1995-96	677	766	1443
1996-97	736	745	1481
1997-98	503	748	1251
1998-99	669	867	1536
1999-00	726	862	1588
2000-01	504	865	1369
2001-02	479	963	1442
Growth rate (90-02) %	-4.6	0.43	-1.71
Growth rate (71-02) %	2.71	5.9	3.76

Note: Growth rates have been calculated by fitting semi-logarithmic trend lines.

Table A-6: Macro-economic indicators of Bangladesh.

Indicators	1991-92	1995-96	1999-2000	2001-02
GDP at current market price (Taka in billion)	1195.4	1663.2	2370.9	2732.0
GDP growth rate at constant (1995-96) prices	5.0	4.6	5.9	4.4
Population (Million)	113.0	120.8	128.1	131.6
Per capita GDP at current prices (Taka)	10579.0	13768.5	18507.9	20760.0
Average exchange rate with US Dollar	38.1453	40.8365	50.3112	57.4347
As percentage of GDP				
Consumption	86.1	85.3	82.1	81.8
National savings	19.3	20.0	23.1	23.4
Total investment	17.3	20.0	23.0	23.1
Overall budget deficit	-4.7	-4.7	-6.1	-4.7
Import	11.3	16.9	17.8	18.0
Export	6.3	9.5	12.2	12.6
Rate of inflation (%)	4.6	6.7	3.4	2.4
Foreign exchange reserve (Million US$)	1608	2039	1602	1583
Foreign exchange reserve (Months of imports)	5.5	3.5	2.3	2.2

Source: GOB (2003), Bangladesh Bank (2003).

Table A-7: Current dietary pattern in Bangladesh compared with an expected pattern

Food items	Adequate intake [1] (grams)	Target intake[2] (grams)	Current intake[3] (grams)	Minimum required intake (grams)	Energy Kcal	(%)	Food gap %
Cereals	490	372	475.8	450	1555.2	70.2	-5.7
Tubers	100	130	70.9	70	61.7	2.8	-1.3
Vegetables	125	132	140.5	150	65.8	3.0	6.3
Pulses	30	66	15.8	30	105.0	4.8	47.3
Edible oil	20	38	12.8	20	180.0	8.2	36.0
Fruits	50	57	28.4	50	50.0	2.3	43.2
Sweeteners	10	28	6.85	10	40.0	1.8	31.5
Fish	45	50	38.5	60	60.0	2.7	35.8
Meat	20	22	13.3	30	33.0	1.5	55.7
Eggs	14	7	5.3	10	16.7	0.7	47.0
Milk	30	47	29.7	50	32.6	1.5	40.6
Total	934	949	837.8	930	2200	100	9.9

1 Bangladesh National Nutrition Council, Dhaka.

2 Ministry of Food, Dhaka.

3 Household Expenditure Survey 2000 (BBS, 2003).