

Trends in Poverty and Income Distribution in Bangladesh: Which Way?

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***Abstract:** In the 1980s and 1990s Bangladesh implemented various trade liberalisation reforms as part of its Structural Adjustment Programmes. During these periods, the country's growth performance was impressive. Nevertheless, a continuing high prevalence of poverty and increased income inequality raised concern that the trade liberalisation policies may have worked against the poor. From an overview of Bangladesh's trade liberalisation, poverty and inequality scenario, it is obvious that in Bangladesh, the incidence of poverty has declined specially in post-reform period, however, it has been accompanied with increased inequality. In case of employment also, trade liberalisation during the 1990s has failed to create enough employment opportunities in agricultural and manufacturing sector, rather the growth of self employment and wage employment in informal sector has aggravated the income inequality situation.*

***Keywords:** Poverty, Income distribution, Employment, Trade Liberalisation, Bangladesh*

***JEL Classification:** F13, I32*

1. INTRODUCTION

Bangladesh as a contracting party to the GATT since 1972, and as an original member of the WTO has initiated various policy reforms in order to integrate with the world economy. In the 1980s and 1990s it implemented various trade liberalisation reforms as part of its Structural Adjustment Programmes. During the post-liberalisation period, Bangladesh economy has performed well with respect to GDP growth, agricultural output, the services and industrial sector and export earnings. However, whether this growth performance has translated into a reduction in poverty and inequality is a matter of concern. Available estimates indicate that during the 1990s Bangladesh succeeded in reducing poverty on average by 1 percent per annum (IMF, 2005). A World Bank estimate also suggests that the poverty head-count index declined from 88.15 per cent in 1972-73 to 49.8 per cent in 2000 and 40 per cent in 2005. Yet in spite of this apparent success, Bangladesh still has the highest incidence of poverty in South Asia, the third highest absolute number of poor in the world after

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India and China, and its per capita GDP (\$480 in 2006 at Purchasing Power Parity) is one of the lowest in the world (World Bank, 2007). Furthermore, inequality in Bangladesh as a whole increased throughout the entire decade, the overall Gini ratio increased from 0.30 in 1991-92 to 0.41 in 2000 and 0.47 in 2005. In the case of the urban areas, the Gini coefficient, after declining during the period 1983-1988, rose sharply from 0.40 in 1991 to 0.50 in 2005. In the case of the rural areas also an upward trend occurred throughout the 1980s and the 1990s. The concurrent presence of trade liberalisation, inequality and poverty has raised alarm that trade policies may have worked against the large poor majority of the country. It is also suspected that trade liberalisation has failed to align employment with growth. In case of Bangladesh, no systematic historical study has so far been conducted to relate trade liberalisation, poverty, unemployment and equality.

Through this perspective, the present study provides a historical overview of trade liberalisation, poverty, inequality and labour market developments in Bangladesh. In doing so, section 2 provides a poverty profile of Bangladesh. Section 3 presents trends in income inequality in Bangladesh and includes an examination of the structure of and changes in income distribution in Bangladesh. Section 4 provides a description of labour force trends and structural changes in employment and Section 5 offers some concluding comments.

2. A POVERTY PROFILE OF BANGLADESH

2.1. Trends in Poverty Incidence in Bangladesh

In Bangladesh, numerous studies have been conducted concerning the incidence of poverty. Some of these studies relate trade liberalisation to poverty incidence and conclude that globalisation has contributed positively to poverty reduction even though most of them question the uneven distribution across different households and urban/rural differences. Some of these studies include Osmani (2005), Mujeri and Khondker (2002), Roy (1996), World Bank (1998), Osmani *et al.* (2003), Sen *et al.* (2004) and Annabi *et al.* (2006). Other studies have measured the trends and determinants of the current status of poverty in Bangladesh (for example, Hossain and Sen (1992), Khundker *et al.* (1994), Khan (1990), Osmani (1990), Wodon (1999) and others). Even though all of the studies used data provided by the Household Expenditure Surveys (HES) conducted by the Bangladesh Bureau of Statistics (BBS), there remains much controversy about the extent of poverty, particularly in the 1970s and 1980s (Ravallion & Sen, 1996).

Most studies have used the head count ratio² as a measure of poverty; however there are discrepancies among the head count estimates because of differences in underlying assumptions. According to Ravallion and Sen (1996), the main ingredients of poverty measures, i.e. calorie requirements and allowances for non-food goods, require judgements. Also, the set of prices used for costing the minimum calorie bundle³ in setting the food poverty line within the Cost of Basic Needs (CBN) method

constituted a major source of discrepancy amongst various head count estimates. Further, in the case of non-food basic needs, a similar discrepancy arises.

Table 1 presents estimates of the head count index of poverty for various years in the 1970s and 1980s in Bangladesh. Even though each study used the same primary data source and the same food energy requirement method, the results differed. For example, for urban areas for the year 1981-82, the head count ratio varies from 48.4 per cent to 66.0 per cent, similarly, for 1985-86, it ranges between 29.1 per cent and 56.0 per cent. For rural areas for 1973-74 the proportion of poor people varies from 47.7 per cent to 82.9 per cent. In spite of differences among the estimates for the various sub periods, all studies except one (Ahmed, Khan, & Sampath, 1991) suggest that urban poverty fell during the 1980s. Similarly for rural areas, all studies show poverty incidence decreased during the 1970s and 1980s, except in the study of Islam and Khan (1986).

Methodological differences may contribute to these observed differences. For example, by using a fixed consumption bundle, Rahman and Haque (1988) have shown that rural poverty rose in the first period and then fell in the second period. In contrast, Hossain and Sen (1992), using the same minimum consumption bundle, have shown that while head count ratios decreased in the earlier 1980s, they worsened after the mid 1980s. Khundker *et al.* (1994) obtained the same result for urban areas. Using a different methodology, the World Bank (1987) and BBS (1988) also have shown that poverty has fallen over all periods for both urban and rural areas. In fact, the World Bank (WB) and BBS constructed a poverty income line by estimating a relationship between income and consumption of calories in a given year. Table 1 also reveals that for 1985-86 the Ahmed *et al.* (1991) study and the WB/BBS study both show a higher poverty rates in urban areas than in rural areas. According to Ravallion and Sen (1996), this result was due to differences in the real value of the urban and rural poverty lines generated by the FEI⁴ (Food-Energy-Intake) method of setting poverty lines. In fact, the FEI method has deficiencies when used for poverty comparison because the poverty lines it generates do not represent identical purchasing power in real terms over time or across sectors or groups (World Bank, 1998). For example, people in better-off regions (urban) buy more expensive calories and reach their food energy requirement at higher level of total spending (Ravallion & Sen, 1996) than their rural counterparts. Thus the poverty line of better-off regions will be higher than the worse-off regions (rural) poverty line.

Because of these observed problems with the FEI method, the CBN method is considered the standard method for estimating the incidence of poverty. In late 1994, the World Bank in a joint capacity building effort with BBS improved the official methodology for measuring poverty. By dropping the FEI method, World Bank (WB) and BBS adopted the cost of basic needs method.

Three steps were followed in estimating this cost. First, a representative, fixed food bundle was estimated which provided minimal nutritional requirements of

Table 1
Poverty Measures: Head Count Indices in Various Studies for Bangladesh

Year	Ahmed & Hossain (1984)	Islam & Khan (1986)	Rahman & Haque (1988)	Ahmed et al. (1991)	Hossain & Sen (1992)	Official Estimates of BBS/WB (1987/88)	Ravallion & Sen (1996)	Khuunker et al. (1994)
Urban								
1973/74	-	-	-	-	-	-	-	63.2
1976/77	-	-	-	-	-	-	-	-
1981/82	-	-	50.7	65.3	-	66.0	-	48.4
1983/84	-	-	39.5	-	-	66.0	40.9	42.6
1985/86	-	-	29.1	66.8	-	56.0	30.8	30.6
1988/89	-	-	-	-	-	44.0	35.9	33.4
1991/92	-	-	-	-	-	-	33.6	-
Rural								
1973/74	55.7	47.7	65.3	-	71.3	82.9	-	-
1976/77	61.1	62.3	-	-	-	-	-	-
1981/82	-	-	79.1	71.8	65.3	73.8	-	-
1983/84	-	-	49.8	-	50.0	57.0	53.8	-
1985/86	-	-	47.1	51.6	41.3	51.0	45.9	-
1988/89	-	-	-	-	43.8	-	49.7	-
1991/92	-	-	-	-	-	-	52.9	-

Sources: Ravallion and Sen (1996), Hossain and Sen (1992)

2,122 kcal. per day per person which in turn represented the food poverty line for each area. In the second step, allowances for nonfood consumption were estimated. In order to capture geographical differences in the costs of nonfood goods, 'lower' and 'upper' allowances for nonfood basic needs were computed for each area based on representative households' actual nonfood expenditures⁵. Third, simply adding the food poverty lines with the 'lower' and 'upper' nonfood allowances yielded the total lower and upper poverty lines for each geographical area. BBS calculated the incidence of poverty by using primary data from the HES (Household Expenditure Survey) between 1983 and 1996, which is shown in Table 2⁶. This table has several notable features.

First, it shows that the national incidence of poverty declined between 1983-84 and 2005, as measured both by lower and upper poverty lines. In 1983-84, 58.50 per cent of Bangladesh's population was poor (per capita consumption below the upper poverty line) as compared to 40 per cent in 2005, while 40.91 per cent of the population was extremely poor (per capita consumption is below the lower poverty line) in 1983-84 as compared to 25.1 per cent in 2005.

Second, there was a substantial variation in poverty incidence over different sub periods and between urban and rural areas. For example, under both poverty lines,

the national head count ratio declined between 1983-84 and 1985-86 but increased in the years 1988-89 and 1991-92, before again declining in later years. Nearly the same pattern is observable for both rural and urban areas. According to Sen *et al.* (2004), much of these fluctuations were related to the damaging effects of floods in 1987 and 1988 on agricultural output.

Table 2
Head Count Indices of Poverty using the Cost of Basic Need Method, 1983/84-2005
(Percentage of Population below the Poverty Line)

Year	% of population under lower poverty line			% of population under upper poverty line		
	Rural	Urban	National	Rural	Urban	National
1983/84	42.62	28.03	40.91	59.61	50.15	58.50
1985/86	36.01	19.90	33.77	53.14	42.92	51.73
1988/89	44.30	21.99	41.32	59.18	43.88	57.13
1991/92	45.95	23.29	42.69	61.19	44.87	58.84
1995/96	39.76	14.32	35.55	56.65	35.04	53.08
2000	37.90*	19.90*	34.3*	52.30*	35.2*	48.9*
2005	28.6*	14.60*	25.1*	43.8*	28.4*	40.0*

Note: "*" estimates are taken from the Preliminary Report on Household Income and Expenditure Survey-2005, BBS. Source: World Bank (1998).

Third, by considering 1983-1992 as the initial phase of reform and 1992-2005 as the post-reform period, it can be concluded that there was a faster rate of poverty reduction in the post-reform period than in the initial phase (Tables 3 & 4). Using the upper poverty line, Table 4 shows that the national poverty incidence increased by 0.06 per cent annually during 1983-1992 because increasing poverty in rural areas outweighed falling poverty in urban areas. On the other hand, in the period 1992-2005, the national poverty incidence declined at an annual rate of 2.29 per cent, with both urban and rural poverty incidence also declining by 2.62 and 2.03 per cent respectively.

Table 3
Poverty Reduction Rates during Pre- and Post-reform Era (using Lower Poverty Line)

	1983-1992	1992-2005	1983-2005
National	0.44	-2.94	-1.68
Urban	-2.04	-2.67	-2.08
Rural	0.78	-2.69	-1.43

Source: Author's own calculation from Table 2

Table 4
Poverty Reduction Rates during Pre- and Post-reform Era (using Upper Poverty Line)

	1983-1992	1992-2005	1983-2005
National	0.06	-2.29	-1.37
Urban	-1.18	-2.62	-1.89
Rural	0.27	-2.03	-1.15

Source: Author's own calculation from Table 2

A fourth notable feature in Table 2 is that the rate of declining poverty incidence from 1983 to 2005 was larger in urban areas than in rural areas. As a result, in terms of the lower poverty line, the ratio of the rural poverty index to the urban poverty index was considerably higher at the end of the period than it had been at the beginning. The same is true for the upper poverty line.

Apart from the tendency of urban households to be better off than rural households (in terms of poverty incidence), there was considerable difference in poverty incidence across regions. For example Table 5 reveals that during the 1990s, Rajshahi division had the highest incidence of poverty (71.9 per cent) followed by Khulna division with an incidence of 59.6 per cent and Dhaka division with 59.3 per cent. On the other hand, Chittagong division recorded the lowest incidence of poverty at 46.6 per cent. However, during 2000, there was notable progress in the poverty reduction across all the divisions, even though the progress was uneven. Dhaka division recorded a rapid reduction whereas an almost stagnant situation was observed for the Chittagong division (Table 5).

Table 5
Regional Trends in Poverty (Head-count Ratio), 1991-2005 (using the Upper Poverty Line)

<i>Division</i>	<i>1991-92</i>	<i>2000</i>	<i>2005</i>
Chittagong	46.6	47.7	34.0
Dhaka	59.3	44.8	32.0
Khulna*	59.6	47.0	45.7
Rajshahi	71.9	61.0	51.2
Sylhet	-	42.4	33.8
All Divisions	58.8	49.8	40

*Note:** including Barisal division, data source for Sylhet is from Preliminary Report on Household Income and Expenditure Survey, 2005.

Source: World Bank (2002b)

2.2. Incidence of Poverty by Labour Force Status of Head of Household

Table 6 shows that in both rural and urban areas the incidence of poverty is significantly higher, respectively at 75 per cent and 67 per cent for household, whose heads work as casual wage labour. Among the total number of poor people, about 46 per cent in the rural areas and about 36 per cent in urban areas are included in this category. Among other workers, the self-employed in agriculture in urban areas have the next highest incidence of poverty, followed by those self employed in the non-agricultural sector in rural areas.

2.3. Poverty and Landownership

Figure 2 reveals that poverty incidence increases with the decreasing size of land holdings owned by the rural poor. The number of households owning less than 0.05 acres of land is badly affected by the curse of poverty (56.4 per cent). In Bangladesh,

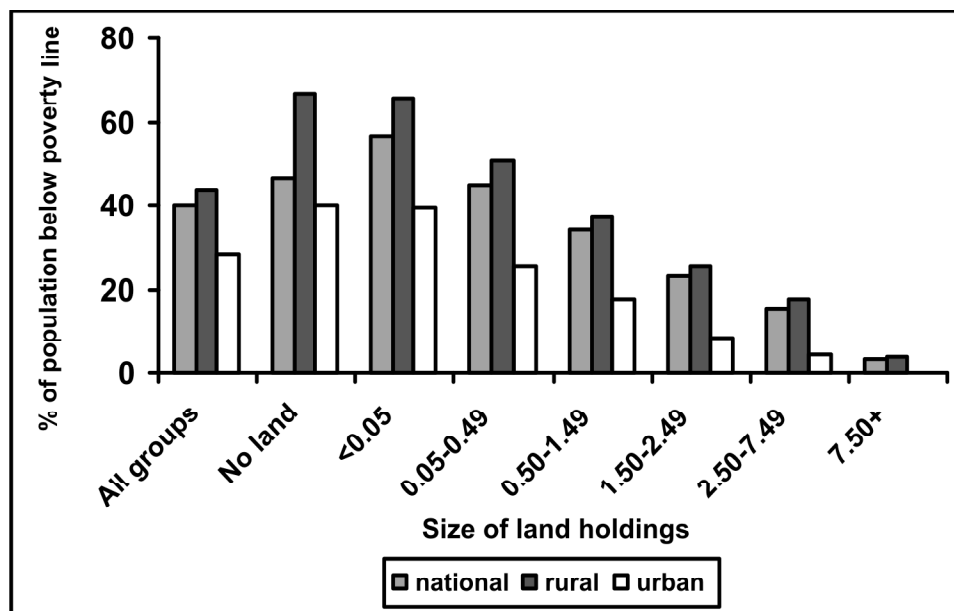
Table 6
Poverty Incidence by Labour Force Status of Household Head, 2000

Labour force status	Rural			Urban		
	Head count index (%)	Percent of		Head count index (%)	Percent of	
		Population	Poor		Population	Poor
Casual wage labour	74.9	33	46	66.9	20	36
Salaried employment	35.1	9	6	24.1	30	20
Self-employment: Non-agriculture	44.6	18	15	32.2	32	28
Self-employment: Agriculture	43.3	31	25	47.9	5	7
Unemployed/not working	42.9	10	8	25.9	13	9
Total	53.0	100	100	36.6	100	100

Source: ADB and Government of Japan (2004)

where about 80 per cent of the population lives in rural areas and around 50 per cent of people still depend on agriculture, land ownership is a key determinant of poverty. According to World Bank (1998) estimates, among the landless in rural areas, six out of ten were very poor and seven out of ten were poor, while among marginal landowners, six out of ten were very poor and eight out of ten were poor.

Figure 2: Head-count Index by Acres of Land Owned, 2005 (using upper poverty line)



Source: BBS (2006)

2.4. Human Development Index (HDI)

Since poverty is multidimensional (World Bank, 2002b), it is important to define poverty in Bangladesh not only in terms of income or consumption but also in terms of the wider Human Development Index⁷. Bangladesh has made greater progress in terms of the Human Development Index than in terms of income growth and poverty reduction. Indeed, its progress measured by the HDI compares favourably with most low-income countries. In 2004, it ranked 137 among 175 member countries, with an HDI of 0.51, a large improvement on its 0.347 in 1975 (Table 3.7). Bangladesh is one of the few countries amongst the least developed countries that has increased its HDI score by 20 per cent since 1990 (UNDP, 2006).

Table 7
Trends of HDI in Bangladesh, 1975-2004

Year	1975	1980	1985	1990	2000	2004	HDI rank in 2004
HDI	0.347	0.366	0.391	0.422	0.454	0.510	137

Source: UNDP (2006)

Bangladesh has been successful in many components of human development. For example, from low base levels, it has achieved a sharp decline in the birth rate, an increase in average life expectancy, a reduction in the population growth rate, increased access to safe drinking water and achieved an increase in the literacy rate. After committing in 2000 to attaining the Millennium Development Goals (MDGs), Bangladesh's achievements in human development are remarkable, as some of the targets embodied in the millennium declaration are similar to the United Nations Human Development Index, such as achieving universal primary education, reducing the infant and child mortality rate and easing of access to safe water.

Table 8 compares the record of Bangladesh in human development with those of its South Asian neighbours and all developing countries. During the period 1970-2000, Bangladesh's annual per capita GNP growth rate was 1.7 per cent, the lowest among South Asian countries and lower than the average for all developing countries. During the same period, India had the highest per capita growth, two times the income per capita of Bangladesh. In terms of the Human Development Index, Bangladesh achieved progress in life expectancy at birth, even though its present status is still lower than other South Asian countries except Nepal and the average for all developing countries. The life expectancy at birth increased from 45.2 years to 62.6 years during the period 1970-75 to 2000-05, an annual average increase of 1.28 per cent.

In terms of infant mortality rate, Bangladesh's position is better in comparison with South Asian countries except Sri Lanka and even the average for all developing countries. The infant mortality rate declined from 145 infant deaths per 1,000 live births to 56 deaths during the period 1970-2004, an average annual rate of decline of 1.75 per cent. The average annual under five mortality rate was nearly 2 per cent for

Table 8
Human Development: An International Comparison

	Bangladesh	India	Pakistan	Nepal	Sri Lanka	South Asia	Developing Countries
Per capita GNP growth, 1970-2000	1.7	3.4	2.9	2.0	3.3	2.5	2.4
Life expectancy at birth (years) 1970-75	45.2	50.3	51.9	44.0	65.1	49.8	55.5
2000-05	62.6	63.1	62.9	61.4	72.6	63.3	64.7
Average annual % change (+)	1.28%	0.85%	0.71%	1.32%	0.38%	0.90%	0.55%
Infant mortality rate (per 1,000 live births)							
1970	145	127	120	165	65	129	108
2004	56	62	80	59	17 ^a	69	61
Average annual % change (-)	1.75%	1.46%	0.95%	1.84%	2.11%	1.33%	1.24%
Under five mortality rate (per 1,000 live births)							
1970	239	202	181	250	100	206	166
2004	77	85	101	76	19 ^b	95	89
Average annual % change (-)	1.94%	1.65%	1.26%	1.98%	2.31%	1.54%	1.33%
Total fertility rate (%)							
1970-75	6.2	5.4	6.3	5.8	4.1	5.6	5.4
2000-05	3.5	3.0	5.1	4.3	2.0	3.3	2.9
Average annual % change (-)	1.45%	1.48%	0.63%	0.86%	1.71%	1.37%	1.54%
Adult literacy rate (%)							
1990	34.2	49.3	35.4	30.4	88.7	49.1	68.8
2004	53 ^c	61.0	49.9	48.6	90.7	60.9	78.9
Average annual % change (+)	3.66%	1.58%	2.73%	3.99%	0.15%	1.60%	0.98%
Primary school enrolment (%)							
1991	61.5 ^d				-	-	-
2004			33				
Average annual % change	75 ^e	90	66	78			
Secondary school enrolment (%)							
1975-77	14	-	-	-	-	-	-
1996-97	29	49	30	42	75	44	50
Access to safe water (%)							
1990	94	68	83	67	68	72	-
2000	97	84	90	88	77	85	78
Average annual % change (+)	0.29	2.13	0.77	2.88	1.20	1.64	
Human Poverty Index (%)	44.2	38.1	36.3	31.3	17.7	-	-

Note: 'a' the number is for the year 2002, 'b' " " " " 2002

'c' " " " " 1999

'd' " " " " 1991(source: (World Bank, 2005)

'e' " " ' " 2000(source: (World Bank, 2005)

'-' means not available

Source: Author's own calculation from various Human Development Reports, UNDP.

Bangladesh during the period 1970-2004 whereas in the case of South Asia and the average for developing countries the rates were 1.54 per cent and 1.36 per cent respectively. Although Bangladesh has made progress with regard to the adult literacy rate, it seems that in comparison to South Asia and the average for developing countries it has lagged behind. Bangladesh has achieved rapid progress in schooling during the last two decades. The gross primary enrolment rate, which was only 61.5 per cent in 1980, increased to 72 per cent by 1990 and 96 per cent by 2000 (World Bank, 2005). Access to improved water supply is better in Bangladesh than other South Asian neighbouring countries and the average for developing countries. However, this success is being threatened by the problem of arsenic contamination of ground water (ADB and Government of Japan, 2004).

3. TRENDS IN INCOME INEQUALITY IN BANGLADESH

As stated in the previous section, Bangladesh has achieved poverty reduction over the last decade. Nevertheless the country has the highest incidence of poverty in South Asia. About 36 per cent of the population lives below US\$1 per day (in 2000) and about 82.8 per cent lives under US\$2 per day (World Bank, 2002a). According to Khan (2006), Osmani *et al.* (2003), Sen *et al.* (2004), World Bank (2002b) and Wodon (1999), the growing income disparity has offset the potential poverty reducing effect of growth. For instance, according to World Bank (2002b) estimates, had the observed rate of growth during the period between 1991-92 and 2000 been distribution-neutral, poverty would have fallen by 17 percentage points, or almost twice the actual observed rate. The extent of income inequality in Bangladesh can best be understood by Table 9. This shows the income shares of segments of the population ranked in ascending order of income per household for the years 1973, 1983, 1991, 1995 and 2005. Table 9 reveals a clear tendency for the shares of income of the first four quintiles to decline. For instant, starting from 1983, the income shares of the 1st and 2nd quintile declined steadily until 2005. The decrease in the percentage share of income is 1.74 percentage points for the first quintile, and 2.2 for the second. In the case of the third quintile, the percentage share increased by 4.59 in 1991 from the year 1983, but after that it declined by 2.4 percentage points between the year 1991 and 2005. The fourth quintile also showed the declining trend over the period 1973-2005. The most striking change is in the fifth quintile class, where the share of income increased between 1983 to 2005 by the rate of 9.33 percentage points. In the year 2005, the share of the highest income quintile in total income was 52.71 per cent which was nearly 10 times higher than the share of the lowest income quintile (Table 9).

Another notable feature is that in 1983, income accruing to the top 5 per cent of households increased from 18.30 per cent to 26.93 per cent in 2005, a 47 per cent increase. On the other hand, the share of the lowest 5 per cent declined from 1.17 per cent in 1983 to 0.77 per cent in 2005, a 34 per cent decrease. In 2005, the income share of the highest 5 per cent was thirty five times higher than the share of the lowest 5 per cent. Table 9 also reveals that in 2005, the lowest 40 per cent shared only 14.36 per cent

of total income. Clearly showing that overtime, the rich section of the population became richer while the poor got poorer, as far as income shares are concerned.

Broadly similar patterns are observed in both rural and urban areas although inequality was higher in urban areas than in rural areas. In urban and rural areas the shares of income of the first four quintiles declined gradually from 1983, but the rate of decrease was higher in urban areas compared to rural areas. For instance, in urban areas between the period 1983 and 2005, the share of income decreased by 2.1 percentage points or about 30 per cent for the first quintile, whereas in rural areas the decline was only 20 per cent between the years 1983-2005. The corresponding figures for second, third and fourth quintiles were 2.47, 2.69 and 3.86 percentage points for urban areas and 1.96, 2.14 and 1.1 for rural areas respectively. Furthermore, in rural areas, the richest/poorest ratio in 2005 was 26.17 compared to 15.24 in 1983. In urban areas this ratio increased to 45.33 in 2005 from 14.35 in 1983. Furthermore, whereas in 1983, the richest quintile's income share was about 2.47 times higher than the poorest 40 percent's income share in urban areas, it went up to 4.18 times in 2005. The corresponding figures for the rural areas were 2.22 and 3.12 respectively. A clearer picture of increased inequality is obtained from the Gini coefficient⁸. Figure 4 shows, starting from 1973, the national Gini coefficient increased to 0.39 in 1981 indicating a move towards greater income inequality. However in 1983, it fell to 0.36 which indicates a reduction in inequality.

During the years 1985 and 1988, income distribution did not vary or remained stable but the situation has changed in a major way since the early nineties. The Gini coefficient increased to 0.47 in 2005, from 0.39 in 1991. In the case of urban areas, the Gini coefficient rose from 0.38 in 1973 to 0.41 in 1981 and remained stable until 1983 and declined thereafter, showing an obvious improvement in income distribution during the last phase of the 1980s. However, this ratio rose sharply from 0.40 in 1991 to 0.44 in 1995 and to 0.50 in 2000 where it remained until 2005. In the case of the rural areas income inequality remained more or less stable until the year 1991. However, from the year 1995 it increased through to 2005, when it reached 0.43 compared with 0.36 in 1991.

A further perspective on income inequality is provided by the Lorenz curve⁹ for the years 1973, 1981, 1995 and 2005 for national, rural and urban areas (Figure 4, 5 and 6). In these figures, the 45° line indicates perfect equality in income distribution. The degree of inequality is measured by how far the Lorenz curve is bowed out from the 45° line. The more the Lorenz curve bends away from the 45° line of equality, the less equal is the distribution of income. Thus, from the figures we observe growing inequality across the observable periods. The deterioration in income equality is greater noticeable during the post-liberalisation period compared to the initial phase of trade policy reform. In addition, this trend is greater in urban areas in comparison to rural areas.

From the above analysis it is clear that in Bangladesh, inequality worsened during the period of policy reform implementation. Taking the year 1983 as the starting point

Table 9
Income Distribution in Bangladesh (Percentage Share of Households by Quintile Groups), 1973-2005

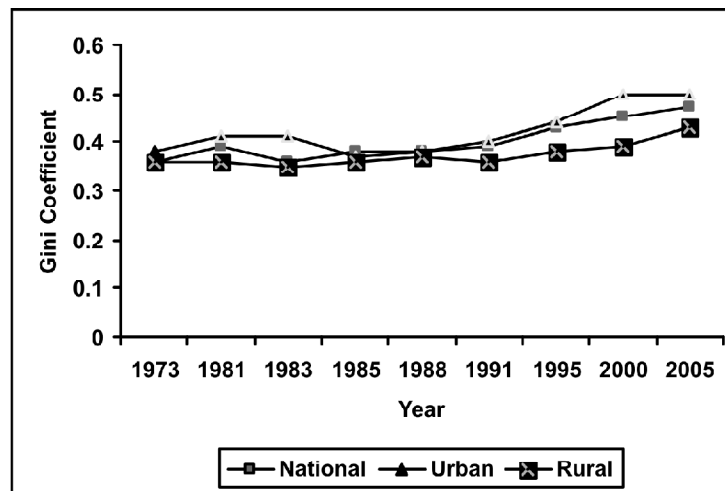
Group	National					Urban					Rural				
	1973	1983	1991	1995	2005	1973	1983	1991	1995	2005	1973	1983	1991	1995	2005
1 st Quintile	7.0	7.26	6.52	5.71	5.26	6.8	6.92	6.7	5.12	4.82	7.2	7.32	6.74	6.49	5.88
2 nd Quintile	11.3	11.75	10.89	9.83	9.1	11	10.95	10.89	9.04	8.48	11.9	11.92	11.15	10.94	9.96
3 rd Quintile	15.1	10.94	15.53	13.88	13.13	16	15.34	14.91	14.17	12.44	15.1	16.2	15.78	15.14	14.06
4 th Quintile	22.8	21.73	22.1	20.5	19.79	22	22.57	21.43	20.33	18.71	23.3	21.86	22.58	21.62	20.76
5 th Quintile	44.8	43.38	44.87	50.08	52.71	45.2	44.22	46.07	52.34	55.56	42.5	42.7	43.75	45.81	49.35
Gini Coefficient	0.36	0.36	0.39	0.43	0.47	0.38	0.41	0.40	0.44	0.50	0.36	0.35	0.36	0.38	0.43
Poorest 5%	1.20*	1.17*	1.03*	0.88	0.77	-	1.18	1.09	0.74	0.67	-	1.19	1.07	1.00	0.88
Richest 5%	17.2	18.30	18.85	23.62	26.93	18.6	16.93	19.42	24.30	30.37	16	18.14	17.80	19.73	23.03
Poorest 40%	18.3	18.95	17.41	15.54	14.36	17.80	17.87	17.59	14.16	13.30	19.1	19.24	17.89	17.43	15.84
Ratio of top 5% to lowest 5%	14.33	15.64	18.30	26.84	34.97	-	14.35	17.82	32.84	45.33	-	15.24	16.64	19.73	26.17

*Note:** mean data for the year 1974 is taken from (A. Hossain, 2003a).

Source: Khan and Hossain (1989), Report for the Household Income & Expenditure Survey 2000, and Preliminary Report on Household Income & Expenditure Survey 2005.

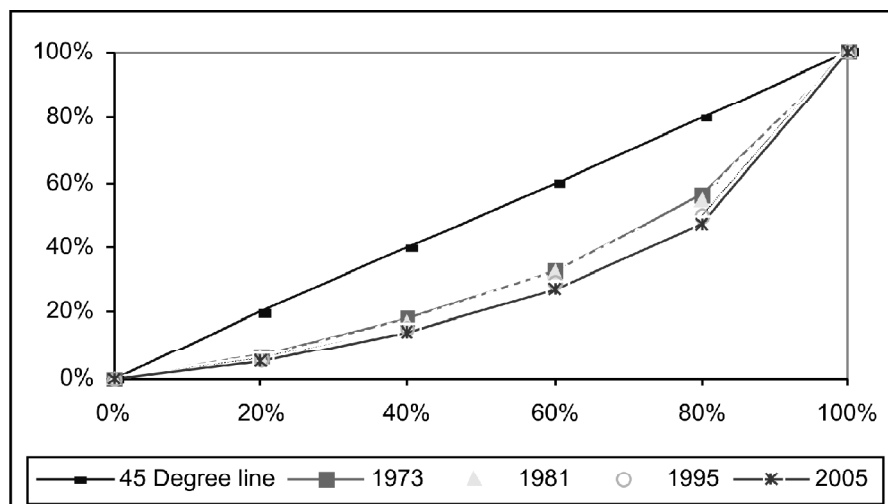
of trade liberalisation, Table 9 shows that income received by the first, second quintiles and the poorest 40 per cent increased in 1983 compared to 1973, while income received by the richest 20 per cent and 5 per cent of the economy declined over the same period. However, with the beginning of the new globalisation process in 1981-82 the income shares of the poorest 5 per cent, 20 per cent, and 40 per cent started to decline.

Figure 4: Long-term Trends in Inequality in Bangladesh, 1973-2005



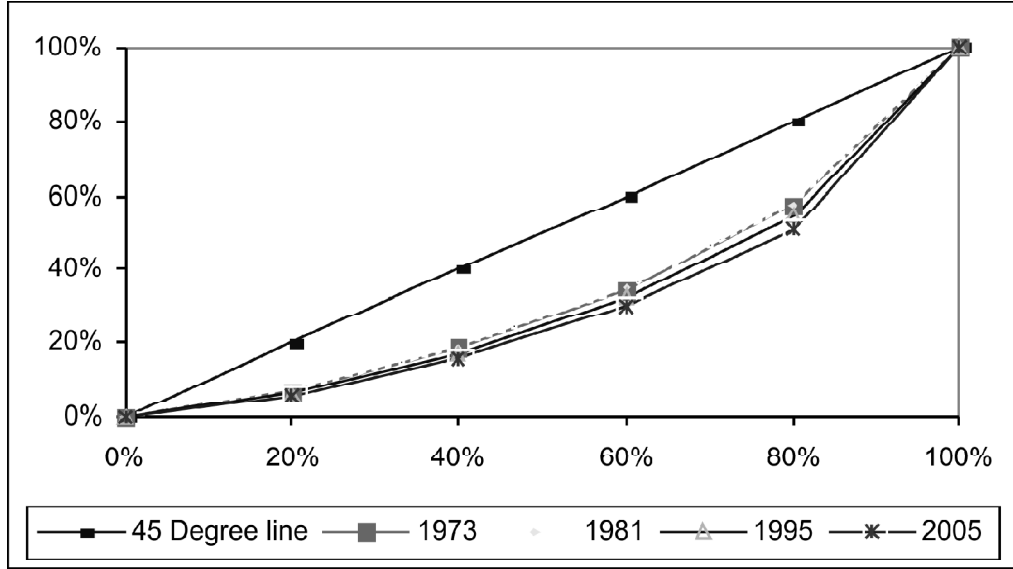
Source: Drawn from Table 10

Figure 5: National Lorenz Income Inequality Curves for the Years 1973, 1981, 1995 and 2005



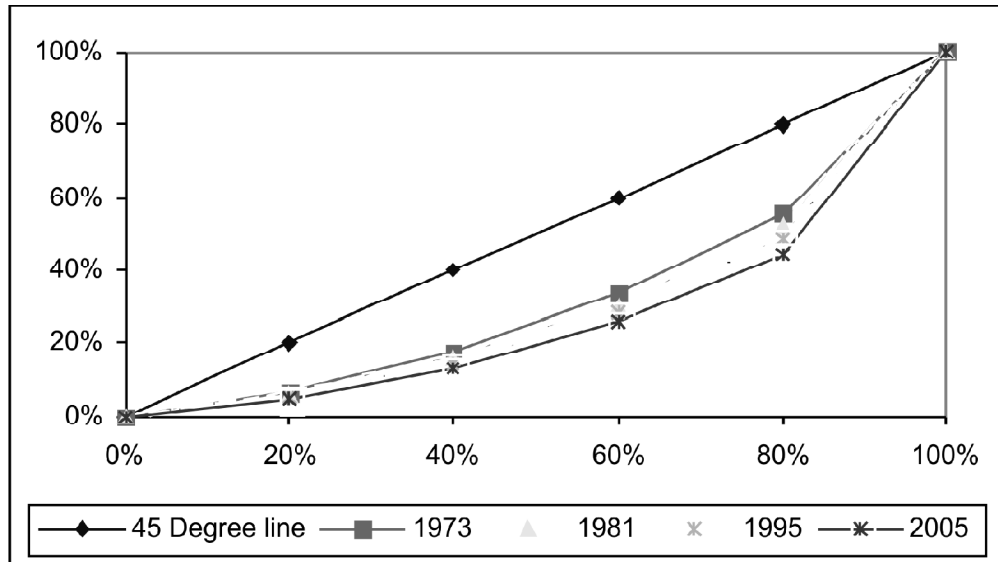
Source: Drawn from Table 10

Figure 6: Lorenz Income Inequality Curves for Rural Areas for the Years 1973, 1981, 1995 and 2005



Source: Drawn from Table 10

Figure 7: Lorenz Income Inequality Curves for Urban Areas for the Years 1973, 1981, 1995 and 2005



Source: Drawn from Table 10

On the other hand, the income share of the richest 5 per cent, and 20 per cent started to increase and reached a peak during the same time period (Table 9). As a result, there emerged a large gap between the highest and lowest income groups. In 1983, the income accruing to the top 5 per cent of households was 18.30 per cent while the income share of the lowest 5 per cent was 1.17 per cent implying an income differential of 14.41. By 2005, this differential had increased to 35 (26.93:0.77). The situation was more severe in urban areas than in rural areas. In rural areas, the richest-poorest ratio in 2005 was 26.17 compared with 15.24 in 1983. In urban areas this ratio increased to 45.33 in 2005 from 14.35 in 1983 (Table 9). Thus it is clear that trade liberalisation in Bangladesh did not bring any reduction in income inequality. Rather it was accompanied by increased inequality.

4. LABOUR MARKET DEVELOPMENT IN BANGLADESH

As discussed before, after the initiation of trade liberalisation in Bangladesh, there were significant improvements in the overall macroeconomic indicators. Whether these improvements brought any changes in the creation of new employment is a matter of concern as employment provides the major link between economic growth and a reduction in poverty. Bangladesh's labour market has experienced a structural change during the 1990s and the subsequent years. The share of agriculture and manufacturing sector in total employment declined whereas the share in service increased. Moreover, the shift of employment was mainly from agriculture to non-agricultural activities especially in services, including construction, trade, transport, hotels and restaurants, and community services (Hossain, A., 2006b). The following sections discuss overall trends in the labour market and the employment situation in Bangladesh for the last three decades.

4.1. Demographic Changes and the Labour Market

Table 10 shows the growth rate of population, labour force and employment during the period 1980-2000. It is evident that in Bangladesh the labour force grew at a much faster rate than the population. For example, during the period 1981-2000, the civilian labour force increased from 25.9 million to 45.05 million at an annual average rate of 3.69 per cent, while the total population grew from 89.9 million to 126.6 million at an annual average rate of 2.04 per cent (Table 10). The civilian labour force grew at the rate of 3.18 per cent and 2.75 per cent during the first and second half of the 1980s; however, during the first and second phase of the 1990s the rate decreased. The size of the employed population also registered an increase of by 69 per cent for the period 1981-2000 which was much less than the increase in civilian labour force by 73 per cent for the same period.

An important change in the structure of employment was the rapid rate of growth in female employment. Male employment grew from 23.9 million in 1981 to 31.1 million in 1990-2000 at an annual average rate of 3.88 per cent. Over the same period female employment grew at an average annual rate of 8.26 per cent (Table 10).

Table 10
Size and Structure of the Labour Force in Bangladesh, 1981-2000

Year (mid)	Population (million)	Civillian labour force (million)	Employed population (million)		Total
			Male	Female	
1981	89.9	25.9	23.9	1.4	25.3
1983	93.3	29	25.55	2.43	27.98
1984	95.3	29.5	26.43	2.55	28.98
1985	97.4	30.80	-	-	-
1989	106.2	33.40	29.40	3.30	32.40
1990	108.6	35.9	30.44	4.47	34.91
1995	119.3	41.73	33.16	7.15	40.31
2000	126.6	45.05	33.67	9.15	42.82

Sources: Khan and Hossain (1989), Mujeri (2004)

4.2. Sectoral Distribution of Employment

There were some shifts in the sectoral contributions to GDP after trade liberalisation. For example, agriculture's share declined from 34 per cent to 26.5 per cent during the period 1980-2005, while industry's share increased marginally from 21.4 per cent to 24.2 per cent and the service sector's share increased from 44.6 per cent to 54.2 per cent during the same time frame. However, these changes were not closely reflected in the changes in the sectoral distribution of employment.

Table 11 shows the sectoral distribution of employment during the period 1981-2000. From Table 11 it is evident that even though the share of employment in agriculture has decreased from 70.1 per cent in 1981 to 62.1 per cent in 2000, it still employs more people than all the other sectors combined. On the other hand, the share of employment in manufacturing declined from 19.6 per cent to 10.3 per cent in contrast to its increasing share in GDP. According to Rashid (2000), this is a result of trade liberalisation adversely affecting several competing large and medium import industries. In addition, the government's de-nationalisation policy in the 1980s led to the collapse of many state owned enterprises which all contributed to the decline in employment growth. Table 11 also shows that the service sector, which contributes about 50 per cent of GDP, accounted for only 25 per cent of the labour force in 2000. One important feature of the emerging trends in the labour market during the 1990s was the shifting of labour from agriculture to the economy's large informal sector. In Bangladesh, a large part of the informal sector employed in rural areas and rural non-farm (RNF) activities accounts for over 40 per cent of rural employment¹⁰ (M. Hossain, 2003). In 1983-84, about 34 per cent of the rural labour force was employed in non-farm activities whereas by the year 2000 this figure stood at 39 per cent (Mahmud, 2006). In the 1980s, the RNF sector was in the form of low-earning self-employment and unpaid family work. By the 1990s, it was engaged in the larger scale enterprises that created greater wage differentials between skilled and unskilled workers and larger profits for more prosperous entrepreneurs. According to Khan (2006), these disequalising components of income (income from non-farm enterprise, salary from

non-farm employment) are responsible for inequality in the distribution of rural income during the period 1990-2000.

Table 11
Sources of Employment: Changes in Sectoral Distribution

<i>Year</i>	<i>Agriculture</i>	<i>Manufacturing</i>	<i>Service</i>
1981	70.1	19.6	8.7
1984	58.8	9.0	26.2
1985	57.7	9.3	28.2
1986	57.4	11.8	26.6
1989	65.0	15.5	14.8
1991	66.3	12.7	16.1
1996	63.2	9.5	25.1
2000	62.1	10.3	24.8

Source: Rahman and Islam (2003).

4.3. Trends in Wages in Bangladesh, 1990-2000

In a labour abundant country like Bangladesh, trade liberalisation should initiate expanding employment opportunities, especially for low-skilled workers which in turn will push up wage rates. However, the evidence shows that in Bangladesh during the late 1990s real wage indices in manufacturing and agriculture stagnated. As a result, the increase in the GDP growth rate was unable to reduce the poverty targets during the late 1990s.

Table 12 shows the real wage rate indices in different sectors in Bangladesh for the period 1990 to 2000 and that there were considerable variations in the movement in real wages across the major sectors. During the period 1993-94 to 1999-2000, real wages declined by 1.61 per cent annually. In the case of the organised manufacturing sector there was a steady increase in the real wages from 1990-91 to 1999-2000 with few exceptions. The construction sector, which is representative of the non-farm informal sector shows a decreasing trend until the year 1991-92, after which it tends to decline steadily.

Table 12
Trends in Real Wages, 1986-2000 (base 1985-86=100)

<i>Year</i>	<i>Manufacturing</i>	<i>Construction</i>	<i>Agriculture</i>
1990/91	99	93.1	98
1991/92	98	90.5	101.1
1992/93	103	92.0	105.1
1993/94	105	90.2	106.5
1994/95	105	83.6	101.5
1995/96	107	85.2	100.1
1996/97	113	87.6	101.3
1997/98	119	88.2	98.1
1998/99	114	88.0	94.0
1999/2000	119	89.5	94.5

Source: Rahman and Islam (2003).

During the period 199-91 to 1999-2000, the real wage index for construction declined by 0.38 per cent. Thus, the trends in real wages in the agriculture and construction sectors imply that acceleration in GDP growth of these sectors did not contribute much to raising real wages¹¹.

5. CONCLUDING REMARKS

This paper provided an overview of the relationship between trade liberalisation, poverty, inequality and labour market developments in Bangladesh during the last few decades. It has been found that in Bangladesh the incidence of poverty declined, measured both by lower and upper poverty lines and the rate of reduction was faster in the post-reform period compared to the pre/initial-reform period. However, the decrease in poverty was greater in urban areas than in rural areas. Along with these, income inequality measured in terms of quintile shares of income, Gini coefficients and Lorenz curves all indicate a positive trend during these periods. It was also observed that existing inequality was aggravated during the policy reform implementation period. In addition, deterioration in the income inequality situation was found to be more severe in urban areas. An analysis of labour force trends and the distribution of employment by sectors show that during the extensive trade liberalisation period (in the 1990s) there was a deceleration in the rates of employment in both the agriculture and manufacturing sectors. However, the bulk of employment generation during the 1990s was in the informal sector. Increases in real wages also did not match with the growth performance of major sectors. These observed phenomenons in terms of poverty, inequality, and the labour market in Bangladesh has led to a surge in studies that directly assess the impact on poor household groups of trade liberalisation policies. This also calls for public policy orientation towards more equitable and pro-poor economic growth. Government poverty reduction strategy has to prepare such that it emphasizes equitable distribution and also accelerate agricultural growth as agricultural growth has more equalizing effect. In addition, steps have to be taken to ensure access of poor households to productive employment.

Notes

1. Head-count ratio is the most common measure of poverty, and is the proportion of the poor in the total population.
2. Minimum consumption bundle estimated for an average Bangladeshi population contains 832 gm of food consisting of 437 gm of cereals, 175gm of vegetables, 40gm of pulses, 58gm of milk, 48gm of fish and 12gm of meat. It corresponds to an average per capita daily intake of 2,112 calories and 58gm of protein.
3. By this method, poverty lines are set by computing the level of consumption or income at which households are expected to satisfy the normative nutritional requirement (Wodon, 1997).
4. 'Lower nonfood allowance' was estimated by taking the median amount spent for nonfood items by a group of households whose per capita total expenditure was close to

- the food poverty line. Similarly, for estimating 'upper nonfood allowance', the median amount spent for nonfood items by a group of households whose per capita food expenditure was close to food poverty line (BBS, 2006) was taken.
5. Concurrently there are other poverty measures (for example, Osmani, *et al.* (2003) and Sen, *et al.* (2004). However, this paper has reported the WB/BBS results.
 6. The Human Development Index (HDI) is a composite index that measures the average achievements in a country in four basic dimensions of human development, such as life expectancy at birth, adult literacy rate, the combined gross enrolment ratio for primary, secondary and tertiary schools, and gross domestic product per capita measured in terms of purchasing power parity.
 7. The Gini coefficient measures the extent to which the distribution of income or consumption expenditures among individuals or households within an economy deviates from a perfectly equal distribution. It ranges from 0 (perfect equality) to 1 (all income accrues to one household).
 8. The Lorenz curve is a graphical representation of the cumulative distribution function. By plotting the cumulative percentage of population on the horizontal axis whilst plotting the cumulative percentage of income along the vertical axis, the Lorenz curve is drawn. It is compared with the perfect equality line that is at an angle of 45 degrees. The further the Lorenz curve lies below the line of equality, the more unequal is the distribution of income.
 9. According to M. Hossain (2003), RNF activities are classified into three categories: 1) manual labour based –includes self-employed subsistence oriented cottage industries, wage employment in rural business enterprise, transport operation and construction labour; 2) human capital based occupation-includes salaried service in public and private organisations, teachers and various types of personal services; and 3) physical and human capital intensive activities-includes commercial type rural industries, for example, agro-processing, shop-keeping, peddling, petty trading and contractor services.
 10. There is substantial discrepancy in the results for the trends in real wages. The reason lies in the use of different deflators in calculation. See Salmon (2002) and Sen & Hulme (2006) for comparison.

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