

An Assessment of Poverty, Inequality and Employment Related MDGs in Bangladesh

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1 Background

In 2000, global leaders at the United Nations agreed to advance the agenda to eradicate poverty and deprivation of every citizen of the world and to ensure equality in opportunity to the people regardless of gender, ethnicity, nationality or socio-economic status (UN, 2000). It was also believed that such effort, if holistically pursued, would progress toward a world with greater peace and security, disarmament, human rights, democracy and good governance. This belief stood firm at the following UN summit to review the progress and the then current status towards achieving what has been known as Millennium Development Goals (MDGs) (UN, 2005). At the onset of finishing another five years, it is perhaps the most suitable time to assess the progress towards the MDGs pertaining to the experience with MDGs in Bangladesh.

This report sets out to assess the experience of Bangladesh with MDGs. More specifically we will focus on nature, status and trends in *poverty* (MDG 1.A) and *employment* (MDG 1.B) of the country. Bangladesh is fortunate enough to be part of the growth experience that has typified many countries of the region. It has experienced a robust growth (albeit lower than her other Asian counterparts) in the recent decades, practice of democracy (however, accompanied by unimpressive institutional development) and improvements in many socio-humane indexes (such as increased life expectancy and lower fertility rate in a country with world's highest population density). While showing a capability to reach the goal of poverty eradication within the timeframe set by MDGs in the poverty front, Bangladesh has shown a very limited capacity to ensure employment opportunity for her citizen. The report attempts to bring together evidence on these issues and contribute toward a policy narrative which may lower the divergence between current trends in the MDG parameters and goals set by *Millennium Declaration* a decade ago.

The structure of this report is as follows. Section 2 addresses current status and the trends in the variables which fall under the purview of poverty and employment related goals as described by MDGs. The main focus will be on poverty head count rates, poverty gaps and some distributional aspects (such as Gini coefficient, and share of income by the bottom quintile). An attempt will be made to forecast growth and associated poverty reduction based on available data. Changes in log mean income (i.e. growth rates) and its implications for poverty eradication are assessed. Some secondary analysis are considered which will highlight the widen disparity in income and poverty within the country. Then the discussion shifts to employment and nature of the labor markets in Bangladesh. This is specifically important as this is one sector which needs attention as Bangladesh is unlikely to reach this goal. Section 3 deals with more specific analysis of sectors in an itemized fashion and identifies action that may strengthen the country's achievement towards meeting MDGs. In Section 4, we provide way forward for policy interventions based on the key sectors that are critical to reach the poverty

and employment related MDGs and will contribute to the wider development agenda of the country. Section 5 concludes with some brief comments.

2 Current Status and Trends MDG Indicators: Poverty and Employment

2.1 Some Conceptual Issues

Growth (in mean income), poverty eradication and changes in income distribution and inequality are interconnected and the interplay between these different components is complex enough to address in details in this report. To establish a conceptual framework to guide the analysis of available data we mention couple of stylized facts about growth, poverty and inequality from a global perspective. It is well established that faster growth rates can beget faster poverty alleviation. Moreover, if the distribution of income or expenditure remains constant then it will necessarily imply a reduction in headcount poverty rates (Bourguignon, 2003). This stylized fact is evident more generally in the long run data and applicable to different regional levels (across regions, across countries and across regions within a country; see the Philippines example in World Bank, 2001). However, evidence on distribution preserving growth is mixed and it can go either way.¹ The earlier literature identified an inverse U-shaped relationship between within country income inequality and mean income (so called Kuznet curve). The whole issue becomes even more complex as inequality can be causal for growth as well and again the effect may go either way (see Bourguignon, 2003 and Quah, 2003). It is also important to identify how the labor market is linked with growth process as it will have important implications for poverty and income distribution. Within country increase in income inequality is a common phenomenon caused by skill-bias job creation. The associated gain in skill premium can create a wage (and income) distribution which is highly skewed. So the types of job creations with the growth path will have important implication for poverty alleviation and dynamics in income inequality.

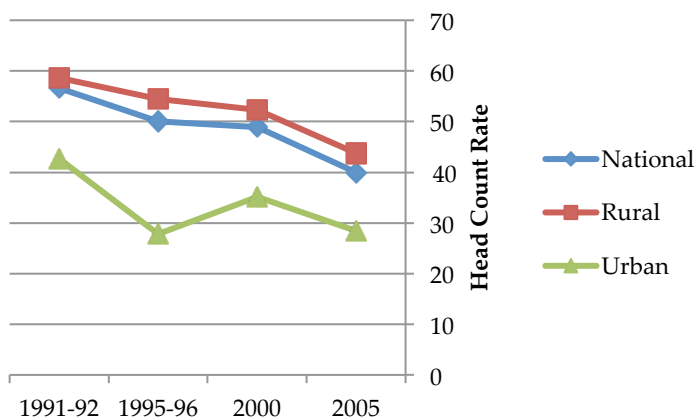
2.2 Measuring Poverty Headcount Rates

In this report, upper poverty lines are used to measure the poverty rates. Upper poverty lines give a threshold level of income required to consume a predetermined needs for basic nutritional requirements. This threshold level of income also includes allowance for non-food basic goods (usually the fraction of food expenditure is estimated and food expenditure is inflated using the inverse of the fraction, see Haughton & Khandker, 2009). This method aptly called Cost of Basic Needs (CBN) which stands in contrast with Direct Calorie Intake (DCI) method, uses the minimal calorie requirement (2,112 Kcal) as the threshold level of consumption for an average person. The DCI method has traditionally been used for poverty measurement (i.e. fraction of population consuming below the threshold level of calorie) notwithstanding this is considered to estimate lack of nourishment and not a proper index of

household welfare. The CBN method has been used in Bangladesh to estimate the headcount poverty rates since 1990-91 Household Expenditure Survey and two methods are concurrently used since then. DCI methods, while narrow in scope, have the advantage of being simple. CBN methods are rather complicated as they need to take into consideration both regional and temporal price differentials of the goods that go into the consumption basket. We should also note that for cross-country comparison it is customary to use dollar a day expenditure (using

purchasing power parity to make them comparable across countries) as a threshold value. This report will use the national poverty line (or properly deflated regional ones, see BBS, 2007) since we will be comparing headcount poverty ratios across time for the same country. These estimates are frequently used in the MDG literature in Bangladesh as well (see e.g. GOB, 2008 and 2009).

Figure 1: Head Count Rate (CBN) of incidence of poverty.



Source: BBS (2007), Table 6.1, p.57. The upper poverty line was used as cut-off point.

2.3 Trends in Poverty

Available data reveals that Bangladesh demonstrated impressive achievement in poverty eradication in the last fifteen years. Between 1991 and 2000, the poverty headcount rates declined from 57% to 49% nationally (at a rate of 0.8 percentage point per annum) while between 2000 and 2005 the poverty declined by another nine percentage points (about 1.8 percentage points per annum, see Table 1 and Figure 2). The years of highest poverty reduction is consistent with high growth in private consumption component of real GDP. For rural areas especially consumption

Table 1: Incidence of poverty in Bangladesh, 1991-2015.

	National	Rural	Urban
1991-92	56.6	58.7	42.7
1995-96	50.1	54.5	27.8
2000	48.9	52.3	35.2
2005	40.0	43.8	28.4
2007 ^a	38.7	42.3	27.6
	47.2	50.8	36.1
2015	29.4	30.6	22.5

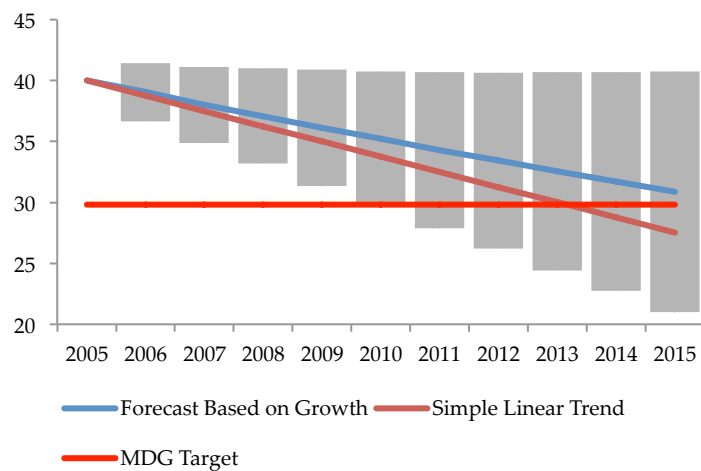
Source: Reproduced from GOB (2009), Table 3.3, p.54. ^aIf 8.5% added in 2007/08 because of price hike. The figures are primarily based on BBS (2007).

growth has been the either only or the dominant force in reducing poverty while in urban areas both growth and redistribution contributed in reducing poverty (Bhattacharya & Khan, 2008). If this rate of decline (over last fifteen years) continues then the MDG for poverty eradication will be attained two years ahead of the scheduled year of 2015 (see Figure 2). While historically

poverty rates in the rural areas are higher than that in the urban areas (with rural poverty rate in 2005 being 44% compared to the urban poverty rate of 28%), both regions experienced impressive decline in poverty rates.²

We also estimated the decline in poverty rates based on projected growth rates forecasted up to 2015.³ We estimated 95% confidence interval for poverty decline as it would be suggested by mean income change forecasted from a time-series model.⁴ We found that the linear extrapolation based on past poverty rates actually overestimate the decline in poverty rates. Our estimates suggest that Bangladesh may reach the target level of poverty in 2016. One should note that, for simplicity, we did not take the increasing income equality into consideration and this would further delay reaching the MDG poverty target. So, in our opinion, the present forecast in poverty rates is a little ambitious (as suggested by, say, GOB, 2009).

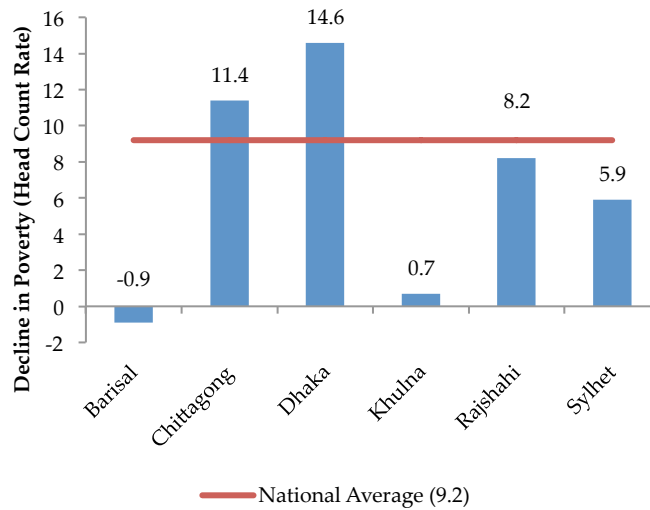
Figure 2: Actual and forecasted poverty levels (by Head Count Rates) in Bangladesh.



Source: Initial level of poverty is taken from HIES (2005). The linear decline in poverty rates were derived from simple linear extrapolation based on poverty rates of 1995/96, 2000 and 2005. Growth rates were forecasted using most prudent time-series model based on real per capita GDP from Penn World Table. The shaded region shows the 95% confidence interval for the decline in HCR of poverty as implied by forecasted log change in mean per capita income (in real terms) For technical explanation see footnote 4. The solid red line depicts the MDG for poverty for Bangladesh (29.8% by 2015).

Before exploring the distributional aspects of income and inequality we looked at poverty by land ownership (see Table A1). Land is an important asset that receives much importance in the development literature.⁵ We stratified incidence of poverty by size of land ownership. For both 2000 and 2005 (years in which HIESs were carried out, see BBS, 2007), rates of poverty were systematically higher among households with no or smaller land holdings. Not only that, over the same periods, households with bigger land sizes also experience a higher rate of poverty decline. Land ownership has remained a contentious issue for poverty eradication and we will revisit this issue in areas where we feel much attention is needed (see Section 3.4).

Figure 3: Decline in Head Count Poverty Rate by Division between 2000 and 2005.

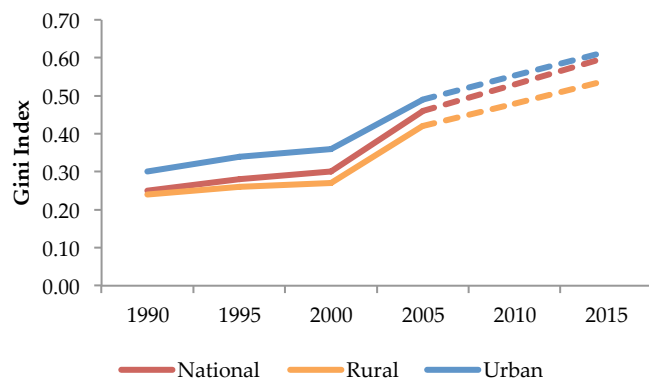


Source: Household Income and Expenditure Surveys; see BBS (2007) and GOB (2008), p.20.

2.4 Other Aspects of Poverty: Severity and Distribution

While headcount rates of poverty are important index of welfare (or lack thereof), it is also important to look at severity of poverty. Poverty gap measures give us the depth of poverty (see Khandker & Haughton, 2009). Poverty gap nationally decreased from 13 to 9 between 2000 and 2005 (see Table A2). This decline was true for most regions of the country. However, two divisions, namely Barisal and Khulna, actually experienced an increase in severity of poverty as the poverty gap was higher in those two divisions in 2005 compared to 2000. This is true for squared poverty gap measures as well. The regional differences in poverty incidence and dynamics of change have garnered much attention among researchers and development partners (see World Bank, 2008). As we see in Figure 3, the gain through poverty eradication has been very uneven in Bangladesh and the decline has mostly been concentrated in Dhaka, Chittagong and Sylhet divisions. This suggests regional convergence within the East but no pattern of convergence among the West (see

Figure 4: Inequality by Rural and Urban Areas.



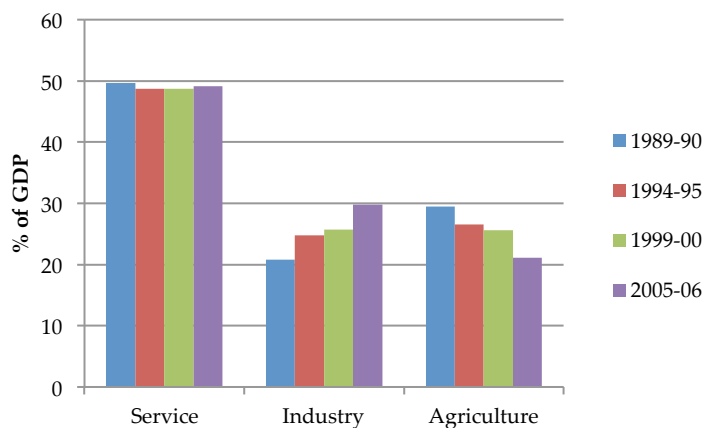
Source: GOB (2009), Table 3.12, p.59.

World Bank, 2008 and Zohir, 2010 for further discussion on this). One of the challenges of future policy design in the light of MDGs is to address these regional differences in income levels and poverty.

We further our understanding of the current situation with inequality by looking at a common measure called Gini coefficient which uses the whole distribution of income and/or expenditure. There is a widening gap in the country as Gini coefficients have registered upward trend over time (see Figure 4). If the present trend continues then it will reach above 0.6 in 2015 which is high by cross-country standards. We should also notice that inequality is generally high among urban residents and this unequal opportunity within the cities remains another challenge for Bangladesh (see Section 3.3 on urban development). Last but not the least, inequality measured by income share of the bottom quintile also suggests that that share has declined between 2000 and 2005. It is important to realize the implications of these findings for growth and associated poverty eradication. Our projection of poverty alleviation based on forecasted growth rates did not take into consideration

the widening gap over time (see Figure 2). The increased inequality has implications for basic MDG target of poverty eradications as a wider distribution in income may mitigate the gains from increase in mean income and counteracts with the growth elasticity of poverty decline (see Bourguignon, 2003 and Bhattacharya & Khan, 2008).

Figure 5: Sector wise share in GDP.



Source: GOB (2009), Table 3.14, p.61.

2.5 Trends in Employment and Other Labor Market Features

Employment and labor force participation (MDG 1.B) is one area where Bangladesh is yet to show satisfactory performance. While Bangladesh is passing through the usual growth trajectory of moving from agriculture to a more industrialization phase, the service sector remained the dominant source of income for the economy (see Figure 5). While manufacturing sector has gained in the recent years in terms of its contribution to GDP, it is yet to show capacity to absorb “surplus” labor in the agricultural sector (Osmani, 2008).

Table 2: Labor force and employment growth, 1991-2006.

	Labor force growth			Employment growth		
	All	Male	Female	All	Male	Female
1991-1996	3.4	2.7	4.5	2.7	2.3	5.0
1996-2000	3.2	1.2	14.4	3.0	1.1	14.5
2000-2003	4.6	3.9	7.1	4.4	3.4	7.7
2005-2006	2.2	1.2	5.5	2.2	1.5	4.6

Source: Labor Force Surveys, various years.

Another interesting feature of the labor market in Bangladesh is increased participation by women in the labor force and their employment also kept a similar pace during the last two decades (see Table 2). Growth in female labor force and employment outpaced its male counterpart in all four periods. Overall labor force participation, however, portrays a dismal picture as it remained below sixty percent throughout last two decades albeit showing an upward trend. While men’s participation remained high, the level of female participation has

Table 3: Labor Force Participation, 1991-2006.

	% among population aged 15 & above		
	All	Male	Female
1990-1991	51.2	86.2	14.0
1995-1996	52.0	87.0	15.8
1999-2000	54.9	84.0	23.9
2002-2003	57.3	87.4	26.1
2005-2006	58.5	86.8	29.2

Source: Labor Force Surveys, various years.

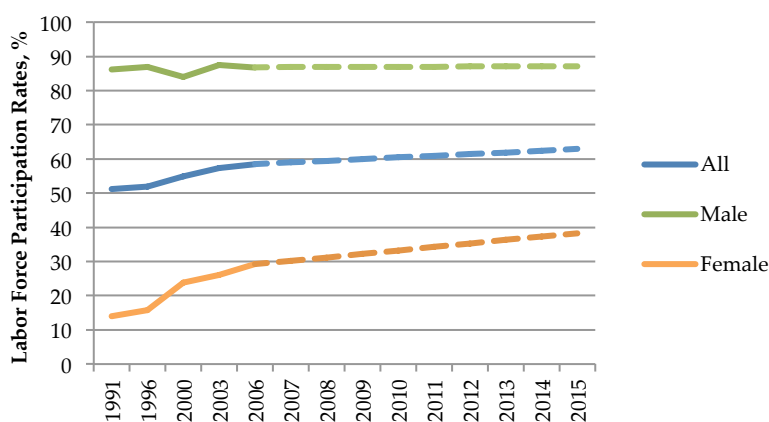
been very low (see Table 3). The latest available data based on Monitoring of Employment Survey (MES, 2009) reveals that this trend has not changed and as of 2009, only 59.3% (53.7 million) population over 15 years of age is economically active. We also forecast the labor force participation rates based on average annual changes in this rate between fiscal years 1991 and 2006. The overall annual change in LFPR was 0.49 percentage point. If this trend continues then by 2015, the LFPR will reach a level of 63% (see Figure 6). So the past trend implies that it is unlikely for Bangladesh to reach the MDG

target of full labor force participation by 2015. The LFPR is specifically stagnant among men exhibiting a 0.04 percentage point change per annum during the same period. The LFPR is increasing for women at a rate of 1 percentage point and if this trend continues the rate will reach a level of 38%.

So the past trend implies that it is unlikely for Bangladesh to reach the MDG target of full labor force participation by 2015.

We also forecast the labor force participation rates based on average annual changes in this rate between fiscal years 1991 and 2006.

Figure 6: Forecasting Labor Force Participation Rates



Source: LFS (Various Years). Forecast is based on average annual changes between 1991 and 2006 in Labor Force Participation Rates.

The available data would imply that the estimated unemployment rates in Bangladesh are low (4.3% overall with 3.4% for men and 7.0% for women, see Table 4). These low rates can be explained by low participation rates in the labor force, chronic underemployment for large fraction of the people who are participating in the labor force and presence of large informal sector which result in underreporting of employment. However, a significant part of the labor force remains underemployed (as high as 25% in 2006). This is particularly rampant among women and the rate has gone up over the years.

Table 4: Unemployment and underemployment, 1995-2006.

	Unemployment rate (%)			Underemployment rate (%)		
	All	Male	Female	Total	Male	Female
1995-1996	3.5	2.8	7.1	-	-	-
1999-2000	4.3	3.4	7.4	17.6	13.0	45.5
2002-2003	4.3	4.2	4.9	16.6	7.4	52.8
2005-2006	4.3	3.4	7.0	24.5	10.9	68.3

Source: Labor Force Surveys, various years.

Table 5: Size and Share of Labor Force in Formal and Informal Sector

	Formal sector			Informal sector		
	2006	2003	2000	2006	2003	2000
Million persons						
Total	10.2	9.2	9.6	37.2	35.1	29.3
Male	8.6	7.3	8.4	27.5	27.2	22.7
Female	1.6	2.0	1.2	9.7	7.9	6.6
% of labor force						
Total	21.5	20.8	24.7	78.5	79.2	75.3
Male	23.8	21.1	27.0	76.2	78.9	75.0
Female	14.2	20.2	15.4	85.8	79.8	84.6

Source: Economic Survey 2007, Statistical Yearbook of Bangladesh Various Issues. Also see Rahman, Mondal, & Iqbal (2009).

Another salient feature of the labor market in Bangladesh is the prevalence of informal sector as a source of employment. As of 2006, one in every five persons in the labor force was involved in the formal sector (while going down a little from twenty-five percent from early 2000s, see Table 5). This echoes the similar results as we see for other aspects of the labor force. For example, the participation in the informal sector is higher for women and this perhaps also explain the high rates of underemployment as it is more likely to share work and remain underemployed in the informal sector than the formal sector. However, MES (2009) suggests the gap in underemployment between men and women has converged to the national average after 2005-6). **The inclusion of the informal sector in the formal sector and subsequent employment generation in the related sectors remain a challenge in Bangladesh.**

2.6 Wage Dynamics⁶

Wage provides a direct indication on productivity and capacity for poor households to pull itself out of poverty. It helps us to understand the relative demand of skills in different sectors and capability for more “modern” sectors to absorb labor from more “traditional” sector. In Bangladesh, it is important to understand the wage dynamics as it determines household members’ decisions to participate in the labor force.

Table 6: Dynamics in Real Wage Indices by Sector, 1991-2006.

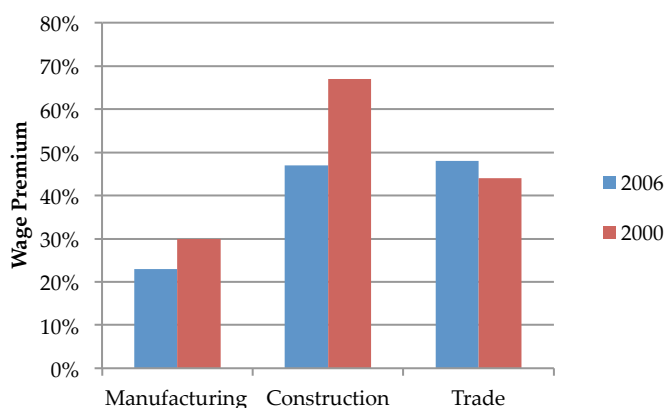
	General	Manufacturing	Construction	Agriculture
1991-95	1.3%	1.5%	-0.4%	1.8%
1996-01	1.8%	2.9%	2.3%	0.6%
2002-06	3.5%	5.1%	0.8%	2.9%

Source: Economic Survey 2007, Statistical Yearbook of Bangladesh Various Issues. See Rahman (2009) for further clarifications.

In the recent years, manufacturing sectors have shown a 5.1% growth rates in real wage. This was much higher compared to the last decade. Agriculture also registered a growth rate of 2.9% and probably contributed to the poverty alleviation effort in the early 2000s. We should also note that rate of decline in poverty alleviation was also lowest during the same period. This suggests the rural income generation and raising agricultural productivity (in a sustainable manner) is still an important factor for reaching MDG target of poverty.

While the wage indexes are important indicators of trend over time, we also look at wage premium by sector. This gives us indications on relative skill premium (assuming the average skill levels in other sectors are higher). Our findings suggest there is a considerable wage premium in other sectors over agriculture (see Figure 9). Construction sector exhibited the highest premium for

Figure 7: Wage Premium by Sector over Agriculture.



Source: LFS (Various Years).

the wage earners compared to agriculture (47% in 2006), however, it has declined in the recent year (from 67% in 2000). Manufacturing sector also experienced a decline in wage premium while the sector as a whole grew (see Figure 7). The wage premium grew only in the trade sector.

We conclude our discussion on labor market profile by highlighting the income disparity by gender among wage earners from HIES (BBS, 2007). Gender disparity in earning is widely

recognized and we find the same symptom in Bangladesh as well. We look at distribution in monthly income for women over the income deciles for men. If there was no discrimination the women’s income would be uniformly distributed over men’s monthly earnings. However, as Figure 8 reveals, women’s earnings are clustered around the left side of the men’s earning distribution. This adverse labor market outcome discourages women to participate in the labor force and partly explains the low rate we saw before in Section 2.5.⁷

Figure 8: Gender Disparity in Wage Income Distribution



Source: Authors’ calculations using HIES (2005) individual data.

2.7 Summary

As a whole, Bangladesh has exhibited potential to reach a low incidence of poverty. Growth in mean income has contributed in poverty alleviation while the associated higher income distribution is counteracting toward higher incidence of poverty. Linear extrapolation of poverty rates suggest that the MDG target level of poverty will be reached in 2013 while more sophisticated forecast based on growth rates suggest it may take a little longer. Moreover, while not comparable, *self-assessed economic condition from Welfare Monitoring Survey (2009) revealed that 31.9% of the population considered themselves poor while 9.3% of the households considered themselves extreme poor.*

Increasing inequality has garnered attention and it manifests itself through different dimensions. The country also shows vulnerability to economic shock such as price hike. Employment situation of the country show a particular hint of fragility and there are much scope to improve in this front. Agricultural sector still pose as an important sector to contribute in overall poverty alleviation with a marked gain in relative wage over other sectors.

On average differences between divisions/regions have increased from 2000 to 2005 rather than between urban and rural areas. Inequality between divisions increased proportionately more than within divisions. All these suggest there is no evidence for convergence in consumption

level and poverty among regions within country as a whole. While inter-sectoral or rural-urban flows have played some role in poverty reduction most of the poverty reduction has taken place within regions (see Narayan, Yoshida, & Zaman, 2007 and World Bank, 2008). Poverty reduction efforts would therefore need to focus on areas and sectors where the poor currently are. Urbanization (see Section 3.3) and the associated expansion of the service sector have been important factors in shaping the development process in Bangladesh in the 2000s.

3 Analysis of areas where more effort is required to reach targets

There can be many dimensions that require attention of national policy makers and international bodies to move towards achieving MDGs in Bangladesh. We will focus on only few of these issues based on some criteria. Firstly, these issues have to be relevant to the poor. Secondly, we want to focus on factors that need planning and adhering to certain rules in mid to long run future (e.g. urbanization and investment in research and development to increase in agricultural productivity in a sustainable manner). This may require coordination of many groups at present that may have competing interests in the short run. Thirdly, we focus on sectors that may have considerable overlapping with other sectors (e.g. energy generation, land management). Fourthly, we chose at least one sector where institutional development and technology adoption can play a positive role. Land management is one such sector. Properly defined ownership, private or public alike, is a backbone of efficient working of an economy. Defining ownership of such a highly valued resource as land in a predominantly agrarian society can turn out to be lynchpin for a sustainable development in Bangladesh.

3.1 Agricultural Productivity

Agricultural sector has remained an important sector in Bangladesh for several reasons. Firstly, while agriculture is no longer the dominant sector in terms of its contribution to GDP (Osmani, 2008), it has remained the predominant sector in terms of labor absorption (LFS, various issues). Secondly, gain in productivity in agriculture will result in higher rural real wage which is likely to lower incidence and prevalence of poverty. Agricultural growth has been associated with a poverty reduction elasticity of 0.6 to 1.2⁸, so a higher growth will contribute further in poverty reduction. Thirdly, this sector is very important for the country's food security. Fourthly, intensive use of natural resources has resulted in resource erosion and soil degradation as well as jeopardizing natural habitats in many parts of the country. In the face of shrinking availability of agricultural land and requisition of land for purposes other than agriculture it will be utmost important to focus on raising productivity in the one hand and on the other hand, making it sustainable in the long run.

Osmani (2008) correctly identified two aspects regarding raising the agricultural capacity of the country. One salient feature of agriculture in Bangladesh is to move towards further

diversification within its agricultural sector (Deb, 2008). Farmers have moved towards cash-crop from crops that are more sources of food in nature and also incorporated non-crop practices such as fisheries, horticulture and livestock. While these diversifications are important it is equally important to incur sustained productivity gain through research and development resulting in technological innovations. Somewhat missing in the whole discussion is probably the issue of marketing of agricultural products. The difference between farmgate price and the retail prices paid by the consumers are widely different. While these two prices probably move together, the wide gap suggests gains from trade is extremely biased against producers in this sector. Establishing regional markets in the urban and peri-urban areas and investing in transportation may help farmer's enjoying a more favorable terms of trade.

3.2 Employment Generation in the Rural Non-farm Sector

Another noteworthy feature of the economy is rise of landless classes in the rural areas. While there are some scopes of land distribution of *khas* lands to this group (see Section 3.4 on land management), it is imperative from a policy perspective to provide a conducive environment to absorb these surplus labors. While manufacturing sector has exhibited robust growth in the recent time (Osmani, 2008), this has failed to show the capacity to subsume the surplus labor of the economy. This in turn has failed to contribute in raising rural real wage rate which could have been possible otherwise.

As we argued that one would notice the diversification in occupation within agriculture in the recent time, it is also important that proper policies should encourage diversifying between sector as well especially in sectors which have potentials to engage rural population in productive ventures. This also has a regional dimension as in certain areas, lack of non-farm activities is associated with lower purchasing power resulting in seasonal food deprivation and hunger. GOB (2008) identified some key constraints that are hindering growth of SMEs such as limited access to finance⁹, insufficient infrastructural support (such as energy, see Section 3.5) and barrier to participate in the wider market.

There are few other aspects of rural employment generation in the non-farm activities which call for planning and some initial investment to avoid coordination failure and exploit economies of scale. Production network can particularly be helpful to enhance efficiency among firms of similar characteristics (e.g. size or regional concentration, see (GOB, 2008). This will also help to pool resources together to insure against demand shocks and assure quality and steady supply of goods.¹⁰

3.3 Urban Planning

While it is customary to put emphasis on the agricultural sector and rural income generating activities as *loco motor* for poverty alleviation and improving standard of living for Bangladesh,

one should pay attention to industry as it has gained the most in terms of its share in GDP in the last twenty years (see Figure 5). Market oriented private initiatives have shown remarkable resilience and have contributed positively to the economy albeit showing limited employment scope for surplus labor force (resulting in underemployment; see Section 2)¹¹.

However, the manufacturing plants and the management offices have largely been concentrated in the few urban areas (namely Dhaka and Chittagong). This concentration has led to an organic growth of the urban centers with limited investment in public infrastructure such as clean water supply, solid waste management, creating scopes for the lower income groups in the urban areas to have decent housing. The transport systems in the urban centers especially Dhaka are precarious, extremely wasteful and unsustainable. Management of urban land, unsolicited land claim over surrounding habitats and unlawful use of public places (e.g. parks, pedestrian walkways or footpath) have made urban living in the large cities unbearable and adverse to a sustainable growth of a decent urban habitat.

Urbanization in Bangladesh suffers from lack of planning to its greatest extent. As GOB (2008) identified no city offices have a proper planning wing. Lack of foresight has resulted supplying basic urban amenities which continuously failed to meet the demand of the urban citizen and put strain on the urban infrastructure such as roads and water supply¹². Urban areas also show higher levels of poverty and inequality (see Figure 4). Provision of housing and proper shelter for urban poor is a must. All cities require public recreational facilities which are shrinking in urban areas in Bangladesh and lack of proper enforcement of property rights on valuable real estate in around urban cities have caused a concern among citizens (e.g. land grab from building developers and other private utility providers). Management of water bodies in and around cities like Dhaka is also an important issue for proper drainage system and avoiding water logging. Preservation of these water bodies also have recreational values for its citizen.

3.4 Land Management

Land, in both urban and rural areas, has become a prized possession. Available land for either increasing crop land or urban extension has been very limited. The high rent on land ownership has led to misappropriation of land through illegal and extra-legal means and has led to further landlessness and deprivation through income or asset loss as well as general loss of security and sense of belonging.¹³ The poor do not have access to lands special types such as *Khas* land, *Char* and wet-lands and water bodies (*Jal Mahal*). In the urban areas, the poor are marginalized by staying in slum areas lacking proper provision of basic urban utilities and security (see Section 3.3). Thus, proper land ownership, management and administration have become important policy focus in recent time in Bangladesh (see GOB, 2008 Section 4.2.6).

Another important issue is degradation of land from both man-made and natural causes. Because of climate change, coastal areas are specifically vulnerable to sea-rise (Sarwar, 2005). Land salinity in the coastal areas is on the rise and this is also caused by indiscriminate shrimp culture in the region. In the other areas river erosion has also contribute in loss of productive land and availability of land is actually on decline. Another important issue in land management is the preservation of land records and using them in the matter of dispute over land ownership. This is unfortunate since sophisticated GIS mapping technology is now available to keep track of land demarkation and enforce right of ownership.

3.5 Energy

Energy is vital for smooth operation of an economy and it is important for economic and social development for Bangladesh. Bangladesh is a very low energy consuming country but it hides the fact that she is also one of the most energy starved countries as well (Asaduzzaman & Billah, 2008; see Figure 12). There are other salient feature of energy use that entails misuse of resources and practices that pose danger to vulnerable groups. For example indoor air pollution by using fuel-wood for primary energy source exposes women from low income groups in the rural areas (Dasgupta, Huq, Khaliquzzaman, Pandey, & Wheeler, 2006). Energy is prerequisite for capital formation and attracting both domestic and foreign investment in physical and human capital (such as on the job training). Availability and distribution of energy (especially natural gas), or lack thereof, has been attributed to regional differences in productive capacity and standard of living.¹⁴

While generation of energy to meet the growing need of its populace is a must in the coming years, determining the sources of energy in future require an active policy discussion and engagement of different fractions of the society. In the face of shrinking availability of natural gas and limited capacity to extract coal, Bangladesh has a huge potential to engage in energy generation through renewable sources. E.g. photo-voltaic or solar panel as a possible alternative to electricity generation has already been explored. There are now several commercial vendors who are providing solar panels for power generation. However, the private incentives are quite adverse to adoption of this technology as unit price of electricity from traditional power grid is only a fraction of that from solar panels. However, this is partially because of heavy subsidy government provide to electricity generation and pricing of energy produced from a dwindling source such as natural gas or expensive means such as liquid fuel calls for immediate attention.

Rural Electrification Board and a local NGO (Grameen Shakti) are already venturing the possibility of providing energy through the means of solar panel to households in the rural areas.¹⁵ As of 2008, three hundred thousand households are using solar photovoltaic systems with a combined capacity of 15 MW. This also has potential to generate rural employment generation for installing and maintenance of such systems. Apart from PV systems, wind

turbines in the coastal areas¹⁶ and biomass gasification and biogas (mainly from animal and municipal waste) for electricity generation may also have potentials to meet energy demand in the coming years.

3.6 Governance

We should emphasize on poverty not just being the absence of wealth; it is more fundamentally the lack of entitlement and the rights to livelihood, dignity etc. and in any society prerequisite of ensuring the above are a democratic government (UNDP, 2007). If a government is characterized by lack of transparency, accountability, or competence, it is the ordinary citizen who suffers most. Lack of good governance can jeopardize any noble initiative that intends to bring about positive social changes. Good governance is an inherent cause of economic growth and unless the prior is achieved poor people will continue to suffer from inadequate security and economic opportunities. Core dimensions of good governance among others include basic human rights, stable economic institutions, dynamic civil society, independent judiciary and finally accountable, transparent, efficient political and executive body along with strong local government. It also implies to the processes and institutions to produce results that meet the needs of society while making the best use of resources at their disposal and also covers the sustainable use of natural resources and the protection of the environment.

A steady and sustainable reduction of poverty in Bangladesh will require a pro-poor policy framework and to operationalize any such framework we need an efficient administration that will maintain a sound fiscal and monetary policy, create an environment for efficient production through appropriate trade, exchange rate and build a close nexus between different public/private institutions, stake holders, donor's agencies and civil society. Bangladesh needs good governance for improving the present condition to provide the environment for private sector development and employment generation. By establishing good governance we can generate revenue, redistribute income and ensure the sustainable use of resources. Weak capacity and corruption have seen some of the region's governments perform poorly, with negative impacts on poverty and stability.

3.7 Public Support System

People below the poverty line are the most affected group in times of shocks natural or otherwise (e.g. economic shocks emanating from sudden price hike or global financial crisis, see Habib, Narayan, Olivieri, & Sanchez-Paramo, 2010). Death/accident of the income earning member, natural shocks such as flood, river erosion or market shocks such as price hike can delay achieving MDG1. There have been cases where the households living just above the poverty line are pushed back into poverty by a shock (see Table 1). Chronic problems such as *monga* and arsenic make it extremely difficult to fight poverty. These vulnerable groups need insulation such as safety net programs to support them in the times of need.¹⁷ The support

system would aid them during such shocks so that they would not fall back into extreme poverty again.

Bangladesh has shown progress in her disaster management skills and deaths from natural disasters have come down over the years. However, the country is still vulnerable to various adverse shocks and further disaster risk reduction and reinstatement of the affected people, particularly the poor ones, remain a challenge. Development plans need to incorporate climate change risks in its national disaster risk mitigation strategies through promoting proper adaptation mechanism. Cross-border talks on shared resources such as river bodies need to bring tangible results¹⁸. This is also related with another “silent” disaster of river erosion. There are no systematic efforts to rehabilitate the affected households. Land reclaims are very difficult and an effective dispute resolution mechanism (see Section 3.4) is needed. It is also important to recognize that such affected people often move to the cities as they do not find any alternate sources of income locally. So creation of alternate source of income (see Section 3.2) and urban support systems (see Section 3.3) are also important for a comprehensive disaster management plan and public support system.

4 Way Forward

Despite the linkage between poverty, hunger and employment, the progress towards hunger and employment related MDG targets have not been as encouraging as poverty. Strategies and programmes that adequately address the interconnectedness and dynamics between the three indicators of MDG 1 are strongly needed if Bangladesh is to achieve its goals outlined in MDG 1. Poverty reduction without commensurate reductions in hunger and nutrition and increase in in employment only reveal the inadequacy from not being on a development pattern which is non-inclusive and unsustainable in nature.

Continued agricultural productivity growth, for rice and other crops, will be needed to ensure higher income for rural households and satisfy an inevitable higher aggregate future demand from a larger population. The availability of cultivated land as against increased food grain demand, ground water supply and availability mostly related to Boro rice, higher yielding and climate change resistant seed/crop varieties and effective marketing of such outputs are major areas that need extensive support for better agricultural production.

Bangladesh’s food crop sector will need to achieve greater diversity, with more emphasis on non cereal crops, such as pulses, fruits, and vegetables. Crop diversification strategies should be demand driven for success and sustainability. *Prior* to policy formation, programming, and resource allocation, knowing whether demand is sufficient to absorb additional diverse crops produced and marketed is important. It is also important to ensure that the farmers get the right

value for their crops, to provide farmers direct access to the market and storage facility for surplus crops. Employment generation through private-public partnership both in the rural areas and urban centers is a concern of utmost priority and **economic growth that is “pro-poor” and that can lead to more jobs, better employment, and higher household income, is perhaps the most important set of conditions with the greatest potential to positively address and impact Bangladesh’s poverty, hunger and nutritional problems.**

Extreme poverty that exists in small pockets of settlements (such as river banks, char lands, and coastal belts) needs to be addressed through targeted interventions as well, as communities in these areas are susceptible to other vulnerabilities (in addition to the commonly used dimensions to measure poverty). Vulnerabilities needed to be mitigated that can perpetuate poverty manifest themselves as food insecurity; social exclusion based on profession and ethnicity, and exhibit occupational vulnerabilities that exist specially in urban areas (for example among blue-collar workers employed in the RMG sectors) In this regard, ensuring the **proper targeting and delivery of assistance** to intended beneficiaries, **continues to be a major and very significant challenge** for both food and cash based SSNs.

Additional analysis is required to measure disparity in dimensions such as income inequality, particularly in urban areas; lack of government attention to the specific problems of urban slum dwellers; gender based discrepancy in wage levels; low levels of employment for women and ethnic minorities which underscores the need for affirmative action; poorly planned development interventions that erode natural resources; as well as the disproportional impact of climate change on women.

5 Concluding Remarks

Bangladesh has come a long way in poverty eradication and raising the standard of living for her average citizen. However, many issues remain important to ensure the quality of living for her citizen and also to raise the productive capacity in a sustainable manner. While new settlements are not possible, it is important to look into reaching out to areas where mutually beneficial trades are possible and attract foreign investment as well as mobilize domestic resources more efficiently. The progress in institutional development has not been satisfactory. If anything, good governance and efficient public management are considered most important for MDG1 among all the MDGs. This will address directly the issue of unequal opportunities both between regions of the country and within those regions. It is true that the indicators as such would suggest progress toward achieving the goals, however, all concerned parties are required to be vigilant and a close monitoring and information dissemination are must to make the best out of meeting the challenges set by MDGs and ensure the benefits to most of the population.

¹ Over the 1990s Brazil, Mexico and Taiwan experienced positive income growth while they had very different experience with inequality indexes such as Gini coefficient. While the inequality increased in Mexico, it declined in other large Latin American economy of Brazil. During the same time, Taiwan maintained its overall income distribution. World Bank (2001) identified distribution of assets and their associated returns, choices in the labor markets and demographics as determinants of how an economy would fair in terms of income distribution along the growth path.

² We also see from Table 1 that the apparent decline hides the fact the people just over the poverty line are still vulnerable to certain shock (e.g. price hike in 2007) as it was estimated that 8.5% of population slipped below poverty line from such economic shock albeit transitorily.

³ We used a model based on a panel of countries that estimated the growth elasticity of poverty for a number of countries. It involved bringing together a number of household surveys from a number of countries (including Bangladesh, see Bourguignon, 2003). We used initial level of inequality (as measured by Gini coefficient as of 2005) and poverty line/mean income (of the same year) to calibrate the model for Bangladesh. We found the growth elasticity of poverty decline to be 0.42. Interestingly, this is very close to the value of 0.45 suggested by GOB (2008: p.22).

⁴ We forecasted the per capita income level based on a univariate time-series model. Model diagnosis suggested that the most prudent model to fit the data is a first order integrated AR(2) model with MA(1) error structure (see Shumway & Stoffer, 2006).

⁵ As Alesina & Rodrik (1994) found inequality measured by usual Gini coefficient had negative impact on growth however this association becomes statistically insignificant if land inequality index is included in the model.

⁶ For a discussion on the shortcomings of estimating real wage data for different sectors and issues with their comparisons, see Rahman (2009) and Rahman, Mondal, & Iqbal (2009).

⁷ This actually goes beyond labor market outcomes in the static sense and explains the low investment in girls within the households. This has far reaching implication for long term growth in productive capacity and even investing in mother's education may not be sufficient as the literature suggests (see Rabbani & Alexander, 2009).

⁸ Please note this is somewhat higher compared to our calibration exercise (see Section 2).

⁹ In the last two decades, Microcredit/Microfinance has provided large number of poor people to get access to financial services. This has been dominated largely by credit and mostly force savings associated with credit. How much these credits have been associated with income generating activities (controlling for inherent household heterogeneity) has been a contentious issue and there has been limited proof on graduation out of poverty that one can attribute solely to credit programs. However, MFIs have shown the capacity to reach out to poor people who otherwise would not have access to financial services and they can still provide a vehicle to encourage the nascent and dormant rural industrial capacity.

¹⁰ One good example of this sector is probably jute related goods. As the global interest moves more towards using natural fiber and goods made from these natural fibers (e.g. bags), Bangladesh has a potential to reenter this market and revive the sector. This is already taking place as numerous small firms have emerged supplying jute-made goods from small cottage industries. However, it is difficult for small firms to engage in mass production and establish a vibrant and dynamic sub-industrial market. For example, designs of these products are very important and some incentives for designers to get engaged in this industry can help it to take off.

¹¹ There are many factors that have led to growth in the industrial sector. For the brevity of this report, we refrained from discussing those issues here. Institutional frailty and enforcement of contract resulting in, for example, corruption has been considered as one of the main causes not to have a growth rate that is in par with the countries dubbed as Asian miracles. Interestingly, in an unpublished paper, Mironov (2005) argued that it is possible for corruption to contribute positively for a country's growth as it helps to "overcome inefficient barriers".

¹² By combining different sources of data, GOB (2009) showed that access to pure drinking water in the urban areas increased up to 2000 after which it declined (see Table 7.21, p.216). The water available from the water supply system, however, considered to be contaminated and sources of diarrheal diseases especially for children of very young age. This is a very important public health issue which needs immediate attention from policy makers.

¹³ It is important to recognize that minority populations are specifically vulnerable to landlessness and loss of land property which contributes to pauperization. In the recent time, the indigenous population has faced loss of common property ownership over the land on which formal legal ownership was not properly defined.

¹⁴ As noted in the earlier section (see Section 2), regional difference in income and poverty has garnered attention from different facades of Bangladeshi society in the recent time (government, donor agencies and local experts alike, see World Bank, 2008 and Zohir, 2010).

¹⁵ The penetration of electricity using national power grid is very low in Bangladesh where only 38% of total population had access to electricity. This is particularly low in the rural areas because of remoteness and lower willingness-to-pay because of lower income.

¹⁶ As of 2008, there were wind turbines installed in Feni and Kutubdia generating 2 MW of power.

¹⁷ The poor have limited access to insurance against such shock. The various social insurance that the households are engaged in can provide very limited shelter against these shocks as the whole localities are affected by the adverse shock within which the social insurance is embedded.

¹⁸ Bangladesh is a lower riparian country. Not being able to contribute to the control of water has further implication of politically destabilize the country. It is important to bring together the countries in the regions in a manner such that the long term solutions are reached.

References

- Alesina, A., & Rodrik, D. (1994). Distribution Politics and Economic Growth. *Quarterly Journal of Economics* , 109, 465-490.
- Ali, A. M. (2004). Technological change in agriculture and land degradation in Bangladesh: a case study. *Land Degradation & Development* , 15 (3), 283-298.
- Asaduzzaman, M., & Billah, A. M. (2008). Energy for the Future. In S. R. Osmani, *Emerging Issues in Bangladesh Economy: A Review of Bangladesh's Development 2005-06* (pp. 361-392). Dhaka, Bangladesh: Centre for Policy Dialogue and The University Press Limited.
- BBS. (2007). *Report of the Household Income & Expenditure Survey 2005*. Dhaka, Bangladesh: Bangladesh Bureau of Statistics, Planning Division, Ministry of Planning, Government of the People's Republic of Bangladesh.
- Bhattacharya, D., & Khan, T. I. (2008). Pro-poor Economic Growth in Bangladesh: Exploring Growth and Inequality Linkages in Poverty Reduction. In S. R. Osmani, *Emerging Issues in Bangladesh Economy: A Review of Bangladesh's Development 2005-06* (pp. 25-54). Dhaka, Bangladesh: Centre for Policy Dialogue and The University Press Limited.
- Bourguignon, F. (2003). The Growth Elasticity of Poverty Reduction: Explaining Heterogeneity across Countries and Time Periods. In T. S. Eicher, & S. J. Turnovsky, *Inequality and Growth: Theory and Policy Implications*. Cambridge, MA and London, England: The MIT Press.
- Bourguignon, F., & Morrisson, C. (2002). Inequality among World Citizens: 1820-1992. *The American Economic Review* , 92 (4), 727-744.
- Dasgupta, S., Huq, M., Khaliquzzaman, M., Pandey, K., & Wheeler, D. (2006). Who suffers from indoor air pollution? Evidence from Bangladesh. *Health Policy and Planning* , 21 (6), 444-458.
- Deb, U. K. (2008). Agricultural Diversification in Bangladesh: Progress, Constraints and Policy Issues. In S. R. Osmani, *Emerging Issues in Bangladesh Economy: A Review of Bangladesh's Development 2005-06* (pp. 55-82). Dhaka, Bangladesh: Centre for Policy Dialogue and The University Press Limited.
- Diamond, J. (1997). *Guns, Germs, and Steel: The Fates of Human Societies*. W. W. Norton & Company.
- Fogel, R. W. (2004). *The Escape from Hunger and Premature Death, 1700–2100: Europe, America, and the Third World*. Cambridge, UK: Cambridge University Press.

GOB. (2009). *MDGs Needs Assessment & Costing Report 2009-2015*. Dhaka, Bangladesh: General Economics Division, Planning Commission, Government of People's Republic of Bangladesh.

GOB. (2008). *Moving Ahead: National Strategy for Accelerated Poverty Reduction II (FY 2009-11)*. Dhaka, Bangladesh: General Economics Division, Planning Commission, Government of the People's Republic of Bangladesh.

Habib, B., Narayan, A., Olivieri, S., & Sanchez-Paramo, C. (2010). *Assessing Ex Ante the Poverty and Distributional Impact of the Global Crisis in a Developing Country*. Washington, DC: World Bank.

Haughton, J., & Khandker, S. (2009). *Handbook on Poverty and Inequality*. The World Bank.

ILO. (2009). *ILO Office in Bangladesh*. Retrieved April 23, 2010, from Green jobs initiative in Bangladesh: http://www.ilo.org/dhaka/Whatwedo/Publications/lang--en/docName--WCMS_107554/index.htm

LFS. (Various Years). *Labor Force Surveys*. Dhaka, Bangladesh: Bangladesh Bureau of Statistics, Planning Division, Ministry of Planning, Government of the People's Republic of Bangladesh.

Maddison, A. (2001). *The World Economy: A Millennial Perspective*. Paris, France: Development Centre.

Mannan, M. A. (2006). *Plant Biodiversity Management at Sonadia Island ECA*. Retrieved April 26, 2010, from Coastal and Wetland Biodiversity Management at Cox's Bazar and Hakaluki Haor: <http://www.undp.org.bd/projects/prodocs/CWBMP/Plant%20Biodiversity%20Management%20At%20Sonadia%20Island%20ECA.pdf>

Mironov, M. (2005, November 14). *Bad Corruption, Good Corruption and Growth*. Retrieved April 14, 2010, from <http://www.mironov.fm/research/corruption.pdf>

Narayan, A., Yoshida, N., & Zaman, H. (2007). *Trends and Patterns of Poverty in Bangladesh in Recent Years*. Washington, DC: World Bank.

Osmani, S. R. (2008). *Achievements and Challenges of the Bangladesh Economy: An Overview*. In S. R. Osmani, *Emerging Issues in Bangladesh Economy: A Review of Bangladesh's Development 2005-06*. Dhaka, Bangladesh: Centre for Policy Dialogue and The University Press Limited.

Power Cell. (2006). *Bangladesh Power Sector Data Book*. Power Division, Power Cell. Dhaka: Bangladesh: Ministry of Power, Energy & Mineral Resources.

Quah, D. (2003). One Third of the World's Growth and Inequality. In T. S. Eicher, & S. J. Turnovsky, *Inequality and Growth: Theory and Policy Implications*. Cambridge, MA and London, England: The MIT Press.

Rabbani, A., & Alexander, G. C. (2009). The Association between Family Structure, Reports of Illness and Health Care Demand for Children: Evidence from Rural Bangladesh. *Journal of Biosocial Science*, 41, 645-660.

Rahman, R. I. (2009). An Analysis of Real Wage in Bangladesh and Its Implications for Underemployment and Poverty. *Festschrift Conference In Honor of Professor Azizur Khan, March 27-28, 2009 at Political Economy Research Institute (PERI) University of Massachusetts-Amherst*.

Rahman, R. I., Mondal, A. H., & Iqbal, Z. (2009). *A Study on Employment and the Labor Market: A Guide to Employment Policies for the Sixth Five Year Plan (2011-2015)*. Dhaka, Bangladesh: Bangladesh Institute of Development Studies (BIDS).

Sarwar, G. (2005). *Impacts of Sea Level Rise on the Coastal Zone of Bangladesh*. Lund, Sweden: Lund University International Masters Programme in Environmental Science, Lund University.

Shumway, R. H., & Stoffer, D. S. (2006). *Time Series Analysis and Its Applications With R Examples*. Springer.

UN. (2005). Achieving the Internationally Agreed Development Goals: Dialogues at the Economic and Social Council. New York, NY: United Nations, Department of Economic and Social Affairs, Office for ECOSOC Support and Coordination.

UN. (2005). *In Larger Freedom*. Retrieved April 17, 2010, from United Nations: Millenium Declaration: <http://www.un.org/largerfreedom/>

UN. (2010). *United Nations Millennium Development Goals*. Retrieved April 17, 2010, from United Nations Millennium Development Goals: <http://www.un.org/millenniumgoals/>

UN. (2000). *United Nations: Millenium Declaration*. Retrieved April 17, 2010, from United Nations: Millenium Assembly Website: <http://www.un.org/millennium/>

UNDP. (2007). *Governance for the Millennium Development Goals: Core Issues and Good Practices. 7th Global Forum on Reinventing Government Building Trust in Government*. Vienna, Austria.

UNDP. (2010). *UNDP in Bangladesh - Project Lists*. Retrieved April 15, 2010, from <http://www.undp.org.bd/projects/index.php>

UNDP MDG Report.

World Bank. (2008). *Poverty Assessment for Bangladesh: Creating Opportunities and Bridging the East-West Divide*. Washington, DC: Poverty Reduction, Economic Management, Finance and Private Sector Development Sector Unit, South Asia Region.

World Bank. (2001). *World Development Report 2000/2001: Attacking Poverty*. Oxford University Press.

Zohir, S. (2010). *Searching for an Explanation of Differences in Poverty Levels at Sub-national Levels*.

Table A1: Incidence of Poverty by Sizes of Land Owned

	2005	2000	Difference	% Decline
No land	66.6	69.7	-3.1	-4%
<0.05	65.7	63.0	2.7	4%
0.05-0.49	50.7	59.3	-8.6	-15%
0.50-1.49	37.1	47.5	-10.4	-22%
1.50-2.49	25.6	35.4	-9.8	-28%
2.50-7.49	17.4	22.8	-5.4	-24%
7.50+	3.6	9.7	-6.1	-63%

Source: Household Income and Expenditure Surveys; see BBS (2007), Table 6.9, p.67.

Table A2: Poverty gap and squared poverty gap by cost of basic needs method (in percent)

	Poverty Gap		Squared Poverty Gap	
	2000	2005	2000	2005
National	12.8	9.0	4.6	2.9
Barisal	13.7	15.5	4.7	6.3
Chittagong	11.3	6.3	3.9	1.7
Dhaka	12.9	6.9	4.7	2.1
Khulna	10.0	10.8	3.0	3.5
Rajshahi	16.2	11.9	6.2	3.8
Sylhet	9.2	7.2	2.8	2.1

Source: HIES, Tables: 6.2 & 6.3, pp.59-60. The poverty gaps were measured using upper poverty line.