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STATE OF POVERTY IN BANGLADESH: AN APPLICATION OF MONETARY APPROACH

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STATE OF POVERTY IN BANGLADESH: AN APPLICATION OF MONETARY APPROACH

Md. Al Amin Islam

1 INTRODUCTION

The chapter applies monetary approach to find out the situation of poverty in Bangladesh. Like most of the developing countries in the world, the monetary approach is the most widely used approach to measure and understand poverty in Bangladesh. It is usually the preferred method, since it is consistent with the dominant neoclassical microeconomic theory and has become a widely accepted measure on which many policies and much research rely.

Poverty is complex phenomenon with many dimensions. It includes insufficient access to nutrition, health, education, housing and leisure (Sen, 1985). It is, therefore, necessary to reduce this complexity to a single measure or set of statistics so that the monitoring and comparison become unproblematic. The most used statistics on poverty are either income-based or consumption-based. Consumption expenditure is perhaps more difficult to measure precisely, but income is thought to suffer from under-reporting biasness (Thorbecke, 2004). Despite major methodological controversy concerning the choice of income as the indicator of welfare, in Cost of Basic Needs (CBN) method, poverty lines are drawn up by calculating the monetary resources required to meet the basic needs of the members of a household. Those with income less than the required amount fall below the line and are deemed to be living in poverty (Virola and Encarnacion, 2003). This line has been in vogue since 1990 when the World Bank published its World Development Report finding that most developing countries set their poverty lines at one USD per day (Ravallion and Chen 1997, 2004). Now, a person is considered as poor if his/her average daily income is below 1.25 USD per day.

2 POVERTY MEASUREMENT INDEX

In terms of poverty measurement there are three indices. The first measure is the Headcount Index, second one is the Poverty Gap Index and the third one is the Squared Poverty Gap.

2.1 Headcount Method

The Headcount method is used to measure the percentage of the population living in households with consumption or income per person below the poverty line. The Head Count Index (H) is the proportion of the population whose economic welfare (y) is less than the poverty line (z). If (q) people are deemed to be poor in a population of size (n) then **H=q/n.**

The Headcount Index is simple to construct as well as easy to understand. However, it does not take the intensity of poverty into account. If a poor person suddenly becomes much poorer, that brings no change in the index. The Headcount Index is insensitive to measure the gap as well as the depth of poverty.

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2.2 Poverty Gap (PG)

The poverty gap, a moderately popular measurement of poverty, reflects the average distances of the poor living below the poverty line as well as gives a better idea of the depth of poverty. This method is also helpful to measure the cost of eliminating poverty (relative to the poverty line), since it shows how much would have to be transferred to the poor to bring their incomes (or expenditure) up to the poverty line.

The Poverty Gap Index is calculated formally as follows:

$$Poverty\ Gap\ Index = \frac{Poverty\ Threshold - Median\ Standard\ of\ Living\ of\ the\ Poor}{Poverty\ Threshold}$$

The higher the indicator, the greater the poverty gap is said to be, in that the standard of living of the poorest is a very long way below the poverty threshold. The minimum cost of eliminating poverty using targeted transfers is simply the sum of all the poverty gaps in a population.

2.3 Squared Poverty Gap (SPG)

Squared poverty gap indicates the estimation of the squared poverty gap, in which individual poverty gaps are weighted by the gaps themselves, to measure severity and reflect inequality among the poor (Foster *et al.*, 1984). It is composed of not only the poverty ratio and the poverty gap ratio, but also captures the consumption distributed to the poor as measured by the coefficient of variation.

3 TRENDS OF POVERTY IN BANGLADESH

The proportion of poor in the population declined considerably between 2000 and 2010, but the incidence of poverty witnessed a slower pace during 2005-2010 than 2000-2005. The incidence of poverty decreased by 9.8 percentage points during 2000-2005 (i.e. from 49.8 percent in 2000 to 40 percent in 2005) while the next five years (2005-2010) witnessed a decline from 40 percent in 2005 to 31.5 percent in 2010 (i.e. by 8.5 percentage points).

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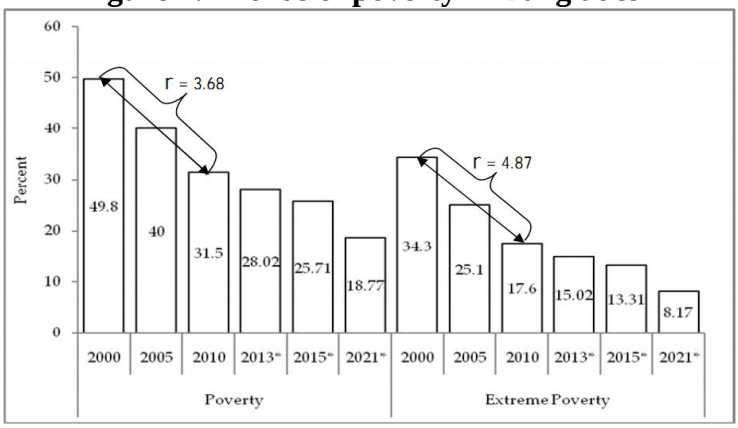
Figure 1: Trends of poverty in Bangladesh



Source: Author's calculation based on Bangladesh Bureau of Statistics (2003, 2007 and 2011)

The government has made a commitment to reduce the incidence of poverty at 25 percent and 15 percent by 2013 and 2021 respectively. Based on the head count rate (CBN) and using upper poverty line, the latest available national statistics on poverty indicates that the incidence of poverty reduced to 31.5 percent in 2010 at the national level with an annual rate of decrease (arithmetic rate of reduction) of 3.68 percent from 2000. If this historical trend of decrease continues with everything remaining constant, the arithmetic rate of reduction point towards the incidence of poverty might stand at 28.02 percent and 18.77 percent by 2013 and 2015 respectively. This indicates that the achievement in the target of government might be illusive for this country by the end of 2013. To achieve the targets within the time limits (i.e. by 2013 and 2021), the required rate of reduction on poverty have to be 6.88 percent in 2013 and 1.88 percent in 2021 from 2010. This lowering rate of reduction in poverty may be responsible for the rural-urban migration, unemployment and informalisation, policy-induced economic contraction and problem-ridden intervention strategies etc. It is however, positive that the country might achieve its poverty related MDG goals of 26.51 percent within the stipulated time frame of 2015.

Though Bangladesh has advanced in case of reduction in poverty over the last decade, most of the poor are yet to cross the lower poverty line (extreme poverty). According to the latest available national statistics, the percentage of extreme poor was 17.6 in 2010 which was about 55.87 percent of the total poor living below the upper poverty line. It is evident that the percentage of extreme poor has shown the higher portion as compared to the total poor during the last decade. The incidence of extreme poverty reduced from 34.3 percent in 2000 to 17.6 percent in 2010 with an annual arithmetic rate of reduction of 4.87 percent.

Additionally, there is regional disparity. The incidence of poverty is higher in rural areas than that of the urban areas as well as the rate of decrease in poverty is lower in the rural areas than that of the urban areas (Rahman, 2012). Such movements are indicative either to general improvements in the division, or outflow of labour, primarily from the poor households to a distant growth centre e.g. Dhaka (Zohir, 2011). More specifically, rural poverty results from lack of assets, limited economic opportunities, poor education and capabilities as well as different disadvantages rooted in social and political inequalities (IFAD, 2010).

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4 DIVISIONAL DIFFERENCES IN POVERTY

Poverty differs across the regions which results from historical intertwined of geography, culture and politics. A great part of spatial differences in poverty can be attributed to differences in geographical indicators such as, land use and productivity, infrastructure, electricity and distance to rivers, roads, urban areas (Ravallion and Wodon, 1997). Therefore, a different result is also found in case of the incidence of poverty according to the divisions. The division-wise estimation of head count rates (CBN) using upper poverty line reveals that the incidence of poverty is higher in Barisal division with 39.4 percent among all other divisions followed by Rajshahi including Rangpur (35.7 percent), Khulna (32.1 percent), Dhaka (30.5 percent) and Sylhet (28.1 percent) division in 2010 (BBS, 2011). The man-made changes of water bodies, soil and forests are stimulated in deteriorating natural environment and lead to climate change. The adverse effects (like cyclones, Sidr, Aila, etc) of climate change might be a dominant factor which is responsible for higher incidence of poverty in those areas (Barisal, Rajshahi and Khulna). Environmental problems have led to shortages of food, clean water, materials for shelter, and other essential resources. Significantly, the incidence of poverty in Chittagong division is the lowest (26.2 percent) than other divisions. The main seaport of the country situated in Chittagong, may be the reason for this lowest poverty incidence where business activities are centered on different natural resources.

Table 1: Divisional differences in poverty

Division	Poverty (Percent)			Rate of Increase from 2000-2010 (Percent)	Extreme Poverty (Percent)			Rate of Increase from 2000-2010 (Percent)
	2000	2005	2010		2000	2005	2010	
Barisal	53.1	52	39.4	2.6	34.7	35.6	26.7	2.3
Chittagong	45.7	34	26.2	4.3	27.5	16.1	13.1	5.2
Dhaka	46.7	32	30.5	3.5	34.5	19.9	15.6	5.5
Khulna	45.1	45.7	32.1	2.9	32.3	31.6	15.4	5.2
Rajshahi (Former)	56.7	51.2	35.7	3.7	42.7	34.5	21.60	4.9
Rajshahi (New)	-	-	29.8	-	-	-	16.80	-
Rangpur	-	-	46.2	-	-		30.10	-
Sylhet	42.4	33.8	28.1	3.4	26.7	20.8	20.7	2.2

Source: Author's calculation based on Bangladesh Bureau of Statistics, 2003, 2007 and 2011

The percentage of people living below the poverty line has been decreasing during the period of 2000-2010 in all divisions (Table 2.1). In Rajshahi division, the annual rate of reduction in the percentage of population living under the poverty line was 3.7 percent between 2000 and 2010, which was the second highest as compared to all other divisions. The highest annual rate of reduction in poverty was in Chittagong at 4.3 percent over the period from 2000 to 2010. At the same period, this rate was 3.5 percent in Dhaka, 3.4 percent in Sylhet and 2.9 percent in Khulna division. In case of Barisal division, the incidence of poverty has been following the lowest rate of reduction in poverty which was 2.6 percent per annum from 2000 to 2010.

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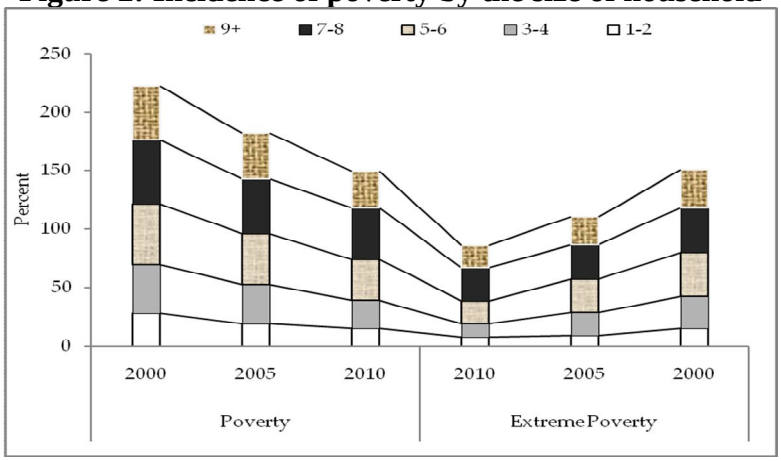
Moreover, in 2010 at national level, the percentage of poor living below the lower poverty line (extreme poverty) has showed the highest percentage of 26.7 in Barisal division among all other divisions. The major portion of extreme poor of Barisal division was below the poverty line for a long time, as the annual rate of reduction in extreme poverty was too poor over the period from 2000 to 2010 at 2.3 percent. It is noted that the percentage of extreme poor in Rajshahi division was the highest, 42.7 percent in 2000 and decreased to 21.60 percent (whereas, 16.80 percent Rajshahi (new) and 30.10 percent in Rangpur) in 2010 with an accelerating rate of reduction of 4.9 percent per annum. This development might be occurred due to increased connectivity, reducing transaction costs and more national average transfer of cash or kind to population, afflicted by riverbank erosion, 'Monga' (the seasonal poverty). The same scenario is also found in the rural and urban areas.

5 INCIDENCE OF POVERTY BY THE SIZE OF HOUSEHOLD

Poverty variables largely vary according to the size of the household. There exists considerable evidence of a strong negative correlation between household size and consumption (or income) per person in developing countries.[1] Large family size can affect the household poverty as a whole. The sensitive issue of the treatment of household size has recently attracted considerable attention (Buhmann, *et al.*, 1988; Coulter, *et al.*, 1992; Lanjouw and Ravallion, 1995; Dreze and Srinivasan, 1997; Lancaster *et al.*, 1999). The widely held view is that the larger families tend to be poorer in the developing countries. It is observed that the incidence of poverty is lower among the households having 1-2 members as compared to others at national, rural and urban level. The annual rate of reduction in the incidence of poverty among the households having 1-2 members is 4.7 percent during the last ten years (Figure 2.2).

Figure 2: Incidence of poverty by the size of household



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007 and 2011

[1] This pattern has been found in innumerable household surveys spanning Asia, Africa and Latin America; for surveys see Visaria (1980, section 4), Sundrum (1990, chapter 2) and Lipton and Ravallion (1994, section 4.2).

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6 INCIDENCE OF POVERTY BY OWNERSHIP OF LAND

Land is a significant asset especially for the rural poor as a means of livelihood. Bangladesh is an agrarian country where 48 percent people are still living on agriculture (BBS, 2011). The share of agriculture on GDP has been decreasing over the last decade and it was 18.59 percent in 2010 and 18.43 percent in 2011 (World Bank, 2012). Historically, millions of rural poor people are depending on farming with their little land. They may have no legal rights to the land they farm, or they may work as 'hired' labour in the large farms.

Land ownership and/or access to occupational land in Bangladesh are often related to the poverty status of a household. Access to land has been advocated for many years as one of the potentials and the most effective approaches to reduction in rural poverty (Warriner, 1969; Thiesenheusen, 1989; Dorner, 1992; Binswanger *et al.*, 1995). Many researchers have provided the evidence that there exists a negative correlation between land ownership and the incidence of poverty. The incidence of poverty is more evident among the landless poor. Rural poverty is essentially correlated with lack of asset. Furthermore, the partial land ownership is one of the major causes of poverty. The rate of decrease in the percentage of population living below the poverty line at national level between 2000 and 2010 was the highest for those having 1.50 – 2.49 acre lands. Similar result is also found for the rural areas. On the other hand, the rate of decrease was the highest for those having 0.5 – 1.49 acre lands at urban areas during 2000-2010 (Table 2). However, the incidence of poverty is the highest among the landless but the rate of reduction in the percentage of poverty is comparatively well as most of them are engaged in non-agricultural activities and managed to reduce their incidence of poverty by various non-agricultural economic activities. When rural families have land and control over that land, they are likely to grow more food resulting into increase in income. Land security, here can be considered as food security.

Table 2: Incidence of poverty by ownership of land

Ownership of Land (in acre)	2000	2005	2010	Rate of Decrease from 2000-2010 (Percent)
National				
No Land	46.6	46.3	35.4	2.4
< 0.05	57.9	56.4	45.1	2.2
0.05 – 0.49	57.1	44.9	33.3	4.2
0.50 – 1.49	46.2	34.3	25.3	4.5
1.50 – 2.49	34.3	22.9	14.4	5.8
2.50 – 7.49	21.9	15.4	10.8	5.1
7.50+	9.5	3.1	8	1.6
Rural				
No Land	69.7	66.6	47.5	3.2
< 0.05	63	65.7	53.1	1.6
0.05 – 0.49	59.3	50.7	38.8	3.5

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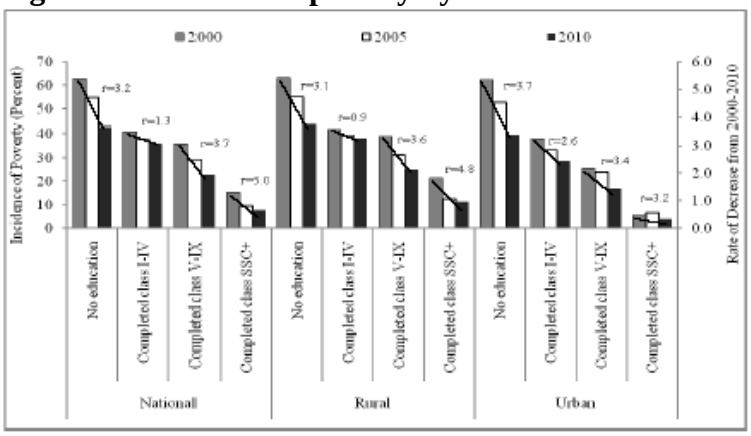
0.50 – 1.49	47.5	37.1	27.7	4.2
1.50 – 2.49	35.4	25.6	15.7	5.6
2.50 – 7.49	22.8	17.4	11.6	4.9
7.50+	9.7	3.6	7.1	2.7
Urban				
No Land	36.6	40.1	26.9	2.7
< 0.05	38.3	39.7	29.9	2.2
0.05 – 0.49	24.3	25.7	17.4	2.8
0.50 – 1.49	27.4	17.4	12.1	5.6
1.50 – 2.49	10.2	8.8	6.6	3.5
2.50 – 7.49	9.1	4.2	5.5	4.0
7.50+	0	0	14.6	NA

Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007 and 2011

7 INCIDENCE OF POVERTY BY LEVEL OF EDUCATION

The role of education in eradicating poverty is crucial. Education is an important tool for reducing poverty as well as to respond to the challenges of healthcare and environment. Furthermore, nobody can doubt that a better-educated workforce is more likely to enjoy higher earnings.

Figure 3: Incidence of poverty by the level of education



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007 and 2011

The higher the level of education, the lesser the number of poor as education imparts knowledge and skills, supportive in higher wages. In reducing poverty, increasing the income or wages is the direct effect of being educated. The indirect effect of education on poverty is related to 'human poverty'. Reduction in human poverty is benefitted by the education which contributes in raising the income as well as an improved living standard. The consequence of education is further related to basic needs like water and sanitation, utilisation of health facilities, shelter, women's empowerment, and behaviour in fertility decisions and family planning. Education is the key that empowers the people and helps them to become more proactive to gain control over their lives and to widen the range of available options (UNESCO 1997). The United Nations Millennium

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Project Task Force has emphasized that science, technology, and innovation helps to lessen poverty and hunger and drive economic growth in much of South-East Asia (Juma and Lee, 2005).

Education and poverty are inversely related i.e, the poverty level falls, if the educational attainment of people rises. The incidence of poverty is higher among those who are illiterate and lower among those have completed SSC level or higher studies at national, rural and urban level (Figure 2.3). The propensity of reducing poverty among the higher educated persons have occurred at an accelerated pace than those have no or little education. The incidence of poverty among the illiterate reduced from 63.1 percent in 2000 to 42.8 percent in 2010 with a reduction rate of 3.2 percent per year at national level. The annual rates of decrease were 3.1 percent and 3.7 percent at rural and urban levels respectively during the same period. On the other hand, the annual rates of decrease were 5.0 percent, 4.8 percent and 3.2 percent among those who have completed SSC level and above during 2000 to 2010 at national, rural and urban levels respectively (Figure 2.3).

8 INCOME, EXPENDITURE AND POV0ERTY

Monthly household income has been increasing in the country. Furthermore, the monthly household expenditure has witnessed a sharp rise due to rise in inflation, more specially food inflation over the years. The average monthly household income increased from BDT 5842 in 2000 to BDT 11479 in 2010 with the increase rate of 9.6 percent per annum. On the contrary, the monthly household expenditure during the last ten years (i.e. from 2000 to 2010) increased from BDT 4881 to BDT 11200 with the annual increase rate of 12.9 percent. The percentage of population living below the poverty line reduced as the result of increased monthly household income or expenditure over the years (Titumir and Rahman, 2011).

It is evident that the monthly household expenditure has been increasing with a more accelerated pace than that of monthly household income over the recent decade. This might occur due the result of rising trend of inflation (food inflation and non-food inflation). The 12-month average inflation soared up from 2.79 percent to 6.48 percent followed by the annual rate of increase of 16.2 percent during the period of 2000 to 2010.

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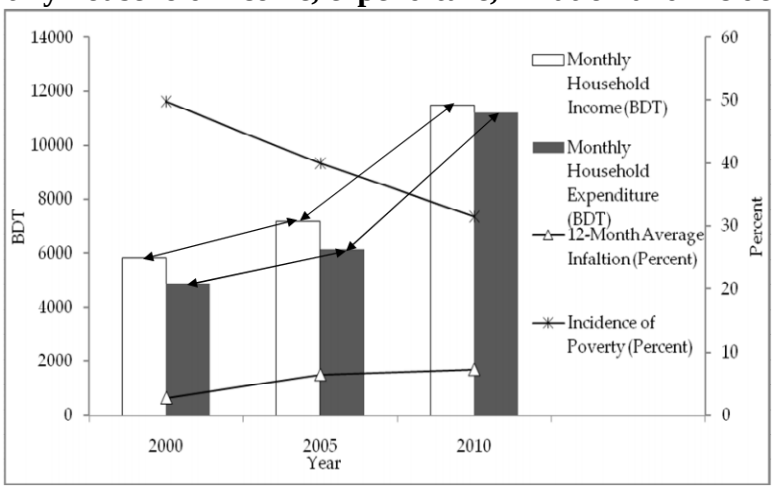
Figure 4: Monthly household income, expenditure, inflation and incidence of poverty



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007, 2011 and Bangladesh Economic Review 2012

Moreover, the annual rate of increase in monthly household income in 2000-2005 was higher than that of 2005-2010. The same scenario was found in case of monthly household expenditure over the two periods in 2000-2005 and 2005-2010. The annual rate of increase in monthly household income was 4.7 percent in 2000-2005 and 11.8 percent in 2005-2010. In case of monthly household expenditure, this rate was high as compared to income over the two mentioned periods (2000-2005 and 2005-2010) and it was 5.1 percent and 16.5 percent per annum. These rates of increase in monthly household income and expenditure have resulted in increasing the rate of reduction in poverty. The annual rate of reduction in poverty was 3.9 percent and 4.3 percent over the period of 2000 to 20005 and 2005 to 2010 respectively. While, inflation increased at a rate of 26.5 percent per annum during the period of 2000-2005 and this annual rate of increase was 2.6 percent between 2005 and 2010. The total expenditure of an individual goes higher between the two periods for receiving his/her daily needs. This extra expenditure would have adjusted through a compression of expenditure on other items, i.e. by a reduction in consumption. Standard monetary approach to poverty suggests that the individual is better off in the second period than the first, as his/her total expenditure has gone higher. However, in the true sense, this lowering rate of increase in monthly household income and soaring rate of increase in monthly household expenditure have resulted in consumption smoothing[2] risk i.e. the balance between spending and saving is hampered over the period of 2000-2010. The household expenditure increased with an annual rate of 5.1 percent during 2000 to 2005. The household income, on the other hand has increased with an increasing rate of 4.7 percent per year over the same period. Again, during 2005 to 2010, the annual rate of increase in household income was 11.9 percent while the household expenditure increased by 16.5 percent annually (Figure 2.4). Recently more people are suffering to manage their livelihoods due to higher rate of growth in household expenditure as a result of price hike in daily necessary commodities against their levels of income.

[2] The way in which people try to optimize their lifetime standard of living by ensuring a proper balance of spending and saving during the different phases of their life.

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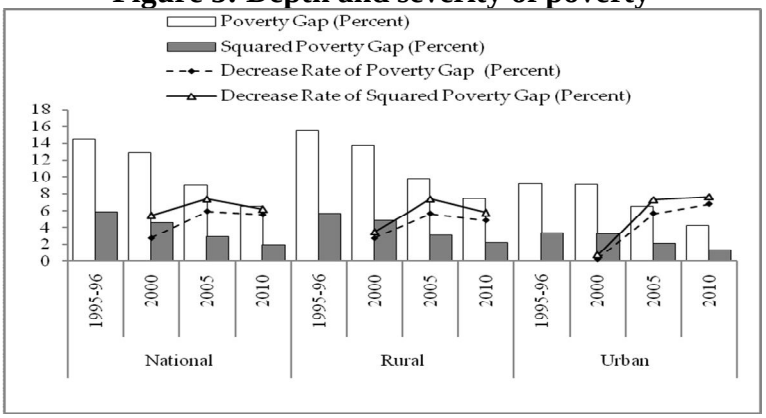
9 DEPTH AND SEVERITY OF POVERTY

A drop in the poverty gap measurement indicates reduction in the average distance of the poor from the poverty line. The gap was 14.4 percent in 1995-96, which decreased to 12.8 percent and 9.0 percent in 2000 and 2005 respectively as well as decreased further to 6.5 percent by 2010. The rate of decrease in the percentage of poverty gap during 2005 to 2010 was lower than that of 2000 to 2005 at national level. This rate was 5.94 percent in 2000 to 2005 and was 5.56 percent in 2005 to 2010. In rural areas, poverty gap was estimated at 7.4 percent in 2010, which was 9.8 percent, 13.7 percent and 15.4 percent in 2005, 2000 and 1995-96 respectively. Here, the rate of reduction (4.9 percent) during the last five years (i.e. from 2005 to 2010) is found lower than that of the rate (5.7 percent) between 2000 and 2005. On the other hand, in urban areas, a different scenario is found as compared to the rural areas (Figure 5).

Figure 5: Depth and severity of poverty



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007 and 2011

The rate of reduction in the percentage of poverty gap occurred at a more accelerating pace between 2005 and 2010 than those of the rates between 2000 and 2005. Moreover, the poverty gap reduced from 9.2 percent in 1995-96 to 4.3 percent in 2010 with an annual rate of reduction of 3.67 percent. A substantial fall in Squared Poverty Gap points out that the distribution of consumption among the poor has become more equitable. This measure explicitly takes the higher intensity of efforts into account that are required to address the people who are progressively further below the poverty norm in order to bring them out of poverty. The Squared Poverty Gap was 5.9 percent in 1995-96 and decreased to 4.6 percent, 2.9 percent and 2.0 percent by 2000, 2005 and 2010 respectively. The rate of reduction in the percentage of Squared Poverty Gap between 2000 and 2005 was 7.39 percent, which was higher than the rate of reduction (6.26 percent) in last five years (i.e. from 2005 to 2010) at national level.

The severity of poverty in the rural area decreased from 5.7 percent in 1995-96 to 2.2 percent in 2010. Additionally, the rate of reduction in the squared poverty gap during 2005 to 2010 (5.81 percent) was found lower than that of the rate between 2000 and 2005 (7.35 percent). In case of urban areas, the rate of reduction in annual squared poverty gap was higher between 2005 and 2010 than that of the rate between 2000 and 2005. This rate reduced from 3.4 percent in 1995-96 to 1.3 percent in 2010 with a rate of reduction of 4.26 percent per year. This has been reflected in the incidence of poverty, which is lower in the urban areas compared to the rural and national

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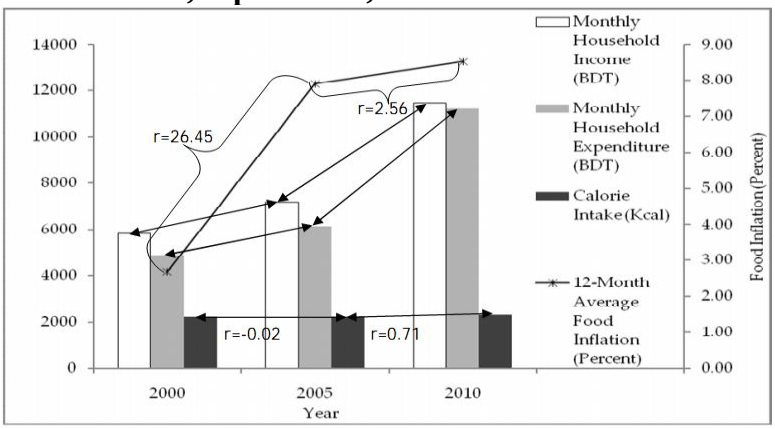
levels. Initially, urban areas are considered as growth centres in respective regions and the growth centres may influence the dynamics of regional differences within the country (Shilpi, 2007).

10 FOOD INFLATION AND CALORIE INTAKE

Since early 2000, Bangladesh has been experiencing a soaring rate of inflation particularly in food grain at the backdrop of global price hike in food grains. The rising inflation has become a major threat to people of all segments in a society. The poor and vulnerable peoples do not bode well with respect to the socio-economic progress due to this higher inflation. Dividing the present 12-month average food inflationary trend into two periods i.e. 2000-2005 and 2005-2010, it is seen that the trend of food inflation during the period 2000-2005 was higher than that of the period of 2005-2010. Non-economic factors like extortion, syndication etc. and economic factors like depreciation in exchange rate, inadequate agriculture subsidy, increasing transportation, fuel and production costs etc are the main driven in rising inflation. Natural disasters disrupt the domestic production; resulting in supply shortages of essential commodities and price hike of production cost which spur the food prices to soar up.

Figure 6: Income, expenditure, food inflation and calorie intake



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007, 2011 and Monthly Economic Review, 2012

In 2000 to 2005, the 12-month average food inflation increased by 26.45 percent per year, but the monthly household income annually increased by 4.66 percent only. So, this rapidly higher food inflation created difficulties for the low income households to continue with their daily basic expenditures by such little increment of household income. The food demand estimates are usually determined on the actual consumption pattern which varies for different income groups and urban-rural set up. It is evident that the calorie intake decreased from 2240.3 kcal in 2000 to 2238 kcal in 2005 with a rate of decrease of 0.02 percent per year. The food inflation has further increased by 2.56 percent annually between 2005 and 2010 and the monthly household income increased at more accelerated pace (11.87 percent per annum) than the rate of increment of food inflation over the same period. So, a positive impact on the behaviour of expenditure as well as calorie intake is there. Again, the calorie intake increased from 2238 kcal in 2005 to 2318 kcal in 2010 with an annual rate of increase of 0.71 percent. Soaring food inflation shrinks the expenditure on basic non-food items which has an adverse impact on the poor, not only on their

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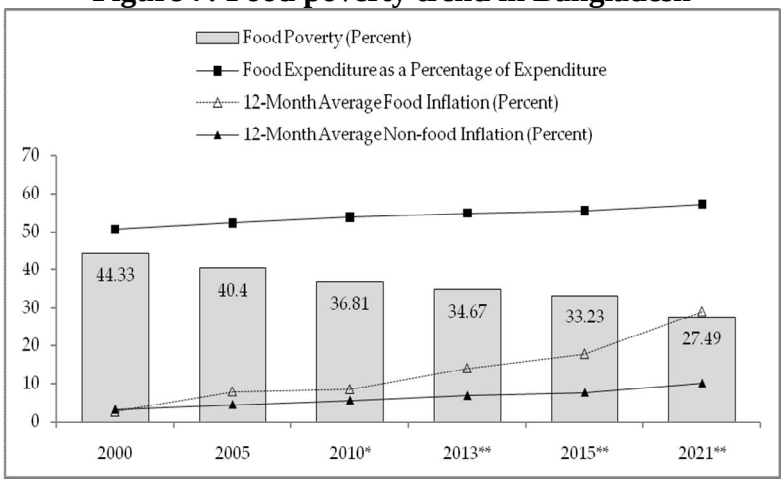
current quality of life and human welfare but also on future human development. It becomes a challenge to control such rising inflation.

11 INFLATION AND POVERTY

Bangladesh has experienced a higher rate of inflation in the recent past. The rate of 12-month average inflation is higher in the food sector than in the non-food sector during the last decade. During these years, changes in inflation have not followed any monotonic pattern. 12-month average food inflation increased to 8.53 percent in 2010 from 2.68 percent in 2000 with an annual rate of increase of 22.24 percent. Side by side with the prices of food items, house rent, transportation cost, expenditure on clothing and all other necessary commodities have also increased. The expenditure on non-food sector is not lagging behind in terms of this rate of increase. The 12-month average non-food inflation increased from 3.08 percent to 5.45 percent with a rate of increase of 7.69 percent per annum during the same period. Usually, a rise in the food price always increases the prices of other goods. When expenditure increases on purchasing food items, the prices of other goods also increase in a race with that. Food inflation has a profound nexus with poverty and inequality. Food inflation hits the poor hardest since their purchasing power decrease due to the erosion in real income. As a result, the people have to pass their days amid hardship. The magrinalised people have to dedicate the largest share of their income to food.

Figure 7: Food poverty trend in Bangladesh



Source: Author's calculation based on Bangladesh Bureau of Statistics, 2003, 2007, 2011 and Monthly Economic Review, 2012

The expenditure as a percentage of total expenditure increased from 50.75 percent in 2000 to 53.85 percent in 2010. Therefore, with the increase in food prices, they have the least ability to cut non-food expenditure for compensating the increased cost of food. Price hike of food commodities over the past few years have eroded the purchasing power of the marginalised section and let them go down under the poverty line. Increase in food inflation drags down additional number of people under the poverty line (Saleh *et al.*, 2011). The mounting trend of food inflation as well as non-food inflation has adverse impact on the food intake behaviour sliding down more people into poverty. About 0.04 million people might newly added to the total population living under the poverty line due to one percent increase in the food inflation

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(Saleh, 2012). It is evident that the incidence of food poverty was 44.33 percent in 2000 and reached to 40.4 percent in 2005 with a rate of reduction of 1.77 percent per year. According to the historical track record, the food poverty might reach at 34.67 percent, 33.23 percent and 27.49 percent in 2013, 2015 and 2015 respectively. Though Bangladesh has achieved a moderate progress in reducing income poverty but, the rate of reduction in food poverty is comparatively slower.

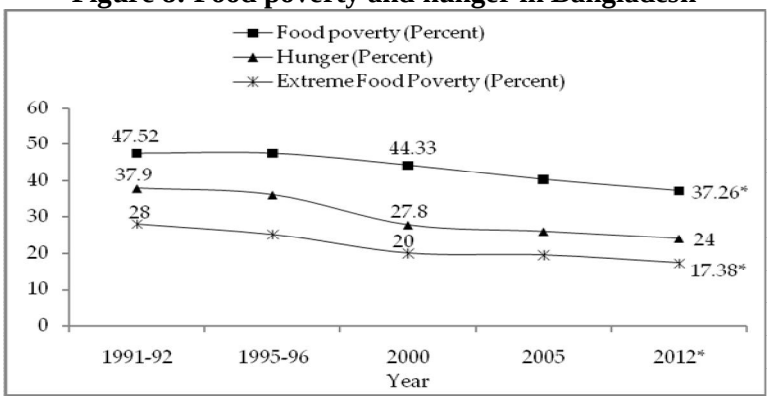
12 FOOD POVERTY AND HUNGER

Hunger describes the feeling of discomfort by the signal of the body usually raised for the scarcity of adequate food in the body. The hungry people simply cannot afford to buy enough food, nutritious foods, or cannot afford the farming supplies that need to grow for enough good food of their own. Three different indicators viz undernourishment, child underweight and child mortality, can be used to measure hunger. To reflect the multidimensional nature of hunger in a single measure, the Global Hunger Index (GHI) combines three equally weighted indicators in one index.

$$GHI = \frac{Under\ Nourishmen\ t + Child\ Underweigh\ t + Child\ Mortality}{3}$$

Not every poor person is hungry, but almost all hungry people are poor. In 1991-92, the percentage of poor people living below the extreme food poverty line was 28 and the percentage for hungry people was 37.9. This same state of affairs has taken place over the period from 1991-91 to 2012 (Figure 2.8). More specially in 2012, the percentage of hungry people was 24, but this percentage would be 37.26 for the poor people who living below the food poverty line. In case of people in extreme food poverty line, it would be 17.38 percent. So, it is difficult to say that only the poor people living below the extreme food poverty line, each of who is not afford to receive the minimum nutritional requirement of 1805 kcal per day, are considered as hungry. Rather it might be said that almost all poor people living below the extreme food poverty line are hungry, but every poor person living below the food poverty line (less than 2122 kcal per day) is not hungry.

Figure 8: Food poverty and hunger in Bangladesh



Source: Author's calculation based on Bangladesh Bureau of Statistics 2003, 2007, 2011 and Global hunger Index 2012

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13 LIMITATION OF MONETARY APPROACH TO POVERTY

The "poverty lines" have been getting updated for each subsequent year by using appropriate Consumer Price Index (CPI) numbers. Any individual falling below this updated expenditure benchmark in a subsequent year is counted as poor in that particular year. If expenditure of that individual (or any other individual) in the next year happens to be above expenditure of the first year, then s/he is considered non-poor (above the poverty line or APL). In other words, a person purchases a commodity at the price of base year which s/he might have to purchase at the increased price of current year. According to monetary approach that person is no longer living under poverty line as his/her level of expenditure has risen. One important assumption which is crucial for the validity of this reasoning is that the bundle of commodities available in the base year is also available in the current year and this assumption is patently untrue. Commodities die out over time only to get replaced by other newer commodities. People have to buy the substitutes at higher prices despite it is being more expensive. There is an actual worsening in their condition even their expenditure increases.

Let us assume in this instance that all prices remain unchanged between the base year and the current year. Again suppose that the total expenditure of an individual goes up between the two periods by performing a specific health care (like surgery) per period which is essential for the individual. Then, the total expenditure of the individual goes up. This extra cost would have to come through a compression of expenditure on other items. Now, monetary approach to poverty would conclude in this case that the individual is better off in the second phase than the first, because his total expenditure has gone up while all prices have remained unchanged. In fact, the individual is worse off since s/he has a vector-wise smaller bundle of goods and services in the second period compared to the first. Monetary approach to poverty gives an elusive result in this case i.e., this assumption lacks validity.

14 CONCLUSIONS

Bangladesh has gained some achievements in the fight against poverty. The reduction on poverty incidence, however, witnessed a slower pace (9.8 percentage point) during 2005-2010 than that of first half of the decade (8.5 percentage point). Problem-ridden intervention strategies and policies are more responsible for this lower reduction in poverty.

Results of this chapter indicate that there is a growing gap between income and expenditure over the years that hamper the standard of living of people. Additionally, the standard of living is hindered as a result of lowered rate of increase in monthly household income and soaring rate of increase in monthly household expenditure. Increasing transportation, fuel and production costs are major driving force behind rising food prices that results in higher rate of growth in household expenditure. The 12-month average inflation soared up from 2.79 percent to 6.48 percent followed by the annual rate of 13.2 percent during the period of 2000 to 2010. The higher rate of inflation disrupts the macroeconomic stability and curtails the pace of economic growth, which is crucial for poverty reduction and development and to meet other challenges and goals.

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There are more hungry people than those are extreme poor during 2000 to 2010. So it might be said that many people do not afford minimum nutritional level of requirement even they cross the extreme poverty line in accordance with monetary approach. Furthermore, the reduction rate of hunger (1.37 percent per annum) is slower than the rate of reduction in extreme poverty (4.87 percent per annum) during the same time period. It can be said in other words, as the year increasing, the number of hunger as a percentage of extreme poor increased. Government strategies should be formulated to unearth the root causes of poverty that results in hunger, unemployment and landlessness and might be most effective in ensuring the sustainable eradication of hunger.

Reference

Bangladesh Bureau of Statistics (BBS). 1998, *Household Expenditure Survey, 1995-96.* Dhaka, Bangladesh: Bangladesh Bureau of Statistics.

Bangladesh Bureau of Statistics (BBS). 2003, *Report of the Household Income & Expenditure Survey, 2000.* Dhaka, Bangladesh: Bangladesh Bureau of Statistics.

Bangladesh Bureau of Statistics (BBS). 2007, *Report of the Household Income & Expenditure Survey, 2005.* Dhaka, Bangladesh: Bangladesh Bureau of Statistics.

Bangladesh Bureau of Statistics (BBS). 2011, *Preliminary Report on Household Income & Expenditure Survey, 2010.* Dhaka, Bangladesh: Bangladesh Bureau of Statistics.

Binswanger, Hans, Deininger, Klaus, Feder, Gershon, 1995, *Power, distortions, revolt, and reform in agricultural land relations.* Handbook of Development Economics, vol. 3B. NorthHolland, Amsterdam.

Buhmann, B., Rainwater, L., Schmaus, G. and Smeeding, T. 1988, *"Equivalence Scales, Well-Being, Inequality and Poverty: Sensitivity Across Ten Countries Using the Luxembourg Income Study (LIS) Database"*. Review of Income and Wealth, vol.94, pp.115-142.

Coulter, F.A.E., Cowell, F.A. and Jenkins, S.P. 1992, Equivalence Scale Relativities and the Extent of Inequality and Poverty. *Economic Journal*, vol.102, pp.1067-8,Discussion Paper, No. 4 (February).

Dorner, Peter. 1992, *Latin American land reforms in theory and practice: a retrospective analysis.* Madison, Wisconsin: The University of Wisconsin Press

Dreze, J. and Srinivasan, P.V. 1997, Widowhood and Poverty in Rural India: Some Inferences from Household Survey Data. *Journal of Development Economics*, vol.54, no.2, pp.217-234.

Foster J., Greer J. and Thorbeck E. 1984, "A class of decomposable poverty measures". *Econometrica*, vol.52, pp. 761-766.

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Global Hunger Index (GHI).2012, *The Challenge of Hunger: Ensuring Sustainable Food Security under Land, Water and Energy Stresses.* Bonn / Washington, DC / Dublin: International Food Policy Research Institute (IFPRI).

International Fund for Agricultural Development (IFAD). 2010, *Rural Poverty Report.* Rome, Italy: International Fund for Agricultural Development.

Juma, C. and Lee, Y.C. 2005, *Innovation: Applying Knowledge in Development, United Nations Millennium Project Task Force.* London and Sterling, VA: Earthscan Lancaster

Lanjouw, P. and Ravallion, M. 1995, *Poverty and Household Size. Economic Journal*, vol.105, pp.1415-1434.

Rahman, K.M.M. 2012, Incidence and Severity of Poverty. In Titumir, Rashed Al Mahmud (ed.) *Decelerated Decline: State of Bangladesh Economy and Development 2011-2012.* Unnayan Onneshan, Dhaka, Bangladesh

Ravallion M. and Chen S. 1997, "What can new survey data tell us about recent changes in distribution and poverty?",*World Bank Economic Review 11*, pp.357-382.

Ravallion M. and Chen S. 2004, *"How have the world's poorest fared since the early 1980's?"*. World Bank Economic Observer 19, 141-169.

Ravallion, M. and Wodon, Q. 1997, *Poor Areas, or Only Poor People?* Policy Research Working Paper 1798, The World Bank.

Saleh, A. Z. M. 2012, Growth, Poverty & Employment. In Titumir, Rashed Al Mahmud (ed.) *Growth or Contraction?: State of Bangladesh Economy and Development 2011-2012.* Unnayan Onneshan, Dhaka, Bangladesh

Saleh, A. Z. M., Basak, J. K., Rahman, K. M. M. and Laboni, F. R. 2011, *Food Prices, Food Security and the Marginalised.* Bangladesh Economic Update, June 2011, vol. 2, no. 5. Dhaka, Bangladesh: Unnayan Onneshan. Available at: http://www.unnayan.org/reports/meu/june_11/meu_Jun_2011.pdf [Accessed 15 May 2013]

Sen, A.K. 1985, *Commodities and Capabilities.* North-Holland

Shilpi, F. 2007, *Access to Growth Poles and Regional Inequality in Bangladesh, First Draft.* The World Bank.

Thiesenheusen, William. 1989, *Searching for agrarian reform in Latin America.* Boston: Unwin Hyman.

Thorbecke, E. 2004, *Conceptual and Measurement Issues in Poverty Analysis*. Helsinki: United Nations University (UNU) and World Institute for Development Economics Research (WIDER).

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Titumir, R. A. M. and Rahman, K. M. M. 2011, *Poverty and Inequality in Bangladesh.* Dhaka, Bangladesh: Unnayan Onneshan. Available at: http://www.unnayan.org/reports/Poverty_and_Inequality_in_Bangladesh.pdf [Accessed on 13 May 2013]

UNESCO.1997, *Adult Education in a Polarizing World*. Paris: UNESCO.

Virola R.A. and Encarnacion J.O. 2003, *Official Provincial Poverty Statistics in the Philippines and the Issue of Comparability across Space*. NSCB Technical Papers No. 2003-10.

Warriner, Doreen.1969, *Land reform in principle and practice.* Oxford: Clarendon Press.

World Bank (WB), 2012, *Poverty & Equity, Country Dashboard: Bangladesh.* Washington DC, USA: The World Bank Group. Available at: http://povertydata.worldbank.org/poverty/country/BGD [Accessed 27 March 2012]

Zohir, S. 2011, *Regional Differences in Poverty Levels and Trends in Bangladesh: Are we asking the right questions?* Dhaka: Economic Research Group. Available at: http://www.ergonline.org/documents/sajjad%20regpov%2010july11.pdf [Accessed 12 April 2012]

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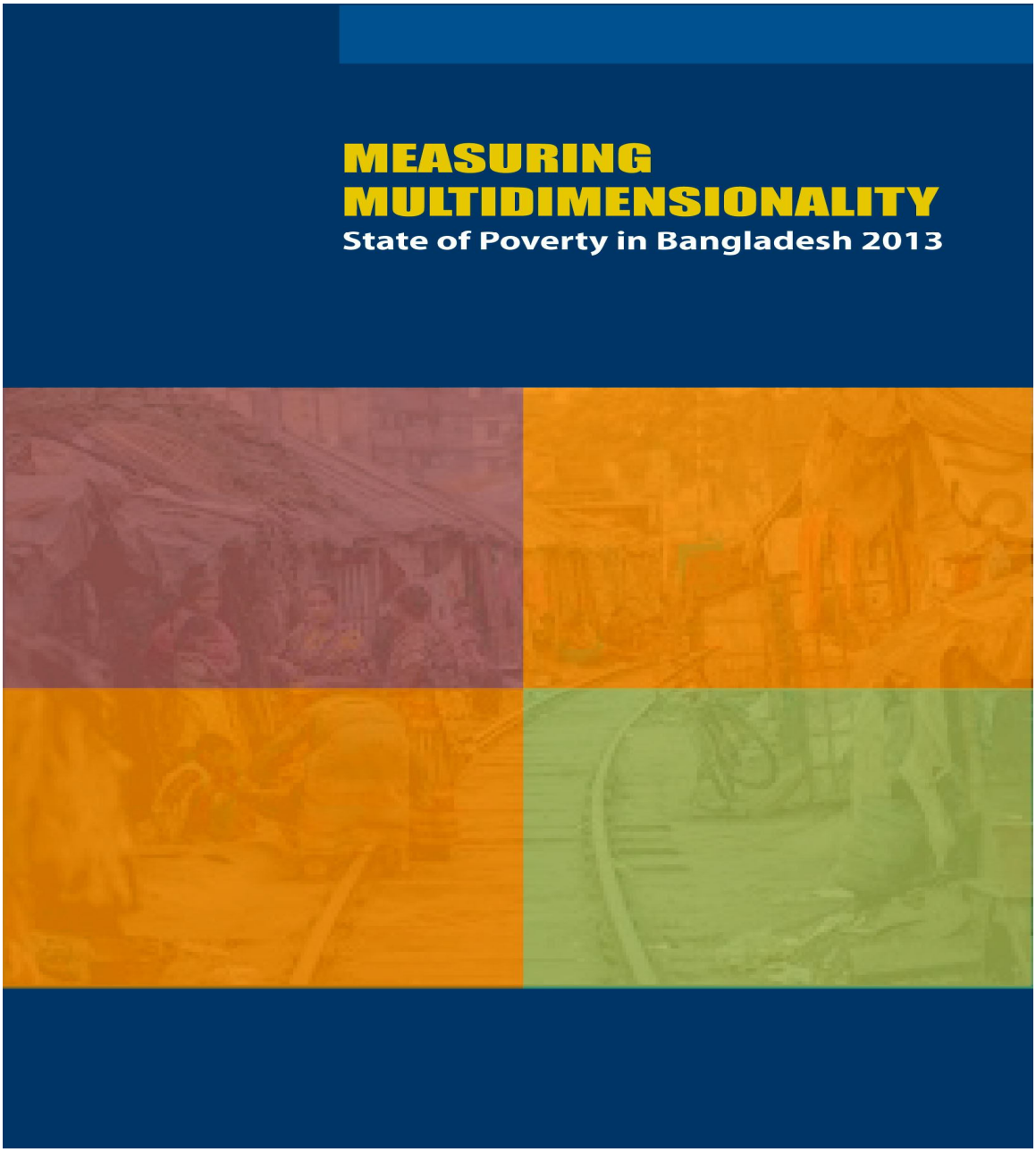

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