Chapter 3

Seasonal Deprivation and Migration in Bangladesh

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3.1 Introduction

The motivation of this book is to work out an ideal scheme of microfinance for peasants living in Northern Bangladesh. Peasants in Northern Bangladesh have double handicaps, i.e. flood and cold wave. Flood forces people to move out of their residence for a long time. And, its damage is severer against those who found nowhere but water front to live. Cold wave is an additional adversity for people in Northern Bangladesh, which makes the temperature in the area generally low and causes low yield of crops. Hence, there remain only insufficient amount of food in the off-harvest season between September and November.

This seasonal deprivation, which is called *monga* in Bengali, might be attenuated by seasonal migration which allows extra income earned outside farming. However, this countermeasure is not harmonious with the rules imposed by typical microfinance, as discussed in the previous chapters.

This contradiction between typical microfinance and living conditions in Northern Bangladesh is the point of departure on this research. In this chapter, the living conditions in Northern Bangladesh are described before the following chapters elaborate empirical analyses.

3.2 Seasonal Deprivation

3.2.1 Natural Conditions

The seasonal deprivation is remarkably acute in the Rangpur Division[1], which consists of

[1] The Rangpur Division was a part of the Rajshahi Division before it was separated out in 2010 as

eight districts, Dinajpur, Gaibandha, Kurigram, Lalmonirhat, Nilphamari, Panchagarh, Rangpur, and Thakurgaon. Among the eight districts, Gaibandha and Kurigram are the most *monga* -prone districts because the Brahmaputra River goes through them, which causes flood in its neighborhood. On this ground, the two districts were chosen as locations for our field survey.

The flood-caused reclaimed land with silt is called *char*. By definition, *char* area is vulnerable to flood. For the sake of poor peasants, however, *char* area is a frontier which no one claim its land ownership, and useful for both farming and living. Therefore, some prefer to reside in a *char* area. There are some *char* islands inside the Brahmaputra River. Needless to say, inconvenience and vulnerability of a *char* island is aggravated, if it is far away from the mainland, if the size of the island is small, and if the whole area is flat without any hill. *Char* islands are detached from network in electricity and land phone. Electricity is available only through in-house power generation with fuel or solar energy.

The natural hardship which is faced by Northern Bangladesh is to a certain extent reflected by temperature of the region. Figures 3.1 and 3.2 display average temperature at Dhaka and Rangpur meteorological stations by months in 2009 and 2010, respectively. Both figures show monthly averages of daily maximum and minimum temperature of Rangpur District[2] and those in Dhaka City are attached as references.

In Figures 3.1 and 3.2, it is evident that the monthly average minimum temperature in Rangpur is always lower than that in Dhaka both in 2009 and 2010. December and January are the coldest months. In Rangpur monthly average minimum temperature were below 15 degree in centigrade in 2009. That is, in January 2010 the temperature was 10.5 degree (Figure 3.2). Since the figures displayed in Figures 3.1 and 3.2 are monthly averages of daily maximum and minimum temperatures, there must be variation in temperature around the average. More concretely, the monthly average of minimum temperature of 10.5 degree in January 2010 implies that there must be some dates whose minimum temperature was below 10.5 degree centigrade. It must be unbearable for people to stay outside at a temperature below 10 degree without sufficient clothing.

Another aspect on temperature deserves special mention in Rangpur, the daily maximum temperature in the second half of the year is as high as in Dhaka. In November

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a new regional division of Bangladesh. According to terminology on geographical hierarchy in terms of local administration in Bangladesh, Division is an upper level of classification containing several Districts, which is a lower level of geographical classification.

[2] Rangpur District is a neighboring district both to Gaibandha and Kurigram Districts.

and December 2009 the monthly averages of daily maximum temperature in both Rangpur and Dhaka were over 30 degree, while that of minimum in December 2009 in Rangpur was lower than 15 degree, so that the difference between the maximum and minimum was as great as 18.4 degree. In the November and the December of 2010, the monthly averages of daily maximum temperature declined to below 30 degree in Rangpur. Meanwhile, it is still true that the monthly averages of daily maximum temperature in November and December in Rangpur were as high as those in Dhaka.

The point is, since Rangpur is located inland as well as in other parts of Northern Bangladesh, its climate is more continental. That is to say, it is hot in the daytime, while cold in the nighttime. Thus, the accommodating its climate is painful for those living in Rangpur. Thus, figures of temperature incorporate tough natural conditions imposed to residents in Northern Bangladesh.

3.2.2 Poverty

Before Jamuna Bridge was built over Jamuna River[3] in 1998, Northern Bangladesh was not connected well to any major cities in the neighborhood. The economy heavily depended on water transportation through Jamuna River, and there were little paved road, so that logistics to and from the area was generally unfavorable. Economic activities were static, and the economy was vulnerable to both nature-made and man-made risks.

Therefore, it is a natural consequence that the living standard in the area has been low. As mentioned above, there are two more additional natural factors which are disadvantageous to the economy in the area, i.e. flood and cold wave. Given all these adverse conditions working together, overall level of agricultural production has been so low that the stock of food is unlikely to be sufficient during the period in-between harvest seasons. In Bangladesh, the staple crop is rice, and there are three main types of rice which grow in different seasons, i.e. *boro* (its harvesting period is March-May), *aus* (June-August), and *aman* (December-February).[4] Thus, after August people have to wait for next harvesting by December. Thus, the food is generally short during September-November[5], and the shortage in food during this particular season is called *monga* in Bengali.

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[3] Jamuna River runs through Bangladesh in the middle from north to south.

[4] See Khandker (2012, p. 245), Rahman, Matsui and Ikemoto (2009, pp. 95-98) for more details.

[5] A Bengali month called “kartik” spanning from mid-October to mid-November lies in the lean season, so that *kartik* is referred to as “Mora Kartik” meaning the dying month. See Rahman, Matsui and Ikemoto (2009, pp. 95-98) for more details. See Ahmed, Narayan and Zaman (2009, pp. 271-273) on *monga*, too.

Monga symbolizes poverty in Northern Bangladesh. Because of this cyclical food insecurity, the area becomes a main source of migrants to Dhaka and local cities nearby such as Bogra. In particular, *char* islands which are widely seen in Gaibandha and Kurigram Districts are isolated from mainland. Education, health care, general administration as well as other essential public utilities are rarely available in *char* islands.

Khandker (2012) testified that a drop in income in *monga* period did not tend to be smoothed out, and consumption also declines in *monga* period due to imperfection of financial market in greater Rangpur region[6] as well as the rest of Bangladesh, using samples of the Household Income and Expenditure Surveys (HIES) conducted in 2000 and 2005. It is also shown, that drops in consumption and income are more distinct in greater Rangpur region than the rest of Bangladesh.

The HIES also highlights overall poverty in Northern Bangladesh. Figures 3.3 and 3.4 demonstrate the incidence of administrative division-wide poverty, measured with head count ratio, in 2000 and 2005. Note that, Rangpur Division which was separated from Rajshahi Division in 2010 ,was included in the latter in 2000 and 2005.

With upper poverty lines, which are often referred to than lower poverty lines, the incidence of poverty in whole Bangladesh was 48.9 percent in 2000. The administrative divisions which exhibit higher incidence of poverty than the national average are Rajshahi, which is the North of Bangladesh and Barisal, which belong to the south of Bangladesh and is susceptible to cyclones from the Bay of Bengal.

From 2000 to 2005 the incident of poverty dropped from 48.9 percent to 40.0 percent. Thus, poverty reduction was made to a certain extent. The drop in poverty was not equally made by districts. Divisions which had lower incidents in 2000, such as Dhaka, Chittagong and Sylhet, reduced the incidence further till 2005, while divisions with higher incidence in 2000, such as Barisal, Rajshahi, and Khulna, did not alleviate poverty as much as the former group of divisions. More concretely, from 2000 to 2005 the incidence of poverty in Barisal and Rajshahi declined by only 1.1 and 5.5 percent points, respectively. The incidence in Khulna even increased by 0.6 percent point. In the meantime, the incidence declined in Dhaka and Chittagong Divisions by 14.7 and 11.7 points, respectively.

This tendency of polarization is also seen in Figure 3.4, where a lower poverty line is used. With the lower poverty line, severe poverty is highlighted. The incidence of

[6] In his paper, the greater Rangpur region consists of the following four districts: Gaibandha, Kurigram, Lalmonirhat and Nilphamari.

poverty declined from whole Bangladesh, Dhaka division and Chittagong division by 9.2, 14.6 and 11.4 percent points, respectively. While those in Rajshahi and Khulna divisions are 8.2 and 0.7. Thus, poverty reduction in Rajshahi division in terms of the incidence has been modest as well as in other low-income divisions.

The incidence of poverty, which is measured with the head count ratio, is known as an insensitive indicator of poverty in the sense that the ratio does not reflect small changes in income of very low income segment of the poor. This weakness is addressed with other poverty indicators such as poverty gap ratio. Moreover, squared poverty gap ratio is invoked for the purpose of higher emphasis on the changes in income of the hardcore poor.[7]

Figures 3.5 and 3.6 show poverty gap ratios and squared poverty gap ratios with the upper and lower poverty lines by division in 2010. Note that Rangpur division was separated from Rajshahi division in 2010, so that the area of Rajshahi division became smaller than before.

It is evident that the poverty gap ratio is outstandingly high in Barisal and Rangpur divisions in 2010[8] regardless of the poverty line used (Figure 3.5). The poverty gap ratios in Barisal and Rangpur are around 10 percent with upper poverty lines, while those in other divisions are 4-6 percent. Similar polarization is applicable to the poverty gap ratio with lower poverty lines. General inclinations by divisions are the same with squared poverty gap ratio (Figure 3.6).

Finally, let us examine an aspect of non-income poverty, which is education. The second column of Table 3.1 exhibits literacy rate among people over seven years old by region which were derived from Population Census 2001. The adult literacy rate in whole Bangladesh was 46.15 percent in 2001. The literacy rates in two metropolises, Dhaka and Chittagong districts were higher than the national average. It is impressive that literacy in Barisal, which is one of the poorest divisions as well as Rangpur, is 53.59 percent, far higher than the national average. That is, in terms of an aspect of non-income poverty, Barisal is not a poor Division.

By contrast, adult literacy rates in Rajshahi division, Gaibandha district and

[7] As for the details of poverty indicators, refer to Deaton (1997), and Haughton and Khandker (2009). A seminal paper on this issue is Foster, Greer and Thorbecke (1984).

[8] Some information derived from the Household Income and Expenditure Survey (HIES) conducted in 2010 appears in BBS (2011). Though the poverty gap ratio and squared poverty gap ratio by Division derived from HIES 2010 are exhibited in BBS (2011), the head count ratio from HIES 2010 is not shown in BBS (2011) somehow. Therefore, only the poverty gap ratio and squared poverty gap ratio in 2010 are given in this chapter.

Kurigram district, which are highly susceptible to flood, were remarkably lower than the national average. In Gaibandha and Kurigram districts, only a third of population can read and write. The bottom line is that Rajshahi/Rangpur regions are poor on both income and non-income grounds.

3.3 Migration

A classic study in migration statistics revealed that though income level in destination evidently increases immigration, the effect of income level in origin on emigration is not straightforward because while low income in the origin is an incentive to emigrate, low income may cause hardship for a potential migrant to pay costs for migration (Vanderkamp (1971)). However, the general tendency is that low income in the origin induces emigration.

In addition, diversification of risks in income generation may be another incentive to send a part of family members for migration (Stark 1991). A climate shock occurring somewhere in Bangladesh becomes a macro shock in the region which widely affects agricultural production. Then, the negative shock to agriculture spreads to industry and service and the whole economy in the region is damaged, in the circumstance where financial market does not function well to smooth out fluctuation in production and consumption.[9] In order to diversify this sort of regional "macro" shocks, a way out is to keep somebody earning in some other area where the shock does not affect much and to make them help the original region financially.

The Rangpur Division, in particular flood prone Gaibandha and Kurigram districts, is a typical area to which the above argument is applicable. Natural negative shocks such as flood, heavy rain and cold wave occur quite often in these areas. Therefore, local people are keen to seek for countermeasures to diversify the risks. Migration, both long term and seasonal, are important options for that purpose.

There is a comprehensive sample survey, which was a follow-up of the Population Census 2001. The survey is called "Socio-Economic and Demographic Survey" and was conducted in January 8-28, 2004 (BBS 2008). The purpose of the survey was to deepen knowledge in certain aspects which were not elaborated with the Population Census 2001. Its sampling method is a stratified two-stage cluster sampling

[9] Khandker (2012) shows that this is exactly the case of the greater Rangpur region.

where the first level stratification is by area, based on the Population Census 2001. Key aspects to elaborate were migration, disability, fertility, immunization, housing and household assets.

A few results of the survey are revealed in BBS (2008). The ratio of immigrants[10] to total population by district (*Zila* in Bengali) is exhibited, too. That is, all divisions and some key districts are reproduced in the third column of Table 3.1.

Firstly, a little less than 10 percent of total population is migrants in whole Bangladesh in 2004. Obviously, this ratio varies by area in Bangladesh. The most notable is Dhaka district, the capital city of Bangladesh, which has as great population of migrants as almost a half of the total residents (48.97 percent). Dhaka division, which is a central division of Bangladesh and which consists of 17 districts including Dhaka district, also shown as a high ratio of immigrants as 17.26 percent. Chittagong, which is the second greatest district in population as well as a city of the greatest seaport in Bangladesh, absorbs a number of immigrants. Its ratio of immigration is 12.86 percent.

Meanwhile, poor and marginal districts are likely to have a lower rate of immigrants. Barisal Division, which is a typical low-income division and Rajshahi, exhibits as low as 2.56 percent of ratio of immigrants. While Rajshahi Division as a whole has 5.30 percent of population as immigrants, Gaibandha and Kurigram Districts, which will be our targets of scrutiny in later chapters, exhibit far lower ratios of immigrants, 2.11 and 1.63 percents, respectively.

A low ratio of immigrants may be a flip side of a high ratio of emigration, which does not appear in BBS (2008), if a general notion of attractiveness of a district affect immigration positively and emigration negatively. Suppose this assumption is true, Gaibandha and Kurigram districts are more likely to be the origin of migration rather than destination. Thus, the low ratio of immigrants indirectly suggests a high incidence of emigration from the two highlighted districts in this report.

3.4 Concluding Remarks

This chapter provided basic information on poverty and migration in Northern Bangladesh. Seasonal food insecurity aggravates poverty in this area, and pushes out-migration, in particular during the lean harvest season.

[10] Migration is defined as “the movement of persons who change their place of residence, except for marriage, for a period of six months or more” (BBS (2008, p. 7)).

These features make typical microfinance not work well. As a matter of fact, microfinance was not widely applied to the area. Thus, the necessity to figure out a modified and flexible microfinance arises in Northern Bangladesh, which will be discussed in the following chapters.

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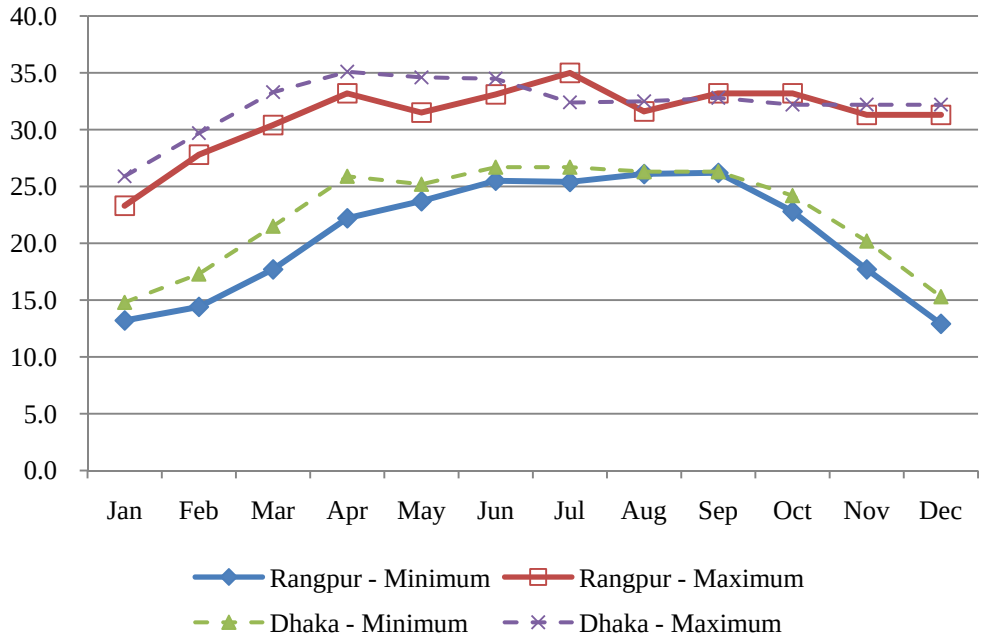
Table 3.1: Literacy and Ratio of Immigrants by Division and District

(unit in percent)

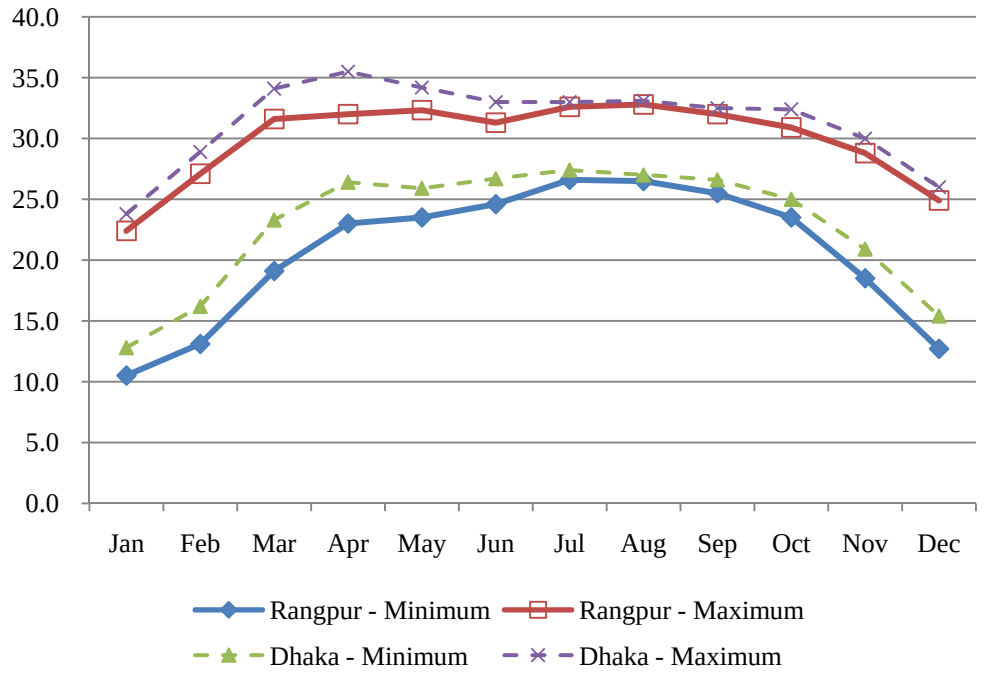
Division / District	Literacy Rate	Ratio of Immigrants
Whole Bangladesh	46.15	9.59
Barisal Division	53.59	2.56
Chittagong Division	47.89	6.33
Chittagong District	50.29	12.86
Dhaka Division	43.59	17.26
Dhaka District	47.10	48.97
Khulna Division	48.62	8.79
Rajshahi Division	41.81	5.30
Rajshahi District	47.54	4.62
Rangpur District	41.91	4.53
Gaibandha District	35.73	2.11
Kurigram District	33.45	1.63
Sylhet Division	40.33	5.31

Note: Children younger than seven years old are not counted to formulated the literacy rate. Migration is defined as “the movement of persons who change their place of residence, except for marriage, for a period of six months or more” (BBS (2008, p. 7)). Thus, seasonal migration is not captured in the above figures.
Source: The original source of the literacy rate is *Population Census 2001*, while the figures of literacy were cited from BBS (2011). As for the ratio of immigrants, BBS (2008), Table 8.7.



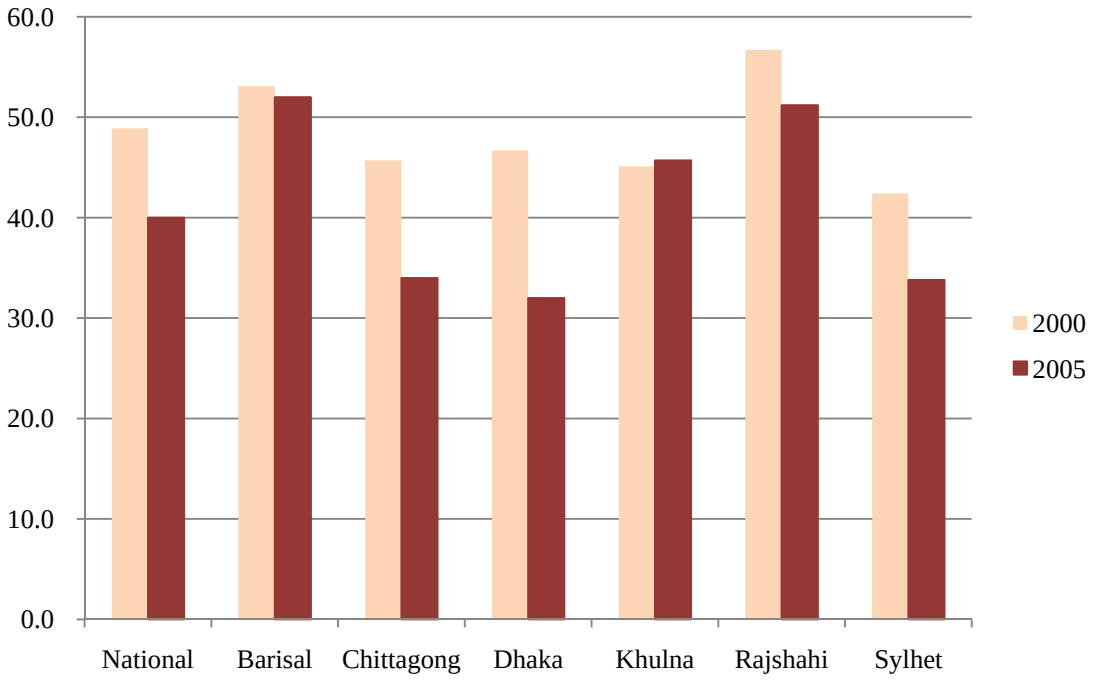
Source: BBS (2011).

Figure 3.1: Daily Maximum and Minimum Temperature in Rangpur and Dhaka in 2009 (unit in centigrade)



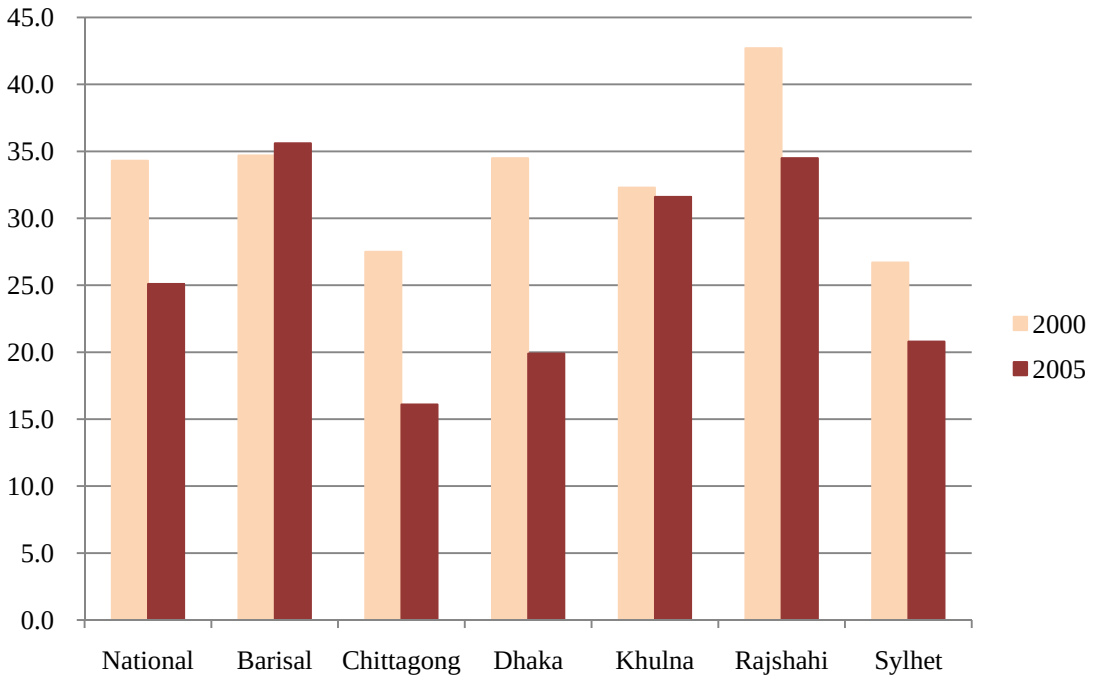
Source: BBS (2011).

Figure 3.2: Daily Maximum and Minimum Temperature in Rangpur and Dhaka in 2010 (unit in centigrade)



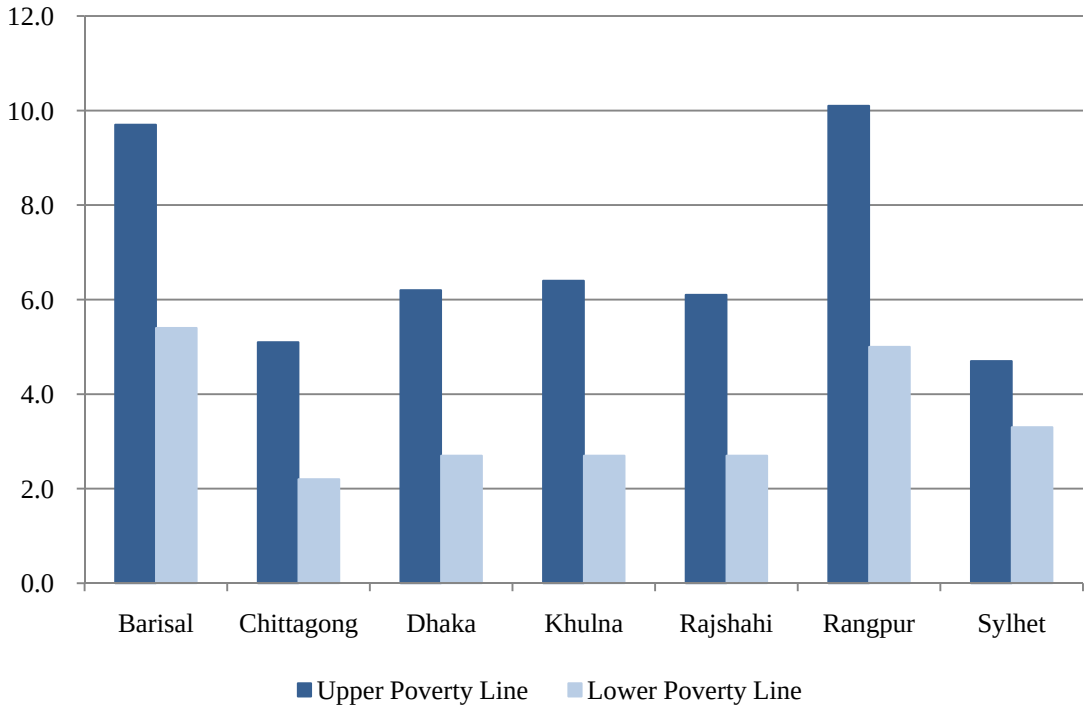
Source: BBS (2010), Table 14.23.

Figure 3.3: Incidence of Poverty with the Upper Poverty Line



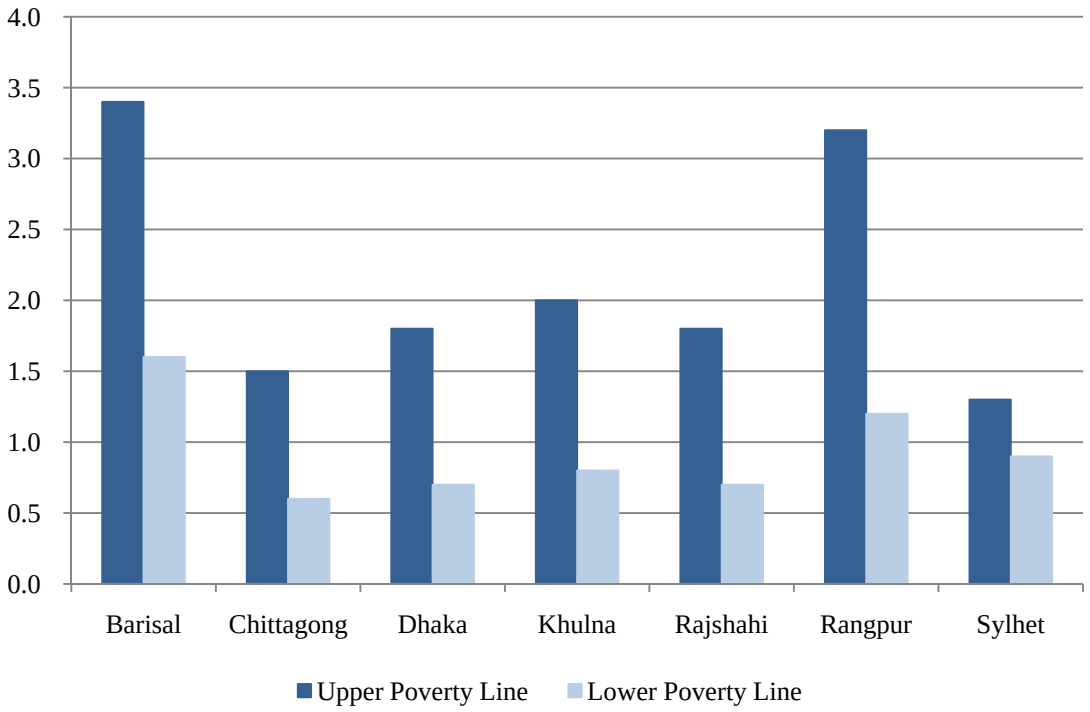
Source: BBS (2010), Table 14.23.

Figure 3.4: Incidence of Poverty with the Lower Poverty Line



Source: BBS (2011), Table 14.25.

Figure 3.5: Poverty Gap Ratio in 2010



Source: BBS (2011), Table 14.25.

Figure 3.6: Squared Poverty Gap Ratio in 2010