

Chapter 9

Poverty Reduction and Social Development in Bangladesh

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Abstract This study is an attempt to analyze the spatial variations of development in Bangladesh in terms of poverty reduction and social development at regional levels. The overarching goal is to determine the relationship among poverty levels and various indicators of development. The analysis reveals that although Bangladesh has been successful in reducing poverty level at the national scale, the poverty level is not homogeneous at the subnational level. The western part of the nation is lagging relative to the eastern part, and the northwestern part is lagging relative to the central part, with respect to poverty reduction. This chapter examines several factors of development such as electrification, urbanization, cooperatives, industrial establishments, and overseas employment. The study suggests that a well-functioning institutional mechanism will aid in poverty reduction, and that a committee be set up to address spatial disparity in development for proposing policies to ameliorate balanced regional development.

Keywords Poverty reduction • Social development • Education • Health • Investment • Electricity • Industry • Spatial disparity • Bangladesh

9.1 Introduction

Regional difference in economic development is a common phenomenon in the developed as well as developing countries because economic development never progresses at the same pace in all the regions of a country. However, the vision of balanced regional growth must be addressed by any government as it ensures equity and fairness among citizens. Bangladesh is a developing country of the Third World that achieved its independence in 1971. Article 19(2) of the constitution of the

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Peoples' republic of Bangladesh states: "*The state shall adopt effective measures to remove social and economic inequality between man and man and to ensure the equitable distribution of wealth among citizens, and of opportunities in order to attain a uniform level of economic development throughout the republic.*" In spite of the constitutional obligations, regional variations have taken place in terms of development of Bangladesh since the independence. Development plans and programs of the country have not been adopted with a regional approach for ensuring balanced development in the country (Jahir 2008). As a result, variations in socioeconomic development among regions are presently quite evident for the country (Ali and Sen 2003; Mcleod 2007).

Bangladesh has made strong progress toward reducing poverty in the past decade at the aggregate level (World Bank 1998, 2002, 2007). Poverty incidence reduced from 51.0 % in 1995–1996 to 40.0 % in 2005 (HIES 2005). The poverty gap also declined from 17.2 in 1992 to 9.0 in 2005, and the squared poverty gap declined from 6.8 to 2.9 during the same period. But at the regional level, the pace of poverty reduction is not equal, and some regions are lagging behind while others are performing well. This phenomenon is not uncommon in many developing and developed countries.

Bangladesh is divided into 6 administrative *Divisions* and 64 administrative *Districts* (before the 1990s, Bangladesh was divided into 20 administrative units termed *Greater Districts*). The incidence of poverty is disproportionately higher in the Divisions of Barisal, Khulna, and Rajshahi on the basis of the preliminary report of the Household Income and Expenditure Survey (HIES) 2005. This survey report shows that poverty is still higher in the western region of the country while lower in the eastern region. The poverty incidence in the three northwestern Divisions, namely, Khulna, Barisal, and Rajshahi, was 45.7 %, 52.0 %, and 51.2 %, respectively, whereas the incidence of poverty in the southeastern Divisions, namely, Dhaka, Chittagong, and Sylhet, was 32.0 %, 34.0 %, and 33.8 %, respectively.

9.2 Poverty Reduction in Bangladesh

Poverty reduction is one of the major targets of the government to achieve the Millennium Development Goals (MDG). The vision of poverty reduction has been encompassed in the poverty reduction strategy papers (CPD 2003). Although Bangladesh has been successful in reducing poverty at the national level, still there exists an acute spatial disparity at different regional levels (Quadir and Islam 1999). Using the HIES data for 2005, it is observed that the Kushtia and Dhaka regions were most successful in reducing poverty, at the rate of 27.83 % and 26.1 %, respectively, from the poverty level of 1995 (Table 9.1). Comilla, Tangail, Sylhet, and Chittagong are other regions that have reduced poverty significantly from 1995 to 2005 (Fig. 9.1) (BBS 1994, 2002, 2004a, b, 2005a, b, 2006). In Dinajpur, Khulna, Jamalpur, and Patuakali, the lagging regions of the country, poverty has increased from the baseline year of 1995 (BBS 1999, 2001, 2002). Between these periods, the national level of poverty has been reduced at the rate of 12.67 % from 1995 to 2005.

Table 9.1 Poverty reduction rate for greater districts, 1995–2005

Category	Poverty reduction (%)	Name of districts
Extreme poor	Poverty increased by 1–10 %	Dinajpur, Khulna, Jamalpur, Patuakali
Moderate poor	Poverty reduced by 1–5 %	Rangpur, Pabna, Jessore, Bogra
Average	Poverty reduced by 5–15 %	Faridpur, Noakhali, Rajshahi, Barisal, Mymensingh
Relatively better	Poverty reduced by 15–20 %	Tangail, Sylhet, Chittagong
Better	Poverty reduced by 20–30 %	Kushtia, Dhaka, Comilla

Source: Bangladesh Bureau of Statistics (BBS)

From the choropleth map of the changes in poverty incidence, it is found that the eastern part of the country has been successful in reducing poverty relative to the western part of the country (Fig. 9.1). The eastern region, including Dhaka, Comilla, Sylhet, and Chittagong, has tremendously reduced the poverty level whereas some parts of the northwestern region such as Dinajpur, Jamalpur, southwestern regions of Khulna, and Patuakhali have failed to improve relative poverty levels; rather, their poverty level has increased to some extent. This trend clearly depicts an east–west divide in the development pattern of the nation during 1995–2005.

9.2.1 *Gini Coefficient of Poverty Reduction (in Terms of Poor Population)*

Poverty reduction was not uniform at regional levels in Bangladesh during 1995–2005. The Gini coefficient value of poverty reduction during this period was 0.46 (Table 9.2); this signifies severe disparity existed in development in Bangladesh during that period, which resulted in disparity in the reduction of poverty in Bangladesh at regional levels.

9.2.2 *Trend Analysis of Poverty by Divisions*

Despite the reduction in poverty by nearly 9 % during 2000–2005, incidence of poverty is still high, as much as 40 % according to HIES 2005 based on the Cost of Basic Needs (CBN) method using the upper poverty line. The number of poor people was substantially larger during 2005 (about 5.6 crore; 1 crore is equivalent to 10 million). Also, the return caused by decline in poverty incidence at the national level was not equitably distributed in all the divisions of the country. In three divisions, namely, Rajshahi, Barisal, and Khulna, the incidence remained higher than those of the national and other divisional levels (Tables 9.2 and 9.3; Fig. 9.2).

The regional distribution of poverty levels illustrates that its incidence is higher in the rural than the urban areas (Bangladesh Institute of Development Studies and Chronic Poverty Research Centre 2006). The pattern is equally true for both the national and the division levels, except for Sylhet in 2000. Also, with the declining

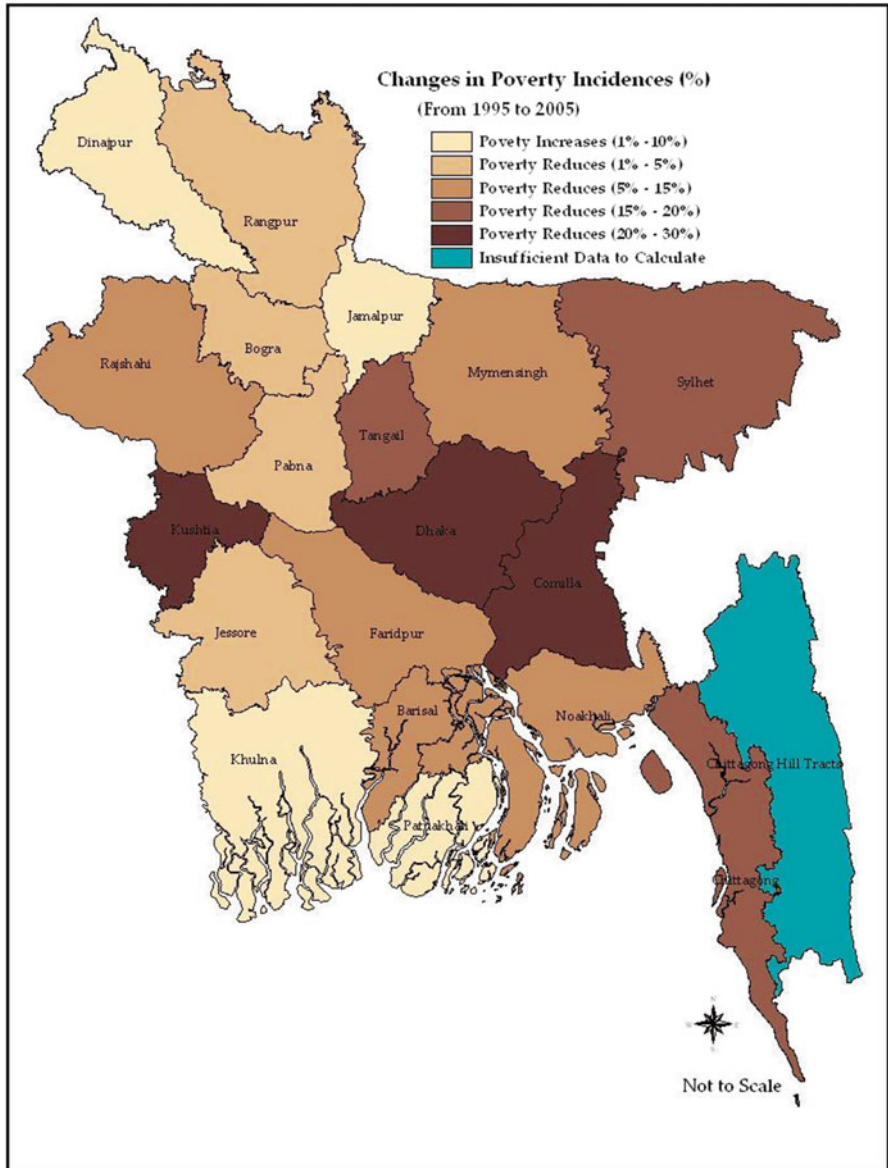


Fig. 9.1 Spatial variation in changes in poverty incidences by greater districts from 1995 to 2005 (From Bangladesh Bureau of Statistics; map prepared by author)

Table 9.2 Gini Index values for poverty in different years

Year	Variables	Gini Index value
1995	Poverty vs. population	0.05
1995	Poverty vs. area	0.243
2005	Poverty vs. population	0.184
2005	Poverty vs. area	0.21
2003	Poverty vs. population	0.10
2003	Poverty vs. area	0.28
1995–2005	Poverty reduction vs. population	0.46

Source: Calculated by the authors

Table 9.3 Incidence of poverty by divisions (percentage of population below/upper poverty line)

Division	1995			2000			2005		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Barisal	49.9	50.2	44.4	53.1	55.1	32.0	52.0	54.1	40.4
Chittagong	52.4	54.0	40.8	45.7	46.3	44.2	34.0	36.0	27.8
Dhaka	40.2	48.5	18.4	46.7	55.9	28.2	32.0	39.0	20.2
Khulna	55.0	56.0	48.7	45.1	46.4	38.5	45.7	46.5	43.2
Rajshahi	61.8	65.0	36.8	56.7	58.5	44.5	51.2	52.3	45.2
Sylhet				42.4	41.9	49.6	33.8	36.1	18.6
National	51.0	55.3	29.5	48.9	52.3	35.2	40.0	43.8	28.4

Source: BBS; Reports of HIES 2000 and HIES 2005

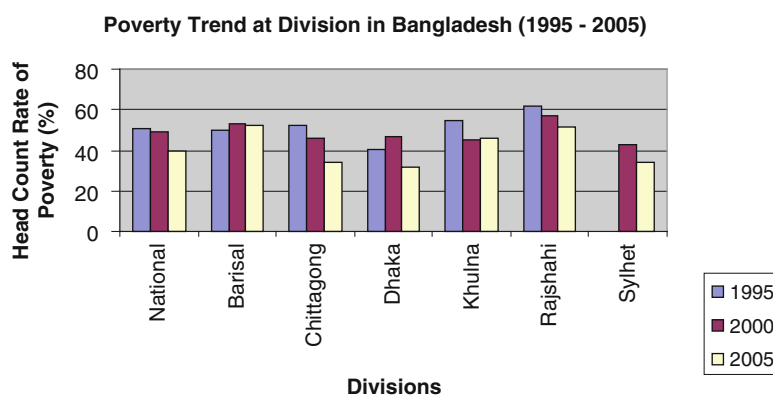


Fig. 9.2 Trend of poverty incidences by divisions (1995–2000) (From BBS; Reports of HIES 2000 and HIES 2005)

Table 9.4 Number and density of poor population by region, 2005

Region	Area (square kilometers)	Population			Poverty incidence	Poor population		Population density (per square kilometer)	
		%	Crore	%	(%)	Crore	%	Poor	All
Barisal	13,297	9.01	0.89	6.42	52	0.46	8.3	346	669
Chittagong	33,771	22.88	2.67	19.25	34	0.91	16.4	270	790
Dhaka	31,120	21.09	4.47	32.23	32	1.43	25.8	460	1,436
Khulna	22,273	15.09	1.62	11.68	45.7	0.74	13.3	332	727
Rajshahi	34,514	23.39	3.34	24.08	51.2	1.71	30.8	495	967
Sylhet	12,596	8.54	0.88	6.34	33.8	0.3	5.4	238	699
Bangladesh	147,571	100	13.87	100	40	5.55	100	376	940

Source: A strategy for poverty reduction in the lagging regions in Bangladesh Planning Commission 2008

trend in poverty at the national level, the rural areas of all the divisions have experienced the same movement. However, alarmingly poverty incidence in the urban areas of Barisal, Khulna, and Rajshahi shows an opposite tendency. Not only are the incidences in these areas very high, they have been on a rising trend since 2000.

9.2.3 Spatial Distribution of the Poor Population

Given the size of the population, the poverty incidence of a division shows the number of poor in that particular area. Counting the number of poor in this way, in turn, yields a scenario of poverty distribution across the divisions. Table 9.4 shows that the largest number of poor resides in Rajshahi, followed by Dhaka, Chittagong, Khulna, Barisal, and Sylhet. Table 9.4 also provides information about density of poor people by divisions: the density of poor people is highest in Rajshahi, followed by Dhaka, Barisal, Khulna, Chittagong, and Sylhet.

9.3 Social Development in Bangladesh

Social development is a process that results in the transformation of social structures in a manner which improves the capacity of the society to fulfill its aspirations (ADB 2004). Inequality in social development can also reflect the ill-being of people across regions. According to the Poverty Reduction Strategy Paper (PRSP 2005), education and health are major determinants of social development. As a result, levels of educational attainment and health indicators represent the variation in some non-income aspects of poverty (Planning Commission 2008).

Basic education for all children is clearly stated in the constitution: “*The state shall adopt effective measures for the purpose of establishing a uniform, mass*

oriented and universal system of education and extending free and compulsory education to all children to such stage as may be determined by law". Acknowledging education as a national responsibility of the State and recognizing the fundamental rights of the people to education ushered in a new era in Bangladesh.

The country has undertaken a number of measures to improve education since its independence. Commendable growth in access and achieving gender equity are the major achievements of those efforts. However, the rate of growth in the education sector is not equal in terms of either educational attainment or educational facilities at regional levels in Bangladesh.

9.3.1 Regional Variation in Educational Attainment

9.3.1.1 Literacy Rate

At the divisional level, the literacy rate is improving, but regional inequality exists temporally and spatially. In 2005, the highest literacy rate was observed in Barisal (62.1 %), followed by Khulna (53.9 %), Dhaka (53.1 %), Chittagong (51.3 %), Rajshahi (49.7 %), and Sylhet (42.1 %), according to the Household Income and Expenditure Survey (HIES 2005). The national average literacy rate during 7 years and more was 51.9%, which was 46.7% in urban areas and 67.6% in rural areas during 2005. It is noteworthy that the rural areas are more advanced in terms of literacy rate than the urban areas. However, the national average literacy rate was 44.9% in 2000, 40.9% in urban areas and 60.2% in rural areas (Table 9.4).

9.3.1.2 Primary and Secondary Enrollment Rate

At the national level, the school enrollment rate in the age group 6–10 years was 80.42 %, 79.47 % in the rural areas and 83.98 % in the urban areas (HIES 2005). The school enrollment rate in the age group 11–15 years was lower than in the age group 6–10 years: 69.97 % at the national level, 69.75 % in the rural areas, and 70.72 % in the urban areas (Table 9.5).

Table 9.5 Literacy rate (%) (7 years and above) by divisions, 2005

Divisions	National	Urban	Rural
Both sexes	51.9	46.7	67.6
Barisal	62.1	59.6	76.2
Chittagong	51.3	46.7	65
Dhaka	53.1	42.9	69.9
Khulna	53.9	50.8	65.6
Rajshahi	49.7	47.3	62.3
Sylhet	42.1	37.8	68.6

Source: HIES (2005)

Regional variations are observed in the school enrollment rate for the age groups of both 6–10 years and 11–15 years (DPE 2007). It is evident from Table 9.5, at the aggregate level, that in the age group of 6–10 years the highest enrollment rate was observed in Khulna Division (87.15 %) and the lowest in Chittagong (72.29 %). In the age group 11–15 years, the highest enrollment rate was found in Khulna Division (76.75 %) and the lowest in Sylhet (59.14 %) (HIES 2005).

9.3.2 Analysis of Regional Variations in Educational Attainment

Factors explaining regional variations in educational attainment are important in policy analyses. It is quite noteworthy that Khulna and Barisal Divisions, in spite of being the poorest, have higher primary enrollment rates among both boys and girls than Dhaka, Chittagong, and Sylhet. Khulna also had the highest enrollment rates at both primary and secondary levels during 2005 (BANBEIS 2009).

In Sylhet, the situation is alarming, as it is 8 % less likely for girls to attend school compared to Dhaka Division during 2005. Gender gaps in enrollment rates have historically been high in Sylhet, with the male primary gross enrollment rate at 15 percentage points higher than the female rate of 76 % in 2000 (countrywide female primary gross enrollment was 93 % in the same year). Gender gaps in primary and secondary education have narrowed substantially in Sylhet since 2000, to the extent that gross primary enrollment among females surpassed that among males in 2005 (Table 9.4) (HIES 2005) (Fig. 9.3).

In terms of divisional scenario, the fact that economic opportunities in a region do not cast a positive influence on education outcomes is somewhat of a puzzle, and especially so given that returns to endowments including education are lower in lagging regions, which should dampen the demand for education. More complex phenomena may however be at work: for example, the ability to migrate from a lagging

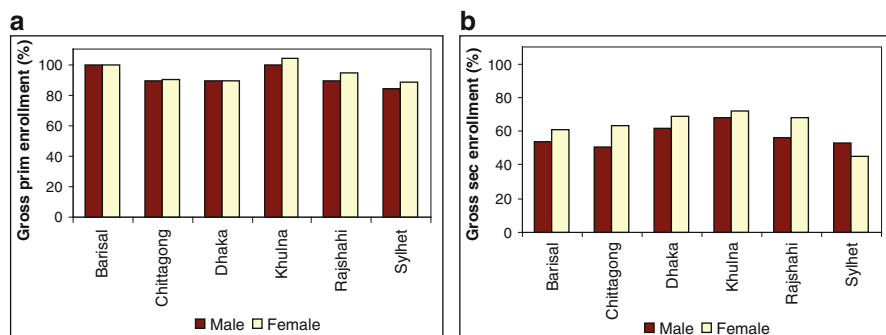


Fig. 9.3 Gross primary (a) and secondary (b) enrollment by gender in divisions, 2005 (From HIES 2005)

region is linked to better human (and physical) endowments, which can serve as an incentive for staying in school. Conversely, the greater labor market opportunities in the more vibrant Dhaka and Chittagong Divisions may translate into a greater demand for child labor, which would raise the opportunity cost of attending school, particularly for poorer households.

Other factors that could explain the paradox include the greater concentration and longer presence of NGOs (non-governmental organizations) in the economically lagging regions and the impact of their awareness-raising activities on social outcomes, positive spillover effects on non-NGO members in the same community, and differences in historical social norms, particularly as relates to the empowerment and mobility of women. The last factor is likely to be particularly relevant for Sylhet. Given that the HIES data do not allow a close examination of these questions, more detailed analysis using alternate data sources will be necessary to explain this apparent paradox among the spatial patterns of income poverty and human development (World Bank 2008).

A district-wide analysis of education and the incidence of poverty gives a more clear and realistic picture regarding this relationship. The correlation coefficient between literacy rate (7 years and above in 2001) and poverty incidences (2003) has been found to be -0.40 , which implies that a higher level of educational attainment certainly reduces the poverty incidence in a region. As a result, it can be said that education has a higher impact on reducing poverty at the regional level in Bangladesh; nevertheless, there are other contributing factors besides poverty that affect the level of regional education.

9.3.3 *Comments on the Education Sector of Bangladesh*

To improve the quality of education and to initiate a set of reforms to develop the education sector, the government undertook several actions, of which the formation of the education commission named the Mohammad Moniruzzaman Mia Commission in January 2003 was one of the major initiatives. The Commission submitted its report to the government in March 2004. The Commission Report suggests 880 recommendations on all aspects of educational development. One of its recommendations is “*The Policy of increasing access to education in the rural areas through establishment of new educational institutions with GOB financing in the underserved areas.*” Spatial concentration of developed regions in educational attainment was found in the central region, southern coastal region, and southeastern region of the nation during 2001. The northern part of the country is quite underdeveloped in comparison to the southern part of the country and this division is quite apparent. The lagging regions are the northeastern region, central-north region, and central-western regions of the country. These lagging regions should be identified properly and adequate measures should be taken to improve educational attainments in these regions. Moreover, qualitative analysis of education in terms of both educational attainment and educational facilities across regions are quite important as this may reveal spatial variation in the education sector at the various geographic scales in Bangladesh.

9.4 Spatial Variation in Health Outcomes and Health Facilities in Bangladesh

The Government of Bangladesh is committed to ensure good status of the health, nutrition, and livelihood of its citizens (DGHS 2007). To facilitate implementation of this commitment, it needs faster implementation of programs and policies. The Government's Ministry of Health and Family Welfare has undertaken a sector-wide approach for program planning and operation for such an environment (DGHS 2008). However, regional considerations in policy planning for the health sector were not given proper importance in the past. As a result, health facilities are not evenly distributed, thereby leading to variations in health outcomes across the country.

9.4.1 Regional Variations in Health by Divisions

Significant variations among divisions exist in terms of health outcomes in the country. Divisional variations in health in Bangladesh in terms of various health indicators such as the infant mortality rate (IMR), under-age-5 mortality rate (U5MR), maternal mortality rate (MMR), underweight children, and life expectancy are discussed next.

9.4.1.1 Infant Mortality Rate

According to SVRS 2006, at the national level IMR per 1,000 live births has decreased from 111 in 1981 to 45 in 2006. IMR was highest in Rajshahi Division (52) and was the lowest in Khulna Division (34) for both sexes in 2006. For males, IMR was the highest in Sylhet Division (56) and lowest in Khulna Division (37). For females, it was highest in Barisal Division (52) and lowest in Khulna Division (30). In the rural areas, IMR was the highest in Barisal Division (54) and the lowest in Khulna Division (36), but for urban areas, it was highest in Dhaka Division (42) and lowest in Khulna Division (25).

IMR had decreased substantially during 1993–2006 in all urban and rural areas of all the divisions for both males and females. According to Table 9.6, it has decreased by 35 % in Barisal Division, by 50 % in Chittagong Division, by 49 % in Dhaka Division, by 57 % in Khulna Division, by 42 % in Rajshahi Division, and by 24 % in Sylhet Division (1996–2006).

9.4.1.2 Under-Five-Age Mortality Rate

Under-five mortality rate (U5MR) is defined as the number of deaths in children under 5 years of age per 1,000 live births in a given year. According to SVRS 2006, the U5MR rate was 62, 65 for males and 59 for females. In the rural area, these rates

Table 9.6 Primary and secondary enrolment rate (%) for 2005

Division	Children aged 6–10 years			Children aged 11–15 years		
	Total	Rural	Urban	Total	Rural	Urban
National	80.42	79.47	83.98	69.97	69.75	70.72
Barisal	83.16	82.37	87.50	72.75	71.78	78.85
Chittagong	72.29	69.73	82.45	68.77	68.48	69.72
Dhaka	81.70	81.03	83.05	69.96	70.19	69.55
Khulna	87.15	87.23	86.85	76.75	77.47	73.54
Rajshahi	83.48	83.22	85.21	69.79	69.56	71.07
Sylhet	76.40	75.08	87.10	59.14	57.20	73.03

Source: HIES 2005

Table 9.7 Infant mortality rate (IMR) (%) by divisions (per 1,000 live births), 2005–2006

Divisions	1993	2001			2005			2006			Decrease (1993– 2006)
		Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	
Barisal	86	51	53	44	49	50	42	51	54	28	35
Chittagong	90	58	60	45	48	46	54	40	42	35	50
Dhaka	94	56	61	43	52	56	44	45	46	42	49
Khulna	91	51	54	38	49	54	25	34	36	25	57
Rajshahi	94	59	62	43	49	50	41	52	54	40	42
Sylhet	74	61	62	54	50	49	66	50	51	40	24

Source: SVRS (2004, 2006)

were 64, 69, and 60, respectively and in the urban area 53, 49, and 57, respectively. In 2006, U5MR was highest in Barisal Division (75.9) and lowest in Khulna Division (47.1). In females, it was highest in Chittagong Division (69.9) and lowest in Khulna Division (38.8). In rural areas, it was highest in Barisal Division (78.6) and lowest in Khulna Division (45.4), but in urban areas the highest rate was in Dhaka Division (58.9) and lowest was in Khulna (33.5) (Table 9.7).

9.4.1.3 Maternal Mortality Rate

The maternal mortality rate (MMR) is a very important mortality index of mothers, who are exposed to the risk of death during childbirth. It is generally expressed as the ratio of maternal deaths in a period to live births during the same period, expressed per thousand live births. According to SVRS 2006, MMR was slightly reduced by 0.39 points at the national level, by 0.27 points at the rural level, and by 0.74 points at the urban level during 2003–2006.

The maternal mortality rate (MMR) still continues to be very high in Bangladesh. However, inequity in the rate across the Divisions has lessened over the years. In 2004, the highest rate, per thousand live births, was observed in Sylhet (4.50), followed by Barisal (4.38), Chittagong (4.14), Rajshahi (3.96), Khulna (3.95), and

Dhaka (3.51). During 2003 and 2004, the rate has increased in Dhaka, Khulna, and Rajshahi. During 2003–2006, MMR was lowest in Dhaka Division (2.93) and highest in Sylhet Division (5.19). Barisal, Chittagong, and Sylhet are relatively poor regions with a high MMR and Dhaka, Khulna, and Rajshahi are developed regions with a lower MMR.

9.4.1.4 Underweight Children

According to the Child Nutrition Survey 2000, the national average of underweight children is 51.1 %, which is higher in rural areas (52.8 %) and relatively lower in urban areas. The rate of underweight children was lowest in Khulna Division (38.6) and highest in Barisal Division (57.4). Dhaka Division (50), Chittagong, and Sylhet Division (51.8) have an average level of underweight children in terms of the whole country in 2000. According to the Directorate of Health Services (DHS), as in 2000, underweight children were highest in Barisal Division (46) and lowest in Khulna Division (34) in 2007 (Fig. 9.4).

9.4.2 Role of NGO Programs in Health Outcomes

The extent of NGO program coverage could be an explanation of the spatial divide in health indicators. Lagging regions of Bangladesh (“lagging” defined in income-poverty terms) actually have a much higher concentration of NGO activities than income-affluent regions. From Directorate of Health Services (DHS) data (2004), the proportion of rural respondents covered by NGOs ranges from 18 % in Sylhet and 23 % in Chittagong division to 34–35 % in Rajshahi and Khulna. Analysis using DHS health data shows the relative advantage of NGO membership across poverty

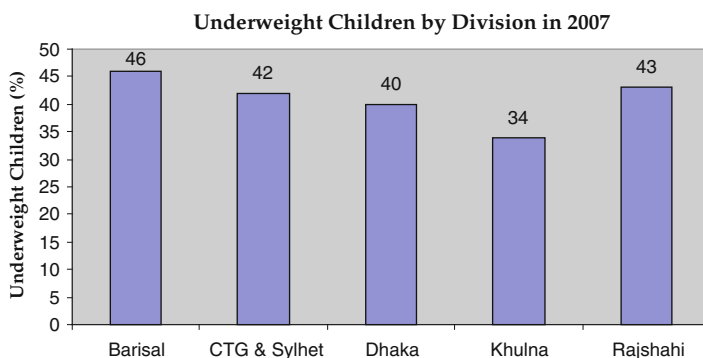


Fig. 9.4 Variation in underweight children (in percent) by divisions, 2007 (From Directorate of Health Services (DHS) 2007)

categories and higher marginal effects of NGO membership on health outcomes after taking into account household and community-level controls (World Bank 2008). There are a number of plausible explanations for this “NGO effect”, such as higher awareness among NGO member households and higher expenditure by NGOs on services for member households and spillover effects on non-NGO members residing in the same community.

However, NGO presence is clearly not the only explanation of these somewhat counterintuitive trends. Another possible explanation for the slower progress in health performance in Chittagong and Sylhet is that these regions have a greater historical backlog of relatively conservative social norms, as expressed in larger desired family size, more restrictive attitudes on women’s physical mobility, and related indicators of female empowerment. These issues merit further explorations in future research.

9.4.3 Spatial Variation in Health Facilities

Health facilities in Bangladesh are not equitably distributed; rather, there are regional disparities in distribution. Health facilities in Bangladesh have been concentrated in the central regions, especially in the capital city of Dhaka. In 2007, health facilities in Dhaka numbered 318 whereas the next in the hierarchy was Chittagong district with 130 hospitals (BBS 2007a, b). These data clearly show the level of concentration of health facilities in the central part of the country (Fig. 9.5).

9.4.3.1 Regional Disparity in Health Facilities

The Gini coefficient for health facilities during 1991 was 0.23, and it was 0.22 during 2007, which implies that no significant change has been observed in spatial distribution of health facilities during the intervening period. However, the Gini value of government health facilities in 2007 was 0.20 and the Gini value of private health facilities during 2007 was 0.57; this implies that although small variations exist in the distribution of government hospitals, the existing variation in the distribution of private hospitals in the country is phenomenal. Overconcentration of private hospitals in some of the divisional headquarters and major districts has contributed largely to this regional inequality.

9.4.4 Comments on Health Issues in Bangladesh

Spatial concentrations of developed regions in health outcomes are clustered in the central, northeast, central north, and southwest regions. The western part of the country is a comparatively better situation in health than the eastern part of the

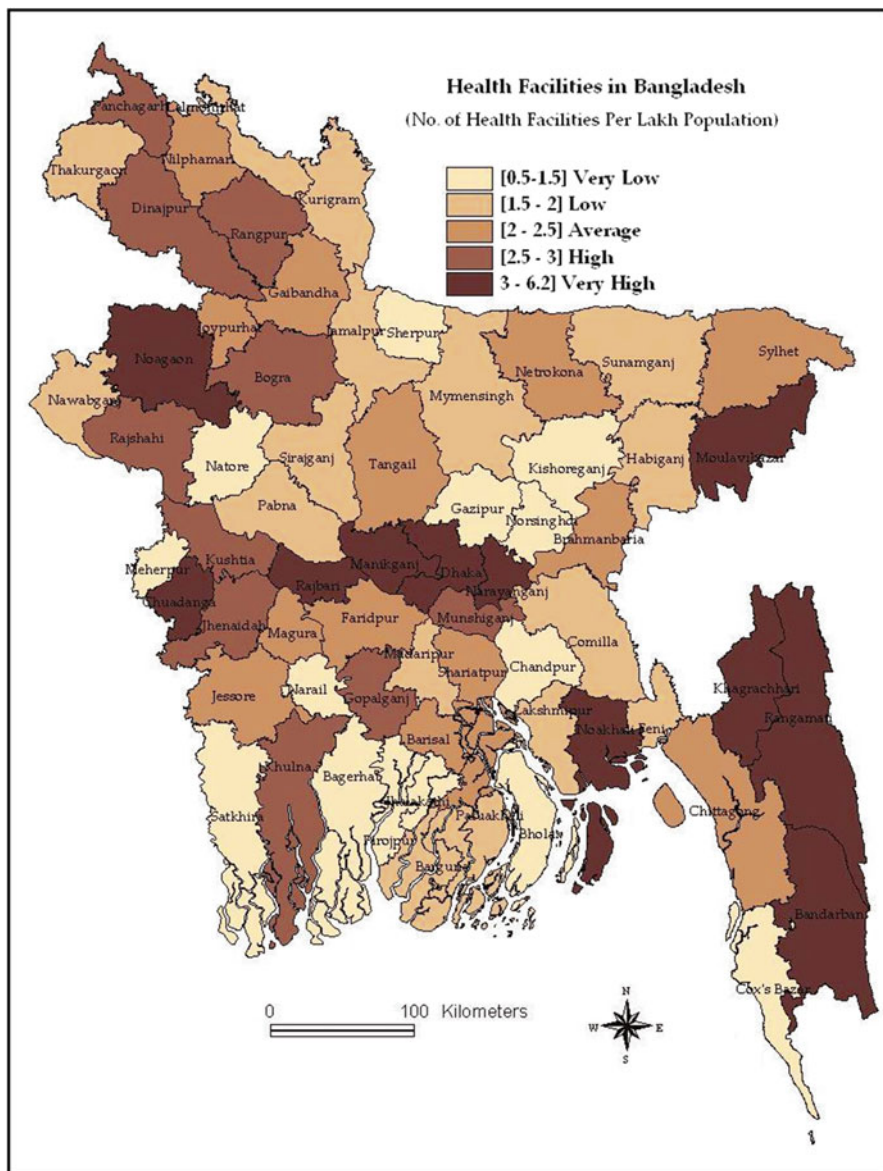


Fig. 9.5 Spatial variation in health facilities in Bangladesh (number of facilities per Lakh population), 2007 (From DHS 2007; map prepared by authors)

country. The lagging regions in terms of composite score of health indicators are northwest, central north, central east, southern coastal, and southeast hilly regions. These impoverished regions should be identified properly and adequate measures should be taken to improve the health situation of the inhabitants. The Government should undertake necessary policies to encourage health facilities in these lagging regions, thus diffusing health facilities from the central region especially away from Dhaka City.

9.5 Development Factors in Bangladesh

Spatial variations exist in various factors affecting regional development in the country. Major factors that significantly contribute to the economic development of Bangladesh are public and private investment, industrialization, roadway development, number of establishments, agricultural growth, electrification, overseas employment, micro-credit disbursement, land ownership, population growth, and urbanization.

9.5.1 Public Investment

Since the First Five-Year Plan (1973–1978) to the Fourth Five-Year Plan (1990–1995), the issue of regional inequality has not been addressed, whereas it remains a major objective in all the five-year plans of India. Bangladesh being a mono-ethnic society, such an objective was not important in the past. After a paradigm shift from five-year plans to poverty reduction strategy, the I-PRSP and the PRSP of Bangladesh have also not addressed the issue of regional gaps in poverty (Planning Commission 2008). In terms of Annual Development Program (ADP) allocation within 2003–2006, Sylhet Division has the highest allocation, with LQ of 1.40, and Dhaka was the next to receive ADP, with a location quotient (LQ) of 1.12. The other divisions are less than the national average of unity LQ. This pattern of distribution of ADP shows some hints of east–west division of distribution of development budgets of the nation. The most effective government measure for poverty reduction is the Social Safety Net Programme (SSNP). The allocation under different SSNP should be devoted to the lagging divisions with a higher proportion of poor, but this is not considered properly. Sylhet and Dhaka Division have received more than the national average of social safety net benefits. Especially, Sylhet Division was allocated remarkable SSNP benefits with LQ of 1.73. Conversely, the lagging divisions of Rajshahi and Khulna had received SSNP benefits less than the national average. Khulna Division received only 8.91 % with a population of 12.07 %. This picture of distribution of development funds within regions in Bangladesh is particularly gloomy in terms of poverty reduction efforts.

9.5.2 Industrialization

Manufacturing industries create many employment opportunities, thus reducing poverty. The correlation coefficient between manufacturing industrialization and poverty incidences for districts is -0.46 for Bangladesh. Spatial concentration of districts with a high level of population engaged in manufacturing industries has been found in central districts of Bangladesh, namely Dhaka, Narayangong, Manikaganj, and Gazipur. The lagging regions are concentrated in the southern coastal and northern regions of the country. The Gini coefficient for the number of manufacturing industries per 100 square kilometers (km^2) is 0.61, which clearly shows the wide level of divergences in the spatial distribution of manufacturing establishments in the country.

9.5.3 Private Investment

In terms of private investment, the east–west divide of the nation is quite noteworthy. Private investment in the eastern region is quite high in comparison to the western region of Bangladesh. The central districts of Dhaka, Gazipur, Naryangonj, Munshigonj, and Norshingdi have enjoyed the locational advantage of being close to a big capital market. Being a port city, private investment in Chittagong District is also quite higher than the national average. In contrast, the lagging regions are concentrated in the northern, northwestern, and southern coastal areas. The correlation coefficient among private investment (BOI 2003) and poverty incidences (PKSF 2003) is calculated as -0.31 ; this explains the level of poverty incidence is lower where private investments are high. Further, extreme regional imbalance can be observed at the local level with respect to investments in Bangladesh. The Gini coefficient value of private investment was 0.87, which shows that private investment has been concentrated in parts of Bangladesh.

9.5.4 Agricultural Growth

Bangladesh is a country where agriculture predominates as the major source of livelihood. Almost 50 % of the labor force is employed in the agricultural sector. As a result, the poverty levels in different regions, especially in rural areas, are largely affected by the vagaries in agricultural sector performance. In terms of annual compound growth rate, the eastern districts of the country observed significant growth over the years. Greater districts of Khustia, Jessore, Dinajpur, Bogra, and Rajshahi have a high growth rate in agriculture whereas the central districts of Dhaka, Tangail, and the southern coastal districts of Barisal, Patuakhali, and Noakhali had a lower annual compound growth rate in agriculture within the period of 1980 to 2000.

The correlation coefficient between agricultural growth rate and rural poverty is -0.37 , which indicates that a higher growth rate in agriculture simultaneously reduces poverty. However, in the broader regional consideration it is observed that agricultural production has a miniscule relationship with poverty incidence. The estimated correlation coefficient between value addition by agriculture and regional poverty incidence was -0.06 , which implies that, although a high level of agricultural production slightly reduces poverty, other factors exist that strongly influence the regional poverty levels. Level of urbanization and industrialization of a particular region in addition to agricultural production may have agglomerative effects on overall regional poverty incidence.

9.5.4.1 Electrification

According to the Census of 2001 for Bangladesh, 30 % of households had access to electricity, which is comparatively high in urban areas. Spatial concentrations of developed regions in terms of electricity coverage are found in the central region (Dhaka, Narayanganj, Gazipur, Munshigonj, Norshingdhi) and southeastern region (Comilla, Feni, Chittagong). The northern part of the country is relatively underdeveloped in comparison to the southern part of the country. Divisional headquarters are quite developed in electricity coverage compared to other districts of the country. Regions underdeveloped in terms of electricity coverage are the northwest, central north, northeastern (except Sylhet), central north, southern coastal, and southeastern hilly regions. The correlation coefficient between electricity coverage to households and regional poverty incidence was -0.67 , which shows a high negative relationship. Thus, the implications if that provision of electrification can reduce regional poverty incidence to a significant extent.

9.5.4.2 Micro-credit Disbursement

Bangladesh has made revolutionary progress in disbursing micro-credit to the poor people of the country. It is observed that micro-credit to poor people has significantly contributed to the improvements in their standard of living. However, there are some divergences in the distribution of micro-credit in different regions of the country. According to PKSF, coverage of micro-credit was 60.5 % in terms of poor households in 2003 but 47 % in terms of total households (PKSF 2003). The western region of the country where poverty incidence is relatively higher has a higher percentage of micro-credit coverage than the eastern part of the country (Fig. 9.6). The correlation coefficient between micro-credit coverage to poor households (2003) and poverty incidence (2003) in district has been estimated to be -0.24 , which implies that disbursement of micro-credit to poor people has a positive impact on them, reducing the level of poverty. Poor households with greater coverage of micro-credit have lower incidences of poverty. As a result, to improve the poverty situation in the lagging regions, micro-credit coverage should be increased for poor people.

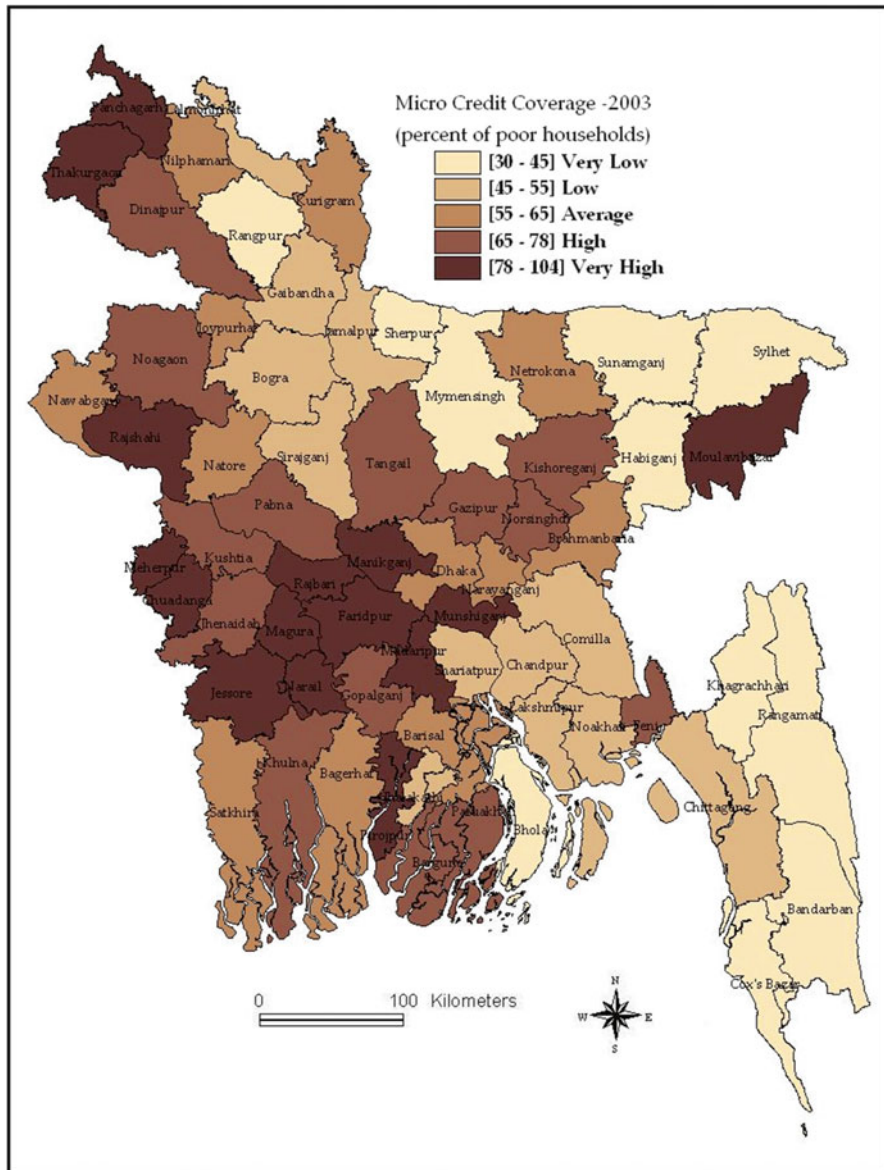


Fig. 9.6 Spatial variation of micro-credit program (% coverage of poor households), 2003 (From Report on 'Maps on Micro-credit Coverage in Bangladesh' PKSF 2003; map prepared by authors)

9.6 Development in Bangladesh: Major Findings and Remarks

Experiences from Bangladesh reveal that there are many interrelated factors constructing the complex idea of development closely intertwined with each other. Table 9.8 shows correlations among various factors of development related to poverty and social development.

According to Table 9.8, the prominent factors in Bangladesh that significantly influence the incidence of poverty of a region include electrification, urbanization, number of primary cooperatives, number of manufacturing industries and establishments, and overseas employment.

9.6.1 Spatial Disparity in Development Using the Gini Index Value

Disparities in terms of various indicators of development are quite apparent for Bangladesh. Table 9.9 shows Gini coefficients for various factors of development in various different years for Bangladesh.

According to Table 9.9, spatial disparity was severe in terms of poverty reduction among regions during 1995–2005. Moreover, spatial disparity is extreme among regions in terms of manufacturing industrialization, investment from the Bangladesh Small and Cottage Industries Corporation (BSCIC), private investment, private health facilities, overseas employment, and urbanization (Table 9.10).

9.6.2 Poverty Reduction Programs and Strategies of Government

From the First Five-Year Plan (1973–1978) to the Fourth Five-Year Plan (1990–1995), the issue of regional equality has not been addressed. As Bangladesh is basically a mono-ethnic society, such an objective was not important in the past. The Fifth Five-Year Plan (1995–2000) recognized the importance of mitigating regional disparity in development as “development of hitherto neglected areas like the north-western region, Chittagong Hill Tracts and Coastal areas ...” It also addressed the balanced regional development and recognized significant differences in regional development. It directed each ministry for taking projects related to development of various regions from their sectoral allocation under the ADPs. The maintenance of the projects was then the responsibility of the relevant local governments. After a paradigm shift from 5-year plans to the poverty reduction strategy paper, the I-PRSP and PRSP of Bangladesh have also not addressed the issue of regional gaps in poverty (Planning Commission 2008).

Table 9.8 Mortality rate (%) under 5 years of age by divisions (per 1,000 live births), 2006

Division	Total	Female	Male	Urban	Rural
Barisal	75.9	64.4	85.1	55.3	78.6
Chittagong	67.9	69.9	65.0	49.8	72.8
Dhaka	59.1	54.8	62.3	58.9	59.1
Khulna	43.1	38.8	47.1	33.5	45.4
Rajshahi	65.7	62.7	68.5	53	67.6
Sylhet	64.8	63.5	66.0	51.4	66.3
Total	62.0	59.0	64.8	53.2	64.3

Source: SVRS 2006

Table 9.9 Interrelationship between poverty and associated factors of development

Investment type	Correlation coefficient	Year
Electrification	-0.67	2001
Urbanization	-0.57	2001
Primary cooperatives (per thousand poor population)	-0.5	2005
Manufacturing industries	-0.46	2003
Establishment	-0.46	2003
Overseas employment	-0.40	1976–2007
Micro-credit by Grameen Bank	-0.38	2006
Road development (1992–2005)	-0.33	1992–2005
Local investment (board of investment)	-0.31	2003
Industrial plot of BSCIC	-0.26	2008
NGO coverage of poor households	-0.24	2003
Credit by BRDB	-0.18	2005
Roadway (per km ²)	-0.14	2005
Agricultural growth (with rural poverty)	-0.37	1980–2000
Agricultural production	-0.06	2000
Economically active population (labor force)	0.04	2003
Landless people	0.12	1996
Agricultural credit by Bangladesh Krishi Bank	-0.54	2005
Population density	-0.42	2001
Population growth change (1991–2001)	-0.41	1991–2001

9.6.3 Vision of the Government in Poverty Reduction

The Economic Relations Divisions of the Government of Bangladesh observed: “To acquire the Millennium Development Goals which were declared by United Nations, in September, 2000, the Government of Bangladesh has been giving the highest priority to alleviation of poverty and in the light of the MDGs, the government has compiled Poverty Reduction Strategy Paper (PRSP).” The vision of this

Table 9.10 Spatial disparity in development among regions using Gini Index value

Factors of development	Year	Gini value
Poverty (with respect to population)	1995	0.05
Poverty (with respect to area)	1995	0.243
Poverty (with respect to population)	2005	0.184
Poverty (with respect to area)	2005	0.21
Poverty (with respect to population)	2003	0.10
Poverty (with respect to area)	2003	0.28
Poverty reduction (with respect to population)	1995–2005	0.46
Establishment	2003	0.35
Manufacturing industries	2003	0.61
Roadway	1992	0.22
Roadway	2005	0.19
Roadway development (1992–2005)	1992–2005	0.23
Government-allocated industrial plot	2008	0.42
Local investment	2003	0.87
Health facility (total)	1991	0.23
Health facility (total)	2007	0.22
Government health facility	2007	0.20
Private health facility	2007	0.57
College (total)	2005	0.21
College (total)	2001	0.17
Government college	2001	0.32
Primary school (total)	2001	0.15
Government primary school	2001	0.13
Secondary school (total)	2005	0.21
Secondary school (total)	2001	0.23
Government secondary school	2001	0.18
Micro-credit coverage for poor households	2003	0.16
Primary co-operatives	2005	0.23
Electrification	2001	0.33
Overseas employment	1976–2007	0.52
Landless rural households	1996	0.25
Population growth change (1991–2001)	1991–2001	0.20
Urbanization	2001	0.39

Calculated by authors

strategy is to accelerate the economic growth and poverty reduction efforts by proper utilization of economic and social energies of the nation (I-PRSP 2003). To achieve the desired goal, the Government of Bangladesh has prepared an Eight Point Strategic Agenda that includes Employment, Nutrition, Quality Education (particularly at primary, secondary, and vocational levels with strong emphasis on girls' education), Local Governance, Maternal Health, Sanitation, and Safe Water,

Criminal Justice, and Monitoring. Although it is a long-term vision, the main targets of these strategies are to build a poverty-free society. In the meantime Bangladesh has been able to achieve considerable success in many sectors that are distinctive as important indicators to education, health, and family welfare, population control, the development of women and children, social welfare activities, etc. Besides these, Bangladesh has also made notable progress in the fight against poverty. Between 1991–1992 and 2000, the incidence of national poverty declined from 58.8 to 49.8 %, indicating a modest reduction rate of 1 percentage point per year (Ministry of Finance 2003).

The goal of poverty reduction is based on a vision formed on the basis of understanding of key issues of the present state of the economy. To fulfill the vision of poverty reduction, four strategic blocks are identified: enhancing pro-poor growth, boosting critical sectors for pro-poor economic growth, devising effective safety nets and targeted programs, and finally ensuring social development. The framework also identifies four supporting strategies or issues: (1) ensuring participation, social inclusion, and empowerment of all sections, groups, and classes of people; (2) promoting good governance by ensuring transparency, accountability, and rule of law; (3) providing service delivery efficiently and effectively, particularly to the poor; and (4) caring for the environment and sustainable development on a long-term basis. Identification of problems and recommendations of actions to be taken in four strategic blocks and four supporting strategies are based on nationwide consultation with stakeholders at various levels as well as the Thematic Group Reports (PRSP 2005). However, all the program and strategies for poverty reduction were based on sectorial approaches of planning, ignoring the spatial approaches of development of lagging and underdeveloped poor regions of the country.

9.7 Conclusion

Balanced and homogeneous growth of the country could only be achieved by governmental intervention through uplifting the backward regions of the country. The regions that are ‘backward’ in terms of poverty reduction and social development should be identified properly to take immediate measures for development in those regions. According to the experiences of Bangladesh, spatial disparity in development is extreme among different regions of the country in terms of manufacturing industrialization, investment from BSCIC, private investment, private health facilities, overseas employment, urbanization, etc. Significant factors that considerably influence the poverty incidence of any region in Bangladesh are electrification, urbanization, number of cooperatives, industrialization, establishments, and overseas employment. A well-functioning institutional mechanism and a high-level committee should be established within the government of Bangladesh to address all issues of spatial inequality in Bangladesh that may help in framing a suitable development policy at a national level to pursue balanced development at regional strata.

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