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Education and Development in Bangladesh: A Study from Spatial Perspective

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Abstract

Spatial polarization and geo-spatial inequality occur in case of development around the world. Importance of location and space for development is yet to receive attention in policy agenda of Bangladesh. This study is an attempt to assess the spatial variation in educational attainment and educational facilities at regional levels in Bangladesh. Regional variations in educational attainment have been assessed with respect to some selected indicators like literacy rate of 7 years and above, adult literacy rate, school enrolment rate, school attendance and student-teacher ratio. Relationship between poverty and educational attainment has also been assessed to find out the impact of poverty on education at regional levels in the country. In particular, this study has highlighted spatial variations in education facilities like number of primary school, secondary school, college through identifying developed and lagging regions in the country. Location Quotient (LQ) Analysis, Gini index, Composite Analysis have been used to identify the spatial variations in education at regional levels in the country. These findings may be helpful for government and policy makers to adopt necessary policies and strategies for education to ensure balanced development of the country at regional strata in Bangladesh.

Introduction

Regional difference in development is a common phenomenon in the developed as well as developing countries because development never progresses at the same pace in all the regions of a country (Planning Commission, 2008). However, the vision of balanced regional growth must be addressed by the government of our country as it is a constitutional obligation. Article 19(2) of the constitution of the Peoples' Republic of Bangladesh states that "the state shall adopt effective measures to remove social and economic inequality between man and woman and 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 been taking place in terms of development of the country since the independence in 1971. Development plans and programs of the country were not adopted in the past with regional approach for ensuring balanced development in the country. As a result, variations in socio-economic development among regions are quite alarming for the country.

Social development is a process which results in the transformation of social structures in a manner which improves the capacity of the society to fulfill its aspirations. Inequality in

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social development can also reflect the ill-being of people across regions. According to Poverty Reduction Strategy Paper (GoB, 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). This study intends to find out the spatial variations in educational attainments and educational facilities at regional levels in Bangladesh with the help of some selected education indicators of the first PRSP.

The rights of basic education for all children have been clearly stated in the constitution of Bangladesh, as "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. Since its independence, Bangladesh has undertaken many initiatives to improve its education system to suit the national development objectives. Commendable growth in access with gender equity is the major achievement of those efforts. But the rate of growth in education sector is not equal both in terms of educational attainment and educational facilities at regional levels in Bangladesh. This article attempts to explore the disparities in education at district level in Bangladesh based mainly on quantitative assessment.

Objectives and Methodology of the Study

The objective of this study is to find out the spatial variation in educational facilities and educational attainment at regional levels in Bangladesh. All of 64 administrative districts in Bangladesh are considered as regions in this study. Regional variations in educational attainment have been analyzed for adult literacy rate, literacy rate for 7 years and above, literacy rate for all age and school attendance (5-24 years) for the year 2001 according to the data collected from population census, 2001. For the purpose of the analysis of regional variation in education, LQ analysis, composite Z score analysis, Gini Index calculations have been done. Moreover, spatial variations in educational facilities have been analyzed in terms of number of primary schools, secondary schools, colleges and in terms of student teacher ratio. In order to find out the relationship between poverty and educational attainment, poverty incidences of 2003 at district levels (PKSF, 2003) have been used in this study. Data from various secondary sources such as Population Census and Statistical Yearbook of Bangladesh Bureau of Statistics, BANBEIS, PKSF etc. have been used in this study.

Regional Variation in Educational Attainment

Education is one of the basic human needs. Education has direct bearing on overall human welfare of the individual, as well as other institutions, such as, household. Education develops human skills for providing the needed services to the community. Therefore, education is considered as human capital. Regional variations exist in literacy rate, level of education, school enrolment etc. The following section of the paper presents the regional variations in education by divisions and by districts respectively.

Literacy Rate: At divisional level, literacy rate is growing over the years, but there exists inequity in its rates among Divisions. 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 Household Income and Expenditure Survey

(HIES, 2005). The national average of literacy rate of 7 years and over was 51.9 which was 46.7 in urban areas and 67.6 in rural areas in 2005. It is noteworthy that, the rural areas are advanced in terms of literacy rate than the urban areas. However, the national average of literacy rate was 44.9 in 2000 which was 40.9 in urban areas and 60.2 in rural areas (Table-1).

Table 1: Literacy Rate (7 Years and Above) by Divisions, 2005

Divisions	National	Urban	Rural
Both Sex	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

Primary and Secondary Enrolment Rate: At the national level the school enrolment rate in the age group 6-10 years was 80.42%. It was 79.47% in the rural area and 83.98% in the urban area (HIES, 2005). The school enrolment rate in the age group 11-15 years was lower than in the age group 6-10 years. It was 69.97% at the national level and 69.75% in the rural area and 70.72% in the urban area.

The regional variation is observed in school enrolment rate for both age groups, 6-10 years and 11-15 years (Table 2). At the aggregate level, in the age group of 6-10 years the highest enrolment rate was observed in Khulna Division (87.15%) followed by Rajshahi (83.48%), Barisal (83.16%), Dhaka (81.70%), Sylhet (76.40%) and Chittagong (72.29%). In the age group 11-15 years, the highest enrolment rate was found in Khulna Division (76.75%) followed by Barisal (72.75%), Rajshahi (69.79%), Dhaka (69.96%), Chittagong (68.77%) and Sylhet (59.14%) (HIES, 2005).

Table 2: Primary and Secondary Enrolment Rate for 2005

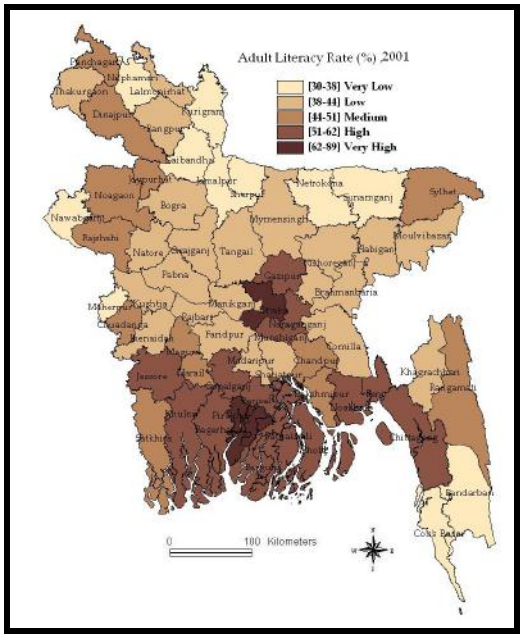
Division	Children aged 6-10 years			Children aged 11-15 years		
	Total	Rural	Urban	Total	Rural	Urban
National	80.42	79.47	83.98	69.97	69.75	70.72
Barisal	83.16	82.37	87.50	72.75	71.78	78.85
Chittagong	72.29	69.73	82.45	68.77	68.48	69.72
Dhaka	81.70	81.03	83.05	69.96	70.19	69.55
Khulna	87.15	87.23	86.85	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

Regional Variation in Education by Districts, 2001

Regional variation in educations by districts have been analyzed for adult literacy rate, literacy rate for 7 years and above, literacy rate for all age and school attendance (5-24 years) for the year 2001 according to the data collected from population census, 2001.

Adult Literacy Rate: According to population census of 2001, the adult literacy of population aged 15 years and above in Bangladesh was 47.85. Dhaka district was found to be top ranked with literacy rate of 88.12. There is significant difference between top two ranked districts as Jhalokhati, ranked two in adult literacy rate had literacy rate of 69.2. Other developed regions in terms of literacy rate are Pirojpur, Bagerhat, Barisal, Khulna etc. The most underdeveloped district in terms of adult literacy rate is Jamalpur (30.57%) followed by Sherpur (30.85%) and Cox's Bazar (31.61%). Other backward districts in this matter are Bandarban, Kurigram, Gaibandha, Sunamgong, Netrokona etc. In total 40 districts (62.5%) lie below the national average of literacy rate in the country in 2001.



Source: Population Census, 2001 (map prepared by author)

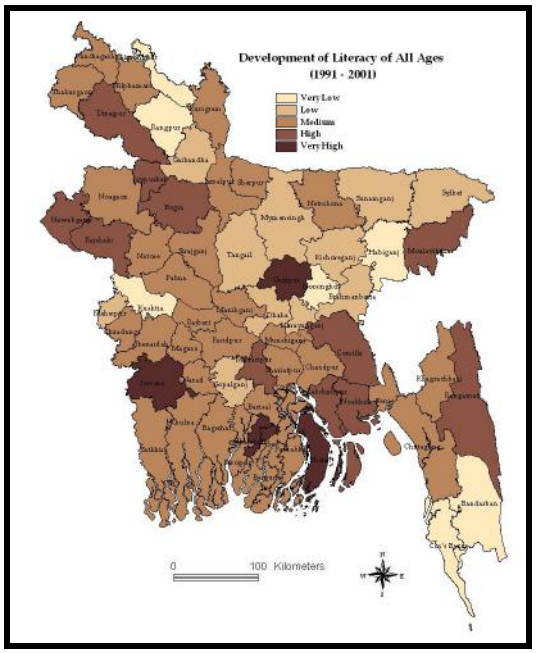
Fig. 1: Spatial Variation in Adult Literacy Rate by Districts in Bangladesh, 2001

Central regions comprising districts of Dhaka, Gazipur, Narayangonj; Southern-coastal regions and South-eastern regions containing districts of Noakhali, Feni, Chittagong are developed regions in terms of adult literacy rate in 2001. On the other hand, North-Eastern regions having districts of Nilphamari, Kurigram, Gaibandha, Sherpur; Central-northern districts of Netrokona, Sunamgonj are underdeveloped regions. Correlation Coefficient between adult literacy rate (2001) and poverty incidences (2003) have been found to be -0.46. It implies that, poverty rate is lower where adult literacy rate is comparatively higher. As a result, it can be said that better attainment of education has a positive impact in the reduction of poverty at regional level.

Literacy Rate (All age): According to population census of 2001, literacy rate for all ages in Bangladesh was 24.91 in 1991 which was increased to 37.71 in 2001. The highest literacy rate was observed in Dhaka district as 56.3 followed by Bhola-55.22, Jhalokhati-53.55, Pirojpur-53.08, Bagerhat-48.92, and Khulna-48.9. Altogether, 23 districts were above the national average of literacy rate in 2001. The lowest rate was observed in Cox's Bazar (23.09) followed by Bandarban, Sherpur, Jamalpur, Sunamgonj, and Kurigram (27.02).

In terms of changes in literacy rate during 1991 to 2001, Bangladesh had observed a positive increase of 12.8 percent during this period. Among the districts, Bhola had the highest increase (37.89) in literacy rate of all ages followed by Gazipur-18.46, Joypurhat-18.31, Jhenaidah-17.16, and Jessore-16.6. In total, 30 districts stayed above the national average increase in literacy rate of the country. Bandarban has observed the lowest increase in literacy rate (6.79) followed by Rangamati, Cox's Bazar, Netrokona, Lakshipur, and Jamalpur (9.47).

Spatial concentrations of developed regions in terms of changes in literacy rate for all ages during 1991-2001 has been found in central east region (Comilla, Lakshipur, Noakhali), South region (Jhalokhati, Bhola); North-west region (Bogra, Joypurhat, Rangpur, Dinajpur, Rajshahi). Underdeveloped regions has been found to the central north region (except Gazipur); North-east region (except Moulavibazar). Correlation coefficient between development in literacy rate for all ages during 1991-2001 and poverty incidences is 0.11 which signifies no significant relationship between these two variables. Literacy rate has improved a lot in many regions even though the poverty incidences are quite higher in those regions in the national context.

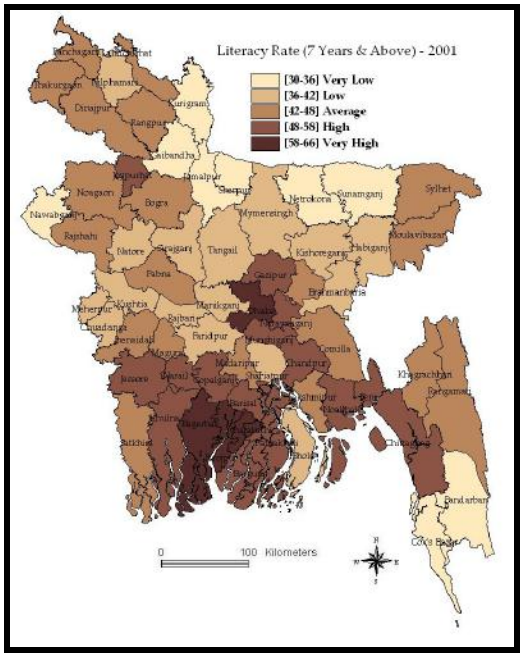


Source: Population Census, 2001 (map prepared by author)

Fig. 2: Spatial Variation of Change in Literacy of All Ages in Bangladesh, 1991-2001

Literacy Rate (7 Years and Above): Literacy rate of population 7 years and over has been defined by the ratio of population 7 years and over who can write a letter to the total population in the age group expressed in percentage (HIES, 2005). In 2001, literacy rate of 7 years and above was the highest in Jhalokhati district-(65.35), followed by Dhaka-(64.79), Pirojpir, Bagerhat, and Khulna. Literacy rate was the lowest in Cox's Bazar (30.18), followed by Bandarban, Jamalpur, Sherpur etc. National average of literacy rate of 7 years and above was 32.4 in 1991, which improved to 46.15 in 2001. However, 43 districts (67%) lied below the national average of literacy rate of 7 years and above in 2001. Gazipur has improved most regarding literacy rate (7 years and above) during 1991 to 2001 with increase in literacy by 19.79% followed by Joypurhat, Jhenaidah, Lalmonirhat, and Jessore (17.92%) whereas Rangamati has improved a little in literacy rate with 7.12% followed by Bandarban, Cox's Bazar, and Netrokona districts. The country as a whole was improved by 13.75% in the literacy rate of 7 years and above during 1991 to 2001.

Spatial concentrations of developed regions in terms of literacy rate of 7 years and above are much similar to the spatial concentrations of regions in terms of adult literacy rate. Developed regions are central, southern-coastal, southern-eastern regions of the country whereas underdeveloped regions are northern, south-eastern (except Chittagong) and north-western regions of the country. Correlation Coefficient between literacy rate (7 years and above) and incidences of poverty has been found -0.40 which implies that higher level of literacy rate reduces poverty to a significant extent.



Source: Population Census, 2001 (map prepared by author)

Fig. 3: Spatial Variation in Literacy Rate of 7 Years & Above in Bangladesh, 2001

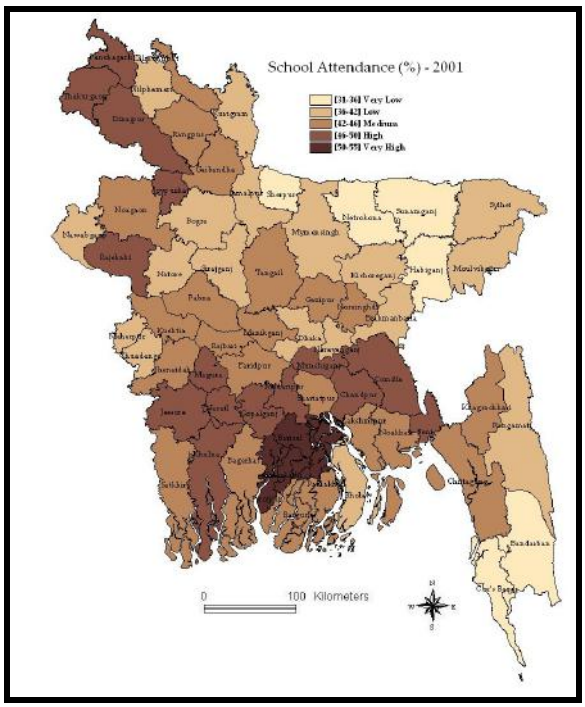
School Attendance: School attendance is a good indicator to measure the levels of educational attainment of any region. According to population census-2001, school attendance rate of population aged 5-24 years was 36.52 in 1991 which has been increased to 43.21 at the national level in 2001. Rate of school attendance was the highest in

Jhalokhati district in 2001 which was 54.84, followed by Barisal-52.07, Pirojpur, Feni, Magura-49.51, Gopalgonj-49.5. Altogether, 36 districts stayed above the national average of school attendance in 2001. Sunamgonj district had the lowest rate of school attendance (31.29), followed by Bandarban, Sherpur, Habigonj, Cox's Bazar, and Netrokona (35.98).

Spatial concentration of developed regions in terms of school attendance in 2001 have been found in north-west region (Dinajpur, Thakurgaon, Panchagar); central-east region (Chandpur, Munshigonj, Comilla, Feni); southern region (Barisal, Jhalokhati, Pirojpur); south-west region (Khulna, jessore, Narail, Magura, Gopalgonj). Backward regions have been found in north-eastern region (Netrokona, Sunamgonj, Habigonj); south-eastern hilly districts (Rangamati, Bandarban, Cox's Bazar).

Correlation Coefficient between school attendance and poverty incidences at the regions has been found -0.003, which implies very negligible relationship. It signifies that poverty incidences do not have any direct relationship on school attendances in any region. However, relationship between literacy rate (7 years and above) and school attendance has been found strong (correlation coefficient 0.65). Moreover, correlation coefficient between adult literacy (15 years and above) and school attendance has been found 0.48 (strong relationship). It implies that the regions with higher literacy rate have high attendances to school.

Moreover, relationship between school attendance and micro-credit coverage of households has been found to be significant (correlation coefficient 0.49) which implies that disbursement of micro-credit and awareness generation activities of non-government organizations have contributed to higher percentages of school attendances at regional levels in our country.



Source: Population Census, 2001 (map prepared by author)

Fig. 4: Spatial Variation in School Attendance in Bangladesh, 2001

Regional Variations in Education Scenario by Composite Score Analysis

Spatial variations in the education of regions can be analyzed using composite z score analysis. Literacy rate (7 years and above) and school attendance (aged 5-24 years) have been selected for composite analysis of educational attainment at regional levels in Bangladesh. According to composite analysis of education in 2001, Bagerhat has been found as top ranked district in the country followed by Dhaka, Jhalokhati, Barisal and Borguna district. Underdeveloped districts in education in 2001 according to this anlaysis are Sunamgonj, Sherpur, Tangail, Thakurgaon, Sirajgonj etc. Altogether, 36 districts (56%) have been found under the z value of 0 according to composite analysis of educational attainment.

According to the composite score analysis of 2001, spatial concentration of advanced regions have been found in the central regions (Dhaka, Gazipur, Narayangonj); southern-coastal regions (Khulna, Bagerhat, Pirojpur, Patuakhali, Jhalokhati); south-eastern regions (Noakhali, Feni, Chittagong) of the country. The northern part of the country is quite underdeveloped in comparison to the southern part of the country and this difference is quite apparent. The lagging regions are north-eastern regions (especially Sunamgonj, Netrokona, Sylhet); central-north regions (Tangail, Sirajgonj, Jamalpur, Sherpur); north-western regions (Panchagarh, Nilphamari, Rangpur, Gaibandha, Kurigram) of the country.

Table 3: Categorization of Districts according to Composite Z score Value of Education Indicators, 2001

Classes (Z-Score)	Category	No. of Districts	% of Districts	Regional Status
2.48 to 1	Extremely Higher than Average	11	17	Extremely Developed
1 to 0.2	Higher than Average	12	19	Developed
0.2 to -0.3	Average	15	23	Average
-0.3 to -1	Lower than Average	18	28	Underdeveloped
-1 to -2.08	Extremely Lower than Average	8	13	Extremely Underdeveloped

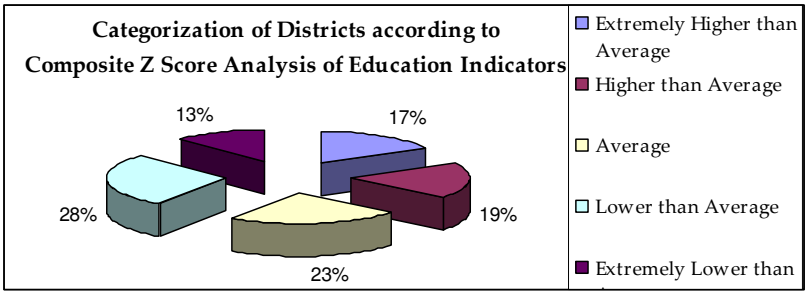
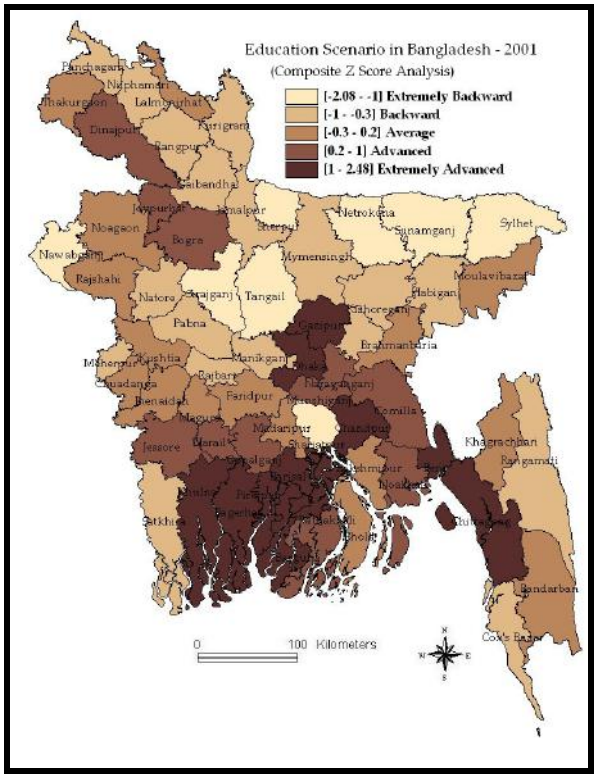


Fig. 5: Categorization of Districts according to Composite Z Score Value of Education Indicators, 2001

The above Pie chart shows that 17% of districts are highly developed in terms of composite z- score for education indicators, whereas 13% of districts are extremely underdeveloped. 23 percent of districts are in the average condition regarding educational attainment in the country. The correlation co-efficient between composite score value of 2001 and poverty incidences (2003) has been found to be -0.32. It implies that regions which are advanced in education are generally developed with lower level of poverty incidences.



Source: Population Census, 2001 (map prepared by author)

Fig. 6: Spatial Variation of Education in Bangladesh, 2001 (composite Z score analysis)

Spatial Variation in Educational Facilities

Regional difference in development is a common phenomenon in the developed as well as developing countries, because development never progresses at the same pace in all the regions of a country. However, the severity is more pronounced in developing countries, like Bangladesh. Following section of this article attempts to find out the spatial variations in educational facilities in terms of number of primary school, secondary school and college at regional levels in the country.

Primary School: Primary education is a basic right of every children and Government holds the responsibility for making necessary arrangements for primary education for its citizens. Besides, various other non-government and private organizations have come forward for giving primary education to the children of our country. However, there

exists some form of variation in primary education in our country.

Applying LQ method, it is observed that Faridpur, Barisal, Patuakhali, Chittagong Hill Tracts, and Dinajpur are developed regions in terms of primary school (BBS, 2004). Greater districts of Dhaka, Chittagong, Tangail and Kushtia are underdeveloped in terms of primary school. Dhaka being the capital city lies in the underdeveloped category due to the fact that its population is enormously big in comparison to the other regions. As a result, its LQ value is only 0.50 for primary schools in terms of population.

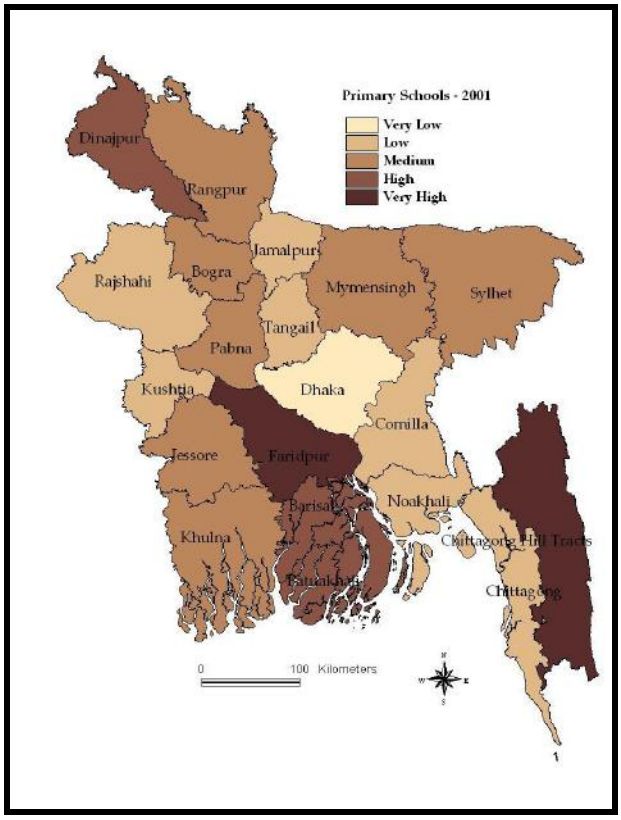
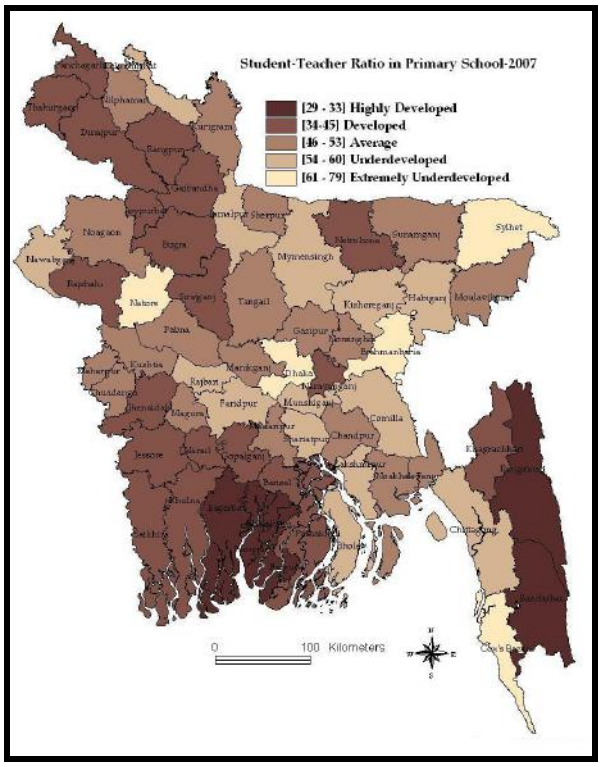


Fig. 7: Spatial Variation in distribution of primary schools in Bangladesh based on LQ Method, 2001

The Gini index value of Primary Schools in Bangladesh is 0.15, whereas this value for government primary school is 0.13. This signifies that over the years, the government has given due importance in providing primary education to our children of all the regions in the country. As a result, the level of disparity in terms of number of primary schools in the country is quite small. Besides, other non-government organizations have come forward for providing universal primary education to all. This is a quantitative assessment and more qualitative analysis is required to find out the spatial variations in terms of primary education across the country.

Student-Teacher Ratio: Student-Teacher ratio is quite important for regional analysis of educational facilities. Overcrowded classes negatively influence the efficiency of the

education process. Such classes provide little chance for the teacher to follow up student's educational achievements and weaknesses. There is also little chance for students to participate actively in the teaching-learning process. The student-teacher ratio (STR), is calculated on the basis of working teachers and enrolment of children in schools without considering double shift or staggered system. According to 'School Survey Report of Second Primary Education Development Programme (PEDP-II)', the national average for student teacher ratio is 49:1, whereas the district wise highest value is 79:1 and lowest value is 29:1.



Source: School Survey Report; DPE, 2007 (prepared by author)
Fig. 8: Spatial Variation in Student-Teacher Ratio in Primary School, 2007

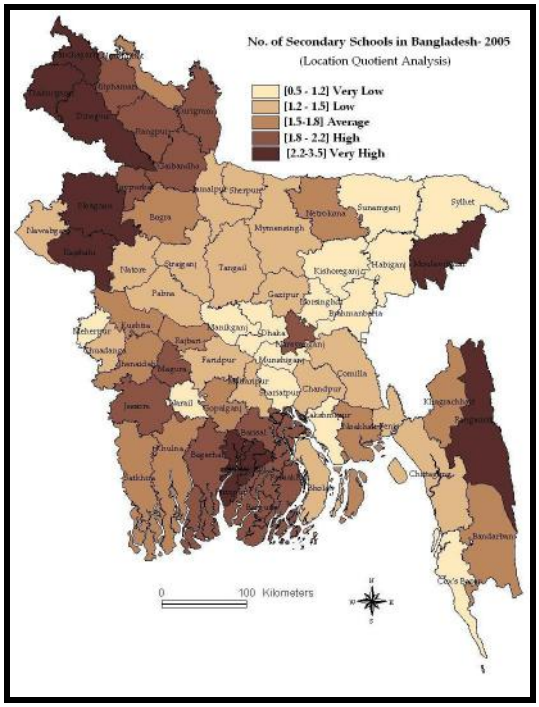
In terms of student-teacher ratio, the developed regions with lower rations are southern coastal districts of Bagerhat, Jhalokhati, Pirojpur; south-eastern hilly districts of Rangmati, Bandarban and Khagrachari; north-western districts and south-western districts. It is quite noteworthy that in the western regions, where poverty level is generally high, are generally developed in terms of STR in primary schools. The underdeveloped regions in terms of STR in primary education are central-northern, north-eastern, central and central-southern regions of the country. Even the capital city of Dhaka is quite underdeveloped in terms of primary STR with a high ration of 65:1.

Secondary School: In 2005, the total number of secondary schools in Bangladesh was 18,500 and the number of secondary schools per one lakh population was 11 (www.banbeis.com). However, the spatial distribution of secondary schools in the country is not quite homogenous. The location quotient value of secondary schools varies

from lowest 0.34 (Narail) to highest 2.27 (Moulavibazar). Developed regions in terms of secondary schools are Thakurgaon, Moulavibazar, Panchagarh, Jhalokhati, Rajshahi, and Dinajpur, wheras the backward regions in terms of LQ of secondary schools are Narail, Hobigong, Meherpur, Dhaka, Cox's Bazar and Norshingdi.

Nevertheless, if we consider the number of secondary schools in terms of area (per 100 sq.km.), we get another scenario. The capital city of Dhaka, which lies in the underdeveloped category in terms of secondary schools based on LQ method (secondary school per thousand population), is the most developed region in terms of secondary schools per 100 sq. km. Other developed regions are Jhalokhati, Rajshahi, Bogra, Thakurgaon, Narayangonj. The backward regions in terms of spatial distribution of secondary schools are Hilly districts of Rangamati, Khagrachari, Bandarban, Cox's Bazar, Sunamgonj, and Hobigonj.

North-west (except Lalmonirhat), north (except Nawabgonj) and southern coastal (except Bhola) regions are quite developed in terms of number secondary school per thousand population, whereas the underdeveloped regions are central (except Narayangonj), and north-eastern (except Moulavibazar) regions of the country. In 2005, Gini index value for the district wise distribution of secondary schools in terms of population is 0.21. However, this Gini value for secondary schools in greater districts in 2001 was 0.23 and for government secondary schools, this Gini value was 0.18 in 2001. In these consequences, it can be said that the level of regional disparity in terms of secondary schools established by Government is small and in terms of overall number of secondary schools in the country, the regional disparity is not quite large.



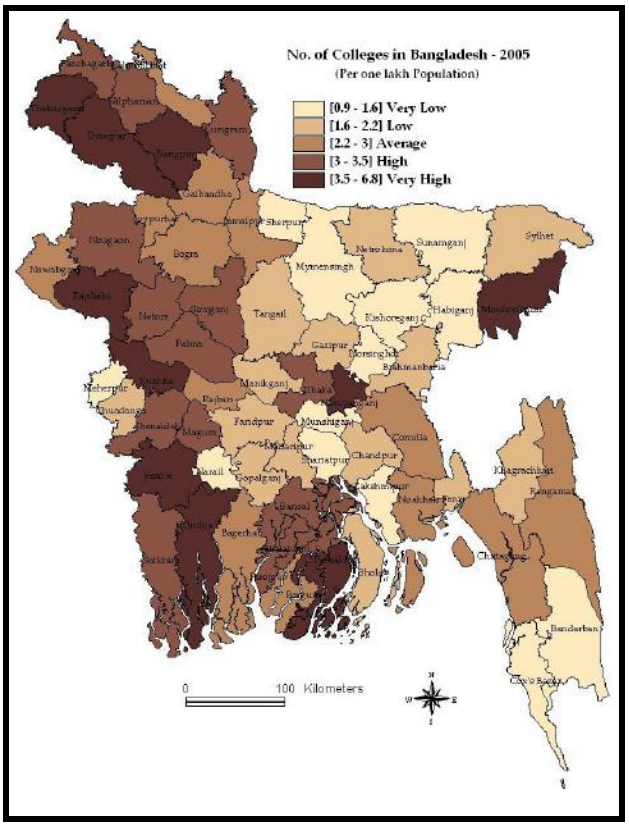
Source: BANBEIS (map prepared by author)

Fig. 9: Number of Secondary Schools in Bangladesh (per 10,000 population), 2005

College: The western part of Bangladesh is more developed in terms of number of

colleges than the eastern part. National average of number of colleges per one lakh population is 2.60 and total number of colleges in the country is 3150 (BANBEIS, 2005). Rajshahi, Moulavibazar, Dinajpur, Thakurgaon, and Jessore districts are developed districts in terms of LQ of number of colleges, whereas Narail, Hobigonj, Meherpur, Sherpur, and Cox's Bazar are underdeveloped regions. 34 districts lie behind the national average of colleges in the country.

The north-west, north and south-west regions of the country are developed in terms of college facilities in the country. Besides, southern-coastal regions and central districts of Dhaka and Naryangonj are developed in college facilities. The central-eastern, south-eastern (Cox's Bazar and Bandarban) and north-eastern (except Moulavibazar) parts of the country are underdeveloped in college facilities (BANBEIS, 2005). The Gini value for district wise distribution of colleges in 2005 was 0.21. This value was 0.12 in 2001 which was calculated from distribution of colleges in greater districts (BBS, 2004). However, this Gini value for distribution of government colleges in 2001 was 0.32 which signifies some disparity at regional levels in the country.



Source: BANBEIS (map prepared by author)

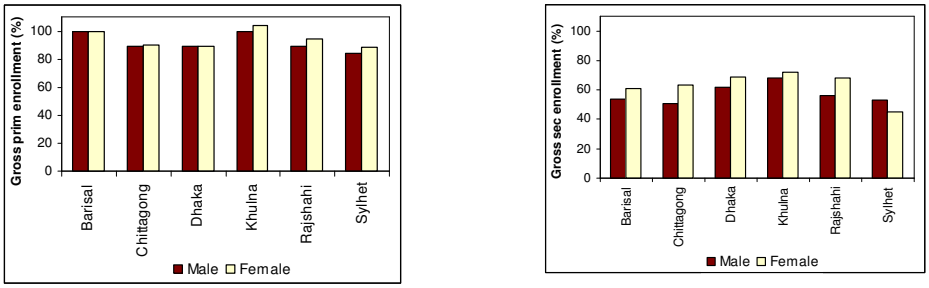
Fig. 10: Number of Colleges in Bangladesh (per one lakh population), 2005

Analysis of Regional variations in educational attainment

Analysis of regional variations in educational attainment is quite important and related. Factors contributing to these variations are quite important in policy analyses. It is 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. Along with the best health outcomes, Khulna also has the highest enrolment rates at both primary and secondary level in 2005.

The strong negative effect for Sylhet appears to be primarily a female phenomenon – girls were 8 percent less likely to go to school in Sylhet than girls in Dhaka division in 2005. Gender gaps in enrolment rates have historically been high in Sylhet, with the male primary gross enrolment rate at 15 percentage points higher than the female rate of 76 percent in 2000 (countrywide female primary gross enrolment was 93 percent 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 have surpassed that among males in 2005 (HIES, 2005).

Gross primary enrolment (2005) Gross secondary enrolment (2005)



Source: HIES, 2005

Fig.11: Gross Primary and Secondary Enrolment by Divisions in 2005

The fact that economic opportunities in a region do not cast a positive influence on education outcomes is somewhat of puzzle, and especially so given that returns to endowments including education are *lower* in lagging regions, which might dampen the demand for education. More complex phenomena may however be at work: for example, the ability to migrate from a lagging 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 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 it relates to the empowerment and mobility of women. The last factor is likely to be particularly relevant for Sylhet. Given that the HIES data does not allow a close examination of these

questions, more detailed analysis using alternate data sources will be necessary to explain this apparent paradox between the spatial patterns of income, poverty and human development (World Bank, 2008). However, district wise analyses of education and poverty incidences provide a clear and realistic picture regarding this relationship. The correlation coefficient between composite score of education scenario of 2001 and poverty incidences (-0.35) of 2003 indicated a higher level of educational attainment may certainly reduce the poverty incidences of a region. As a result, education has a great impact on reducing poverty at the regional levels in Bangladesh; nevertheless there are other contributing factors other than poverty which affects the level of education in any region.

Conclusion

In order to improve the quality of education and initiate a set of reforms to develop the education sector, government undertook several actions of which the formation of Education Commission led by Mohammad Moniruzzaman Mia in January 2003 was notable. The Commission submitted its report to the Government in March 2004 with 880 recommendations for improvement in education. "Increasing access to education in the rural areas through establishment of new educational institutions with GOB financing in the underserved areas" was one of the important policy recommendations. This study identified the underserved areas in terms of educational attainment and educational facilities and also the spatial concentration of educational attainment in some areas. The lagging and backward regions should be identified properly and adequate measures should be taken to improve education of those regions. This study had, however, limitations in pursuing an in-depth research to find the causes of variations in educational attainment at regional levels in Bangladesh. As a result, there is scope for more in-depth research to find out the root causes of those spatial variations. However, findings of this study may help the policy makers to formulate an education policy, which may reduce discrepancy among different regions of the country.

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