

Lagging Districts Development

Background Study Paper for Preparation of the Seventh Five-Year Plan

Prepared by

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1.1 Background and Introduction

Bangladesh, the culture and history that it exhibits, gives a picture of a homogenous nation in many aspects. However, when we look deep into the development of the country, historically it can be seen that there is a disparity within the country when it comes to socio-economic prosperity. Regional disparity within Bangladesh has now been a well established fact in the economic discourse. Specially the term “East-West divide”, which has been coined in the early years of this century, points out the gap of progress between the eastern districts to that of western districts of Bangladesh. The river Jamuna is thought to divide the country’s two distinctive districts, where the ‘East’ is thought to be the more progressive region, which includes the Dhaka, Chittagong and Sylhet divisions. On the other hand, the less progressive “West” constitutes the Rajshahi, Rangpur, Khulna and Barisal divisions. Regional disparity is not something that is only been seen in Bangladesh, it is true for many countries. There are a number of factors that foster growth to one region compared to others. Infrastructure, access to energy and natural resources, concentration of entrepreneurship, skilled labor force, urbanizations, public resource allocations, geographical locations are among the factors which enables a region to develop more rapidly than others. However, with the recent advancement of the economy of Bangladesh with the equitable and inclusive growth it has been achieving, the historical regional disparity is diminishing. It would not be ideal to see the lagging districts of Bangladesh from the perspective of “East-West” divide.

Most of the papers concentrating on the regional disparity of Bangladesh have analyzed the hypothesis of inequality from the perspective of greater districts. Either they took East and West as two broad districts or the comparison has been made among the seven divisions of Bangladesh. This approach actually misses the relative micro picture of the economy which is essential to address the lagging districts more precisely. It has been seen in recent data that some districts in the west have done better than to that of some districts in the east. For that reason this paper will analyze the whole issue from the district level development.

1.2 Review of literature

There are few studies which have focused the issue of regional disparity from both macro and micro perspective (Zohir, 2011) has done a comprehensive work on regional inequality. One of the special features of the paper is that it has presented a rich set of reviews of literature and also brought a historical perspective of regional disparity in Bangladesh. The paper rightly mentioned that most of the other studies saw regional inequality from the lens of promoting safety net programs to tackle the disparity. This paper separately dealt with the major economic sectors of Bangladesh, i.e. Agriculture, Non-Agriculture, Infrastructure, Health, MFI etc. It has pointed out the limitation of disaggregated data, as most of the national data could be found at the division level, where as it is very important to have data of the major economic and social indicators at least of district level if not sub-district level. This paper shows the trend of the major economic indicators mostly in divisional level and to some extent to the boarder districts level. It is mentioned in the paper that to explore regional inequality only in term of the “east-west” divide will not give a concrete solution of tackle the persisting regional inequality. The paper suggests that the trend of poverty indicates a comparatively lagging southwest and decreasing poverty rates of the northwest. However, unlike other previous papers, this one divulges the fact about poverty in many pockets of relatively developed districts, i.e. the Haors of north-east, Chars of Noakhali and some areas in north-central. The author explains the phenomenon of these pockets by the lack of connectivity of these areas with the regional growth centers, political tensions, and climate and ecological adverse effects. In the paper, two main reasons were highlighted when it came to explaining the labor reallocations and industrial restructuring especially after 1990s, and those two factors were access to safe drinking water and access to gas. The paper dwells on (Shilpi, 2008) which theoretically and econometrically dealt with convergences and divergences of integrated regions (Dhaka Sylhet, and Chittagong divisions) and less integrated regions (Rajshahi, Khulna, Barisal) (Zohir, 2011) works on it modeled it to find out the factors behind the convergence or divergence of those regions. The paper made some general yet intriguing recommendations to lessen the persisting disparity within regions by formulating policies as such that it would disseminate the positives of the

regional growth hubs to the less connected regions. However, due to the lack of unit level data and using the boarder administrative data, the lagging districts were not exactly identified in the paper. So in our paper we tried to bridge that gap of knowledge in the literature of regional inequality in Bangladesh.

A recently published report by Bangladesh Institute of Development Studies (BIDS), (Sen, Ahmed, Ali, & Yunus, 2014) looked into the factors behind the recent decline of the regional inequality know as East-West divide. This paper tried to capture the persistent regional disparity and the trend of it, and if there is a decline, how quantitatively and econometrically can those be measured. There are number of reasons came out in the paper for the decline of the inequality gap between the east and west region of Bangladesh. Firstly, according to the authors the growth of agriculture spurred the development in the west in the last two decades, and because initially that region was lagging behind in agricultural production but due to prudent policies that gap had been minimized moderately. In the West, small and medium businesses had flourished in the last decade, as a result the concentration of economic activities had increased a lot, and this in effect helped the region a lot to come out from extreme poverty. Another reason that the authors have mentioned and in our paper too, we have found it to be true and influential while explaining the decline of the 'East-West' divide, is the human capital factor. The authors have rightly pointed out that though historically the west was lagging behind in income and consumption expenditure compared to that of East, but when it came to human capital, actually west as equally as good or to some extent better than the east, the authors mentioned that this feature is unique in the context of South Asian inequality dimensions of other countries. Actually, the return of having better human capital came to an effect after a lagged period that indeed helped the region to have better economic development. The last major point the authors claimed about the decline of the regional disparity is the growth of micro finance institutions (MFI), this claim found to be valid in our results too. And it has been observed that the functioning and spread of the MFIs is higher in West than in East. The authors have broadly identified three major policy interventions that have had significant influence to bridge the gap between the two regions. Mainly investment in Infrastructure, specially building roads, bridges, and highways have upgraded the connectivity

system of the west, which played a vital role for the region's development. Secondly, investment on human capital, establishing a great number of primary and secondary schools had helped to the region to well in major educational indicators. Lastly, as the west is more exposed and vulnerable to the natural hazards, the policies had focused to build up the resistance and coping mechanisms for the regions, which itself had a multiple effect on boosting confidence for the people of the region and also minimizing the risk associated with climate vulnerabilities. The authors also econometrically tried to show the reasons of the decline. Running quintile regressions, they have found that the role urbanization and its benefits that the East used to enjoy had declined a lot. Also in another set of regressions they have found that human capital and urbanization playing the major role to increase the welfare in the west. Internal migration also stood out as an equalizing factor for the west. In search of neighborhood effect, their regression suggested that there is strong evidence of transfer of social and economic benefits from the East to the west.

The background paper (Khondker & Wadud, 2010) on urbanization management and emerging regional disparity in Bangladesh for the sixth five year plan also revealed a number of important aspects of regional heterogeneity of development. The paper mainly looked regional disparity by digging deep into the development pattern of the seven major divisions in a number of economic and non-economic indicators. In the paper, Rajshahi came out to be lagging behind in terms of income from other divisions especially the density of poor people is highest in Rajshahi. On the other hand Barishal division had the most widespread and severe poverty among all the divisions. The paper also dealt with regional disparity in terms of different sector. It found that other agricultural production does not actually relate to lower incidence of poverty in any given districts and to some extent to the whole division. Districts, which have developed manufacturing industries, have progressed better than the others. Urbanization, internal migration, human capital, access to finance, transport connectivity, exposure to climatic hazards are the main factors driving inequality among regions. However, like other previous papers mentioned here, this paper also concentrate on broad regional aspects of discriminations. It focused on divisional level information and tried to expand marginally to district level too.

Thus, we believe our paper has made some good addition to the previous works on disparity, especially in the context that we focus on the district level to understand the spatial distribution of inequality in terms of economic and social indicators.

2. Scope of the Study

This study aims to reveal the extent of disparity among the 64 districts by the major development indicators. The outcome of the study likely to bring out the districts which are lagging behind than the rest of other districts in terms of the major social, economic and other non-economic indicators selected for this study. Moreover, the study shows the major reasons for backwardness of a lagged district. Furthermore, at the macro-level an econometric analysis has been conducted to seek whether there would be a converging or diverging tendency among the districts with regard to per capita income and expenditure. Finally, the study provides a clear set of policy recommendation to minimize the gap between the lagging districts with the progressive ones. The following specific issues are covered:

1. Reviewing the district level poverty incidences and ranking the least developed or lagged districts of Bangladesh.
2. Analyzing the income, savings, expenditure and other economic factors to rank the districts according to their level of deprivation.
3. Analysing social and other non-economic factors to identify the most deprived districts.
4. Identifying the least developed 15 districts of the country using major developmental indicators.
5. Applying a principal component analysis to derive a composite index of the 15 lagged districts of Bangladesh.
6. Applying a cross-sectional analysis to determine the major factors influencing the development of a district.
7. Employing a unit root test to assess divergence versus convergence trends towards per capita income or consumption among the 64 districts.

8. Recommending set of policy measures to reduce the extent of deprivation among the districts.

3. Data and Methodology

The study is based entirely on secondary data sources reported by various agencies in Bangladesh including Bangladesh Bureau of Statistics; Ministry of Planning and Finance; and Bangladesh Bank. Three specific approaches signify the methodology of the study:

Firstly, in order to assess the degree of deprivation by the selected development indicators, the comparisons have been conducted at the district level rather than at divisional levels or broader regional level as was found in the previous studies.

Secondly, in additions to poverty rate (the most common measures of deprivation), a large numbers of other economic and non-economic indicators have been used to identify the relatively lagged districts in Bangladesh.

Economic Indicators	Non-Economic Indicators
1. Per capita monthly income	1. Poverty rate
2. Per capita monthly consumption expenditure	2. Density per square KM 2011 population
3. Advances	3. Infant Mortality Rate (IMR)
4. Deposit	4. Under Five Mortality Rate (U5MR)
5. Loan disbursement	5. Literacy rate
6. Net cultivated area in Hectare	6. Number of primary school
7. Intensity of cropping (%)	7. Number of secondary school
8. Yield per Acre (Maunds)	8. Percentage of Paved road to total road
9. Rice Production (M. ton)	9. Percentage distribution of Household Electricity
10. Percentage of Population engaged in agriculture work in total population	10. Tube well/ deep tube well (000)
11. Overseas employment	

Thirdly, econometric analyses have also been carried out to examine whether districts are converging or diverging in terms of per capita consumption.

Fourthly, district-wise cross sectional econometric analysis has been done to seek the factors behind district level poverty.

4. District Level Disparity Assessment

4.1 Spatial Poverty Status

In a recent report by Bangladesh Bureau of Statistics (BBS) and the World Food Programme (WFP) and the World Bank, the district level poverty mapping (see Appendix for details) has been updated for 2010- the latest available year of the household budget survey. The following table identifies the fifteen districts with highest rates of head count poverty measured in terms of the upper poverty line. This has been done by using small area estimation technique. The poverty mapping has been calculated using the income-consumption data of Household Income Expenditure Survey (HIES) 2010 and population data of Census 2011. According to the estimate half of the districts have poverty rates greater than the national average of 31.4% suggesting a high degree of disparity among districts in terms of poverty measures (i.e. as many as 32 districts out of 64 districts have higher poverty rate than that of the national poverty rate).

Table 1: Head Count Poverty Rate by Districts (%)

District	Poverty rate % (Upper poverty line)	Rank
Kurigram	63.7	1
Barisal	54.8	2
Shariatpur	52.6	3
Jamalpur	51.1	4
Chandpur	51.0	5
Mymensingh	50.5	6
Sherpur	48.4	7
Gaibandha	48.0	8
Satkhira	46.3	9
Rangpur	46.2	10
Magura	45.4	11
Pirojpur	44.1	12
Bagerhat	42.8	13
Gopalganj	42.7	14
Rajbari	41.9	15

Source: (World Bank, WFP, BBS, 2014)

Although higher poverty incidence has been found in the districts of Rajshahi and Rangpur divisions, there are also districts from the east region which has poverty rate higher than the national level. An important observation is that the three CHT districts - with high degree of

deprivations in other indicators - did not make the above list with relatively moderate of poverty rates. Further investigation with other data sources may suggest that poverty rate could have been higher than what is reported in the WFP/WB report.

CHT Poverty Rate: Alternative Estimate

Chittagong Hill Tracts Development Facility (CHTDF) programme (UNDP funded) estimated the poverty rate of the three districts of CHT using a comprehensive household survey. The survey was conducted in 2,524 households in 20 Upazillas. It is important to note total sample CHT households in HIES 2010 was only 420.

The following table provides the head count upper poverty rates of the three CHT districts Bandarban, Khagrachari and Rangamati using the CHT survey data.

Table 2: Upper Poverty Rate of CHT districts

Upper Poverty Rate DCI Method				
Districts	Intervention	Control	Non-implementation	Average
Bandarban	78.0	77.7	65.8	73.83
Khagrachari	73.8	76.2	82.9	77.63
Rangamati	57.3	75.9	60.1	64.43

Source: (CHTDF, UNDP, 2014)

Strict comparison between poverty map and CHT poverty estimate may not be advisable due to application of two different methods – i.e. CBN by BBS/WB/WFP and DCI method by CHT project. Notwithstanding the difference in methods, CHT project poverty estimates suggest that the incidence of poverty may have been higher than what is reported in the poverty map. Please note that, BBS has discontinued calculation of poverty by DCI method from HIES 2010. However, estimates of HIES 2005 reported 40.4 % of absolute poverty and 19.5 % hardcore poverty according to DCI method.

4.2 Income and Expenditure

We have calculated the average monthly per capita income and monthly per capita expenditure of the 64 districts have been calculated using the HIES 2010 data. The following table shows the bottom 15 districts in terms of income and expenditure (please see annex for details).

Table 3: Per capita Income and Expenditure

Districts	Monthly per capita income	Rank	District	Monthly per capita consumption expenditure	Rank
Khagrachhari	2046	1	Kurigram	1630	1
Comilla	2058	2	Jamalpur	1674	2
Sunamganj	2156	3	Lalmonirhat	1727	3
Feni	2185	4	Sherpur	1769	4
Nilphamari	2322	5	Gaibandha	1853	5
Hobigonj	2326	6	Natore	1917	6
Brahmanbaria	2359	7	Jessore	1923	7
Nawabgonj	2370	8	Rajbari	1933	8
Maulavibazar	2399	9	Bagerhat	1949	9
Sirajgonj	2424	10	Chandpur	1970	10
Gaibandha	2424	11	Sunamganj	1978	11
Bandarban	2435	12	Barisal	1993	12
Kishoregonj	2443	13	Sirajganj	2005	13
Noakhali	2463	14	Satkhira	2014	14
Munsigonj	2476	15	Nilphamari	2023	15

Source: (Bangladesh Bureau of Statistics, 2010) (Authors' calculation)

Comparison of estimates provided in table 1 with table 2 reveals that although there is high correlation between poverty incidence and the average income or expenditure-the relationship is certainly not one to one. For that reason, in table 2 we find that there are other districts than those reported in table 1, suggesting that pockets of deprived districts even in the historically more progressive East region of the country. Couple of important factors needed to be mentioned here. *First*, our estimation here is based on 2010 household and income expenditure survey (HIES), and that survey is essentially representative of divisional characteristics, implying that it is not a true representative of district level indicators. So the results need to be viewed considering this aspect in mind. *Secondly*, income is certainly not captured with much precision in HIES due to misreporting and also false reporting. As a result consumption estimates of HIES – which has been considered relatively more robust (than income) – are used while representing the districts.

4.3 Demography and Health

Bangladesh is one of the most densely populated countries in world. Any development measure is being hindered by the extreme population pressure over the limited land of Bangladesh. It is therefore perfunctory to analyze the district wise population concentration to take definitive measures for development for those districts. However, there is presence of reverse causality in

this hypothesis. As is observed, the cities like Dhaka and Chittagong are highly populated because of the job opportunities it creates. As a result, knowing the population density of the different districts will help us to formulate policies regarding internal migration and job opportunities.

Table 4: Population Density

District	Density per square KM 2011 population	Rank
Dhaka	8707	1
Narayangonj	4472	2
Sirajgonj	2775	3
Narsingdi	2066	4
Gazipur	2007	5
Comilla	1849	6
Feni	1642	7
Munsigonj	1602	8
Brahmanbaria	1561	9
Chittagong	1525	10
Chandpur	1502	11
Rangpur	1289	12
Kushtia	1287	13
Lakshmipur	1257	14
Mymensingh	1240	15

Source: (Population Census, Bangladesh Bureau of Statistics, 2012)

Following table identifies bottom 15 districts in terms two important health indicators such as infant mortality rate and the under five mortality rate.

Table 5: Infant and under five mortality rate

District	Infant Mortality Rate (IMR) per 1000 Live Birth, 2010	Rank	District	Under-five mortality rate 2009 (per 1000 live birth)	Rank
Manikgonj	51.40	1	Jamalpur	98	1
Rangpur	50.00	2	Sherpur	95	2
Khagrachhari	49.79	3	Sunamganj	94	3
Sirajgonj	49.42	4	Kishoregonj	92	4
Feni	47.14	5	Netrokana	91	5
Satkhira	47.01	6	Bandarban	85	6
Jhenaidah	45.98	7	Nawabgonj	83	7
Comilla	45.90	8	Rangpur	81	8
Maulavibazar	45.71	9	Narsingdi	77	9
Gaibandha	44.94	10	Madaripur	77	10
Sylhet	44.94	11	Satkhira	76	11

District	Infant Mortality Rate (IMR) per 1000 Live Birth, 2010	Rank	District	Under-five mortality rate 2009 (per 1000 live birth)	Rank
Rajbari	44.90	12	Gaibandha	74	12
Lalmonirhat	44.53	13	Lakshmipur	73	13
Brahmanbaria	44.32	14	Sirajgonj	72	14
Panchagar	42.17	15	Pirojpur	72	15

Source: (Bangladesh Bureau of Statistics , 2010)

4.5 Human Capital

In the past few years, Bangladesh has achieved substantial amount of progress in education. The literacy rate has increased by 6 percentage points to 57.9 % in 2010 from 2005. The enrollment rate in primary education is 84.75 % and the ratio is higher in favour of girls in both urban and rural areas.

However, there is serious persistence of spatial differences in the achievement of education when it comes to literacy rate. The range in literacy rate among the 64 districts is 35.5 and the standard deviation is almost 8, suggesting high level of disparity among the districts. The following table will shed light on the districts which are under achiever of education in Bangladesh. Other two indicators used to assess district level deprivation in education are number of primary and secondary schools.

Table 6: Education

District	Literacy Rate 2011	Rank	District	Number of Primary school, 2001	Rank	District	Number of Secondary School, 2010	Rank
Sunamganj	35.0	1	Panchagar	8	1	Bandarban	52	1
Bandarban	35.9	2	Madaripur	297	2	Khagrachhari	95	2
Sherpur	37.9	3	Bogra	338	3	Shariatpur	114	3
Jamalpur	38.4	4	Bandarban	341	4	Munsigonj	127	4
Cox's Bazar	39.3	5	Magura	395	5	Rangamati	128	5
Netrokana	39.4	6	Natore	445	6	Meherpur	128	6
Hobigonj	40.5	7	Thakurgaon	468	7	Narail	130	7
Kishoregonj	40.9	8	Meherpur	515	8	Chuadanga	137	8
Sirajgonj	42.1	9	Narayangonj	519	9	Hobigonj	145	9
Kurigram	42.5	10	Narail	547	10	Rajbari	147	10
Gaibandha	42.8	11	Munsigonj	558	11	Manikgonj	156	11
Nawabgonj	42.9	12	Joypurhat	601	12	Madaripur	159	12
Bhola	43.2	13	Manikgonj	612	13	Joypurhat	160	13

District	Literacy Rate 2011	Rank	District	Number of Primary school, 2001	Rank	District	Number of Secondary School, 2010	Rank
Mymensingh	43.5	14	Sherpur	617	14	Lakshmipur	172	14
Nilphamari	44.4	15	Nawabgonj	652	15	Magura	173	15

Source: (Population Census, Bangladesh Bureau of Statistics, 2012), (Bangladesh Bureau of Statistics, 2001), (Bangladesh Bureau of Educational Information and Statistics, 2010)

For the primary education, (Raihan & Ahmed, 2014) have developed a comprehensive index for all the sub-districts (Upazilas) of Bangladesh. The *education development index (EDI)* takes into account a number of influential factors which are important for primary education at the upazilas level. Using the information of Upazilla EDIs, EDIs for the 64 districts have been generated. The following table shows the rank according to the EDI for primary education for the districts. It is important to note that district level EDIs vindicates the observations of literacy rate reported above.

Table 7: Bottom fifteen districts with least EDI scores

District Name	Overall EDI Score	Overall EDI Rank
Rangamati	0.14230	1
Bandarban	0.23086	2
Sunamgonj	0.24540	3
Khagrachhari	0.27613	4
Netrokona	0.35470	5
Bhola	0.35800	6
Kishorgonj	0.36300	7
Cox's bazaar	0.37133	8
Hobigonj	0.37800	9
Kurigram	0.39700	10
Patuakhali	0.41100	11
Brahmonbaria	0.41938	12
Luxmipur	0.42625	13
Satkhira	0.44371	14
Pabna	0.44378	15

Source: (Raihan & Ahmed, 2014)

4.6 Infrastructure

Infrastructure is crucial to promote socio-economic progress of a district. Two important infrastructure indicators namely: (i) percentage of paved road to total road; and (ii) percent of households with electricity connection have been used to assess the status of infrastructure

across the district of Bangladesh. List of 15 most deprived districts in terms of the two infrastructure indicators are provided below.

Table 8: Roads and Electricity

Rank	District	Percentage of Paved road to total road	Rank	District	% Distribution of Household Electricity 2010
1	Bandarban	58.89	1	Lalmonirhat	18.10
2	Sunamganj	59.05	2	Kurigram	21.48
3	Jhalakathi	61.37	3	Sunamganj	29.57
4	Barisal	66.64	4	Gaibandha	32.72
5	Pirojpur	67.10	5	Barguna	33.05
6	Cox's Bazar	67.20	6	Panchagar	34.09
7	Netrokana	67.37	7	Nilphamari	34.90
8	Chittagong	72.34	8	Jamalpur	36.47
9	Bagerhat	75.04	9	patuakhali	36.52
10	Rangamati	75.84	10	Cox's Bazar	38.51
11	Kushtia	75.91	11	Thakurgaon	38.55
12	Satkhira	76.33	12	Lakshmipur	38.66
13	Sherpur	78.21	13	Sherpur	39.55
14	Tangail	78.75	14	Netrokana	39.91
15	Faridpur	79.11	15	Rajbari	40.89

Source: (Bangladesh Bureau of Statistics , 2010)

4.7 Water supply

Bottom fifteen districts with poor state water supply have been listed in the table below.

Table 9: Water Supply

Rank	District	Tube well/ deep tube well (000)
1	Bandarban	50
2	Rangamati	108
3	Khagrachhari	162
4	Narail	176
5	Jhalakathi	185
6	Magura	199
7	Meherpur	199
8	Barguna	203
9	Bagerhat	218
10	Rajbari	221
11	Panchagar	229
12	Pirojpur	234
13	Munsigonj	241
14	Gopalganj	257
15	Shariatpur	261

Source: (Bangladesh Bureau of Statistics , 2010)

4.8 Financial Inclusion

Access to finance is of utmost important to promote economic activities, creating employment opportunities and thereby helps alleviate poverty. Two widely used indicators – advance and deposit have been applied here to determine the extent of financial inclusion among the districts in Bangladesh.

Table 10: Bank credit and deposits

Rank	District	Advances 2010-11 (Million taka)	Rank	District	Deposits 2010-11 (million taka)
1	Barisal	1001.7	1	Khagrachhari	2257.9
2	Khagrachhari	1143.8	2	Hobigonj	2701
3	Manikgonj	1447.4	3	Barisal	2830.9
4	Feni	2085.1	4	Nilphamari	3223
5	Rangamati	2124.3	5	Rangamati	3670.8
6	Naogaon	2327.9	6	Sylhet	4060.9
7	Khulna	2356.7	7	Feni	4590.2
8	Comilla	2961.1	8	Meherpur	5154.2
9	Bagerhat	3247.3	9	Naogaon	5162.5
10	Joypurhat	3378.5	10	Manikgonj	5367.7
11	Bogra	3727.2	11	Maulavibazar	5608.1
12	Chuadanga	3776	12	Tangail	5709.7
13	Hobigonj	3862.7	13	Sherpur	5785.3
14	Nilphamari	4256.7	14	Chuadanga	5789.8
15	Bandarban	4338.0	15	Khulna	5949.8

The following table is prepared from the data provided by Polli Karma Shahayok Foundation (PKSF) - a government agency providing micro credit to the poor who does not have access to the formal financial intermediaries. Though some of the districts in this list have higher access to formal bank credits, however districts like Khagrachari and Khulna are lagging in terms of both formal and micro credits (informal credit).

Table 11: Microfinance

Rank	District	Loan Disbursement (PKSF)
1	Khagrachhari	983.42
2	Khulna	1329.53
3	Barisal	1922.01
4	Feni	2185.77
5	Manikgonj	2232.89
6	Sylhet	2240.93
7	Jhalakathi	2650.75

Rank	District	Loan Disbursement (PKSF)
8	Meherpur	3887.91
9	Gazipur	4440.32
10	Thakurgaon	4548.45
11	Noakhali	4753.29
12	Joypurhat	4935.08
13	Chuadanga	4946.02
14	Rajshahi	5025.61
15	Bagerhat	5370.39

Source: (Polli Karma Shohyok Foundation , 2013)

4.9 Agriculture and Rice Production

Contribution of agriculture to gross domestic product/income has gradually been declining. For instance, its share to GDP has declined from 20% in 2000 to about 14% in FY 2013-14. However, it is still a major sector in terms of employment generation (especially rural employment); ensuring food security and nutrition. Furthermore, rice (the staple food in Bangladesh) is the most important crop and its production, availability and price are intriguing factors for stable development.

Table 12: Productivity of rice

District	Net cultivated area in Hectare	District	Intensity of cropping (%)	District	Yield per Acre (Maunds)
Narayangonj	35421	Bagerhat	120.58	Khagrachari	
Jhalakathi	40177	Gopalganj	126.88	Bandarban	
Feni	44027	Khulna	126.93	Rangamati	
Munsigonj	49637	Sylhet	127.57	Manikgonj	20.48
Bandarban	50848	Gazipur	129.95	Barguna	20.9633
Cox's Bazar	58432	Brahmanbaria	135.44	patuakhali	21.8533
Shariatpur	59020	Maulavibazar	135.63	Munsigonj	22.0367
Meherpur	61002	Kishoregonj	136.27	Shariatpur	22.66
Narail	61649	Narayangonj	137.34	Rangpur	23.13
Madaripur	63251	Dhaka	138.16	Panchagar	23.2633
Rajbari	64622	Hobigonj	141.63	Nilphamari	23.4033
Lakshmipur	70116	Pirojpur	143.09	Madaripur	23.5067
Chandpur	70568	Munsigonj	146	Gopalganj	23.92
Narsingdi	71039	Satkhira	150.64	Lalmonirhat	24.8833
Khagrachhari	74867	Netrokana	150.98	Jhalakathi	25.05

Source: (Bangladesh Bureau of Statistics , 2012), (Bangladesh Bureau of Statistics , 2008)

Table 13: Total rice production

District	Production (M. Ton)
Khagrachari	
Bandarban	
Rangamati	
Munsigonj	112791
Narayangonj	137866
Shariatpur	151912
Jhalakathi	158418
Meherpur	162456
Rajbari	178216
Narail	228890
Madaripur	230808
Pirojpur	245432
Dhaka	253942
Manikgonj	259761
Barguna	268317
Chuadanga	275741
Faridpur	280460
Magura	305760

Source: (Bangladesh Bureau of Statistics , 2012)

4.10 Employment

It is observed that districts with dominance of Service and Industrial sector are on an average doing better and have less poverty than of those districts which are predominantly dependent on Agriculture. Overseas employment is another important source decent employment source in Bangladesh.

Table 14: Employment share in Agriculture and Overseas Employment

Rank	District	% of Population engaged in agriculture work in total population	Rank	District	Overseas Employment Total
1	Dhaka	2.3	1	Bandarban	133
2	Narayangonj	4.4	2	Rangamati	166
3	Chittagong	6.2	3	Khagrachhari	249
4	Sylhet	10.1	4	Panchagar	305
5	Munsigonj	11.2	5	Lalmonirhat	314
6	Feni	11.5	6	Thakurgaon	807
7	Cox's Bazar	12.2	7	Nilphamari	937
8	Narsingdi	12.2	8	Kurigram	1443
9	Maulavibazar	13.4	9	Sherpur	1445
10	Gazipur	13.5	10	Dinajpur	1702
11	Nawabgonj	13.9	11	Joypurhat	2443

Rank	District	% of Population engaged in agriculture work in total population	Rank	District	Overseas Employment Total
12	Jhalakathi	14.4	12	Barguna	2453
13	Faridpur	14.9	13	Netrokana	2497
14	Noakhali	15.4	14	Bagerhat	2835
15	Rajbari	16	15	Jhalakathi	2848

Source: (Population Census, Bangladesh Bureau of Statistics, 2012), (Bangladesh Bureau of Statistics, 2008)

4.11 Environmental Concerns

Another important issue to focus is the problems arising from environmental issues. Bangladesh is one of the most vulnerable and exposed countries to climate change. Historically, natural hazards had caused significant damages to the economy. There are a number of ways in which hazards coming from the climate change can impact the life of the people of Bangladesh. However, not every district is exposed in same manner when it comes to the affect of natural calamities. To rank the districts in terms of the impact of environment and related variables is not a straightforward task. In a recent work by (Islam, 2014), a vulnerability index was developed for the 64 districts. This comprehensive work took into consideration five major aspects of the districts, which are resources, access, uses, capacity and environment. Under these major categories the variables which have been used are percentages of ponds, and water bodies, river area, medium and low land in total area of a district; percentages of supply tap, tube well, distribution of household source of drinking water; district flood damage rank, average rainfall, percentage of drought area, coefficient of variance of rainfall for 30 years; percentages of HYV Boro irrigated area, surface water salinity levels, arsenic level, soil salinity level, areas for shrimp/prawn farms and also a number of household characteristics were also controlled to develop the 'Water Vulnerability Index'.

With the technique of principal component analysis (PCA) and then calculating weights from 36 indicators, the main index was developed. The following table gives the rank of the bottom fifteen districts which are most exposed and vulnerable to environmental and water related risks (disaggregated indices are presented in the appendix)

Table 15: Rank of the Environmentally Exposed Districts

No	District	Value	Rank
1	Bhola	-7.64	1
2	Bagerhat	-5.47	2
3	Noakhali	-5.2	3
4	Khulna	-5.19	4

No	District	Value	Rank
5	Munshiganj	-5.18	5
6	Barguna	-4.73	6
7	Madaripur	-4.54	7
8	Patuakhali	-4.5	8
9	Pirojpur	-4.21	9
10	Jhalokati	-3.76	10
11	Dhaka	-3.64	11
12	Narayanganj	-3.61	12
13	Sylhet	-3.11	13
14	Shariatpur	-3	14
15	Barisal	-2.96	15

Source: (Islam, 2014)

According to the rank, mostly the south-western districts like Bhola, Bagerhat, Noakhali, Khulna are vulnerable of the impact of natural hazards. But also districts like Dhaka, Narayanganj and Sylhet are also in the bottom, indicating the nature of risk associated with these districts too.

4.12 ADP Allocation

It is to be mentioned that the public expenditure data in the government documents do not allow for regional disaggregation, since they are not specifically mentioned in the project descriptions. In addition to that, some projects have coverage of beneficiaries which transcend the district boundaries; then the question arises of how much of this allocation would be considered as allocation for each of these districts.

We can note that recently there have been substantial improvements with regards to this problem. The Finance Division, Ministry of Finance of the Government of the People's Republic of Bangladesh has examined district and division-wise disaggregation of the public expenditure data (of both development and non-development) for recent years (see Ministry of Finance's website). Here we analyze this regional disaggregation of development and non-development expenditure data as presented in the Ministry's website. Only two years' of data is fully available in the website, and these years are 2006-07 and 2007-08, and partial year information is available of 2008-09. We examined actual expenditure under Annual Development Programme disaggregated by district in Appendix Table 27, for years of 2006-07, 2007-08 and 2008-09 (up to March of 2008-09).

The lowest total amount of ADP in 2006-07 was spent for the district Chuadanga, and this was followed by the districts of Jaipurhat, Thakurgaon, Narail, Magura and Rajbari. In terms of per capita figures, Gaibandha is the lowest per capita ADP expenditure recipient district (with only 660 Taka per capita), and this was followed by the districts of Thakurgaon, Chuadanga, Nilphamari, Rangpur and Mymensingh. Now if we contrast this with the lowest total amount recipients' list of 2007-08, we find Joypurhat, Narail, Meherpur, Thakurgaon, Chuadanga and Rajbari; the lowest per capita ADP expenditure went to the districts of Gaibandha, Thakurgaon, Dinajpur, Satkhira and Mymensingh. Again in 2008-09 the lowest total amount went to the districts of Meherpur, Joypurhat, Thakurgaon, Narail and Chuadanga, the lowest per capita ADP expenditure went to the districts of Thakurgaon, Jaipurhat, Dinajpur, Jessore and Meherpur. We notice that there is a specific set of districts which is the lowest total as well as the per capita ADP expenditure recipients. On the other side of the spectrum, there is also a common set of districts, such as Bogra, Sylhet, Comilla, Chittagong and Dhaka which are often the highest total ADP recipient districts. In terms of per capita ADP figures, this abovementioned list also includes less populated districts such as Khagrachari, Bandarban and Rangamati.

There is a systematic pattern in this data set: the pattern is that generally the "lagging" districts are low ADP expenditure recipients and the "advanced" districts are high ADP expenditure recipients, and this pattern is observed within the time frame of the reference period. Therefore public investment component is the annual budget to some extent is tilted towards the more advanced regions, and this might aggravate the growth of the lagging district as well as regional disparity in the country.

In a recently completed study by BIDS on Upazila level development (Hossain & Mahzab, 2014) found that the average allocation of the ADP to an Upazila is not high compared to Upazila's total budget. The study randomly chose 25 upazilas for primary survey to seek for the development needs of Upazilas and found that on an average an upzaila's annual budget is Taka 2,65,00,000. Among which 55% is coming from the central government budget through ADP and the rest is mobilized from local tax and non-tax sources by the Upazila Parishad (UP) itself. As from 2009, the government had a mandate to strengthening local government for inclusive development. It is however important to understand the mechanism in which Upazilas are planning their development programs. As UP has elected set of representatives of the people of its area, it is very important that the government takes into consideration the development needs coming from the UPs to formulate and allocate effective budget to bolster their economic and social activities.

5. Principal Component Analysis

In the previous section we have identified the bottom fifteen districts by different selected indicators. We have noted that according to the poverty rate the bottom fifteen districts are not exactly same when analyzed the bottom fifteen districts in terms of Health, Education, Infrastructure and Financial indicators. Using these 21 indicators, it is difficult to rank the districts in terms of degree of deprivation. Hence, a principal component analysis (PCA) exercise has been carried out using these indicators to derive a composite index for the districts.

Principal component analysis is appropriate when we can obtain measures on a number of observed variables and wish to develop a smaller number of artificial variables (called principal components) that will account for most of the variance in the observed variables. The principal components may then be used as predictor or criterion variables in subsequent analyses. Technically, a principal component can be defined as a linear combination of optimally-weighted observed variables. In order to understand the meaning of this definition, it is necessary to first describe how subject scores on a principal component are computed. In the course of performing a principal component analysis, it is possible to calculate a score for each subject on a given principal component. With a matrix algebra manipulation, this approach creates a number of principal components such that the co variance or correlation among the PCs will be zero (SAS, 2010)

PCA now has become an instrument in development research, with which ranking of a given sample can be done effectively. As we get one or more principal component by using all the necessary variables in question after post-estimation, we can rank the score of the component generated though the principal component. As a result the districts in our concern can be ranked from bottom to top in the context of overall deprivation from development.

5.2 Empirical Specification

Taking the principal component and then with post estimation, we obtained the rank of the 64 districts in terms of their well being (see appendix). We deliberately did not take poverty rate as a variable here, as poverty is the outcome variable and it is technically right to develop the index by using the exogenous variables which are influencing poverty thus welfare of districts.

The following table shows the rank with the least value of the indices obtained from the principal component analysis. According to the result, it is noted that not only the historically lagged behind districts of the west are in the list but also a number of districts from the East are also there. Specifically, three Chittagong hill tracks (CHT) districts- Bandarban, Khagrachari and Rangamati are among the least developed districts (or most deprived districts), which according to the poverty mapping labeled as relatively better off districts.

Table 16: List of 15 most deprived districts-Principal component analysis (PCA)

District	Component Score	Rank
Bandarban	-3.630655	1
Rangamati	-3.286442	2
Narail	-2.841323	3
Meherpur	-2.804770	4
Khagrachhari	-2.634240	5
Shariatpur	-2.547994	6
Rajbari	-2.489209	7
Barguna	-2.479115	8
Lalmonirhat	-2.333024	9
Magura	-2.317666	10
Madaripur	-2.291286	11
Jhalakathi	-2.169052	12
Chuadanga	-2.135614	13
Panchagar	-2.097372	14
Joypurhat	-2.075342	15

Source: Authors' Calculation

6. Convergence versus Divergence: What does panel data suggest?

Bangladesh economy has been growing at an average rate of 6% for the last decade. During 1990s the economy experienced an average growth rate of 5%. The important question is

whether all the districts are equally benefitted from these sustained growth rates of 5% or 6%. If all the districts are growing at the same rate or have same level of development then in the long run all the districts should approach to a stationary value. It means they are converging and the gap among those districts in terms of average income or expenditure is minimizing. In other words, if the income or the expenditure of the districts is stationary in the long run it means that the lagging districts are catching up with the progressive districts. Otherwise if they are non-stationary in the long run then it means that the lagging districts or districts were unable to catch up with the relatively developed districts. The application of the study of divergence versus convergence will give a clear indication on the extent of district level inequality and whether the extent of inequality would be increasing in the future in the absence of intervention to tackle the divergence. These are crucial factors to understand before pursuing macro policies for the development of the lagging districts.

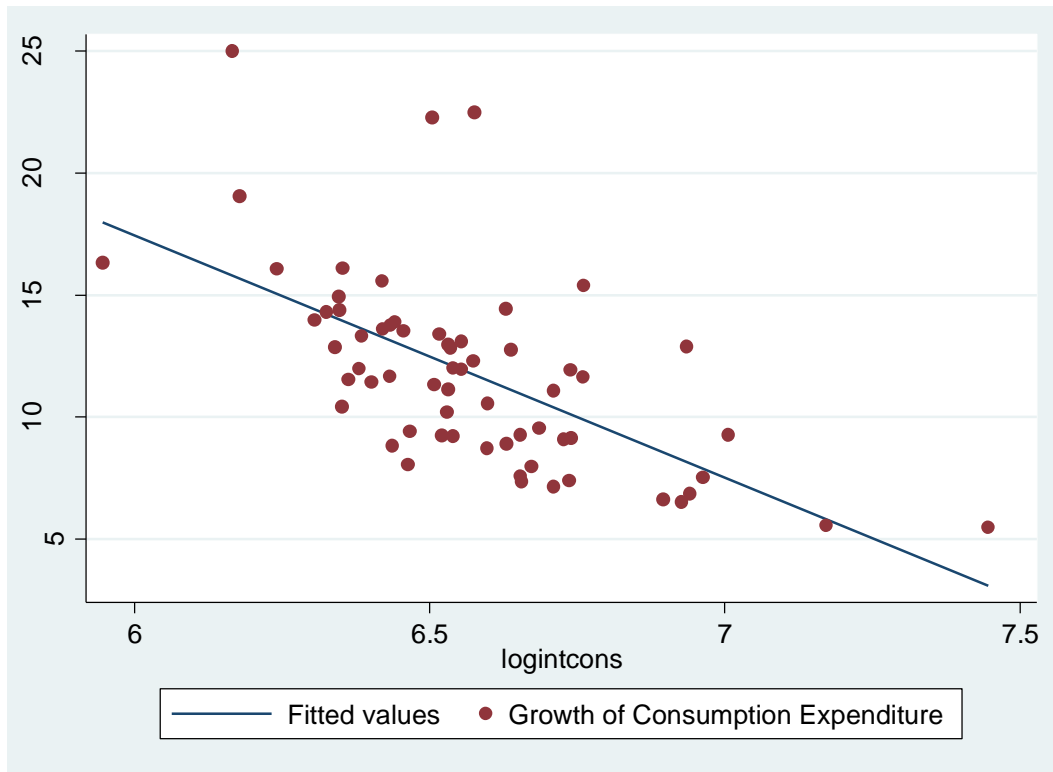
6.1 Test of β -convergence

Before moving in to the long run analysis of convergence, it is customary to check the data for the presence of Beta (β) convergence. The so called β -convergence is tested by applying the (Barro & Sala-i-martin, 1991) regression, which involves the growth of per capita GDP and the initial level of the GDP for a country. The idea of the presence of β -convergence is that the poor regions grow faster than the rich region. But certainly it does not prove that in the long run it will catch up with the richer regions. Here for our purpose, as mentioned earlier, it is not advisable to use the income data from the HIES survey, so we used per capita consumption expenditure to proxy for per capita income. We used the data of 64 districts over 4 points of yearly data point to seek the presence β -convergence. So in our data, if we can find a negative and significant relationship between the two variables, one can conclude about the presence of β -convergence.

The following figure plot the average yearly growth of consumption expenditure of the 64 districts from 1995-2010 against the initial consumption expenditure. The figure clearly depicts that the districts which had higher initial consumption expenditure in 1995, grew slower than

compared to those whose initial consumption expenditure were lower in 1995. The fitted line in the figure is an output of the pseudo (Barro & Sala-i-martin, 1991) regression that we did.

Figure 1: Consumption expenditure growth (1995-2010) against initial consumption expenditure of 1995



The result of the bi-variate regression is given below. The coefficient of the log of the initial consumption expenditure suggests that 1% increase in initial consumption expenditure will decrease the growth of it by .009%. This is why in the previous figure we can see a clear downward and a negative correlation between the two variables.

Table 17: Results of Beta Convergence

Growth of Per Capita Consumption Expenditure	
Log(Initial per capita expenditure)	-9.935
Constant	(6.66)** 77.070 (7.79)**
R^2	0.38
N	64

* $p < 0.05$; ** $p < 0.01$ (Robust Standard error in the parenthesis)

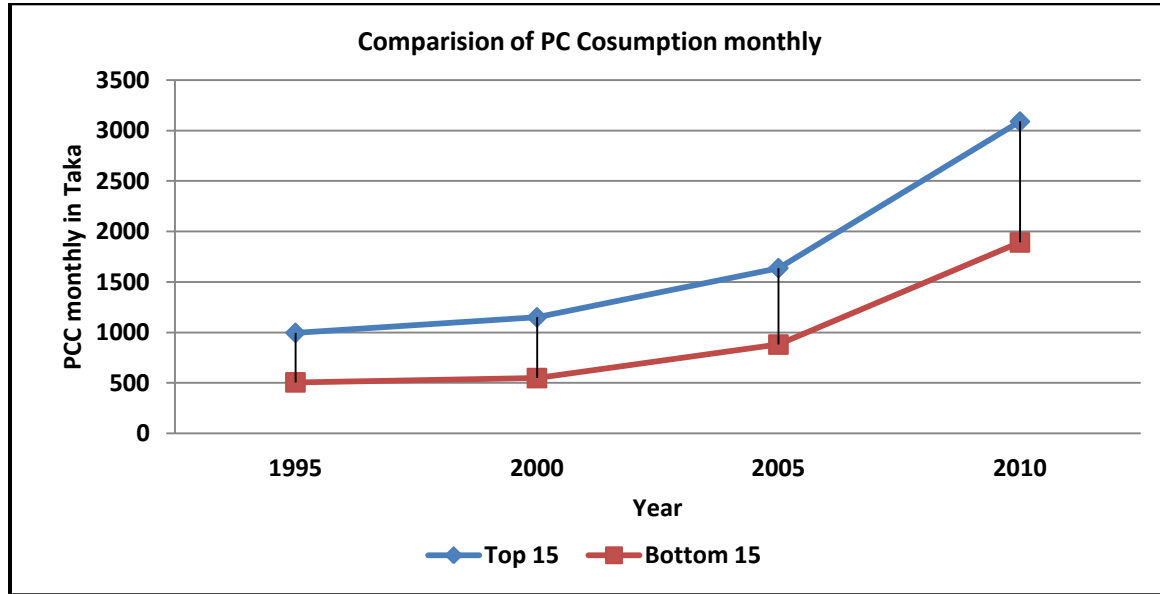
However, the method of β -convergence is highly criticized in recent literature of convergence. (Sala-i-martin, 1995), (Quah, 1993) and (Friedman, 1992) suggested that this kind of regression would provide a biased estimation for β -convergence and actually it does not shed any light on the question of equitability of income (here consumption) in the long run. As a result, (Sala-i-martin, 1995) proposed a test for covariance of variation (known as Sigma convergence) of per capita income to solve the biasness problem. Then there have been many developments of the methods to study convergence and divergence of regions in terms of income. Due to the structure and paucity of data, we actually could not perform a sigma convergence test directly. Rather, we have used a more updated method of (Quah, 1993) to seek whether the districts in terms of consumption expenditure (again used as proxy for income) are converging or diverging to each other in the long run.

6.2 Long-run analysis of convergence

The following graph depicts the extent of inequality among districts. The blue line and the red line show the monthly per capita consumption expenditure for the top 15 and bottom 15 districts respectively. Both groups are showing an increasing trend from 1995 in their respective monthly per capita consumption expenditure. However, it is noted that the gap between this two groups are widening overtime and became wider in the latest years e.g. in 2010. Now the question is whether this divergence is significant or a short run phenomenon? Robust answer to this question is difficult to ascertain with a data series of only 4 points and five-year intervention. However, the following unit root test will give us an idea about their nature in the long run without any intervention.

Following figure shows the divergence dynamics with regard to the per capita monthly consumption expenditure between the top 15 and bottom 15 districts. The extent of divergence has found to be widened between 2005 and 2010 compared to previous two five years time periods. This observation suggests that without effective interventions, regional (represented by districts) may increase in Bangladesh.

Figure 2: Per capita consumption comparison between top 15 districts and bottom 15 districts



6.2.1 Model Specification

Given the limitation of time series data regarding Bangladesh Economy, it is difficult to conduct analysis to obtain results for the long run. However, using macro panel data gives some sort of space to work on long run analysis. Our objective here is specifically to see whether the outputs of the districts are converging in the long run or not in Bangladesh? As consumption expenditure is better represented (compared to income) in the HIES, per capita consumption expenditure has been used as a proxy for income.

We used the data from the HIES 1995 to HIES 2010, so we had five points in the time dimension. So in our model $T = 4$ and $N = 64$, so we have in total 256 points of observations. The test that we have done is unit root test. If there is a presence of unit root it means the data is non-stationary thus the outputs of the districts are diverging. The alternative hypothesis

is that unit root is not present in the model thus there is a convergence of the data asymptotically. To test the hypothesis, we used panel unit root tests of the Im, Pesaran, and Shin (IPS) (2003) and Levin and Lin (2002).

Though for the IPS test, the rules of thumb is that we need at least six points of observation in the time dimension. But because of the unavailability of such data we were not able to run the IPS test properly. We were able to do the Levin and Lin test, and with that we also did Breitung (1996) unit root test. All the unit root tests have different specifications of the Augmented Dickey Fuller (ADF) test. The results of the regressions are presented below:

Table 18: Results of Unit Root Tests

Test	H ₀ = Null Hypothesis	H _A = Alternative Hypothesis	Number of Panels	Number of Years	Adjusted t	Lamda	P value
Levin-Lin-Chu unit-root test	Panels contain unit roots	Panels are stationary	64	4	1.1e+17	-	1.000
Breitung unit-root test	Panels contain unit roots	Panels are stationary	64	4	-	8.2534	1.0000

In both the tests, common Autoregressive parameters and panel mean are included but due to lack of time dimensions, we did not use time trend in the model. In both the models we are unable to reject the null hypothesis. It means that the panels or output of the districts in terms of expenditure is not converging indicating that they are non-stationary. From this result we can conclude that there is a divergence rather than convergence in the outputs of the districts in the long run. As mentioned earlier, the time dimensions are very small in the models we have used here and it thus the results cannot be considered as robust. However, these results can be taken as indications of the divergence or the decreasing equity among the 64 districts of Bangladesh. In order to check for robustness, we ran the same regression excluding Dhaka and Chittagong as it is suggested that these two districts are the hub of growth and major economic activities. So, it may be argued that the inclusion of these two districts in the sample can obscure the overall results. As a result we have excluded Dhaka and Chittagong from the sample and did the same exercise. The result did not change, though the statistics came out

weaker than the first round of regression with the complete set of districts; however the panel series still remained non-stationary indicating non-convergence among the districts.

From results of both the convergence and divergence analysis, we can conclude that though there is a presence of β -convergence but that does not imply a long-run convergence between the districts. As we have seen the consumption growth is subsiding for the bottom districts, and catching up process is not happening as it should be given the β -convergence.

7. Ordinary Least Squared Approach to seek factors behind Poverty

In this section, we applied cross-sectional OLS regressions to understand the factors influencing poverty and their significance. However, to ask this questions micro-panel, consisting panel data for few number of years would have been ideal. But again due to the limitation of data, we opted for simple cross-sectional model. We could have developed a model based on the HIES data of 2005 and 2010, but as mentioned earlier, harmonizing the variables that we want to use for both the dataset is a big challenge and it would very hard to establish the robustness of the results. And also the some of the explanatory variables we used in the regression is not obtained from other sources (i.e. labor force survey, agricultural census), and those could not be found exactly for the 2005 data. To develop a panel dataset for these two rounds of HIES survey is possible but that would indeed call for a lots of effort and structuring the specifications of the model will need an in depth analysis. For these limitations, we used data from HIES 2010 and other sources to capture the cross-sectional dimensions of poverty across the districts. However, as HIES is not representative of districts, rather it is for divisional level, our results should be read with caution.

In our model, district-wise poverty rate is the dependent variable. We have used a number of explanatory factors belonging to demography, health, education, infrastructure, employment etc. to see whether they have any impact on poverty reduction.

These set of regressions by no means establish causality, as there is high chance of reverse causality in these kinds of regressions. So, with these results we cannot say which way the

causality runs. Rather these results give us idea whether these variables have any significance relationship with poverty or not. With the small sample size and limited data that we have, this is the most we could do to see the relationship between poverty and other variables with an OLS model. However, the results of the regression shed lights on the relative magnitude of impact of different important variables on poverty reduction. This indeed will give the policy makers some idea about which instrument is working better than other when it comes to poverty reduction. Though all are not exogenous policy variables, still the story that the regression results reveal can further be verified with availability of panel data in future.

Table 19: OLS regression results

	Poverty Rate (2)
Population Density (Demographic)	0.005 (2.26)**
Literacy Rate (Education)	0.721 (3.04)**
Under Five Mortality Rate (Health)	0.156 (1.13)
Length of Paved roads (Infrastructure)	0.001 (0.07)
Number of tube well (Water)	0.030 (2.67)**
Percentage of Household using Electricity (Power)	-0.395 (2.47)**
Total Advances (Bank Credit)	-0.000 (1.15)
Loan disbursement _PKSF (Microfinance)	-0.001 (2.41)**
Total Production of rice (Agriculture)	-0.000

	Poverty Rate (2)
	(1.73)
Percentage of Population in Agriculture (Employment)	0.481 (2.28)**
Chittagong	-3.146 (0.54)
Rajshahi	-2.399 (0.42)
Sylhet	-8.797 (1.64)
Barisal	2.989 (0.46)
Khulna	-0.290 (0.04)
Dhaka	2.477 (0.35)
Constant	2.642 (0.11)
R^2	0.46
N	58

* $p < 0.05$; ** $p < 0.01$ (Robust Standard error in the parenthesis)

There are some interesting results to discuss, we can see the in an area where population density is higher, the poverty incidence is higher too. This suggests that even if an area or district has lower poverty rate for a given level of population increasing that population will induce more poverty. It is very surprising to see that literacy rate actually does not decrease district poverty rate. But both the cases could have specification problem, as may be those area which are historically poor could have lower education and population, thus increasing both actually aggravate the situation. But, these is a clear indication in the results that electricity or the access to energy has clearly a negative impact on poverty, meaning that the increasing the use of electricity could lower poverty rate in districts. Use of microcredit is also significant variables, as we can see it reduces poverty, at least in the district level. Finally, the districts which are more concentrated on agriculture still remains poor compared to that of other districts not concentrating on Agriculture fully. We also took dummies for the seven divisions

for controlling for the regional heterogeneity that might occur for geographical reason. Here the benchmark category is Rangpur division. But most of the variables came out insignificant, meaning controlling for other measures, geographical dimension is not creating extra poverty pressure for the districts. However, there is a sharp contrast between poverty rates among the divisions, for example Chittagong, Khulna, Rajshahi and Sylhet have lower poverty rate as a division than that of Rangpur.

8. Deprivation matrix

Principle component analyses ranked the 64 districts according their level of deprivation. The PCA produced a composite index which includes all the 21 indicators listed above. On the PCA score 15 districts have been found to be least developed among the 64 districts of Bangladesh (See Appendix for the full list).

Districts/Indicators	Road	Electricity	Credit	Education	Health	Water Supply	Overseas Employment	Total
CHT								14
<i>Bandarban</i>	1				1	1	1	4
<i>Rangamati</i>	1		1	1		1	1	5
<i>Khagrachhari</i>			1	1	1	1	1	5
South-West								15
<i>Narail</i>				1		1		2
<i>Meherpur</i>			1	1		1		3
<i>Shariatpur</i>						1		1
<i>Rajbari</i>		1			1	1		3
<i>Barguna</i>		1						1
<i>Madaripur</i>					1	1		2
<i>Jhalakathi</i>	1		1				1	3
North-West								14
<i>Magura</i>				1				1
<i>Lalmonirhat</i>		1			1	1	1	4
<i>Chuadanga</i>			1					1
<i>Panchagar</i>		1		1	1	1	1	5
<i>Joypurhat</i>			1	1			1	3
Total	3	4	6	7	6	10	7	43

Out of these 15 districts, 3 belong to CHT region; 7 are from South-West region and rest 5 belongs to North-East region. The result suggests that although some of the districts are regarded relatively better-off in terms of poverty measure, but most of them fall in the list of most deprived districts according to the composite index.

Thus with the PCA rank, we have also came up with a deprivation matrix, which has been constructed for the 15 bottom districts by the major indicators. The outcome of deprivation matrix is shown above. The main observation is that there are 43 references of deprivation by the 15 districts. Thus on average there is three areas where additional intervention may be needed. The highest sited intervention area is water supply. Ten districts have reported to lack water supply. Education and overseas employment has been identified as second most deprived areas. Indeed, with the ranking of districts done using PCA and then sorting out the lagging districts by employing the single indicators all together, give us a clear picture of the districts which are lagging behind absolutely compared to other districts and also it enables us to suggest specific policies for the development of those districts.

9. Conclusion and Policy recommendations

Above discussion identified a number of factors that have contributed to the district level disparity in Bangladesh. Our discussion on various indicators revealed that the districts differ in terms of outcomes of deprivations, most prominently in terms of consumption, infrastructure, water, and education areas. It is also found that regional disparity may aggravate, over course of economic growth, unless specific corrective measures are taken to reduce the gap among districts. We believe this is a question of equity versus efficiency tradeoff in public policy. While efficiency may suggest that private investments would concentrate in economically advanced districts, and move away from laggard districts, on the other hand, equity requires that standard of living and well-being of citizens in the laggard districts are not undermined because of this. Public policy has a very important role to play in this situation. Through addressing

specific concerns of the laggard districts, and channeling public investments into these districts, public policy can reduce the gap among the better off and deprived districts.

Our discussion leads to the conclusion that the regional disparity issue needs to be brought to the forefront in the country's policy making arena, and measures need to be taken to address this issue. One plausible way this can be done is that a separate clause addressing regional disparity in public investment projects as long as it is applicable. In addition to this, a separate fund would have to be kept in the Annual Development Programme (ADP) for addressing this regional (districts level) disparity issue. This would require additional fund for ADP expenditure, and this additional fund is expected to be some reasonable percentage of overall ADP expenditure (for example, this fund could be around 10% to 15% of overall ADP, but this one would be in addition to the other regular ADP components, so that ADP itself will have to be raised by 10% to 15%, such that the new ADP allocation including regional disparity fund would be 110% - 115% of the original business-as-usual ADP allocation). The reason that we have proposed 10%-15% fund is that per capita development expenditure in the laggard districts in general have been found to be approximately around 15%-20% lower than the per capita development expenditure in the more economically advanced districts. We are proposing that per capita development expenditure has to be matched across all districts for the sake of spatial equity and reduction of regional disparity. Thus we propose as principal, equal per capita development expenditure for all, across advanced districts and laggard districts (to note that there is an exception to the cases of large cities, such as Dhaka and Chittagong, where fixed component requirements of large megaprojects may have to be implemented, so that per capita allocation could be different from other areas). This additional 10-15% of ADP in excess of business-as-usual allocation is required therefore to reduce the gap of per capita development expenditure across economically active and laggard districts.

About the financing of this proposed special fund for addressing regional disparity (10%-15% of ADP compared to the business-as-usual scenario), we would recommend that government needs to mobilize this fund from domestic and external sources. Since the return to this investment would be generated only in the medium to long term, the government has to incur

this cost for the sake of meeting the overall broad objective of an *inclusive growth*. An alternative option is to cut down on the *less effective* sectors of ADP allocation, and bring the fund to this special fund for laggard districts. This entails thorough research on examining ADP expenditure and effectiveness indicators (if there is any), which is beyond the scope of this current study. We would only suggest that it has been commonly perceived that not all ADP allocations are bringing fruitful results, and it is about time to relocate funds with more achievable and more focused targets and goals.

9.1 Narrowing Infrastructure Gap

Improvement of infrastructural facilities is one of the key interventions that can open the door of economic opportunities in the lagging districts. Following measures are can be taken:

- Communication system between the better off districts and lagging districts should be improved in order to increase economic activities in the lagging districts. One of the major communication projects, construction of Padma Bridge if completed is expected to open a new door of opportunities for south-west region of the country. It should be realized that such initiative is not enough of its own for the development of the laggard districts. Supporting policy innervations are required to derive the fuller benefit of such massive project.
- Appropriate measures should be adopted for intensive utilization of Mongla port. Creating export oriented industrial zone near to Mongla port can be considered along with its international usage opportunities.
- Supply of electricity should be increased in the lagging districts in priority basis since development of manufacturing sector demands access to electricity supply. Construction of gas transmission line to the laggard districts should be expedited.
- Both inter district and intra district road communication system should be developed to increase economic mobility within the laggard districts.
- Storage facilities for agricultural and fisheries should be increased according to the demand of such facilities in laggard districts where economic activities are mostly agricultural in

nature. Such facilities should be enhanced in the remote areas so that farmer gets most benefit from such facilities.

- Intensity of bank branches should be increased in the laggard divisions to increase financial services for general people as well as investors of the districts.
- Communication system in three hill districts should be developed to create economic opportunities for these areas.

9.2 Manufacturing Opportunities in Lagging Districts

Manufacturing activity has to be promoted in the lagging districts. Since private investment has less of an incentive to locate itself in the lagging districts, this process has to be implemented with the help of government support at least in the initial stage.

- Industrial policy should incorporate enough flexibility for investment in lagging districts.
- Industrial zones should be established in lagging districts with all adequate infrastructural facilities so that entrepreneurs can get benefit from economies of scale. Promulgation of special incentive for prospective investors should proceed simultaneous to encourage faster investment in this industrial park.
- Small and medium enterprises should be encouraged with low cost financing facilities. Rate of interest for bank finances should be lower in the laggard districts which will increase investment,
- Special fiscal incentive such as tax holidays should be offered for investment in lagging districts.

9.3 Expanding Agriculture and Rural Economic Activities

Even though the share of agriculture in GDP is declining over time, still this is the focus point of the rural economy. Special emphasis has to be given to development of agro-processing, non-farm economic activities in the laggard districts. Following steps can be taken:

- Rural areas of lagging districts should get special priority in agricultural credit disbursement and agricultural subsidy program.

- Microfinance institutions should be encourage to operate in poverty prone areas by providing special incentives, e.g. providing fund to MFIs at low rate of interest if they disburse this fund in poor districts.
- Policy measures are required to attract microfinance in environmentally vulnerable areas such as cyclone prone coastal areas, land logged and other flood prone areas and Monga prone areas.
- Non-farm economic activities should be promoted in the laggard districts through providing training and financing facilities. Partnership building between the government and MFIs/NGOs can play an important role in this regard.
- Local government institutions such as Union Parishads should be strengthened to conduct development activities of the government through these institutions.

9.4 Creating Opportunities for International Migration

The flow of remittance earnings is emerging as a crucial source of resources to improve local economy. We notice that flow of remittance earnings is low towards the lagging districts, which is causing further backwardness of these districts. Following measures need to be taken:

- Number of migrants working abroad should be increased in lagging districts which receive meager share of foreign remittances.
- Technical and vocational training institutions should be established in the laggard districts as per the demand of other countries.
- Special financing scheme should be directed towards prospective migrants form laggard districts.

Appendix

Table 20: Results PCA

Rank	District	Component
1	Bandarban	-3.63066
2	Rangamati	-3.28644
3	Narail	-2.84132
4	Meherpur	-2.80477
5	Khagrachhari	-2.63424
6	Shariatpur	-2.54799
7	Rajbari	-2.48921
8	Barguna	-2.47912
9	Lalmonirhat	-2.33302
10	Magura	-2.31767
11	Madaripur	-2.29129
12	Jhalakathi	-2.16905
13	Chuadanga	-2.13561
14	Panchagar	-2.09737
15	Joypurhat	-2.07534
16	Sherpur	-1.95395
17	Manikgonj	-1.68274
18	Lakshmipur	-1.52696
19	Pirojpur	-1.39912
20	Hobigonj	-1.37056
21	Nawabgonj	-1.30877
22	Gopalganj	-1.29074
23	Maulavibazar	-1.28047
24	Cox's Bazar	-1.19066
25	Munsigonj	-1.17759
26	Feni	-1.02459
27	Bhola	-0.969
28	Nilphamari	-0.96853
29	patuakhali	-0.89089
30	Thakurgaon	-0.83752
31	Sunamganj	-0.75835
32	Bagerhat	-0.73231
33	Kurigram	-0.60719
34	Satkhira	-0.32155
35	Faridpur	-0.32119
36	Natore	-0.28006
37	Brahmanbaria	-0.23059
38	Narsingdi	-0.16842
39	Netrokana	-0.12754
40	Jhenaidah	-0.04033
41	Kushtia	0.148339
42	Chandpur	0.150546
43	Kishoregonj	0.269998
44	Jamalpur	0.271319
45	Narayangonj	0.360478

Rank	District	Component
46	Gaibandha	0.427079
47	Pabna	0.823355
48	Sylhet	0.958704
49	Barisal	1.072777
50	Khulna	1.108742
51	Sirajgonj	1.310741
52	Noakhali	1.373325
53	Rangpur	1.503998
54	Gazipur	1.687906
55	Rajshahi	2.123654
56	Naogaon	2.656117
57	Dinajpur	2.764658
58	Jessor	2.800395
59	Tangail	2.844059
60	Bogra	3.086892
61	Mymensingh	4.225051
62	Comilla	7.011757
63	Chittagong	8.995317
64	Dhaka	12.61749

Note: Authors' Calculation (Rank 1 implies the lowest value of component generated and then following upto 64 with the highest component value)

Table 21: Zila level povmap estimates (upper), 2010

Districts	Poverty-rate-upper (%)	std-error (%)	Over Average (>31.5%)
Bangladesh			31
Bagerhat	42.8	1.4	1
Bandarban	40.1	2.1	
Barguna	19.0	1.3	0
Barisal	54.8	1.7	1
Bhola	33.2	1.5	1
Bogra	16.6	1.5	0
Brahmanbaria	30.0	2.7	0
Chandpur	51.0	4.6	1
Chittagong	11.5	0.8	0
Chuadanga	27.7	3.3	0
Comilla	37.9	2.7	1
Cox's Bazar	32.7	2.0	1
Dhaka	15.7	1.8	0
Dinajpur	37.9	3.7	1
Faridpur	36.3	1.4	1
Feni	25.9	2.1	0

Districts	Poverty-rate-upper (%)	std-error (%)	Over Average (>31.5%)
Gaibandha	48.0	4.1	1
Gazipur	19.4	6.2	0
Gopalganj	42.7	1.8	1
Hobigonj	25.3	1.2	0
Joypurhat	26.7	1.0	0
Jamalpur	51.1	1.4	1
Jessor	39.0	1.5	1
Jhalakathi	40.5	2.1	1
Jhenaidah	24.7	1.9	0
Khagrachhari	25.5	2.1	0
Khulna	38.8	1.1	1
Kishoregonj	30.3	2.4	0
Kurigram	63.7	4.5	1
Kushtia	3.6	0.7	0
Lakshmipur	31.2	2.7	0
Lalmonirhat	34.5	2.3	1
Madaripur	34.9	1.7	1
Magura	45.4	1.3	1
Manikgonj	18.5	2.6	0
Meherpur	15.2	1.8	0
Maulavibazar	25.7	1.2	0
Munsigonj	28.7	1.8	0
Mymensingh	50.5	2.2	1
Naogaon	16.9	1.2	0
Narail	20.0	1.9	0
Narayangonj	26.1	2.2	0
Narsingdi	23.7	2.7	0
Natore	35.1	1.7	1
Nawabgonj	25.3	1.8	0
Netrokana	35.3	3.6	1
Nilphamari	34.8	2.0	1
Noakhali	9.6	1.3	0
Pabna	31.5	1.0	1
Panchagar	26.7	2.0	0
patuakhali	25.8	1.3	0
Pirojpur	44.1	1.9	1
Rajshahi	31.4	0.9	0
Rajbari	41.9	2.4	1
Rangamati	20.3	2.1	0
Rangpur	46.2	2.5	1
Shariatpur	52.6	5.5	1
Satkhira	46.3	1.2	1
Sirajgonj	38.7	1.0	1

Districts	Poverty-rate-upper (%)	std-error (%)	Over Average (>31.5%)
Sherpur	48.4	1.8	1
Sunamganj	26.0	1.5	0
Sylhet	24.1	1.3	0
Tangail	29.7	1.3	0
Thakurgaon	27.0	2.4	0

Source: WFP/WB/BBS 2014

Table 22: Population and density

District	Density per squ. KM 2012 population	Population (adjusted) 2011
Bangladesh	1034	149772364
Bagerhat	395	1534012
Bandarban	92	404093
Barguna	516	927890
Barisal	883	2414730
Bhola	553	1846352
Bogra	1234	3539294
Brahmanbaria	1561	2953209
Chandpur	1502	2513837
Chittagong	1525	7913365
Chuadanga	1016	1174835
Comilla	1849	5602625
Cox's Bazar	973	2381816
Dhaka	8707	12517361
Dinajpur	921	3109628
Faridpur	977	1988697
Feni	1642	1496138
Gaibandha	1155	2471681
Gazipur	2007	3548115
Gopalganj	833	1218319
Hobigonj	838	2171064
Joypurhat	1003	950441
Jamalpur	1195	2384810
Jessor	1141	2876381
Jhalakathi	965	709915
Jhenaidah	957	1842571
Khagrachhari	241	638967
Khulna	558	2407680
Kishoregonj	1147	3028706
Kurigram	954	2150974
Kushtia	1287	2023657

District	Density per squ. KM 2012 population	Population (adjusted) 2011
Lakshmipur	1257	1797761
Lalmonirhat	1071	1305248
Madaripur	1078	1212198
Magura	927	954802
Manikgonj	1069	1447298
Meherpur	969	681332
Maulavibazar	726	1994252
Munsigonj	1602	1502449
Mymensingh	1240	5313163
Naogaon	801	2701907
Narail	772	750424
Narayangonj	4472	3074078
Narsingdi	2066	2314889
Natore	953	1774832
Nawabgonj	1025	1714249
Netrokana	840	2317191
Nilphamari	1229	1907497
Noakhali	914	3231832
Pabna	1127	2624684
Panchagar	744	1026141
patuakhali	505	1596222
Pirojpur	901	1157215
Rajshahi	1142	2699688
Rajbari	993	1091263
Rangamati	103	620214
Rangpur	1289	2996336
Shariatpur	897	1201464
Satkhira	545	2063610
Sirajgonj	2775	3220814
Sherpur	576	1412601
Sunamganj	712	2564541
Sylhet	1041	3567138
Tangail	1118	3749086
Thakurgaon	813	1444782

Source: (Population Census, Bangladesh Bureau of Statistics, 2012)

Table 23: Economic indicators

District	Per capita Gross District Product at current price in Tk_2010-11	Savings rate , 2010	Per capita monthly consumption expenditure
Bangladesh	37610	14.37	2382.574813
Bagerhat	48696	14.73	1949.265
Bandarban	29220	8.57	2456.607
Barguna	40225	17.87	2856.288
Barisal	37934	14.46	1993.92
Bhola	37023	11.80	2329.241
Bogra	34396	17.77	2284.358
Brahmanbaria	28318	18.41	2487.604
Chandpur	31998	14.04	1970.103
Chittagong	55281	11.11	3681.251
Chuadanga	33955	16.20	2157.517
Comilla	24705	11.51	2355.168
Cox's Bazar	35225	7.14	2355.96
Dhaka	66548	15.60	3585.024
Dinajpur	34811	13.29	2073.377
Faridpur	30405	13.99	2187.757
Feni	26225	16.98	3522.263
Gaibandha	29090	12.17	1853.592
Gazipur	45481	16.93	3145.785
Gopalganj	31984	6.51	2171.743
Hobigonj	27915	14.48	2108.117
Joypurhat	39664	18.98	2381.313
Jamalpur	32922	11.75	1674.713
Jessor	39242	19.37	1923.669
Jhalakathi	30407	14.49	2355.318
Jhenaidah	34131	15.72	2869.783
Khagrachhari	24556	6.39	2462.383
Khulna	58346	10.52	2087.186
Kishoregonj	29325	12.23	2284.398
Kurigram	35107	9.58	1630.714
Kushtia	35036	15.78	3643.749
Lakshmipur	30862	9.25	2709.558
Lalmonirhat	32528	13.98	1727.961
Madaripur	33895	20.95	2216.291
Magura	35171	10.85	2274.399
Manikgonj	35347	19.29	2370.655
Meherpur	36414	29.62	2859.55
Maulavibazar	28797	17.50	2297.899
Munsigonj	29713	17.60	2387.93
Mymensingh	32629	9.77	2214.928
Naogaon	36223	15.96	2475.49
Narail	37911	18.02	2349.041
Narayangonj	47707	9.42	2645.79
Narsingdi	37021	26.63	2638.976

District	Per capita Gross District Product at current price in Tk_2010-11	Savings rate , 2010	Per capita monthly consumption expenditure
Natore	37940	14.50	1917.613
Nawabgonj	28442	17.16	2336.825
Netrokana	31780	21.69	2082.754
Nilphamari	27870	10.10	2023.115
Noakhali	29565	10.35	3946.559
Pabna	38938	16.48	2161.374
Panchagar	30477	12.58	2319.507
patuakhali	38582	16.24	2468.016
Pirojpur	33453	19.72	2048.377
Rajshahi	40008	15.92	2215.665
Rajbari	32615	17.64	1933.928
Rangamati	36934	7.72	2748.746
Rangpur	32232	16.89	2420.708
Shariatpur	30277	15.03	2077.256
Satkhira	37083	16.52	2014.214
Sirajgonj	29088	11.49	2005.792
Sherpur	34354	11.42	1769.927
Sunamganj	25872	9.96	1978.949
Sylhet	31966	15.23	2943.122
Tangail	30957	12.32	2540.786
Thakurgaon	36460	14.51	2524.921

Source: (Bangladesh Bureau of Statistics, 2010)

Table 24: Human capital

Districts	Literacy Rate 2011	Number of Primary school, 2010	Number of Secondary School, 2010	Number of Student Secondary School 2010	Number of Teacher Secondary School 2010
Bangladesh	51.8	75493	19040	7465774	218011
Bagerhat	59.0	1343	323	98856	3262
Bandarban	35.9	341	52	13448	482
Barguna	57.6	1317	176	52532	1599
Barisal	61.2	3060	435	155568	4362
Bhola	43.2	1743	266	74329	2400
Bogra	49.4	338	467	164002	5353
Brahmanbaria	45.3	1040	234	145143	2650
Chandpur	56.8	1324	282	148489	2896
Chittagong	58.9	3106	730	410555	9523
Chuadanga	45.9	747	137	62803	1583
Comilla	53.3	3976	617	313542	6793
Cox's Bazar	39.3	925	180	74417	1858
Dhaka	70.5	1464	666	454235	16173
Dinajpur	52.4	664	674	175627	7509

Districts	Literacy Rate 2011	Number of Primary school, 2010	Number of Secondary School, 2010	Number of Student Secondary School 2010	Number of Teacher Secondary School 2010
Faridpur	49.0	1512	248	108583	2564
Feni	59.6	714	199	83611	2167
Gaibandha	42.8	2289	398	124569	4953
Gazipur	62.6	1388	341	147402	4185
Gopalganj	58.1	1135	194	78398	1888
Hobigonj	40.5	1281	145	73106	1214
Joypurhat	57.5	601	160	46639	1655
Jamalpur	38.4	2798	349	127541	3522
Jessor	56.5	2351	531	177506	6336
Jhalakathi	66.7	861	193	50672	1834
Jhenaidah	48.4	987	298	109269	3230
Khagrachhari	46.1	1186	95	34920	934
Khulna	60.1	1982	411	148425	4952
Kishoregonj	40.9	1498	250	123968	2424
Kurigram	42.5	948	355	107951	4506
Kushtia	46.3	1600	299	116354	3380
Lakshmipur	49.4	702	172	78313	1658
Lalmonirhat	46.1	864	205	76492	2346
Madaripur	48.0	297	159	68245	1485
Magura	50.6	395	173	60326	1814
Manikgonj	49.2	612	156	82462	1828
Meherpur	46.3	515	128	41636	1402
Maulavibazar	51.1	1078	190	93456	1778
Munsigonj	56.1	558	127	86199	1668
Mymensingh	43.5	1798	614	224423	6396
Naogaon	48.2	1353	464	128759	4743
Narail	61.3	547	130	50152	1441
Narayangonj	57.1	519	195	133314	3046
Narsingdi	49.6	679	227	116651	2822
Natore	49.6	445	314	100579	4101
Nawabgonj	42.9	652	251	80736	2515
Netrokana	39.4	1166	259	93999	2365
Nilphamari	44.4	876	296	100067	3987
Noakhali	51.3	1888	312	160979	3304
Pabna	46.7	1052	314	129992	3673
Panchagar	51.8	8	282	72665	3030
patuakhali	54.1	1594	291	83288	3041
Pirojpur	64.9	1224	276	76600	2856
Rajshahi	53.0	911	571	163914	6348
Rajbari	52.3	655	147	61850	1578
Rangamati	49.7	743	128	37261	1184
Rangpur	48.5	784	507	152011	6149
Shariatpur	47.3	772	114	60271	1074
Satkhira	52.1	1311	324	117282	3651
Sirajgonj	42.1	1583	390	150069	3876
Sherpur	37.9	617	185	63012	1790
Sunamganj	35.0	1395	201	75640	1548
Sylhet	51.2	1352	335	145083	3434

Districts	Literacy Rate 2011	Number of Primary school, 2010	Number of Secondary School, 2010	Number of Student Secondary School 2010	Number of Teacher Secondary School 2010
Tangail	46.8	1561	499	199612	5297
Thakurgaon	48.7	468	399	97976	4569

Source: (Population Census, Bangladesh Bureau of Statistics, 2012), (Bangladesh Bureau of Statistics , 2001), (Bangladesh Bureau of Educational Information and Statistics, 2010)

Table 25: Ware, sanitation and health

District	Health		Water and Sanitation		
	Infant Mortality Rate (IMR) per 1000 Live Birth, 2010	Under-five mortality rate 2009 (per 1000 live birth)	Tube well/ deep tube well (000)	Canal/river/pond (000)	Supply water/ tape water (000)
Bangladesh	36.00	64	29686	611	2693
Bagerhat	30.77	65	218	163	16
Bandarban	32.26	85	50	29	0
Barguna	34.65	66	203	21	0
Barisal	31.16	60	568	1	1
Bhola	33.21	50	381	1	2
Bogra	32.97	71	888	2	2
Brahmanbaria	44.32	58	522	2	0
Chandpur	28.35	65	542	4	9
Chittagong	35.98	50	1279	2	276
Chuadanga	30.04	55	270	1	22
Comilla	45.90	46	1007	10	29
Cox's Bazar	26.05	72	366	0	0
Dhaka	34.66	51	761	13	1837
Dinajpur	37.04	63	753	2	4
Faridpur	28.90	61	393	0	29
Feni	47.14	51	297	5	4
Gaibandha	44.94	74	604	1	1
Gazipur	33.95	57	431	4	123
Gopalganj	40.00	49	257	2	0
Hobigonj	35.09	65	375	2	12
Joypurhat	39.11	68	274	3	1
Jamalpur	38.60	98	600	2	0
Jessor	29.73	62	653	5	3
Jhalakathi	39.37	56	185	1	3
Jhenaidah	45.98	56	428	1	8
Khagrachhari	49.79	63	162	14	0

District	Health		Water and Sanitation		
	Infant Mortality Rate (IMR) per 1000 Live Birth, 2010	Under-five mortality rate 2009 (per 1000 live birth)	Tube well/ deep tube well (000)	Canal/river/pond (000)	Supply water/ tape water (000)
Khulna	27.92	49	519	75	1
Kishoregonj	32.59	92	675	4	0
Kurigram	41.44	60	505	5	0
Kushtia	36.89	52	495	1	19
Lakshmipur	39.04	73	406	0	1
Lalmonirhat	44.53	65	361	1	0
Madaripur	27.68	77	276	1	0
Magura	31.06	46	199	1	6
Manikgonj	51.40	50	351	0	23
Meherpur	33.71	51	199	0	0
Maulavibazar	45.71	66	354	5	7
Munsigonj	41.88	54	241	2	4
Mymensingh	37.18	62	1232	5	1
Naogaon	39.57	60	675	11	2
Narail	29.30	46	176	1	1
Narayangonj	32.10	58	625	2	31
Narsingdi	37.04	77	395	1	3
Natore	25.93	62	471	4	1
Nawabgonj	38.61	83	376	2	8
Netrokana	33.90	91	562	12	1
Nilphamari	36.47	62	439	0	2
Noakhali	33.08	56	583	3	2
Pabna	37.54	44	620	2	5
Panchagar	42.17	63	229	0	0
patuakhali	35.14	61	354	1	0
Pirojpur	34.63	72	234	14	38
Rajshahi	36.04	71	621	4	69
Rajbari	44.90	62	221	0	0
Rangamati	29.13	45	108	18	3
Rangpur	50.00	81	788	3	1
Shariatpur	35.84	62	261	1	0
Satkhira	47.01	76	437	71	15
Sirajgonj	49.42	72	701	2	0
Sherpur	35.02	95	385	0	1
Sunamganj	42.13	94	488	14	5
Sylhet	44.94	69	446	55	61

District	Health		Water and Sanitation		
	Infant Mortality Rate (IMR) per 1000 Live Birth, 2010	Under-five mortality rate 2009 (per 1000 live birth)	Tube well/ deep tube well (000)	Canal/river/pond (000)	Supply water/ tape water (000)
Tangail	31.86	70	867	1	1
Thakurgaon	36.00	58	343	1	1

Source: (Bangladesh Bureau of Statistics , 2010), (Bangladesh Bureau of Statistics , 2010)

Table 26: Infrastructure and power

District	Infrastructure			Electricity
	Length of Paved Road in 2009 RHD (Km)	Length of Unpaved Road in 2009 RHD (Km)	Total Length of Road (Paved + Unpaved + not Survey) in 2009 RHD (Km)	% Distribution of Household Electricity 2010
Bangladesh	182	21.16	212.69	54.55
Bagerhat	298	38.47	396.86	49.71
Bandarban	271	68.64	460.68	49.13
Barguna	160	10.68	191.45	33.05
Barisal	244	10.00	366.88	58.11
Bhola	213	31.29	239.67	42.83
Bogra	566	48.60	628.47	54.44
Brahmanbaria	269	16.96	289.15	79.95
Chandpur	285	54.13	340.41	42.94
Chittagong	408	109.69	564.35	65.44
Chuadanga	85	49.27	84.95	69.83
Comilla	617	84.72	723.01	64.04
Cox's Bazar	363	95.68	539.45	38.51
Dhaka	289	15.74	344.38	86.73
Dinajpur	378	9.67	388.96	43.90
Faridpur	232	51.01	292.85	53.88
Feni	286	9.47	295.90	71.36
Gaibandha	261	6.43	276.66	32.72
Gazipur	366	8.32	374.74	74.23
Gopalganj	247	38.44	307.06	54.02
Hobigonj	320	.62	323.62	45.29
Joypurhat	185	5.97	193.12	52.91
Jamalpur	259	24.31	292.76	36.47

District	Infrastructure			Electricity
	Length of Paved Road in 2009 RHD (Km)	Length of Unpaved Road in 2009 RHD (Km)	Total Length of Road (Paved + Unpaved + not Survey) in 2009 RHD (Km)	% Distribution of Household Electricity 2010
Jessor	317	21.08	355.44	61.66
Jhalakathi	197	15.52	320.75	56.09
Jhenaidah	386	7.19	402.33	63.03
Khagrachhari	312	6.97	388.51	59.47
Khulna	338	28.27	384.77	67.05
Kishoregonj	363	8.01	390.39	41.54
Kurigram	259	8.87	264.44	21.48
Kushtia	212	49.58	279.49	70.23
Lakshmipur	284	22.64	306.41	38.66
Lalmonirhat	172	3.27	176.71	18.10
Madaripur	144	.00	172.60	59.11
Magura	241	29.16	251.22	48.70
Manikgonj	195	13.36	209.29	48.45
Meherpur	133	38.47	165.77	#NULL!
Maulavibazar	260	4.20	263.85	56.29
Munsigonj	307	9.26	316.71	79.45
Mymensingh	462	27.21	489.62	52.94
Naogaon	452	70.09	526.43	66.57
Narail	145	.00	153.14	57.07
Narayangonj	226	6.08	242.58	89.03
Narsingdi	348	9.10	377.53	73.61
Natore	288	46.60	336.31	48.47
Nawabgonj	213	1.33	216.51	42.60
Netrokana	257	106.82	381.94	39.91
Nilphamari	219	8.28	242.90	34.90
Noakhali	322	48.84	371.74	66.37
Pabna	437	12.33	461.06	54.41
Panchagar	158	37.16	194.69	34.09
patuakhali	255	.07	281.68	36.52
Pirojpur	196	.17	292.42	49.05
Rajshahi	438	10.72	458.05	59.30
Rajbari	137	21.79	158.57	40.89
Rangamati	179	.00	236.13	47.03
Rangpur	333	19.51	352.12	43.90
Shariatpur	132	.00	153.40	47.02
Satkhira	193	49.57	252.70	48.22

District	Infrastructure			Electricity
	Length of Paved Road in 2009 RHD (Km)	Length of Unpaved Road in 2009 RHD (Km)	Total Length of Road (Paved + Unpaved + not Survey) in 2009 RHD (Km)	% Distribution of Household Electricity 2010
Sirajgonj	#NULL!	47.79	416.43	58.13
Sherpur	213	29.73	271.85	39.55
Sunamganj	213	93.53	360.23	29.57
Sylhet	463	38.03	553.67	54.41
Tangail	362	41.09	459.97	62.71
Thakurgaon	165	.00	165.45	38.55

Source: (Bangladesh Bureau of Statistics , 2010), (Bangladesh Bureau of Statistics, 2010)

Table 27: Financial indicators

Districts	Advances 2005-06	Advances 2010-11	Deposits 2005-06	Deposits 2010-11	Loan Disbursement (PKSF)
Bangladesh	2447151.6	3212848.7	1687319.4	4115855.5	850158.49
Bagerhat	2325.4	4338	6092	10610.8	7851.18
Bandarban	780.8	1143.8	1069.5	2257.9	983.42
Barguna	1776.2		2263.3	5154.2	3887.91
Barisal	6077.9	13262	13615	29041.2	5969.07
Bhola	2706	5837.3	4185	8855.3	9075.38
Bogra	11491.8	34104.9	16480.5	33537.6	30580.53
Brahmanbaria	4335.7	8902.8	12918.7	30764	7353.80
Chandpur	3691.3	7322.8	13068.5	26435.4	13562.76
Chittagong	184925.2	539319.5	217523	543169.8	58283.82
Chuadanga	1925.8	5115	3625	7055.3	13130.99
Comilla	8901.1	21930.1	31969.4	69738.9	33521.70
Cox's Bazar	5362.3	11523.9	8916	23900.3	8293.29
Dhaka	773920.8	1935393.2	883517.8	2309996.8	82689.06
Dinajpur	8443.1	18324.9	9488.1	22912.4	21907.16
Faridpur	5875	12660.1	8786.5	18323.3	13802.46
Feni	3939.6	10955.2	13601.5	33013.1	7264.00
Gaibandha	4957.2	7747.4	4026.8	7576	12765.94
Gazipur	7101.7	22846.1	20400.8	58569.8	38210.46
Gopalganj	1764.5	3378.5	3461	7920.4	4935.08
Hobigonj	2884.6	5399.3	7216.6	13826.7	4548.45
Joypurhat	3049.7	5949	2834.6	5785.3	12760.98
Jamalpur	6910.2	10044.9	4851.5	9924.2	6711.84
Jessor	14055.1	32096.7	15787	32948.3	27683.00
Jhalakathi	1159.5	2356.7	3097.1	5949.8	1329.53

Districts	Advances 2005-06	Advances 2010-11	Deposits 2005-06	Deposits 2010-11	Loan Disbursement (PKSF)
Jhenaidah	3209.2	7244.1	5053.3	10459.3	12814.38
Khagrachhari	526.6	1001.7	1268.3	2830.9	1922.01
Khulna	32685.5	67280.9	28766.6	64345.7	13344.90
Kishoregonj	4655.8	9440.9	6785.8	16492.9	9926.05
Kurigram	3443.9	5176.3	2827.8	5709.7	12058.26
Kushtia	8030.9	20545	8063.1	17407.6	17253.26
Lakshmipur	3169.4	7612.5	7622	17768.9	9124.43
Lalmonirhat	2428.7	4256.7	1670.4	3223	6546.83
Madaripur	2439.3	5010.2	4073.4	10837.1	4753.29
Magura	1234.4	2327.9	2539.5	5162.5	6470.25
Manikgonj	2235.1	3727.2	6958.3	14297.9	10046.15
Meherpur	1001.4	2124.3	1839	3670.8	7480.13
Maulavibazar	4148.3	9286.4	18150	34002.2	2650.75
Munsigonj	5449.3	6267.6	10226.5	19638	8803.64
Mymensingh	8969.2	20677.9	12423.7	28956	14245.58
Naogaon	7377.8	15116.7	8419.8	17126.7	20916.00
Narail	1292.6	2085.1	2413	4590.2	2185.77
Narayangonj	27663.3	69914.8	29884.5	79267.8	28449.13
Narsingdi	8496.9	22390.4	14400	32828	15254.85
Natore	3274.1	6580.7	5072.9	9283.7	12020.10
Nawabgonj	3065	8310.9	4599.8	9367.9	10673.13
Netrokana	4101.2	5859.2	2753.5	5608.1	6258.91
Nilphamari	5181.3	10194.6	3808.6	8284.7	11008.80
Noakhali	6955	16367.3	16232.1	40079.6	15658.16
Pabna	7752.2	13906.5	10384	22245.2	21870.68
Panchagar	2032.3	3862.7	1510	2701	5707.75
patuakhali	2879.9	5991.4	4498.6	9154.1	8289.00
Pirojpur	1608.3	3247.3	4848.91	9825.8	5370.39
Rajshahi	11102.7	28864.5	19216.3	38380.9	22730.57
Rajbari	1995.7	3776	2980.5	5789.8	4946.02
Rangamati	913.5	1447.4	3041.2	5367.7	2232.89
Rangpur	8070.1	17878.1	8680.2	19394.4	13407.41
Shariatpur	1603.7	2961.1	3018.1	7523.8	8485.10
Satkhira	3554.7	7022	7476.6	14941.7	12647.17
Sirajgonj	4675.7	10715	9135	19923.5	17308.15
Sherpur	3261.4	5688.7	1950.4	4060.9	2240.93
Sunamganj	2598.3	4462.1	7620.7	12952.5	5025.61
Sylhet	12194.6	34387.7	70085.2	126598.9	4440.32
Tangail	4903.1	9555.3	14576.1	32489.1	20577.85
Thakurgaon	3112.1	6758.7	3150.5	6001	7488.57

Source: (Polli Karma Shohyok Foundation , 2013), (Bangladesh Bureau of Statistics , 2010)

Table 28: Agriculture land

Districts	Net cultivated area in Hectare	Irrigated area in Hectare	Intensity of cropping (%)
Bangladesh	7728357	4848581	172.52
Bagerhat	124577	27391	120.58
Bandarban	50848	7321	202.33
Barguna	83391	5918	181.81
Barisal	120123	35179	171.04
Bhola	109584	25548	207.61
Bogra	225713	200772	217.12
Brahmanbaria	118689	85480	135.44
Chandpur	70568	43254	166.50
Chittagong	137067	51033	163.39
Chuadanga	91470	78435	165.90
Comilla	179730	137560	176.53
Cox's Bazar	58432	27737	151.21
Dhaka	85837	42074	138.16
Dinajpur	285542	248656	197.29
Faridpur	108740	57947	172.70
Feni	44027	22768	161.03
Gaibandha	147954	123016	188.63
Gazipur	93870	48293	129.95
Gopalganj	90341	58238	126.88
Hobigonj	142490	103181	141.63
Joypurhat	83235	77571	229.24
Jamalpur	161214	133454	190.00
Jessor	174605	137744	182.15
Jhalakathi	40177	3532	169.17
Jhenaidah	138800	105388	187.41
Khagrachhari	74867	12611	151.64
Khulna	114436	38831	126.93
Kishoregonj	173895	147041	136.27
Kurigram	125143	84871	196.86
Kushtia	111701	83979	200.49
Lakshmipur	70116	17780	200.62
Lalmonirhat	88033	66565	192.46
Madaripur	63251	28728	155.00
Magura	76382	58147	209.41
Manikgonj	79616	40528	170.67
Meherpur	61002	55017	164.50
Maulavibazar	92226	26646	135.63
Munsigonj	49637	28525	146.00
Mymensingh	308165	244222	182.67
Naogaon	279688	221316	179.38
Narail	61649	32402	170.81
Narayangonj	35421	23168	137.34
Narsingdi	71039	50170	155.12
Natore	147328	103398	160.10
Nawabgonj	111368	58570	166.25
Netrokana	186735	154834	150.98

Districts	Net cultivated area in Hectare	Irrigated area in Hectare	Intensity of cropping (%)
Nilphamari	112847	81971	202.39
Noakhali	155547	51075	164.35
Pabna	163306	99858	173.49
Panchagar	99105	47999	187.81
patuakhali	133200	3050	178.28
Pirojpur	75200	7664	143.09
Rajshahi	163657	121691	190.72
Rajbari	64622	35430	187.48
Rangamati	90308	15803	159.49
Rangpur	183909	158935	207.25
Shariatpur	59020	19088	154.65
Satkhira	113605	70187	150.64
Sirajgonj	172437	137716	180.27
Sherpur	102961	89955	194.49
Sunamganj	182672	113044	180.21
Sylhet	138576	40937	127.57
Tangail	215720	151625	183.07
Thakurgaon	152944	137714	200.26

Source: (Bangladesh Bureau of Statistics , 2008), (Bangladesh Bureau of Statistics , 2012)

Table 29: Agriculture production

Districts	Area (Acres)	Yield per Acre (Maunds)	Production (M. Ton)
Bangladesh	28488926	29.22	33541099
Bagerhat	359611	25.10	330873
Bandarban			
Barguna	370037	20.96	268317
Barisal	551889	27.29	549132
Bhola	732037	25.30	631382
Bogra	969314	28.38	1136592
Brahmanbaria	436763	28.20	574246
Chandpur	323819	26.59	363528
Chittagong	738741	29.91	814966
Chuadanga	240301	28.74	275741
Comilla	925139	30.50	1123677
Cox's Bazar	322556	31.53	386745
Dhaka	172789	26.31	253942
Dinajpur	1050781	30.29	1313989
Faridpur	263123	25.26	280460
Feni	268851	29.87	322712
Gaibandha	574850	29.03	708653
Gazipur	256899	30.18	350494
Gopalganj	288769	23.92	398555
Hobigonj	537589	29.08	613152
Joypurhat	340834	31.34	466631
Jamalpur	571528	26.64	739575

Districts	Area (Acres)	Yield per Acre (Maunds)	Production (M. Ton)
Jessor	840908	32.18	1085997
Jhalakathi	192410	25.05	158418
Jhenaidah	500674	31.30	625835
Khagrachhari			
Khulna	321921	27.06	352633
Kishoregonj	667356	30.26	937356
Kurigram	494348	27.61	620819
Kushtia	378682	33.00	449454
Lakshmipur	371195	25.85	326368
Lalmonirhat	311376	24.88	415853
Madaripur	192203	23.51	230808
Magura	248808	31.44	305760
Manikgonj	226519	20.48	259761
Meherpur	138055	29.53	162456
Maulavibazar	408533	28.49	443165
Munsigonj	106398	22.04	112791
Mymensingh			
Naogaon	1086338	33.74	1444610
Narail	198099	25.46	228890
Narayangonj	106287	27.15	137866
Narsingdi	239912	28.33	328138
Natore	350505	29.95	447492
Nawabgonj	361033	30.07	404690
Netrokana	750322	29.64	976503
Nilphamari	462550	23.40	579594
Noakhali	581827	26.20	531548
Pabna	459519	25.92	496087
Panchagar	315569	23.26	382855
patuakhali	680002	21.85	476132
Pirojpur	285872	25.95	245432
Rajshahi	459655	31.91	573729
Rajbari	169958	26.01	178216
Rangamati			
Rangpur	659924	23.13	848402
Shariatpur	129898	22.66	151912
Satkhira	453697	31.72	565985
Sirajgonj	538689	28.85	749235
Sherpur	456216	31.24	606676
Sunamganj	867331	26.19	778627
Sylhet	569536	26.71	588614
Tangail			
Thakurgaon	453287	36.17	636598

Source: (Bangladesh Bureau of Statistics , 2012)

Table 30: Employment

District	HHs by main source of income and district		
	Self employed (agriculture) (000)	Day labourer (agriculture) (000)	% of Population engaged in agriculture work in total population
Bangladesh	7748	6251	19.40
Bagerhat	69	72	26.40
Bandarban	17	31	29.20
Barguna	57	19	26.80
Barisal	152	57	24.40
Bhola	132	51	22.30
Bogra	256	218	20.20
Brahmanbaria	86	111	23.90
Chandpur	58	109	22.70
Chittagong	211	105	6.20
Chuadanga	91	78	37.10
Comilla	271	118	24.60
Cox's Bazar	60	80	12.20
Dhaka	44	60	2.30
Dinajpur	186	210	26.40
Faridpur	92	110	14.90
Feni	48	15	11.50
Gaibandha	152	197	25.50
Gazipur	124	44	13.50
Gopalganj	88	54	20.00
Hobigonj	134	117	27.00
Joypurhat	85	61	26.30
Jamalpur	213	163	36.10
Jessor	226	119	27.60
Jhalakathi	32	46	14.40
Jhenaidah	180	114	32.50
Khagrachhari	65	58	29.00
Khulna	86	117	16.70
Kishoregonj	176	124	34.00
Kurigram	145	195	27.30
Kushtia	118	102	19.00
Lakshmipur	46	58	20.40
Lalmonirhat	101	110	33.60
Madaripur	75	79	17.50
Magura	75	43	32.40
Manikgonj	77	81	19.60
Meherpur	43	79	26.50
Maulavibazar	56	94	13.40
Munsigonj	40	32	11.20
Mymensingh	412	280	22.40
Naogaon	265	232	29.20
Narail	49	37	32.80
Narayangonj	26	19	4.40
Narsingdi	87	17	12.20
Natore	167	131	28.00

District	HHs by main source of income and district		
	Self employed (agriculture) (000)	Day labourer (agriculture) (000)	% of Population engaged in agriculture work in total population
Nawabgonj	75	113	13.90
Netrokana	205	162	26.00
Nilphamari	77	1236	18.30
Noakhali	116	65	15.40
Pabna	200	137	28.60
Panchagar	60	46	24.30
patuakhali	106	50	20.50
Pirojpur	61	41	16.70
Rajshahi	198	131	20.50
Rajbari	60	48	16.00
Rangamati	26	34	36.90
Rangpur	212	202	22.10
Shariatpur	48	47	19.70
Satkhira	147	138	30.40
Sirajgonj	155	160	20.20
Sherpur	137	74	24.50
Sunamganj	182	166	18.50
Sylhet	140	89	10.10
Tangail	209	88	21.70
Thakurgaon	161	88	24.90

Source: (Bangladesh Bureau of Statistics , 2010) (Bangladesh Bureau of Statistics , 2012)

Table 31: ADP Allocation

Development Expenditure				(Taka in Thousands)		
District	2006-07		2007-08		2008-09 (Upto March)	
	Actual	Per capita	Actual	Per capita	Actual	Per capita
Dhaka	18,440,244	2.035	16,832,243	1.857	6,457,023	0.713
Narayanganj	4,315,195	1.864	3,084,685	1.333	979,068	0.423
Munshiganj	3,608,165	2.619	1,787,134	1.297	774,149	0.562
Manikganj	2,378,153	1.738	2,161,739	1.580	758,914	0.555
Gazipur	5,109,497	2.362	5,100,798	2.358	2,411,477	1.115
Narsingdi	4,887,213	2.421	3,117,675	1.544	1,056,650	0.523
Faridpur	3,025,562	1.618	2,453,185	1.312	1,458,123	0.780
Rajbari	1,060,005	1.046	1,089,068	1.075	460,650	0.455
Gopalganj	1,818,880	1.466	1,777,569	1.433	909,587	0.733
Madaripur	1,489,019	1.220	1,457,036	1.194	760,147	0.623
Shariatpur	1,739,169	1.509	2,407,116	2.089	991,925	0.861
Tangail	4,160,525	1.187	3,495,794	0.998	1,364,073	0.389
Jamalpur	2,814,511	1.254	2,233,966	0.996	999,234	0.445

Development Expenditure					(Taka in Thousands)	
District	2006-07		2007-08		2008-09 (Upto March)	
	Actual	Per capita	Actual	Per capita	Actual	Per capita
Sherpur	1,431,126	1.050	1,526,921	1.121	560,864	0.412
Mymensingh	3,975,613	0.832	4,395,705	0.920	1,906,972	0.399
Netrokona	2,602,165	1.229	2,385,643	1.127	1,327,527	0.627
Kishoreganj	2,466,505	0.893	3,167,648	1.147	1,307,185	0.473
Dhaka Division	65,321,546	1.571	58,473,925	1.407	24,483,567	0.589
Chittagong	13,159,876	1.869	9,590,203	1.362	6,021,030	0.855
Cox's Bazar	4,293,809	2.274	3,304,685	1.750	840,547	0.445
Rangamati	5,348,414	9.885	4,370,133	8.077	2,570,956	4.752
Bandarban	1,430,262	4.506	1,559,521	4.913	643,730	2.028
Khagrachori	1,656,434	2.960	2,307,560	4.123	803,826	1.436
Comilla	11,838,272	2.419	7,788,233	1.592	3,649,269	0.746
Chandpur	3,730,216	1.543	2,664,986	1.102	1,220,709	0.505
Brahmanbaria	3,117,586	1.221	3,186,584	1.248	1,712,356	0.671
Noakhali	3,094,904	1.128	4,509,121	1.643	2,613,490	0.952
Feni	2,353,311	1.782	2,180,674	1.651	1,537,114	1.164
Lakshmipur	3,621,558	2.283	3,188,340	2.010	1,135,729	0.716
Chittagong Division	53,644,640	2.074	44,650,040	1.726	22,748,755	0.880
Rajshahi	4,791,517	1.968	4,156,184	1.707	2,041,266	0.838
Naogaon	2,983,438	1.172	2,568,163	1.009	1,211,550	0.476
Nawabganj	1,474,330	0.972	1,462,892	0.964	592,038	0.390
Natore	2,665,674	1.646	2,137,338	1.320	823,199	0.508
Bogra	7,105,944	2.215	4,850,150	1.512	1,929,340	0.601
Jaipurhat	912,032	1.012	919,822	1.020	270,789	0.300
Rangpur	2,206,202	0.815	2,747,169	1.015	2,088,731	0.772
Nilphamari	1,296,114	0.775	1,546,051	0.924	1,116,180	0.667
Kurigram	2,544,704	1.334	2,362,608	1.238	962,512	0.504
Lalmonirhat	1,255,070	1.063	1,145,093	0.969	691,547	0.585
Gaibandha	1,501,548	0.660	1,520,869	0.668	896,907	0.394
Dinajpur	4,484,554	1.594	2,266,956	0.806	960,311	0.341
Thakurgaon	926,073	0.716	1,035,581	0.801	383,508	0.297
Panchagarh	1,288,769	1.448	1,648,536	1.852	458,360	0.515
Pabna	2,082,855	0.899	3,060,284	1.321	1,695,272	0.732
Sirajganj	3,259,726	1.137	2,682,750	0.935	2,188,241	0.763
Rajshahi Division	40,778,550	1.268	36,110,449	1.123	18,309,750	0.569
Khulna	4,444,806	1.755	4,938,189	1.950	2,641,141	1.043
Bagerhat	2,824,016	1.712	2,660,301	1.613	1,081,572	0.656
Satkhira	1,733,984	0.873	1,776,007	0.895	825,665	0.416
Jessore	2,738,257	1.041	2,611,890	0.993	1,000,467	0.380
Narail	926,937	1.246	957,107	1.287	396,365	0.533
Jhenaidah	2,692,028	1.601	3,482,324	2.071	1,047,228	0.623
Magura	1,030,843	1.175	1,419,556	1.617	529,338	0.603

Development Expenditure					(Taka in Thousands)	
District	2006-07		2007-08		2008-09 (Upto March)	
	Actual	Per capita	Actual	Per capita	Actual	Per capita
Kushtia	2,288,937	1.235	2,174,427	1.174	1,012,267	0.546
Chuadanga	771,836	0.720	1,058,811	0.987	456,335	0.426
Meherpur	1,216,403	1.932	1,034,019	1.642	242,874	0.386
Khulna Division	20,668,047	1.320	22,112,633	1.412	9,233,250	0.590
Barisal	4,379,137	1.746	5,256,184	2.095	2,453,658	0.978
Pirojpur	2,240,765	1.894	1,945,643	1.645	901,750	0.762
Jhalokati	2,343,374	3.170	2,083,656	2.819	487,244	0.659
Bhola	3,782,708	2.086	2,794,800	1.541	983,647	0.542
Patuakhali	2,541,247	1.634	2,559,183	1.645	976,162	0.628
Barguna	1,530,710	1.694	2,940,816	3.255	1,229,515	1.361
Barisal Division	16,817,941	1.933	17,580,282	2.020	7,031,976	0.808
Sylhet	9,762,114	3.588	7,186,796	2.641	2,944,513	1.082
Sunamganj	2,784,917	1.299	3,422,981	1.596	1,425,804	0.665
Moulvibazar	3,574,250	2.082	2,549,813	1.485	858,688	0.500
Habiganj	2,616,422	1.398	3,074,534	1.643	1,003,285	0.536
Sylhet Division	18,737,702	2.217	16,234,124	1.920	6,232,290	0.737
Total	215,968,427	1.631	195,161,453	1.474	88,039,589	0.665

Source: (Ministry of Finance , 2006-07)

Table 32: Water Vulnerability Index

No	District	Resource	Access	Excess	W.Shortage	Use	Capacity	Environment	All	Rank
1	Bhola	-0.35	-1	-1.05	-0.41	-0.56	-0.89	-0.68	-7.64	1
2	Bagerhat	-0.61	-2.03	-0.78	-0.22	-1.65	-0.85	0.67	-5.47	2
3	Noakhali	-0.61	-1.18	-0.34	-0.02	-1.09	-0.79	-1.16	-5.2	3
4	Khulna	-1.12	-1.16	-1.57	0.11	-1.55	-0.18	0.29	-5.19	4
5	Munshiganj	-1.4	-1.52	-0.84	-1.14	-0.38	-1.19	1.3	-5.18	5
6	Barguna	-1.62	-0.93	-0.74	0.09	0.36	-1.48	-0.41	-4.73	6
7	Madaripur	-0.61	-0.34	-1.13	-1.03	-0.56	-0.6	-0.26	-4.54	7
8	Patuakhali	-1.86	-0.69	-0.78	-0.41	0.12	-1.34	0.45	-4.5	8
9	Pirojpur	-0.52	-0.94	-0.48	-0.72	-0.98	-1.35	0.78	-4.21	9
10	Jhalokati	-0.35	-1.1	-1.08	-0.33	-0.54	-1.59	1.23	-3.76	10
11	Dhaka	-0.15	-1.11	-0.87	-1.04	-0.38	-0.89	0.81	-3.64	11
12	Narayanganj	-0.26	-1.59	0.93	-1.18	-0.88	-1.02	0.4	-3.61	12
13	Sylhet	0.09	-0.88	1.26	-0.73	-1.37	-0.85	-0.65	-3.11	13
14	Shariatpur	-0.93	-1.37	0.19	-0.85	-0.73	-0.77	1.46	-3	14
15	Barisal	-1.16	-1.14	0.12	-0.61	-0.95	-1.2	1.99	-2.96	15

Source: (Islam, 2014)

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