Migration in the Ganga-Brahmaputara-Meghna Delta: a review of the literature

Mohammad Rashed Alam Bhuiyan and Tasneem Siddiqui
Bangladesh University of Engineering and Technology

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Contact
Tasneem Siddiqui, tsiddiqui59@gmail.com

Migration in the Ganga-Brahmaputara-Meghna Delta

Introduction

This paper aims to examine the findings from previous studies and household surveys on migration in Bangladesh with an emphasis on the Ganga-Brahmaputara-Meghna (GBM) basin areas. This aim will enable both an assessment of migration trends and patterns of the country, identification of origin and destination areas, size and volume of migration, push and pull factors of both origin and destination areas (economic/social/environmental), profiling of those who stay and profiling of those who migrate (age, education, income, livelihood, health, household size), role of social network in processing migration and in settling down in destination, flow of remittances (origin – destination) and volume of remittances, assessing the migration patterns of GBM delta districts (overview of migration in/from delta past 50 years (pattern/ changes in push/pull; characteristics of migrant) and comparing GBM picture with national migration patterns, and finally the identification of gaps in the research on migration in Bangladesh and particularly on delta districts. The paper reviewed some prominent studies and household surveys on migration in Bangladesh.

Review on types of migration in Bangladesh

Migration is a key livelihood and income diversification strategy for many households in Bangladesh (Siddiqui, 2003). Over the last thirty years Bangladesh has consistently experienced net out-migration. In terms of migration to population, out-migration peaked at 2.53 per thousand in 2009 (World Bank, 2012).

Bangladesh has a long history of migration within the country and beyond. Historically migration flows from Bangladesh can be categorized under four board-heads; internal, cross border, short term contract international, long term permanent settlement to the west (Martin. et al. 2013).

Internal migration

This paper defines internal migration as movement of people from one place to another, within the boundary of the state of which they are citizens in order to take up employment, or establish residence or to seek refuge from fear of persecution. Examples of both forced and voluntary internal migration are visible in Bangladesh. However it is often difficult to distinguish between forced and voluntary flows. Internal migration streams include flows from rural to rural, rural to peri-urban/urban, urban to urban, and to metropolitan cities as well as urban to rural flows. The migration duration could be both short and long. A section of internal migrants circulate repetitively among their origin and destination areas based on seasonal conditions and demand (such as inflow to rural areas during harvest and sowing seasons and outflows to urban areas in the rest of the time) are major form of rural to rural migration. These groups are referred to as seasonal and circular internal migrants.

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) posits that in Bangladesh there is an increasing trend of temporary and circular migration; feminization of internal migration; short-term migration dominates over long term migration**.**

Internal Migration constitutes temporary, seasonal, circular and permanent form of migration. Temporary migrants may be seasonal or may have settled in for a long-term stay, with the intention of returning. For example, in some areas as many as 40 percent of rural dwellers look for work in a neighbouring town or city during the lean agricultural season or during flooding (Afsar and Baker: 1999; Hossain et al: 2003a). It is evident that People who lost their livelihood due to sudden environmental hazards i.e. cyclones, flooding, river bank erosion migrates to short distance for short period of time. From the Northwest region of Bangladesh, seasonal migration occurs during lean agricultural season (Monga[1] period). The permanent form of migration mainly occurs in the formal sector, i.e, readymade garment industries, and other semi skilled job. i.e. driving, welding, sanitation. Overall, the pattern of migration varies in terms of migrant's access to resources, social network, employment opportunities both at origin and destination areas **(**Billah M. & RMMRU, 2012**[2])**.

According to Afsar (2003), rural to urban movement is the most prevalent form of migration in Bangladesh, making up two-thirds of total flows. Most internal migration flows are towards cities (Afsar, R. 2003). This is reflected in the fact that in the 20th century, the urban population of Bangladesh grew thirty-fold, while the rural growth was only four-fold. Two-thirds of the urban population growth has been on account of migration (Martin, M., Siddiqui, T., & Islam, M. T. 2013)[3].

From the panel data of 62 villages in Bangladesh, Rahman et al (1996) found that nearly two-thirds migration occurred from rural to urban areas, while the figure for rural-rural migration was 10% and overseas migration was 24%. Though the most dominant form of migration in Bangladesh is rural to urban, rural to rural migration also occurs especially for 17 coastal districts where silt deposits in estuaries create small islands or chars (Kar and Hossain, 2001).

Hossain, 2011 study found that migration in Bangladesh like many developing countries is dominated by the influx from rural to urban areas and it accounts for about two-thirds of the urban growth in Bangladesh since independence.

Marshall R. and Rahman S. (2012) study observed that Bangladesh has a long established seasonal pattern of temporary rural worker movement, associated with the annual cycle of rainy and dry periods. This affects two regions in particular – the Monga prone districts in the northwest which suffer prolonged and severe drought during the winter, and the north-eastern Haor-affected areas, which face flooding and waterlogging during the monsoon. Within the areas, which are dominated by subsistence agriculture, workers have always moved to secure their livelihoods, albeit temporarily. This was initially to neighbouring agricultural localities, but in the last twenty years this cycle has expanded to include working within the core urban centres. Some evidence has shown that these movements have become more permanent in nature.

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[1] Monga is a seasonal food insecurity in ecologically vulnerable and economically weak parts of north- western Bangladesh, primarily caused by an employment and income deficit before the rice grown in the monsoon season.

[2] Billah M. & RMMRU, 2012; *Impact of Internal and International Labour Migration; Bangladesh Context*; Regional and country papers series on impact of migration of Research Programme Consortium (RPC) at University of Sussex

[3] Martin, M., Siddiqui, T., & Islam, M. T. 2013; *Migration in Bangladesh and its sensitivity to climate change and variability*; Sussex: UK & RMMRU: Dhaka. http://migratingoutofpoverty.dfid.gov.uk/files/file.php?name=pb-2-mig.pdf&site=354

Internal forced displacement/migration

People are forced to move during extreme weather events, disasters and other ecological changes. An estimated 50 million people are exposed or affected by disasters every five years, with the coasts facing a severe cyclone every three years on average, and a quarter of the country getting inundated during the yearly monsoon rains (Shamsuddoha et al; 2012). Displacement after disasters often involves short distances, but big numbers of people. For example, the 1998 floods inundated 61 per cent of the country, rendering 45 million people homeless. Of the 26 major cyclones from 1970 to 2009, Sidr displaced 650,000 in 2007 Aila 842,000 and Bijli 20,000 in 2009 (IOM 2010). About half of the US$1.7 billion - 2.6 per cent of GDP – losses on account of Sidr involved houses, followed by farms and infrastructure[4]. People typically find it hard to recover fishing and farming livelihoods after such events and pursue livelihood migration as an adaptation tool.

With about half of its surface below the 10m contour line, Bangladesh is located at the lowermost reaches of three mighty river systems - the ganges-padma river system, brahmaputra-jamunariver system and surma-meghna river system. This GBM basin area is exposed to routine flood and riverbanks erosion. Sirajganj, Chapai Nawabganj, Gaibandha, Munshiganj, Chandpur are river erosion prone hotspots districts suffering from 2,000 to 3,000 kilometres of river-bank line erosion annually, making 4.3 million people who live in the chars vulnerable. Annually this process reshapes about 9,000 hectares (ha) of mainland and 5,000ha of char and renders 60,000 people landless[5] (Hutton and Haque, 2003. Two-thirds of the inhabitants of the Jamuna-Brahmaputra floodplain have experienced such displacement at least once, about 17 per cent thrice and 15 per cent 10 times (Hutton, D. and Haque, C.E., 2003) [6].

Short term contractual international migration:

International migration is defined in this paper as movement of people outside the boundary of their country of origin in order to take up employment, or establish residence or to seek refuge from fear of persecution. This paper deals with the short term contractual migrant that refers to a person who is to be engaged, is engaged or has been engaged in a contractual remunerated work for a specific period in a state of which he or she is not a national (UN Convention: 1990)[7]. Short term international contract migration is another dominant type of migration in Bangladesh which is treated with great importance due to its socio-economic developmental impact. International labour migration from Bangladesh has a long history. In the early 1940s work opportunities in British merchant ships paved the way for migration for Bangladeshis. The present form of contractual labour migration started in the 1970s to cater to the labour needs of the Gulf countries and later countries of South East Asia. The foremost character of this type of migration is its short duration. Usually for employment in the Gulf, a work visa is issued for one to three years and is often renewable, subject to the availability of vacancies and compliance with the rules and regulations for

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[4]World Bank (2010) The Economics of Adaptation to Climate Change, `Environment Department. Washington, DC:

[5]When river erode in one side usually new land is form on the other side. Erosion does not mean losing of ownership. Person who lost his land should be entitled to that land when it forms again as per the legal system of Bangladesh. However, due to corruption locally influential often grab newly formed lands resulting in forced migration of rightful owners.

[6]Hutton, D. and Haque, C.E., (2003) Patterns of Coping and Adaptation among Erosion-Induced Displacees in Bangladesh: Implications for Hazard Analysis and Mitigation, Natural Hazards 29, pp.405-421

[7]UN convention on protection of the rights of all migrant workers and their families 1990

foreign worker employment (Rahman, M. 2013[8]). This type of migration takes place on the basis of the specific job contracts.

Cross border migration

Cross border mobility between India and Bangladesh pre-dates these countries' existence (RMMRU-SCMR 2013). Bangladesh and India share 4,096 Km of land border. It is understood that people from both sides move across the border due to historical social network of kinship, marriage, religious affinity and also due to practice of integrated labour market during colonial India or before. Migration of landed aristocracy from different parts of East Bengal to cities of Calcutta, movement of plantation workers from Uttar Pradesh to Sylhet, "menial worker" from Orissa and South India to the urban municipalities of East Bengal, movement of agricultural workers from greater Mymensingh and Sylhet to Assam, migration from Maharashtra to different parts of East Bengal to work in the railway sector, are some of significant internal movements that took place during British period. Large scale cross border migration of people along religious faiths accompanied the partition of British India into India and Pakistan in 1947. Once Bangladesh became independent in 1971, migration between India and independent Bangladesh continued both through formal and informal routes (Ahmed, 2000)[9]. Settlement migration of a section of Hindu community from Bangladesh to India and migration of relatively poor and less educated Muslim and Hindu population for livelihood are the two important streams. Migration from India to Bangladesh mostly takes place through marriage and recently to earn livelihood in garments factories, poultry and fishing farms, sugar mills, textile and leather industries, steel and re-rolling mills, pharmaceutical industries, telecom industries, natural resource exploration, beverage companies, audit firms, railway sectors, construction firms, hospitals, hotel management etc. However there is hardly any comprehensive research on population movement between India and Bangladesh[10]. The formal record of remittance transfer does not show India as one of the remittance sending countries and vice-versa[11]. Climatic stresses may induce migration from the bordering areas through previous network of migration. In recent years, construction of fence and barb wire between India and Bangladesh border has made it difficult to move[12].

Some pockets of Bangladesh could be sensitive to cross boarder population movement. Securitizations of population movement between India and Bangladesh have reduced the scope of such movement. Nonetheless members of Hindu community may try to migrate to different parts of west Bengal as opportunities for finding a livelihood and reintegration are larger compare to Dhaka.

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[8] Rahman, M. 2013, Migration Migrant Indebtedness in the Middle East: Bangladeshis in the GCC countries, International Migration© 2013 IOM; Blackwell Publishing Ltd.

[9] Syed Refaat Ahmed, 2000; Forlorn Migrants: An International Legal Regime for Undocumented Migrant Workers, UPL, Dhaka.

Paula Banerjee, Sanjoy Hazarika, Monirul Hussain and Ranabir Samaddar; Indo-Bangladesh Cross-Border Migration and Trade ; Economic and Political Weekly; Vol. 34, No. 36 (Sep. 4-10, 1999), pp. 2549-2551.Published by: Economic and Political Weekly. URL: http://www.jstor.org/stable/4408366

[10] Martin, M., Siddiqui, T., & Islam, M. T. 2013; *Migration in Bangladesh and its sensitivity to climate change and variability*; Sussex: UK & RMMRU: Dhaka.

[11] http://www.bmet.gov.bd/BMET/stattisticalDataAction. See also https://www.bb.org.bd/

[12] Labour Migration Trends and Patterns: Bangladesh, India, and Nepal; 2013; The Asia Foundation. http://asiafoundation.org/resources/pdfs/LabourMigrationTrendsandPatternsBangladeshIndiaandNepal2013.pdf

In another study Alam (2003) reported that high population growth, climate change and frequent disasters would cause millions to enter the neighbouring country of India. However, he failed to provide enough justification or concrete evidences regarding his concern on the migration from Bangladesh to India.

Long term permanent migration to the West

Migration from Bangladesh to the developed countries of the West was intimately connected to British colonialism. People from Sylhet, Noakhali and Chittagong found job from British merchant ships as Lashkar, Khalashis, Cooks, Cook mates. Some of them jumped ship and stayed back in London, Liverpool and Briston. In the 1950s when UK opened its immigration for Textile workers a large number of people from Sylhet region migrated to UK through the social network of early settlers (Alam, 1988; Ali, 1997; Carey and Shukur, 1985). [13] Now people of Bangladeshi origin can be found in the UK, USA, Italy, Japan, Greece, Canada, Spain, Germany, South Africa, Netherland, Belgium, Switzerland and other European countries as well . The United Kingdom's 2001 census found 300,000 British Bangladeshi mainly concentrated in east London boroughs (Tower Hamlets and Newham); however the Britain' national census of ethnicity and identity found over 500,000 people had Bangladeshi heritage in Britain. The US census in 2000, found up to 95,300 was born in Bangladesh, therefore it is estimated then there were around at least 150,000 Bangladeshis in United States. Recently, the Migration Policy Institute (MPI), (2014) estimates that approximately 277,000 Bangladeshi immigrants and their children(the first and 2nd generation) live in the United States, through their analysis of US Census Bureau's current population Surveys, 5 years of pool data 2009-2013). Bangladeshis are one of the largest immigrant populations in Italy. As of 2013, there were more than 113,811 Bangladeshis living in Italy[14]. According to the Canada 2011 Census, 34,205 Canadians claimed full or partial Bangladeshi ancestry.[15] It is also estimated that there are around 20,000 Bangladeshis in Australia[16]. As of 2005, Japan's Ministry of Justice recorded 11,055 Bangladeshi nationals among the total population of registered foreigners in Japan[17]. In 2004, on the basis of informed sources IOM provided estimation about the number of long-term Bangladeshi diasporas in the selected developed countries was around 1.2 million[18]. So it can be guessed now more than 1.5 million Bangladeshi origins people living in the developed world.

Volume and growth of migration

How common is migration at the household level? The Bangladesh 2010 Household Income and Expenditure Survey (HIES) collected information on migration levels by household, with a migrant being defined as any member who migrated within the country or abroad in the last five years. The data reports that 12.28% of households have had any member migrating within the country or abroad in the last 5 years. The data is also segregated into migration rates for internal migrants

[13] Alam, F. (1988) *Salience of homeland: Societal polarization within Bangladeshi population in Britain*. Coventry: University of Warwick Centre for Research in Ethnic Relations. Adams, C. (1987) *Across seven seas and thirteen rivers: life stories of pioneer Sylhetti settlers in Britain*. London: Thap. Carey, S. and Shukur, A (1985) 'A Profile of the Bangladeshi Community in East London', *New Community*, XII, 3. Choudhury, Y. (1993) *The roots and tales of Bangladeshi Settlers*, Birmingham: Sylhet Social History Group.

[14] Source: https://en.wikipedia.org/wiki/Bangladeshi_diaspora).

[15] Statistics Canada. "2011 National Household Survey: Data tables". Retrieved 28 January 2015)

[16] https://en.wikipedia.org/wiki/Bangladeshi_diaspora

[17] Source:国籍別外国人登録者数の推移 (Change in number of registered foreigners by nationality), Japan: National Women's Education Centre, 2005, retrieved 2015-07-07

[18] Source: Ministry of Expatriates' Welfare and Overseas Employment; International Organization for Migration (IOM). 2004. Institutionalizing Diaspora linkage: The emigrant Bangladeshis in UK and USA (Dhaka, IOM).

(defined as moving from one district to another) at 3.97% and international migrants at 8.60%. Hossain, Kazal and Ahmed(2013) study on "Rural-urban Migration and its Implications for Food Security in Bangladesh' found 9.15% of households sent internal remittances in the last 5 years and 11.47% of households reported international migrants. This represents a greater number of internal migrant households compare to HIES.

Sharma and Zaman (2009), in reporting on a census in 20 selected communities, found that 11% of households had members who had migrated abroad in the last 10 years. However, the Sharma and Zaman (2009) finding may be higher due to the their definition of migration capturing migrants from the last 10 years as opposed to the last 5 years, as used in the 2010 HIES dataset, and also may be higher due to the fact that Sharma and Zaman (2009) selected communities on the basis that they had higher than average rates of migration.

The BBS 'sample vital registration system (2000)' suggests that the proportion of lifetime internal migrants doubled (from 3.4 percent to 7.4 percent) between 1974 and 1982 and reached 10.2 percent in 1991. The same statistics showed that 46% of this total migration occurred from rural to rural areas in the 1990s. The net migration increased dramatically from 1.2 percent to 16.4 percent in urban areas between 1984 and 1998. The rural areas also experienced the increase of net migration from 1.5 percent to 4 percent during the same period (BBS: 2000). The comparative analysis of BBS Gender statistics data (2008) suggested that the rural in migration increased 7.1 percent (from 13 percent to 21.1 percent) between the 2002 and 2007. The statistics also showed 14% increase of urban in migration (from 50.8 percent to 64.8 percent) for the period[19] (see Table 1: appendix: 1).so, internal migration has significantly been increased over the years in Bangladesh.

The Household Income and Expenditure Survey (HIES) data also segregated out-rural and out-urban migration rates, with total rural migration at 13.72% being higher than total urban migration which is 8.33%. Rural-internal migration is at 4.84% and rural-international migration is at 9.25%. Urban internal migration is at 1.62% and urban international migration is at 6.85%. These findings therefore indicate that it is more common for households within rural areas to have internal and international migrants than it is for urban households to have either type of migrant.

The BBS gender statistics data (2008) showed that both male and female migration have significantly increased in rural and urban areas with a substantial amount of women migration. For women the rural in migration increased 9.5 percent with the rapid increase of urban in migration of 15.1 percent between 2002 and 2007. For men the former raised to 6.2 percent and the latter witnessed 11.6 percent increase (BBS: 2008).

The BIDS Sample Panel Household Survey Bangladesh recording rural migration over time has found that over the last decade there has been a significant increase in international migration. The survey finds that the share of households with a foreign migrant has doubled (Hossain and Bayes, 2009). They argue that this trend occurs because earlier, a majority of international migrants were coming from households that were economically better-off, whereas currently, there has been an increase in individuals from medium to worse-off economic groups who have been able to migrate.

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[19]Inthe past twentieth century, the urban population in Bangladesh grew from 0.70 million to31.07 million, an increase of more than forty-fold (BBS, 2008). In contrast, the population ofrural areas increased nearly four-fold (from 28.2 million to 103.1 million). The proportion ofpeople living in urban areas rose from 2.4% in 1901 to 8.8% in 1974 and reached 23.8% in2001 (BBS, 2008).

According to Bureau of Manpower, Employment and Training (BMET) data, from 1976 to 2014, almost 9.14 million Bangladeshis have gone abroad as short term migrants. However there is no data on returnees. Since 2010 around 400,000 to 600,000 people are migrating each year. In 2014, 425,684 people migrated internationally from Bangladesh[20].

Gendered dimension: Bangladeshi overseas labour migrants are overwhelmingly male. During the period 1991 to 2003 women constituted less than 1% of the total migrants from Bangladesh. (Siddiqui: 2001, 2004; Yasmin: 2010).

But since 2006 after lifting of restriction from female workers number of female migrants has increased tremendously. In 2010 the women migrants were 6.36 percent of the total migrant population of Bangladesh (See table 4: appendix 1 & Figure 3: appendix 2). In 2014, 76007 women migrated internationally, which is 17.85% of the total migrants. In 2013, it was 56,400 is equal to 13.78% of the total migrants. According to Bureau of Manpower Employment and Training, Bangladesh since 1991 to 2014 a total 352,269 women migrated in various international destinations[21]. Bulk of the Bangladeshi migrants both men and women are involved in low and semi-skilled jobs.

Origins and destinations in case of internal migrants

One of the few quantitative sources, the Centre for Urban Studies 2005 census of low income settlements finds that a large proportion of slum residents in the city corporation towns had migrated from other districts or their rural hinterlands. As illustrated in Table 1, the proportion of migrants within slums areas varies but is generally high; ranging from 53% in Dhaka (column 1) to 70% in Khulna and Rajshahi (columns 4 and 5). Long distance movements (shown by underlined text) are a major proportion in Dhaka but are rare elsewhere. Coastal belt districts (an area plagued by cyclone and sea flooding) figure highly, particularly in Dhaka (red bold text) and in Khulna and Barisal (columns 1, 5 and 6). It is, however, worth noting these figures are estimated at settlement level and therefore somewhat approximate.

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[20]http://www.bmet.gov.bd/BMET/viewStatReport.action?reportnumber=18
[21]http://www.bmet.gov.bd/BMET/stattisticalDataAction

Table 1: Major Districts of Origin of Slum Dwellers by City Corporation (source: CUS, 2006)[8]

1	2	3	4	5	6
Dhaka (53%)	Chittagong (54%)	Sylhet (59%)	Rajshahi (70%)	Khulna (70%)	Barisal (65%)
Barisal (23%)	Chittagong (20%)	Mymensingh (16%)	Rajshahi (70%)	Barisal (36%)	Barisal (65%)
Faridpur (9%)	Comilla (19%)	Sunamganj (14%)		Bagerhat (18%)	
Comilla (9%)	Noakhali (15%)	Comilla (11%)		Faridpur (17%)	
Mymensingh (7%)		Rangpur (10%)			
Rangpur (5%)		Hobiganj (10%)			

Key: *Underlining – Out of Division migrants; Red Bold – Coastal belt migrants; Green italics – northern environmentally challenged (Haor and Monga).*

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) posits that like many other countries Bangladesh scenario also tells us about the concentration of migration towards big cities and people also commuting from well connected rural origin. The study found that Two fifths of the migrants migrated to the capital city, about 10% migrants were found to migrate to Chittagong city, 3.8% migrated to Rajshahi/Khulna/Rangpur cities and 5.1% migrated toBarisal/Sylhet cities (Figure 4.9). It is an interesting finding of the Hossain, Kazal and Ahmed (2013)' study that about 31% migrants migrated to district headquarters and about 10% migrated to upazilla headquarters. Regarding this pattern they opined that it is a new trend in migration history of Bangladesh and probable reasoning of this finding is that district-based and upazilla-based growth centers are gradually getting developed providing opportunities for life and livelihood that are alternatives to those already available in divisional big cities including capital city. Moreover, the potential migrants have a tendency to choose the hassle-free living in these medium and small towns avoiding the tedious living in big cities with the more or less optimum fulfilment of their expectations. The study also depicts that migration is higher from environmentally fragile areas. This means many of them migrated due to environmental shocks and stresses such as riverbank/coastal erosion, flood, salinity etc.

The primary geographical origins of migrants are the central parts of Bangladesh, with more than 90 percent of poor migrants coming from the districts of Barisal, Comilla, Dhaka, and Faridpur (Afsar: 2002). Those districts are generally not the most impoverished in terms of agricultural productivity; but they have land-scarcity and are flood-prone. The regions also have fairly easy access to destination cities (Afsar: 2002; Islam: 2003). Seasonal Migrants are mainly originated from North-West region of Bangladesh i.e. Rangpur, Gaibandha, Nilphamari, and Kurigrammoslty during lean harvest or Monga period (Afsar: 2005). A large number of temporary migration also takes place from Mymensingh, Jamalpur, Netrokona and the vulnerable river bank erosion areas, i.e. Sirajgonj and Pabna (Abrar and Azad: 2003). In recent times, the coastal areas of Bangladesh, i.e. Satkhira, Barguna, Khulna, Pathuakhali, Bhola have also experienced a significant number of people's outflow

from their places of origin due to frequent visits of cyclones with tidal waves. Migration from coastal districts takes the form of intra district, inter-districts and interdivisional depending on the availability of jobs, and social network of migrants. Several studies found that Dhaka, the capital city is the most attractive location for all types of migrants (Hussain: 1996, Afsar: 2001). The industrial zones in Gazipur, Narayanganj districts and the metropolitan cities, i.e Chittagong, Sylhet are also pulling a large number of migrants (Afsar:2005).

Siddiqui and Mahmud (2014) found that the movements of internal migrants covered all 64 districts. Dhaka and Chittagong are the two major destinations. Dhaka alone accounted for 58% of internal migrants. These two cities are equally attractive as destinations for both males and females.[22]

A study found that 47 percent of men moved to larger industrial areas, while 45 percent of women went to non-industrial areas. This supports the phenomena that women tend to stay in their respective geographical spaces, frequently because they move for marriage (Bhuyan et. al: 2001). Manufacturing and services have now emerged as important sectors for women's work. The Ready Made Garment (RMG) sector went from 2 percent of female labor in 1981-82 to 30 percent in 1997-98 (Afsar: 2004). Studies found that 90 percent of workers in RMG are migrants from rural areas, and 70 percent of them are women (Afsar 2004; 2005). Apart from formal sector employment, male migrants also work as gatekeepers, rickshaw pullers, and day labourers. While their women counterpart work as domestic workers or housemaids in the urban households, day labourers, street workers, school or office cleaner, cooks, hospital ayas and low status office workers (Hussain: 1996; Afsar: 2000). A section of migrants are also self employed; set up small businesses, i.e. tea stall, small cloth shops over foot paths, and petty trader (Afsar: 2000).

Origin and destination areas of International Migrants

In 2014, major migrant **source areas** were Comilla (9.99%), Chittagong (6.62%), Tangail (5.27%) Brahmanbaria (5.22%), greater Dhaka (4.34%), Chandpur(3.77%), Noakhali (3.23%). Munshiganj (2.79%), Narshingdi (2.68%) and Faridpur (2.63%) (Siddiqui, T. and Anas, A. 2015)[23]. Female mostly originates from greater Dhaka, and Comilla. People of climate change vulnerable districts did not take part in short term international labour market in the past in a large extent. It is only recently people of some of these areas started to migrate internationally. Nevertheless, international migration from cyclone and riverbank erosion prone[24] areas of Satkhira, Bagerhaat, Barisal, Barguna, Patuakhali, Bhola and drought and poverty prone areas of North Bengal such as Naogaon, Chapainawabganj, Gaibandha, Rangpur, Kurigram, Panchagarh is very lowest in number. Lack of migration from these districts may have been caused by lack of ability of prospective migrants to bear the upfront cost or absence of social network (Siddiqui, T. and Anas, A. 2015)

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[22] Siddiqui, T. and Mahmud, RA (2014) Impact of Migration on Poverty and Local Development in Bangladesh, Dhaka:RMMRU 2014

[23]Siddiqui, T. and Anas, A (2015) *Labour Migration From Bangladesh 2014: Achievements and Challenges.* Dhaka:RMMRU

[24]Though the causality between climate stress and short term international migration has not been studied yet, correlation can be seen in the timeframe of climatic stress and beginning of international labour mobility from some of these areas

In 2012, major migrant source areas were Chittagong (11.80%), Comilla (11.28%), Brahmanbaria (5.06%), Noakhali (4.71%), Chandpur(4.40%), Tangail (4.38) and greater Dhaka (3.72%) (Siddiqui, T. and Sultana, M. 2013) [25]. Female mostly originates from greater Dhaka, and Comilla.

Bangladeshi short term contract workers (both male and female) are mainly concentrated in the Middle Eastern and South East Asian Countries (Aminuzzaman: 2008; Siddiqui: 2009). In 2014, 84% of the international migrants from Bangladesh migrated to various Middle Eastern countries. Since 1976 to 2014, the migration rate in the Middle Eastern countries out of all destinations is around 82%. Around 18% migrated to the Southeast Asian countries in the period of 1976-2014. Saudi Arabia, UAE, Qatar, Kuwait, Bahrain, Oman, Malaysia, Korea and Singapore are some of the major destination countries. Though for many years Saudi Arabia and UAE were ranked as 1st and 2nd or vice versa in terms of destination countries of Bangladesh but in recent years number of migration to these two countries have reduced sharply. In 2014, Oman ranked first in terms of destination countries of Bangladesh and Qatar ranked second, with101,882 and 84,709 numbers of people migrating in these two countries respectively.

Siddiqui and Mahmud (2014) study on Impact of Migration on Poverty and Development found that 13 countries account for 95% of international migrants' destinations. However, the destinations of male and female migrants differ in some cases. While 30% of male Short Term International Migrants (STIMs) went to Saudi Arabia, only 6% of female went to that country. However, the percentage of male-female respondents to UAE is at par (25% for both). Lebanon is the major destination of female migrants, but receives low levels of male migrants from Bangladesh.

A baseline survey on the major source districts shows that there is a correlation between the destination and source areas. Majority of the people from Chittagong and Comilla go to Saudi Arabia. Migrants from Dhaka and Tangail mostly go to Singapore and Malaysia. It appears that social network of friends and relatives as well as informal dalals result in chain migration from source to destination areas.

Women mostly migrate to Lebanon, Jordan, UAE, Oman, Qatar and Mauritius as domestic and manufacturing worker. (Siddiqui: 2001, 2004; Siddiqui ed. 2005; Siddiqui and Abrar: 2002, Abrar and Siddiqui: 2003; Yasmin: 2010).

Push and pull factors (economic/social/environmental)

Most of the existing literature identifies economic forces as underpinning the strongest population movements, and especially in driving migration to the core urban centres of Dhaka and Chittagong but many other literatures mentioned about social, demographic, political as well as environmental drivers of migration as well. Afsar (2003) identified a decline in the farming income of village households from 59 to 44 per cent between1987-1988 and 1999-2000 has contributed to increased rural-urban migration. The BIDS Sample Panel Household Survey (2008) survey also reflected the fact that migration for finding works has been found to increase over time. The BIDS (2008) panel dataset found 52% of migrants cited they had migrated to find jobs, this is an increase of the 34% in 1988 (Rural Economy and Livelihood).

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[25]Siddiqui, T. and Sultana, M (2013) *Labour Migration From Bangladesh 2012: Achievements and Challenges.* Dhaka:RMMRU

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) found that major causes of migration are wage differentials, population pressure, reluctance towards on-farm activities, worsening agricultural commodity prices, environmental limits like river erosion, better facilities for education in urban areas, better employment opportunities in urban areas. Their study also provides analysis of weight of different factors on the decision making behind internal migration. Around one third of internal migrants in the survey migrated due to poverty and or food insecurity, one third migrated due to unemployment and around one quarter migrated due to poor facilities for quality education in rural areas. Their study indicates that little less than one-quarter migrated due to the poor facilities for quality education in the rural areas.

Apart from economic factors, the decision to migrate may be influenced by many non-economic factors, such as personal maladjustment in the family or community. A recent GIZ-RMMRU (2014) study found that at least 12-15% people are forced to migrate due to socio factors i.e. getting married without family consent and deprivation from family inheritances, divorce of parents, conflict with stepmother, sell of homestead for giving dowry in daughters' marriage (landlessness) etc.

Benjamin Etzold, Ahsan Uddin Ahmed, Selim Reza Hassan & SharmindNeelormi, 'Climate and Development (2013)' in their study found that there is a distinct rhythm in Bangladesh's internal labour migration system that is largely structured by the demand for agricultural labourers and informal workers at the respective destinations, but also influenced by the seasonality of hunger in northern Bangladesh. If rainfall-sensitive livelihoods in Kurigram district have been negatively affected by too much or too little rain at the wrong time, some households can make use of the existing migration systems and thereby cope with such a temporary crisis.[26]

World Bank (2012) study also identified some push and pull factors behind short term international contract migration from Bangladesh. The study mentioned that this type of migration often occurs due to limited employment opportunities within Bangladesh, coupled with a rise in demand for unskilled labour in the oil-rich Middle East to work on infrastructure development projects and in Southeast Asia in the non-traded services sector.

Environmental challenges on migratory movements have long been a feature of the Bangladeshi discourse on internal migration, and these pressures are frequently cited (see for example Walsham 2009). Indeed, many see these pressures as the defining feature of movements within Bangladesh and are exacerbated by climate change. Recently, RMMRU and the Sussex Centre for Migration Research (SCMR) of the University of Sussex have completed a research on climate change related migration in Bangladesh with the support of Climate and Development Knowledge Network (CDKN). The research found that there are important links between migration and climatic stresses. However, it is difficult to distinguish the role of climate change vis-a-vis other social, economic and political factors in driving migration. The research concluded that migration is a socially acceptable behaviour that occurs in the context of perceived environmental change and climate variability. Migration decisions are mediated by a set of 'behavioural factors' that assesses the efficacy of

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[26]Benjamin Etzold , Ahsan Uddin Ahmed , Selim Reza Hassan & Sharmind Neelormi, 'Climate and Development (2013): Clouds gather in the sky, but no rain falls. Vulnerability to rainfall variability and food insecurity in Northern Bangladesh and its effects on migration, Climate and Development, DOI: 10.1080/17565529.2013.833078http://dx.doi.org/10.1080/17565529.2013.833078

different responses to opportunities and challenges, their socio-cultural acceptance and the ability to respond successfully (Martin et al., 2014).

From the quantitative analysis, the research found that on an average migrant and non-migrant households relocated their residence 2.61 times; 75 percent of all households both migrant and non-migrant experienced different types of climatic stresses in their dwellings in different periods of their lives; 50 percent of them experienced multiple stresses. Flooding, cyclones, riverbank/coastal erosion, salinisation, water-logging, drought/lack of rain, erratic rain, declining land fertility and reduced crop yields are the major stresses that they faced. Yet the respondents did not think they have moved due to climatic stresses. Rather 27 percent thought they moved for lack of work in the origin areas, and availability of work in destination areas. 34.5% stated that they moved to earn an income and live a better life. 9.1% attributed to poverty as their reason for migration whereas others identified marriage, study and accompanying families as their major reasons for migration. Only 10 percent of the respondents attributed primary reason of their migration to climatic stresses. The study captured the livelihood changes of the respondents over the last forty years. It was found that villagers in areas affected by increasing climatic stresses and shocks are diversifying their traditional livelihood strategies by migrating. Environmental factors, including climatic stresses and shocks, often make such shifts necessary. However, this study also found that among the various trends of migration displacement and short-term internal migration are the most sensitive to climate change and variability. (RMMRU-SCMR, 2013).

According to the International Organization for Migration (IOM), about 70% of the slum dwellers of Dhaka City have come to Dhaka after facing some kind of environmental hardship in their origin (Mahajan, 2010). Centre for Urban Studies (CUS); (2007) also finds within its census of urban low income settlements that that migrants from the coastal belt and the northern Monga-effected districts account for large proportion of slum dwellers within Dhaka (coastal areas 31.9 % and Monga-effected 4.6%[27]).

Much of the country is in the Ganges, Brahmaputra, and Meghna delta with two-thirds of its area less than 5 meters above the mean sea level, exposed to flooding from rain and river overflows. Although only 7 per cent of the basins of these rivers lie in Bangladesh, upstream rains could add to their massive combined flow and lead to widespread floods. Black et al., 2008 study given a count that in Bangladesh, severe flooding caused three-thousand people to leave their residences daily, heading to Dhaka, the capital.

Thus the pull factors of rural-urban migration may have remained similar, however, in the climate stressed areas economic factors of individuals are being reconstructed with the changed economic asset and livelihood status due to climate events. Therefore, a large segment of economic determinants of migration for many migrants of climate affected areas are created by environmental drivers. So, economic and environmental drivers often overlap.

From the discussion above, one can argue that migration literatures so far concentrated on economic and social determinants. Recently, climatic factors are being started to be analysed. As this analysis shows that some of the migration flows are more sensitive to climate variability and

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[27] Marshall R. and Rahman S. (2012); Internal Migration in Bangladesh: Character, Drivers and Policy Issues; UNDP, Bangladesh

change than others, but often it is hard to find clear correlation between climate and migration as the whole phenomenon involves complex linkages, interactions and uncertainties. SCMR-RMMRU (2013) research has found that the people of these vulnerable regions often use migration as an important copping mechanism in the context of climate change.

Climatic stresses of sending areas (Negative, degrading and risky aspects of the origin areas)

Stern Review raised concerned that both sea-level rise and other climate-induced changes could submerge one-fifth of the current territory of Bangladesh (Stern, 2007). Sea level rise has already caused land erosion, increased salinity in coastal areas, and affected biodiversity leading to reduction of food production and fisheries in Bangladesh. Current sea-level rise trend suggests that 1 meter increase in sea level will submerge around 18 percent of the country's coastal belt (Stern, 2007; Sarwar and Khan, 2007). One-quarter of Bangladesh's population (~35 million people) lives within the coastal floodplain (Ali;2000)[28]. In fact, more than one million people have already lost their homes -70 percent of these people became landless due to river erosion (Khatun, M. 2013[29]).

However, climate change affects some regions more than the others. Northwestern andSouthwestern Bangladesh are more vulnerable to the climate change induced environmental disasters as North gets severe droughts and South gets floods, cyclones, tidal surges, and saline intrusion (Akter, 2009). Bangladesh went through six severe floods in last 25 years causing 45million people to be internally displaced (International Organization for Migration, 2010).

North-western part of the country encounters more droughts than the other parts of the country. This has an enormous impact on the crop production as the production of all wintercrops goes down with the arrival of droughts. Droughts also come with land degradation, low livestock population, unemployment, and malnutrition (Chowdhury, 2010).One of the most vulnerable districts to droughts in Bangladesh is Rangpur. Around 5 percent of the slum population living in Dhaka comes from Rangpur, affected by severe drought.

A recent research shows that each year over 0.1% people become homeless due to river erosion (Akter, 2009). CEGIS (2005) evaluation report mentioned that the riverbank erosion is higher along thecoast of the Jamuna River (87,790 hectares) compared to the Padma River (29,390 hectares)(Ministry of Food and Disaster Management, 2007). Hutton and Haque (2004) found out thatmore than 40 percent of their study respondents had left their homes at least three to four times, 36 percent moved between 5 to 10 times, and 14 percent displaced at least 10 times. Only a few reported displacement once or twice (5 percent and 8 percent).

Akter also estimated that the flood, drought, and cyclone would displace 47 million people by 2009. The figure will rise to 78 million by 2020.

Marshall R. and Rahman S. (2012) study recognized three areas and selected districtswhich facing multiple challenged environments in Bangladesh. These are- The coastal zone, which is beset with

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[28] Ali, A. (2000): 'Vulnerability of Bangladesh coastal region to climate change with adaptation options', Dhaka: Bangladesh Space Research and Remote Sensing Organisation (SPARRSO), available from http://www.survas.mdx.ac.uk/pdfs/3anwaral.pdf

[29] Mahmuda Khatun (2013), Climate Change and Migration in Bangladesh: Golden Bengal to Land of Disasters; Bangladesh e-Journal of Sociology. Volume 10, Number 2. July 2013

cyclone and other climatic risks and slow onset challenges such as salinization and sea water incursion[30];The Haor areas in the northeast[31], challenged by seasonal severe flooding and remoteness; and the Monga-affected districts in the northwest[32] faced with seasonal drought and an inability to engage in agricultural activities for 3 to 4 months of the year.

The intensity of migration due to these climatic and environmental risks is done through comparison of cross break data for the effected districts with national population change averages. The coastal zone shows strikingly lower population growth versus the national average, and therefore, is the only category to offer prima facie evidence of out-migration. In contrast, the Hoar region actually experiences above average population growth; especially in the second decade and for urban areas (see Table in Annex Column 3). Further examination of the data show this is probably driven by the inclusion of Sylhet district which has one of the largest population gains nationally (driven by economic not environmental factors). Regardless, there is no evidence of population losses in the other districts. The Monga region shows close to average growth, in some categories marginally above trend, in others marginally below (see Column 4).

Negative impacts of Development interventions in the sending areas

Swain (1996) has drawn correlation with construction of Farakka Barrage and migration from surrounding areas[33].

Positive or negative determinant that keeps people in place or create tendency not to migrate

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh' (2013)

GIZ-RMMRU (2014) study found among the determinants of not to migrate dominants are; unknowing of city life i.e. street, location, never experiencing traveling to other districts, lack of social network, fear of losing of land possession (agricultural/homestead); a sense of family disintegration; fear of insecurity of women and children and Increase burden of women and children chores etc.

Martin, et al.(2003) found that economic reality has changed in some rural areas of Bangladesh over the last decade or more. Many areas of Bangladesh are undergoing an agricultural boom in fish and chicken hatcheries, maize production, vegetable production, etc. These booms may well come at the expense of future environmental distress, but at present there are rural areas in Bangladesh that are experiencing an economic rebirth which also keeps some people in their rural place.

Positive aspects of the receiving areas

Research on reasons for urban areas as a choice of destination of internal migrants by Hossain, Kazal and Ahmed (2013) have found that urban areas were selected by 40% of migrants because of better

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[30] Coastal districts: Barguna, Bhola, Patuakhali, Cox's Bazaar, Noakhali, Bagerhat, Khulna, and Satkhira
[31] Haordistrcts: Habiganj, Maulvibazar, Sunamganj and Sylhet.
[32] Monga-affected districts Jamalpur, Netrokona, Sirajganj, Gaibandha, Kurigram, Nilphamar, and Rangpur.
[33] Swain (1996) Displacing the conflict: Environmental Destruction in Bangladesh and Ethnic Conflict in India, Journal of Peace Research 33 (2) 189 -202

job opportunities, 23% of migrants because of better schooling in urban areas, 14% because of wage differentials in urban areas and 14% because they had a network or relatives in the urban area.

Migrants in urban centres find jobs both in formal and informal sectors. More than 2.8 million work in the garments sector alone, eighty percent of whom are young women. Brick-kin, leather processing, jute, rerolling mills and other manufacturing sectors also draw internal migrants in the formal sector. Majority migrants in the urban areas work in the informal economy that comprises casual labours, street vendors, rickshaw-pullers, domestic workers etc. As early as in 2005, there were 500,000 rickshaw pullers working in Dhaka city[34].

Negative aspects of the receiving areas

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) told the negative aspects of the receiving areas are unplanned urbanization; Growth of slums; Environment pollution; and ultimately, ill consequences on transport, healthcare & other service sector, unhygienic housing and poor live standard

Impact of migration (social, economic and cultural aspects)

Positive Impact At origin: Poverty reduction; Gain of assets; Human resource development; Food security at household level; Women empowerment; Fertility control; and Change in family composition (enhance dwelling space). Growth in short term international labour migration has also resulted in increased income of rural families. (RMMRU 2014)

Positive Impact at Destination: Urban growth; Availability of workers for urban services; and Availability of manpower for industrial, especially export-oriented manufacturing, development. (Hossain, Kazal and Ahmed, 2013).

Negative Impact At origin: Labour depletion in a few cases; Loss of agricultural productivity; Family disintegration; and Increase of women and children chores (Hossain, Kazal and Ahmed, 2013).

In Bangladesh overseas Labour migration has brought employment for both male and female. Siddiqui's study (2001) showed that before migration 55.5% females were unemployed. Due to migration 100% got employment and on an average they worked for 3.23 years.

Migrant contributes to the aggregate family income. Siddiqui's Study (2002) found that 47 percent female migrants were contributing 60-100 percent of their family income. In other words almost half of the women who migrated abroad became the principal income earner during the migration period.

Profiling of those who stay

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) study also tells us the profile of the rural household population. The study covered 2,255 origin households from 60 rural clusters had a total population of 12,379. Of them, 53% were male and 47% were female. Approximately 29% of the population were below 15 years of

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[34]Martin, M., M. Billah, T. Siddiqui, C. Abrar, K. Kniveton and R. Black (2013), 'Climate Change, Migration and Cognition in an Asian Megadelta', Brighton: Sussex Centre for Migration Research and Dhaka: Refugee and Migratory Movements Research Unit; Shamsuddoha et al (2012) Displacement and Migration from Climate Hot-spots in Bangladesh Causes and Consequences, Dhaka : Actionaid IOM 2010, SCMR and RMMRU 2012, Action aid 2012; IOM (2010) Assessing the Evidence: Environment, Climate Change and Migration in Bangladesh, Geneva:IOM.

age and 4.4% were 65 years or above. The dependency ratio was estimated at 52.02, which was lower than the national figure (65.3) presumably because of the inclusion of higher number of migrant households in the sample. Though women in general are engaged in domestic activities contributing to household income generation, a few of them were found to have been involved in economic activities. Approximately 21% of the adult men earned incomes from agriculture, about 22% were unemployed and the rest earned from urban-based activities. Roughly 21% of them had no schooling, 36% had primary-level education (1-5 years of schooling), around 39% completed high school or college education (12 years of schooling) and only 5% completed a graduate level education.

The study shows that 55.6% of the population fell into the functionally landless category (households having less than 50 decimals of landholdings), while 2.4% households owned no land including homestead, and 11% owned land of 250 decimals or more. The proportion of functionally landless households was found higher for non-migrant households and data shows that average landholding per household was 114.3 decimals for migrant households and 73.9 decimals for non-migrant households.

Profiling of those who migrate

Socio-economic composition of migrants
At the micro-level, the probability of an individual migrating may be affected by various social-economic factors. This section explores which socio-economic factors are linked to migration.

Gender
The vast majority of international migrants are male; the IOM (2009) Survey finds that 98 per cent of international migrants are male (IOM, 2010) and the HIES (2010) finds that 97.17 per cent of international migrants are male. Both surveys therefore indicate that female international migration is less than 5% of total international migration.The lack of international female migrants is arguably because females are largely excluded from migration due to socio-cultural norms and a preventative regulatory regime in Bangladesh. However, in recent years, female migration has been an increasing trend: according to Bangladesh Bureau of Manpower Employment and Training (BMET) data. In 2014, female migration constituted 17% of the total migrants. Until 2003, the share of female migrants was less than 1% due to a government ban.The increase in female migration is arguably due to the increasing demand for female migrants in the service-sector industries in developed countries.

In terms of a gender breakdown for internal migrants, it can be noted that male internal migration is more common than female internal migration. Sharma and Zaman (2009) find that just over 75% of internal migrants are male, whilst Hossain, Kazal and Ahmed (2013)find that 83% if internal migrants are male.However the rate of female internal migration is relatively high compared to female international migration, indeed 60.17% of total female migrants comprise of internal migrants (HIES 2010).

Age
The evidence on the age of migrants finds that migrants tend to be relatively young. Sharma and Zaman (2009) find the average age of international migrants to be 31, this is very similar to the IOM

(2009) Survey which finds that the average age of international migrants to be 32 (IOM, 2010).Internal migrants are found to have a lower average age of 25 (Sharma and Zaman, 2009).

The relationship between age and international migration has a non-linear relationship, with migration probability first increasing with age before reaching a threshold age of 43.3 years old (World Bank, 2012).

A number of micro studies conducted in areas with high migration have shown that the majority of migrants are between 15 to 30 years of age when they first migrated (Siddiqui and Abrar: 2002; Afsar et.al., 2002; Murshid et. al. 2002, Siddiqui: 2004; Yasmin: 2010) and a substantial majority were either illiterate or possessed educational background from class one to secondary school certificate (SSC).

Hossain, Kazal and Ahmed; "Rural-urban Migration and its Implications for Food Security in Bangladesh'(2013) study stated that mainly young people strive for migration.

Bhuyan et al. (2001) interviewed about 500 migrants in Dhaka city, all of whom were 15 years old or older and had migrated to Dhaka in the previous 10 years. Hossain (2001) found that majority of migrants were very young at the time of their first migration. Maximum numbers of migrants were of ages between 20 and 24 years (29.5 per cent) at the time of migration, followed by those (21.6 per cent) having age between 15 and 19 years.

Education
Does an individual's education have a relationship with the probability of them migrating? In terms of the education levels of migrants the IOM (2009)Survey found that 75% of migrants had completed primary schooling, whilst only 13% of migrants had completed secondary education and 5% had obtained a degree or above. 10% of migrants had never completed school.World Bank (2012) finds that education has a non-linear relationship with migration, where the probability of migrating first increases with the level of education and then declines at the threshold value of 9 years of education. This trend is arguably occurring because the majority of Bangladeshi international migrants are low skilled manual workers, who do not need high levels of education to engage in contract occupations abroad (Sharma and Zaman, 2009).In terms of internal migrants education levels,Sharma and zaman (2009) find that there are no significant differences in education levels between domestic and international migrants.

Socio-economic composition of migrant households
In addition to socio-economic factors that are related to whether an individual migrates; this section explores various socio-economic indicators at the household level which may also be related to the probability of a household having a migrant.

Demographic features
Interestingly, household size in terms of number of individuals living in a household is positively associated with international migration. The BIDS Sample Panel Household Survey Bangladesh (2008) finds that the average size of households with at least one international migrant is 8.0, whereas the average size of households with at least one internal migrant is 6.1 and the average size of non-migrant households is 6.7. Two reasons are argued for this contrasting size of HH; presence of higher number of non-relatives person in migrant households and parents staying with siblings in

migrant households is higher for overseas migrant households (Hossain and Bayes, 2009). Supporting findings are made by Mahmood (1990) who finds from a 1990 migration survey in Bangladesh that the average international migrant family size is 8.83, which is significantly higher than the 1990 national average of 5.9 members per household.

The BIDS Sample Panel Household Survey Bangladesh also finds that the number of females in the household also has a corelation with the level of migration; non-migrant households have relatively more women than internal and international migrant households (Hossain and Bayes, 2009). This is in agreement with Hossain, Kazal and Ahmed (2013) who find that the average share of male/female at household level is positively and significantly related to the level of internal migration.

Another household demographic characteristic associated with migration is the household fertility rate, which is measured by the child-woman ratio in the household. The child-woman ratio is very high in the cases of both international and non-migrant households, but lower in the case of internal migrant households (Hossain and Bayes, 2009)

Household economic status

BIDS Sample Panel Household Survey Bangladesh finds that relatively prosperous households are more likely to have an international migrant member. Household prosperity is proxied by whether a household lives in a pucca or semi-pucca house, which are both associated with a household being relatively wealthy. The results find that 70% of international migrant households have Pucca and semi pucca households, whereas 33% of internal migrant households have pucca and semi-pucca households, only 20% of non-migrant households own pucca and non-pucca (Hossain and Bayes, 2009).

In support of the Hossain and Bayes (2009) finding that household prosperity is linked to the household having an international migrant is Sharma and Zaman (2009) who find that land ownership, which they argue is a proxy for wealth, has a positive effect on probability of international migration. This, they argue is because international migration can require high initial costs and therefore, wealthier households will be more able to finance the costs of migration. Furthermore, as mentioned previously, migration financing strategies often involve household selling assets, therefore households with a greater amount of land may be able to mortgage or sell some of their land to finance migration. Furthermore, households with land may employ manual labourers and not family members, giving family members to opportunity to seek higher earning by migration.

In terms of a comparison of landholdings between internal migrant households and non-migrant households Hossain, Kazal and Ahmed (2013) find that the average landholding size per internal migrant household was 114.3 decimals whilst for non-migrant households the average landholding size was 73.9 decimals. The proportion of functionally landless households (having less than 50 decimals) was found higher for non-migrant households compared to migrant households. Furthermore, Hossain, Kazal and Ahmed (2013) find that internal migrants owned more durable goods and had households with more facilities than non-migrant households.

In light of these findings an addition to the migration literature would be researching remittance size and remittance expenditure patterns from migrants that are from wealthier compared to migrants that are from less well-off backgrounds.

Occupational patterns

Hossain and Bayes (2009) analyse the occupational patterns of migrant and non-migrant households, they look at the proportion of household members engaged in different occupations and classify occupations as being primary, where an occupation is the main source of income, and secondary, where occupations are provide supplementary income. They find that agriculture is the main occupation of members of non-migrant households, as both primary and secondary occupations. The major non-agricultural activities for these households are non-agricultural labour and business. For migrant households more than 75% of their labour force is engaged in non-agricultural activities as a major occupation. Although a large proportion of the internal migrant households still engage in agricultural labour.

A further occupation pattern related to migration is owning a non-farm business; Sharma and Zaman (2009) find that households that own non-farm businesses are less likely to have a member migrate. They argue that a reason for this is that business owners employ household members, making them less likely to migrate and that non-farm business earnings may be high to the extent that incentives to migrate are low.

Finally Hossain and Bayes (2009) compare the labour participation rates of migrant and non-migrant households, they find that international migrant households have relatively lower labour force participation rates compared to internal migrant and non-migrant households.

The World Bank (2012) finds majority of male migrants are employed in factories, agricultural sites, and construction sites. In terms of a breakdown; 24% of migrants are employed as welding machine operators, 17% in general labour, 7% in agricultural labour and 6% are construction workers. 2% of migrants are unemployed. On analysing of female migrant occupations, World Bank (2012) finds that female Bangladeshi international migrants are mainly involved in domestic work followed by manufacturing such as in garments.

During the early years of short term contract migration the proportion of professional and skilled workers was higher. In the recent times, Bangladeshi migrant workers are mainly occupied in the low and semi skilled jobs. Male migrants work as manufacturing or garment workers, construction workers, drivers, cleaner, computer operator, electrician, welder, tailor and mason (Aminuzzaman: 2008; Mistry: 2008; Siddiqui: 2009). During 1991-2004, 20,825 female migrants went abroad as unskilled and semi skilled workers. (Afsar: 2000; Murshid et al. 2002; Siddiqui &Abrar: 2003). M Aminuzzaman (2008) showed that almost 50 percent of female workers are unskilled, work as housemaids and cleaners while 44 percent of these female migrant workers are semi skilled or garment workers and factory workers(See table 5: appendix 1). Just about 5.74 percent are nurses.

Migrant earnings

The World Bank (2012) finds that the average monthly earnings for international migrants is BDT 21,363 ($309) per month. Whilst, the IOM (2010) Survey has found that more than half of Bangladeshi migrant workers earn between BDT 10,000 ($148) and BDT 20,000 ($295) per month. One fifth of international migrants earn less than BDT 10,000 ($148) per month.

The average monthly income of male migrants in gulf countries is US$ 237 (BDT 16, 610 taka) and for women it is US$ 102 (BDT 7142 taka). The annual average income of the migrants was estimated to be 39 percent higher than the migration cost and 60 percent managed to earn more than their

migration cost within a year of their migration. The proportion of female who earned annual incomes was higher than their male counterpart (Afsar: 2009).

In terms of an analysis on the earnings of low skilled and semi-skilled migrant workers, Asfar (2009) finds that low skilled international migrant workers do not earn over BDT 13,000 ($192) a month. However, despite low skilled workers earning at the bottom of salary ranges in destination countries, they are likely to earn more than they would in Bangladesh (World Bank, 2012). Domestic wages for unskilled workers in Bangladesh are lower than their equivalents overseas; the largest average monthly earnings within Bangladesh for males are (data from 2007) BDT 7,741 ($116) for drivers in roadtransport, followed by BDT5,920 ($89) forauditors and BDT 5,561 ($83) for medical assistants (World Bank, 2012). Therefore, migration can provide low skilled and semi-skilled Bangladeshi workers with an opportunity to increase earnings compared to what they could earn in Bangladesh.

Role of social networks in processing migration and role of social network in settling down in destination

Social network of migrants comprising kinship ties, neighbourhood friendship as well as informal intermediaries which has tremendous role in supporting new migration.

A further determinant of the level of internal migration is whether the household reports itself to be part of a migration network, Hossain, Kazal and Ahmed (2013) finds this to be positively and significantly related to internal migration. The job informants at the time of migration may play a vital role in migration decision since it works as migration network. The study indicates that family members (67.2%) were the main job informants at the time of migration, followed by relatives (18.6% by survey data) and neighbours/friends (9.7%). The findings indicate that 98.4% migrant households had migration network mostly in terms of informing opportunities and facilitating integration into the destination.

Social network which on its turn has reduced the cost of migration (Siddiqui 2014). Household members themselves undertook the primary initiative to locate the recruitment agent and initiate the process of migration. We also noted the important role of friends and relatives in securing employment and also in financing the upfront cost associated international migration. It is thus

likely that households that facilitate migration of its members may be more socially networked

than those that do not (Sharma and Zaman).

Flow of remittance (origin – destination) and volume of remittance

Growth in remittances over time

Level of remittances has been increasing over time. The World Bank (2012) has cited increasing stock of international migrants as a reason for growth in levels of remittances flowing into Bangladesh: there is a fairly robust relationship between the stock of migrants abroad and the level of remittances received. However, GDP per capita, exchange rate and international oil prices also matter at the aggregate level. Remittance growth peaked at 32.4% in the fiscal year of 2008 and accounted for 10.5% of GDP in the fiscal year of 2011 (World Bank, 2012).

Last year (2014) the country received US$ 14.50 billion remittances. In 2012, migrants remitted US$14.17 billion, which is 44 percent of the total remittances received by the 48 list developed countries[35]. The volume of remittance is six times more than the overseas development aid to the country and twelve times more than Foreign Direct Investment[36]. In 2008 around 5.8 million workers were employed overseas, remittance flows amounted to around 10% of GDP and Bangladesh is now among the top ten remittance-receiving countries globally (World Bank 2008a). Almost two-thirds of Bangladesh's remittances originate from the Middle East, followed by the United States.

The more prosperous regions in the Eastern part of the country have significantly more households receiving remittances than households residing in the Western part. For instance 25% of households in Chittagong division and 16% in Sylhet division receive remittances, while less than 5% did in Khulna, Rajshahi and Barisal division (World Bank 2008b)[37]. It is reported that migrants send remittance in regular intervals. Studies found that the majority of the workers remitted, on average, around 50 percent of their annual income back home. The average of sending remittance was increased by 6 percent between the periods 2002-2009 (Afsar et al. 2002; Afsar: 2009). Afsar study (2009) also found that almost 80 percent women send money home in relation to 88 percent of their male counterpart.

Remittance size
Average annual remittance size varies slightly in different survey; BIDS panel dataset finds in 2008 the average size of annual international remittance was BDT 122,229 ($1821). For the Sharma and Zaman (2009) Survey the mean annual remittance size for international migrants was BDT 102,102 ($1507). Sharma and Zaman (2009) find the medium annual remittance was significantly smaller than the mean, at BDT 70,000 ($1033), suggesting the mean is raised by a few very high remittance senders. The IOM (2010) survey finds that average pre-remittance yearly household income was BDT 64,454 ($948). Therefore, the average yearly remittance per household is roughly 1.5 times the household's yearly pre-remittance income (World Bank, 2012). This finding demonstrates that remittances can significantly augment a receiving household's income.

In terms of internal remittance size; BIDS Sample Panel Household Survey Bangladeshfinds that the average size of the annual remittance for internal migrants at BDT 21613 ($322), whilst the Hossain, Kazal and Ahmed (2013) find the annual average remittance size for internal migrants is higher at BDT 38882 ($488). However, overall, these values for average yearly internal remittance size are significantly lower in value than the average annual size of international remittances.

Determinants of remittances size
Migrants with a higher level of education are seen to remit more money back home; the World Bank (2012) finds that a migrant with secondary education is likely to remit BDT 30,000 ($441) more on average per year than a migrant without secondary education, whilst a migrant with higher education is likely to remit an average BDT 40,000 ($589) per year more than a migrant without

[35]The Least Developed Countries Report 2012: Harnessing Remittances and Diaspora Knowledge to Build Productive Capacities, available at http://unctad.org/en/PublicationsLibrary/ldc2012_en.pdf
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secondary education. However, further research could be done into looking at the determinants of remittances size, such as the nature of the migrant occupation, the experience of the migrant, the level of contact the migrant has with family and the country the migrant works in.

Frequency of remittances and sending methods
On average Sharma and Zaman (2009) find that remittances are sent 4 times a year. Modes by which remittances were sent were most commonly check or bank draft at 34%, whilst direct deposit to receivers account was also high at 22%. 24% of remittances were received through the two informal channels of hand delivery by friends or relatives or informal transfer agencies (hundi).

Migration patterns in the delta compare to migration patterns for the country

GBM delta or Bengal Delta: Two Himalayan rivers, the ganges and the brahmaputra, which drain to the bay of bengal as a combined river, carry the largest sediment load. These two rivers together with another non-Himalayan river, the meghna, have built one of the largest deltas in the world known as the Ganges-Brahmaputra Delta or the Bengal Delta. Conforming to the occupation of several river courses and shifting depocentres, the total deltaic coastline can be generalised as the western inactive delta and the eastern active Meghna deltaic plain. While the western inactive delta is relatively old, the Meghna deltaic plain is geologically very young. The western inactive delta lies between the latitudes of 21°15′N and 24°40′N and the longitudes of 88°0′E and 90°0′E and covers an area of about 31,500 sq km in Bangladesh. Broadly, it includes murshidabad (only the portion east of the Bhagirathi), nadia and 24-Paraganas of India and Meherpur, Kushtia, Chuadanga, Jhenaidaha, Magura, Jessore, Narail, Khulna, Satkhira and Bagerhat districts of Bangladesh. The eastern active delta lies between the latitudes of 23°50′N and 21°55′N and the longitudes of 89°10′E and 90°50′E and covers an area of about 15,000 sq km. The eastern active Ganges-Brahmaputra delta includes Rajbari, Faridpur, Shariatpur, Madaripur, Gopalganj, Lakshmipur, Pirojpur, Barisal, Jhalokati, Patuakhali, Barguna and Bhola districts of the country.

The average elevation of the delta in Khulna, Barisal, the southern part of Faridpur and the eastern part of Noakhali district is less than 2m. The delta areas of Bangladesh are densely populated, with a predominance of agricultural activities due to the high fertility of the soils. The livelihood of most people depends on the environmental conditions of the delta, in terms of land cultivation, fishing, navigation, common property resources (eg from the sundarbans mangrove forest), and other economic activities.

DECCMA Study Area
However, for DECCMA research the study area[38] is selected, as shown Figures 1 and 2, based on a 5-m contour line, which approximates the upper boundary of the study area. Southwest and southeast region of Bangladesh represent the Bangladeshi part of the delta, bounded by the districts of Jessore, Narail, Gopalganj, Madaripur, Sariatpur, Chandpur and Noakhali to the north (a total of 16

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[38]The factors that were considered in defining the boundary of the study area are whether it represents the majority of vulnerable part of the delta (i.e. predominantly coastal zone) (the bio-physical consideration) and whether receiving areas (for migrants) be also the part of the study area. Since four deltas are being studied in DECCMA project, it was also important that the basis for delineation is consistent across all four deltas.

districts in Bangladesh including Satkhira, Khulna, Bagerhat, Jalokhati, Pirojpur, Barguna, Patuakhali, Barisal, Bhola). North 24 Parganas and South 24 Parganas constitute Indian part of the GBM delta.
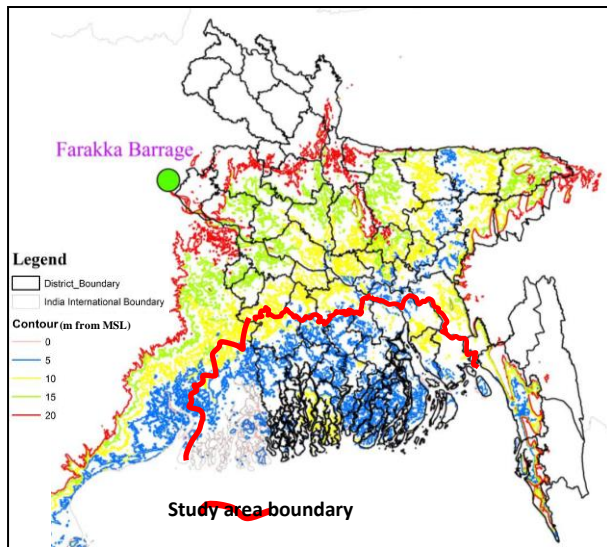
Figure 1: Delineation of study area (Bangladeshi part) in GBM delta
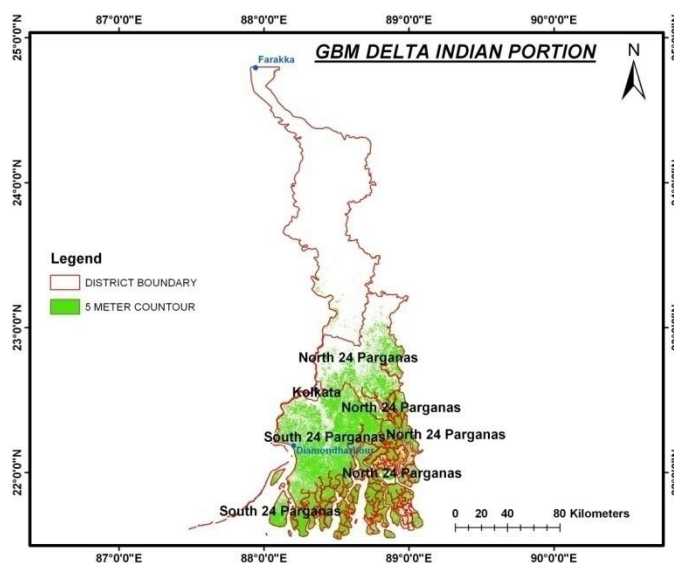
Figure 2: Delineation of study area (Indian part) in GBM delta

So selected study area for DECCMA (GBM Delta) are mainly the coastal region of GBM-Bengal delta. The whole coast runs parallel to the Bay of Bengal, with 710 km long coastline and covering 19 districts out of 64 in Bangladesh (CZPo, 2005). Our study selected 16 coastal districts. The coastal part of Bangladesh is known as a zone of multiple vulnerabilities as well as opportunities which covers 32% of the country's total land masses and 28% (35 million) of the total population, of them 52% households are functionally landless and poor (Islam, 2004; BBS, 2008b). The population would further increase to about 45 million by 2050 (Islam, 2004). 52% of these families are functionally

landless and poor (Islam, 2004; BBS, 2008b). Average population density of the zone is 743 per sq. km. (BBS, 2008b). Major economic activities are fishing, agriculture, shrimp farming, salt farming and tourism. The Sundarbans, the largest mangrove forest in the world also directly and indirectly provides subsistence for almost 10 million people (Islam and Haque, 2004).

There is scarcity of quality literature of migration in/from GBM delta. Nevertheless, some literature spell out about out-migration flow from delta districts. Mehdi Azam (2011)' in his Ph.D thesis titled "Factors Driving Environmentally Induced Migration in the Coastal Regions of Bangladesh: An Exploratory Study", submitted for the award of a Master of Science in Environmental Governance at the University of Freiburg, Germany, remarked that, the coastal region of Bangladesh is highly vulnerable to climate change, natural disasters and human-induced intervention due to its geographical location along the delta of the Ganges-Brahmaputra-Meghna Basin which originates from the Himalaya and ends in the Bay of Bengal. He carried out his study in the two selected vulnerable sub-districts Koyra and Paikgacha of Khulna districts in coastal Bangladesh and tried to explore and analyzes different local factors influencing environmental and socio-economic change to drive migration.

It concludes that shrimp farming led agricultural transformation has caused ecological disaster in the much of coastal delta region and side by side frequent coastal surges and flooding resulted salinity intrusion has become grave threats to local resilience with very few trees, livestock, grazing place and little or no rice cultivation remaining. This reduction of household resilience has shifted away vulnerable people to move outside territory in the urban, sub-urban and even other villages for job (e.g. paddy harvesting, rickshaw puller, day labour etc.) ranging from one week to a maximum of six months.

Azam (2011) study also finds that seasonal migration is a common trend for a long time for some people even though they have adequate food and livelihood security, but they migrate to strengthen household capital and savings when regular employment in their local area is not available. It is also clear that current situation is getting worse due to prolonged water logging and salinity; making people more and more vulnerable and hence seasonal migration is increasing. However, permanent migration is negligible, mainly for economic reasons and pulls factors, e.g. job, education, new land for landless. Due to allocation of government Khas land for landless people, some families moved to Rangamati (the hilly region of Bangladesh). The study found that those migrated to the city are living in the slums or low-cost housing of Dhaka and Khulna.

The preferred choice for the vulnerable people (1-2 family members and groups of people from the area) is to seasonally migrate to outside (urban, semi-urban, regionally even other villages) when work is not available in the locality. There is a group of specializations/choices for each of the work e.g. paddy owing and harvesting group, earth work group, brick field group and wood processing group; and they prefer to work on a contract basis.

Popular patterns of seasonal migration from Coastal districts

Migration period	Type of work	Length of Stay (week)	Destinations
December-January	*Boro*[17] paddy sowing	3 to 6	Gopalgonj, Faridpur, Madaripur, Narail, Netrokona, Sylhet, Noakhali, Jessore, Regional locations[18]
April- May	*Boro* paddy harvesting	3 to 6	
July-August	*Aman*[19] paddy sowing	3 to 6	Jessore, Magura, Narail, Regional locations
October-November to April-May	Brick field	20 to 24	Dhaka, Barisal, Narail, Khulna, Faridpur, Noakhali, Delhi (India)
November-December	*Aman* paddy harvesting	3 to 6	Jessore, Magura, Narail, Regional locations
November-March	Wood processing work (with handy chainsaw)	4 to 8	Bagerhat, Barguna, Gopalgonj, Barisal
January-May	Earth work (e.g. embankment, pond excavation)	2 to 12	Khulna, Bagerhat, Sathkhira
Any time of the year but mostly during rainy season (June-August)	Day labour e.g. rickshaw pulling	1 to 12	Dhaka, Khulna
	Garments factory		Dhaka, Chittagong
	Sea port		Chittagong
	Day labour		India

Source: Azam (2011)

However, all of them like to work as day labour e.g. rickshaw pulling in the city when other options do not become available. Significant seasonal migration have been taking place during the rainy season, when there is no work available in the locality mainly in rainy season or just for additional income (without regular employment). However people used to migrate any time in the year ranging from 1 week to maximum 24 weeks. However, people used to go the nearby villages mainly for earth work for 1-2 days. But 1-2 weeks is the minimum migration time for work to be considered as temporary migration as per the perception of local people . It was been revealed that seasonal migrant destinations are concentrated into regional locations (South-Western), Central, North-Eastern and South-Eastern regions for work, although the people mostly prefer the nearby/regional locations. The migrated people take a break of 1-2 weeks for visiting family (transfer of remittances as well) when they stay longer than 8 to 12 weeks. Some people go to India for long -term work, save, and then come back. Migration to India for work lasts for 12 to 24 months, even longer for exceptional cases. Most strikingly, though there is serious ongoing debate about climate induced migration or displacement from coastal Bangladesh, the study did not find any significant relationship between climate change and migration. Nevertheless, it concludes that climate change is a fact but in the present case of migration it only exacerbates an already existing problem.

There are few other piecemeal studies and researches on environmentally induced migration that attempted to find out the migration scenario of the delta districts in their study. Kar and Hossain, (2001) study posited that, though the most dominant form of migration in Bangladesh is rural to urban, rural to rural migration also occurs especially for 17 coastal districts where silt deposits in estuaries create small islands or chars.

Every year about 500,000 people migrate to Dhaka City from vulnerable coastal and rural areas (Cities Alliance, 2010).Among the delta districts, from Barisal, Bhola, Pirojpur, Barguna, Jalokhati, Patuakhali, Chandpur a high rate of internal migration occurred every year. The migrants originated from Bhola and greater Barisal division are majority in most of the slums of Dhaka city. Some other delta districts also recognised as major origins areas of International migrants. From Chandpur (3.77%), and Noakhali (3.23%) of total International migrants migrated in 2014. International

migration from cyclone and riverbank erosion prone areas of Satkhira, Bagerhaat, Khulna, Barguna, Patuakhali, Bhola very low.

A recent study conducted by University of Southampton and the International Centre for Diarrhoeal Disease Research in Bangladesh concluded that migration levels will be the main factor of future population change in coastal Bangladesh. If migration trends continue at the current pace, the overall population in the study area is expected to decrease by almost 20 percent. This will impact not only the livelihoods of some households, but also national economies since delta regions are the food baskets of the world and contribute to reducing global food insecurity. Ensuring effective migration management policies, while taking into account environmental conditions and expected impacts on climate change will therefore be crucial to sustain development strategies for tropical deltas.[39]

A high rate of migration to the city, 63% between 1982 and 1996, was also estimated by Khun using Matlab[40] data (Kuhn, 2000). IPCC, 2007 report also stated that risk of rising sea levels threatens millions of Bangladeshis in the **coastal zone**. About a one-metre rise in sea level could sink nearly one-fifth of Bangladesh's land mass (17%). 20 million people would become environmental displaced and the country would lose some 30% of its food production by 2050 (IPCC, 2007).

Overview of migration in/from delta past 50 years (pattern/ changes in push/pull; characteristics of migrant)

The phenomenon of environmentally induced migration from deltaic region is not unusual in Bangladesh as the country has always suffered from catastrophic natural calamities and human induced changes. Both of these are devastating in nature, and remain regular threats to the millions of Bangladeshi people (Jamil, 2011). Rural to urban migration is a common phenomenon and has been the most prevalent form of migration for a long time in Bangladesh (Sen, 2003; Afsar, 2003; Walsham, 2010) but in recent years significant changes in the local environment repeatedly forcing local vulnerable people to migration in the neighboring areas, sub-urban and urban areas to search for income generating opportunities and increased pressures on urban destinations and city centres.

The only road to the future leads to urban slums miles away from home that are circulated in and around the major cities. The current estimate of urban population is 28% of the total population (2010) which was 2.54% in 1991, 4.14% in 1951, 7.86% in 1974, 15.08% in 1981, 20.15% in 1991 and 23.1% in 2001 (BBS, 2010). It is clear from the trends that significant change has been observed since the mid 1970s and then later on after 1981. During the period of 1983-84 to 1996, agriculture laborer households dropped from 38-31% of rural households (BBS, 1996; Islam, 2004) and specific to the coastal zone about 11.1% of the people have shifted between 1991-2000 (BBS, 2001).

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[39] Sylvia Szabo. Deltas Drained: Dealing with population migration in Bangladesh. Source: http://blogs.worldbank.org/endpovertyinsouthasia/deltas-drained-dealing-population-migration-bangladesh

[40] Matlab is a sub-district of Chandpur and it lies at the junction of the Dhonogoda and Gumti Rivers, in the flood plain of the Meghna River system. Matlab is the location of the Demographic Surveillance System (DSS) of the International Centre for Health and Population Research (known as ICDDRB). DSS has collated monthly statistics on birth, death, marriage, divorce and migration for every resident of the 149 villages since 1966.

Migration especially rural to urban has been a common trend for a long time driven by socio-economic and political factors and environment driven migration have added very recently. The coastal area of Bangladesh is highly vulnerable due to its geographical location at the downstream of South Asia along the Bay of Bengal. Livelihood and food security situation are in serious threatening condition in this region in the recent years. Coastal areas of Bangladesh regularly experience cyclones, coastal/tidal flooding, river erosion, saltwater intrusion and other natural calamities might get worse by sea level rise and will be exacerbated in the coming years. Out of 73 cyclone records of last 214 years (1795 to 2009), 53 attacked within period from 1948-2009 (Islam, 2004; BMD, 2011), that could be a symptoms of climate change). With the increasing risk of sea level, coupled with existing problems, might push many people on the way to move.

Migration as adaptation

Few literatures also attempted to identify the use of migration by deltaic population as a successful coping mechanism facing with amid climatic shocks and stresses. A recent research of RMMRU and Sussex Center for Migration Research (2013) found that along with the benefits from local level adaptation interventions, such as construction of infrastructure to reduce physical risks from disasters, government, INGOs and CSOs' innovations in agricultural and water sector, creation of alternative livelihoods locally through skill trainings and credit programmes, some families of climatic hotspots areas have also used livelihood migration as one of the tools to make up the traditional livelihood and income losses created by climatic events.

Azam (2011) study concludes that, changes in land use in some parts of the coastal deltas in the last thirty years and disasters lead to a failure of livelihood resilience, which threatens the people's environmental and socio-economic condition. These influences people to migrate to increase their household resilience/capital from outside and can be considered to be an alternative coping/livelihood strategy if other local options fail. Like many other studies this study also see potential of migration as an adaptation rather negatively in its end results and therefore recommended to minimize the adverse impacts at the local level and incorporation of strategies to reduce the flow of migration that could be a burden on the destination's resilience.

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Appendix I

Table 1: Scale of Internal Migration

Year	Direction	Both Sex
2002	Rural In migration	13%
	Urban In Migration	50.8%
2007	Rural In migration	21.1%
	Urban In Migration	64.8%

Source: BBS Gender Statistics Data (2008)

Table 2: Gender Segregated data on Internal Migration

Year	Direction	Women	Men
2002	Rural In migration	18%	8.3%
	Urban In Migration	53.7%	48%
2007	Rural In migration	27.5%	14.5%
	Urban In Migration	68.8%	59.6%

Source: BBS Gender Statistic Data (2008)

Table: Cross –break data for environmentally challenged areas

	1	2	3	4	5
Decade, category	Coastal (± on national rate)	Haor (± on national rate)	Monga (± on national rate)	All Districts (national rate)	
Decade 1					
- Urban	+20% (-10)	+31% (+1)	+24% (-6)	+30%	
- Rural	+9% (+2)	+9% (+2)	+8% (+1)	+7%	
- Total	+11% (-1)	+11% (-1)	+10% (-2)	+12%	
Decade 2					
- Urban	-3% (-18)	+48% (+33)	+17% (+2)	+15%	
- Rural	+11% (-5)	+22% (+6)	+13% (-3)	+16%	
- Total	+9% (-7)	+25% (+9)	+13% (-3)	+16%	
Full Period					
- Urban	+17% (-28)	+94% (+49)	+45% (-4)	+49%	
- Rural	+21% (-3)	+32% (+8)	+21% (-3)	+24%	
- Total	+20% (-9)	+39% (+10)	+24% (-5)	+29%	

Table 3: Country Wise Distribution of Migrant Workers

Year	K.S.A	Kuwait	U.A.E	Qatar	Bahrain	Oman	Malaysia	Korea(S)	S.Pore	Others	Total
1976-80	17.65	10.72	29.62	10.63	4.72	11.91	0.02	0.00	0.37	4.69	92207
1981-85	35.64	13.45	12.49	8.71	4.08	17.40	0.00	0.00	1.2	1.69	271442
1986-90	47.79	11.66	14.49	8.73	4.29	8.65	0.52	0.00	0.20	0.73	398295
1991-95	47.95	13.22	7.07	1.13	2.31	10.16	15.91	0.53	0.714	0.16	947507
1996	35.10	10.16	11.49	0.05	1.81	4.19	32.16	1.33	2.56	0.18	207193
1997	46.50	9.22	23.88	0.82	2.19	2.61	1.24	0.39	11.96	0.35	229113
1998	59.65	9.56	14.58	2.56	2.64	1.80	0.21	0.22	8.17	0.16	266083
1999	69.35	8.36	12.08	2.10	1.73	1.51	0.00	0.56	3.58	0.08	267823
2000	65.44	0.27	15.40	0.65	2.10	2.38	7.80	0.45	5.02	0.04	220995

2001	73.89	2.88	8.75	0.12	2.35	2.46	2.65	0.84	5.18	0.64	185735
2002	73.19	7.07	11.41	0.25	2.43	1.73	0.04	0.01	3.07	0.09	223074
2003	64.69	10.66	14.90	0.04	2.99	1.61	0.01	1.50	2.12	0.34	250610
2004	54.85	16.22	18.55	0.50	3.63	1.75	0.09	0.08	2.74	1.35	253465
2005	35.59	20.81	27.42	0.94	4.74	2.14	1.29	0.10	4.27	2.28	225994
2006	30.95	10.11	36.79	2.18	4.64	2.29	5.83	0.28	5.72	1.18	351079
2007	24.51	0.51	27.19	1.82	1.97	2.10	32.81	0.0	4.60	0.12	832609
2008	15.00	0.00	48.00	3.00	2.00	6.00	15.00	0.00	6.00	4.00	875055
2009	3.09	0.00	54.36	2.46	2.93	8.77	2.61	0.31	8.33	5.84	475278
Total	2573129	479571	1587483	155723	191181	360524	698736	21414	279597	393829	6741187

Source: Siddiqui, 2009

Table 4: Women Migrant Workers from Bangladesh

Year	Women Migrant		Total Number of Migrants
	Total	%	
2000	454	0.20	222686
2001	659	0.35	188965
2002	1216	0.54	225256
2003	2353	0.93	254190
2004	11259	4.29	272958
2005	13570	5.57	252702
2006	18045	4.73	381516
2007	19094	2.29	832609

2008	20842	2.38	875055
2009	22224	4.68	475278
2010	27706	6.36	390702
2011	30579	5.38	568062
2012	37304	6.14	607798
2013	56400	13.78	409253
2014	76007	17.85	425684

Source: BMET (2011)

Table 5: Female Migration from Bangladesh by profession 1991-2004

Profession	Middle East	Far East	Total	%
Doctor	175	0	175	0.84
Nurses	1038	157	1195	5.74
Teacher	13	0	13	0.06
Factory Workers	171	4845	5016	24.09
Garments Workers	3810	229	4039	19.39
Housemaid	6121	185	6306	30.28
Cleaner/ Labour	4048	33	4081	19.60
Total	15376	5449	20825	100.00

Source: Yasmin (2010)

Appendix II

Figure 1: Year Wise Trends of Overseas Employment

Total Overseas Employment (1976-2010)
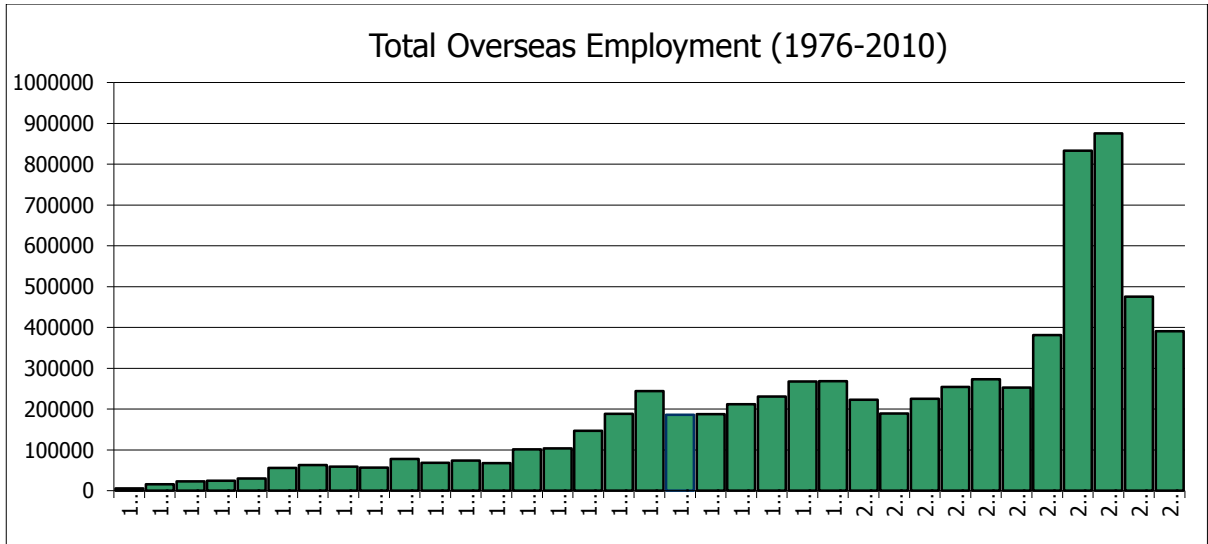
Source: BMET (2010)

Figure 2: District Wise Overseas Employment From 2005-2014

District Wise Overseas Employment In 2014 (Major District)

District Wise Overseas Employment From 2005 to 2014 (Major District)
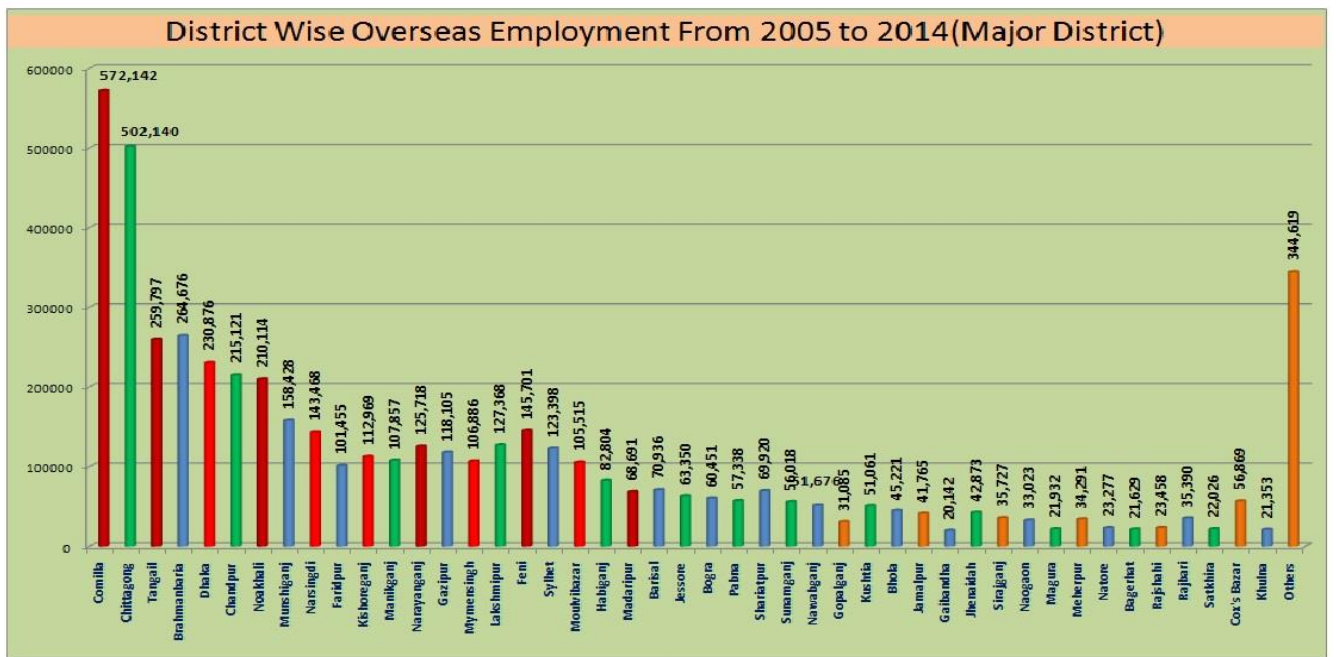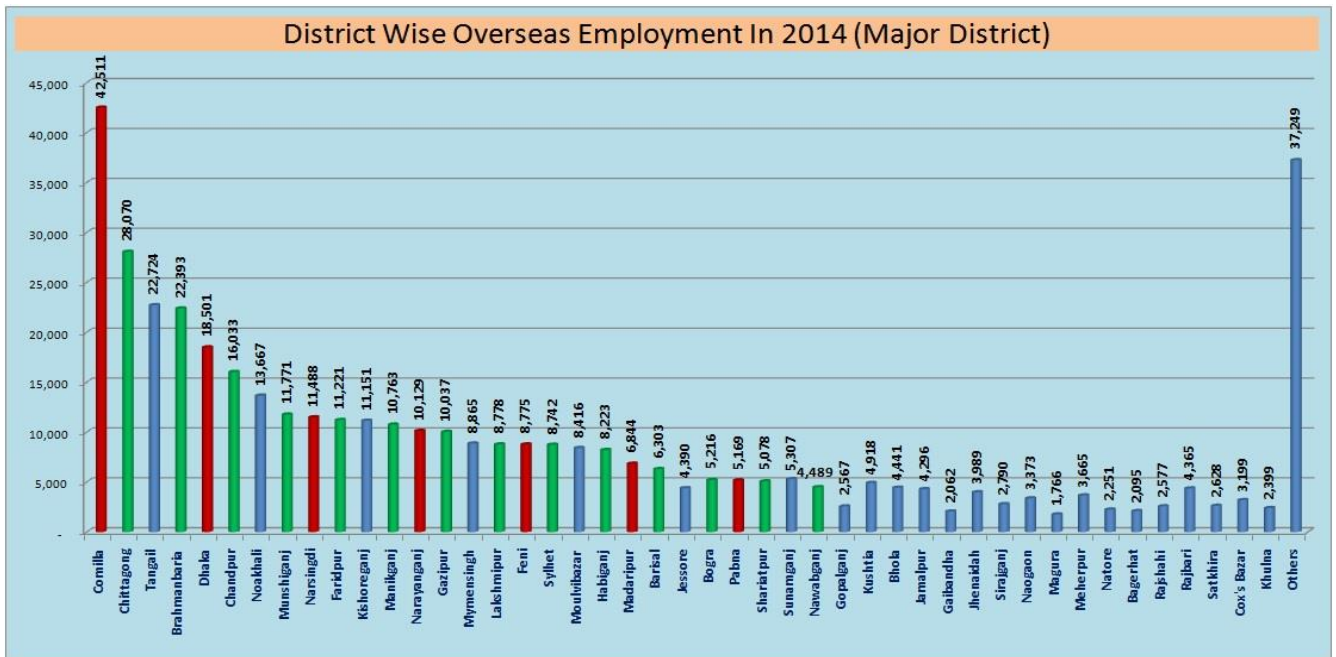
Source: BMET (2015)
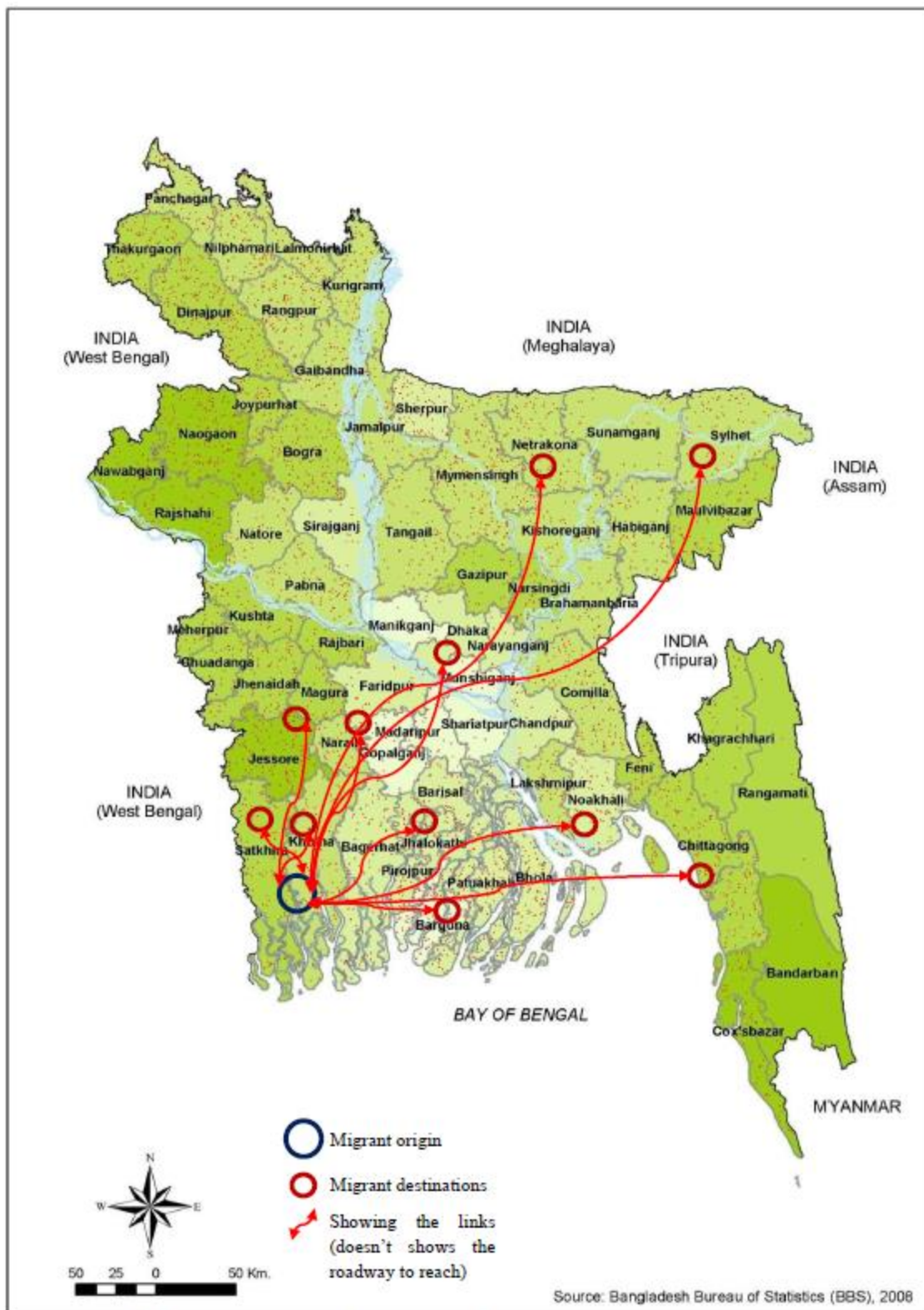
Figure 5.9: Map of Bangladesh showing seasonal migration route from coastal area (*Source:*

Estimated number of long-term Bangladeshi migrants	
UK	500 000
USA	500 000
Italy	70 000
Canada	35 000
Japan	22 000
Australia	15 000
Greece	11 000
Spain	7 000
Germany	5 000
South Africa	4 000
France	3 500
Netherlands	2 500
Belgium	2 000
Switzerland	1 400
Total	1 178 400

Source: Ministry of Expatriates' Welfare and Overseas Employment;
International Organization for Migration (IOM). 2004. Institutionalizing
Diaspora linkage: The emigrant Bangladeshis in UK and USA (Dhaka, IOM).

District Wise Overseas Employment From 2005 to 2014

Patuakhali 19,560 0.38%
Pirojpur 28,666 0.56%
Rajbari 35,390 0.69%
Rajshahi 23,458 0.46%
Rangpur 17,589 0.34%
Shariatpur 69,921 1.37%
Sunamganj 56,018 1.10%
Sherpur 9,756 0.19%
Sylhet 123,428 2.42%
Bagerhat 21,629 0.42%
Bandarban 1,880 0.04%
Barguna 18,084 0.35%
Barisal 70,936 1.39%
Brahmanbaria 264,676 5.18%
Panchagarh 2,645 0.05%
Rangamati 2,805 0.05%
Satkhira 22,026 0.43%
Bhola 45,221 0.88%
Bogra 60,451 1.18%
Chandpur 215,121 4.21%
Pabna 57,338 1.12%
Sirajganj 35,727 0.70%
Thakurgaon 6,218 0.12%
Chittagong 509,310 9.97%
Netrakona 20,526 0.40%
Chuadanga 22,004 0.43%
Nilphamari 8,048 0.16%
Noakhali 210,115 4.11%
Tangail 259,799 5.08%
Nawabganj 51,676 1.01%
Natore 23,277 0.46%
Narsingdi 143,468 2.81%
Comilla 564,986 11.06%
Narayanganj 125,720 2.46%
Narail 19,012 0.37%
Naogaon 33,023 0.65%
Dhaka 230,876 4.52%
Mymensingh 106,886 2.09%
Munshiganj 158,429 3.10%
Moulvibazar 105,525 2.06%
Cox's Bazar 56,869 1.11%
Meherpur 34,291 0.67%
Magura 21,932 0.43%
Lakshmipur 127,368 2.49%
Faridpur 101,459 2.85%
Dinajpur 12,764 0.25%
Manikganj 107,857 2.11%
Madaripur 68,691 1.34%
Kurigram 9,652 0.19%
Khulna 21,353 0.42%
Jessore 63,350 1.24%
Jaipurhat 10,614 0.21%
Feni 145,703 2.85%
Lalmonirhat 3,861 0.08%
Kishoreganj 112,969 2.21%
Jhalakati 18,047 0.35%
Habiganj 82,806 1.62%
Gazipur 118,105 2.31%
Gaibandha 20,142 0.39%
Kushtia 51,061 1.00%
Khagrachari 4,500 0.09%
Jhenaidah 42,873 0.84%
Gopalganj 31,085 0.61%
Jamalpur 41,765 0.82%

Source: BMET (2015)