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This paper examines various aspects of illegal migration into Assam from Bangladesh. We first attempt to define an illegal immigrant in Assam by discussing the parameters set by history and polity of the state over a long period of time. Various estimates put the number of illegal immigrants anywhere between a few hundred thousands to 4 millions. The study finds that environmental crisis caused by population pressure in Bangladesh and relatively greater economic opportunities in terms of higher lifetime income, acquisition of land and assets in Assam, have been the primary motivations behind large scale migration. Among the beneficial effects, the immigrants have contributed to the rise of agricultural productivity by introducing better techniques, crop diversity, and multiple cropping. The supply of cheap labor by the immigrants in the informal labor market have benefitted the consumers and producers alike. These immigrants do not seem to compete with the native workers who are generally educated and seek employment in the formal labor market. However, they have put tremendous pressure on land, creating socio-political and environmental problems that have indirect adverse effects on the economy. Finally, the immigrants hardly contribute to the government revenue while the government spends a substantial amount to maintain this significantly large fraction of the population.

Illegal Migration into Assam: Magnitude, Causes, and Economic Consequences*

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Keywords: Illegal Migration; Immigrant; Assam; Bangladesh

JEL Classification: J11; N35; O13

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1. Introduction

During the twentieth century Assam has experienced one of the highest population growth rates among the Indian states.¹ Between 1901 and 2001, the population of India grew by 331 percent while the population of Assam grew by 710 percent. The difference in growth rates can mostly be explained by large scale migration of people from other parts of the subcontinent – particularly from densely populated neighboring country of Bangladesh. One important aspect of this international migration into Assam is that most immigrants have gotten by the formal or legal immigration process, taking advantage of an extremely porous border.² Environmental crisis in Bangladesh and relatively greater economic opportunities for livelihood in Assam and other parts of India provide the primary motivations for cross-border migration of population.

The influx of immigrants has not only had adverse effects on the delicate ethnic balance within the population leading to social and ethnic unrests and political movements but also has had short and long-run effects on the economy of Assam. It may be noted that migrants played an important role in economic development of Assam

¹ Of course, the political boundary of Assam has changed several times over the course of the century. Nonetheless, the higher than all India average population growth rate has been a fact that applies to Assam in its ever changing boundary.

² Although ‘migration’ and ‘immigration’ or ‘migrants’ and ‘immigrants’ are often used interchangeably, there are important differences in the dictionary meaning of these words. According to the Merriam-Webster Dictionary (<http://www.merriam-webster.com/dictionary/>), the verb ‘migrate’ means ‘to move from one country, place, or locality to another’ while ‘immigrate’ means ‘to enter and usually become established; especially: to come into a country of which one is not a native for permanent residence’. According to the Oxford English Dictionary (<http://www.askoxford.com/>), the verb ‘migrate’ means ‘to move to settle in a new area in order to find work’ and ‘immigrate’ means ‘to come to live permanently in a foreign country’. According to the Merriam-Webster Dictionary, etymologically, ‘immigrate’ predates ‘migrate’. The Merriam-Webster Dictionary defines a migrant as ‘a person who moves regularly in order to find work especially in harvesting crops’ while an immigrant as ‘a person who comes to a country to take permanent residence’. The Oxford English Dictionary defines a migrant as ‘a worker who moves from one place to another to find work’ and an immigrant as ‘a person who comes to live permanently in a foreign country’. Although ‘immigration’ and ‘immigrant’ seem to be more appropriate to refer to international migration and international migrant, we would use these words interchangeably because cross-border migration from Bangladesh is not always permanent in nature. Furthermore, the focus of the paper on illegal migration essentially refers to movement of people from other countries because usually there is no legal restriction on movements of people within the country.

during the colonial period. The British had to import workers from the central and east-central parts of India to work in the tea plantation during the nineteenth century and these workers had contributed significantly to the rise of the tea industry in Assam. In the beginning of the nineteenth century, Assam was a labor-scarce state with high land-man ratio. With the establishment of the colonial rule – which came to Assam after almost a century of British rule in other parts of India – there was another flow of educated Bengali Hindu migrants to work for the colonial power, and they contributed their fair share to the economic growth of Assam. A small number of *Marwari* traders (from Rajasthan) also moved into the state. In the twentieth century, the peasant migrants from East Bengal with skills and knowledge of intensive cultivation had a major impact on agricultural output, techniques as well as new crop diversity.³

Despite the fact that historically migration has contributed to economic development of Assam, the sheer scale of it in recent times seems to have had adverse effects that have outweighed the benefits. *First*, the pressure on land has been mounting. Not only the land-man ratio has declined but also the availability of cultivable land per capita has been declining rapidly. For a state predominantly reliant on agriculture this implies a loss of efficiency in agricultural production because of the small size of land holdings. Moreover, encroachment of land in tribal belts and blocks, public waste land and forests by immigrants has created social and ecological problems. *Second*, a state which is already characterized by high unemployment and underemployment, the pressure in the labor market is likely to be significant. Although agricultural labor market in the rural

³ There was some internal migration within Assam as well. For example, a group of *Bodo* workers migrated from erstwhile *Darrang* district to work in the tea gardens of upper Assam. Further, the *Barpetia Mahajans* (traders from the Barpetta area in Assam) also moved to different parts of Assam to take advantage of trade and business opportunities created as a result of economic expansion under the British rule. (Guha, 1977 and Goswami, 2007)

areas and urban informal market seem to have been affected by the influx of cheap labor supplied by the illegal immigrants so far, it has been argued that the formal labor market will also be affected in the long-run.

This study is an attempt to examine the magnitude, causes and economic consequences of illegal migration into Assam. We first attempt to define an illegal immigrant in Assam by discussing the parameters set by history and polity of the state over a long period of time. Given the fluidity of the concept and the ‘illegal’ nature of the cross-border population movement, it is not difficult to realize that measuring the extent of illegal migration into Assam could be very challenging. There is no direct method of measuring the number of illegal immigrants. Most studies estimate the number of illegal immigrants in Assam by using indirect methods. We present some of these estimates. Next, we discuss some of the reasons for cross-border migration from Bangladesh to Assam. Although a wide range of factors are mentioned, the main focus is on economic factors which seem to have weighed more than others in recent times. We then discuss the effects of illegal immigration on the economy of Assam. Although rigorous quantitative analysis is desirable, the absence of a sufficient amount of reliable data does not allow us to pursue such an endeavor. Therefore, our analysis is qualitative in nature - often based on anecdotes and careful observations.

The rest of the paper is organized as follows. Section 2 presents a brief literature review. In section 3, we discuss the issues relevant to define an illegal immigrant in Assam. We also present estimates of illegal immigrants available from different sources in this section. Section 4 discusses the economic motivations behind illegal immigration into Assam. In section 5, we present our discussion on the economic consequences of

immigration. Section 6 includes our concluding remarks. We also discuss a few policy options.

2. Literature Review

There are several strands of the literature on migration into Assam. There are studies that focus on migration during the British colonial period. In two most notable works on economic history of Assam, Guha (1977 and 1991) focuses on the migration of tea garden workers from the central and east-central parts of India during the British colonial period. He delves into the creation of a modern sector that was mainly based on the tea plantation industry with investment from Britain and import of indentured laborers into a labor-scarce economy. In a related work Nath (2005) examines why the investment in a modern sector did not have trickle down effects in the traditional sector. He argues that a lack of linkages in labor market, capital market, and commodity market between these two sectors is responsible for the predicament of the traditional sector. The migrant workers contributed their fair shares to the growth of the modern sector.

There are a number of studies that focus on the socio-ethnic, political, and economic issues related to migration that has been taking place in large scale well into the post-colonial period. These issues have been of vital importance in recent decades. Weiner (1978) takes an in-depth look into the social and political conflicts and cleavages that have resulted from the responses of the indigenous population to migration into Assam. In a related work, Weiner and Katzenstein (1981) evaluate government's preferential policies towards natives who lagged behind the migrants in grabbing economic opportunities in the state. Hazarika (1994) discusses migration into Assam and other

northeastern states as a part of the historical and political context of the rise of insurgency and violence in recent times. Singh (2008) furthers this discussion by highlighting the changing nature of the relationship between illegal immigrants and insurgency in Assam. The heightened conflict between the Bodos and the immigrants in recent years has been discussed by Nath (2003) and Routray (2008).

Baruah (1999) takes a more scholastic approach to analyze the Assamese subnational identity question within the Indian federal structure. Baruah notes that the student-led political movement against immigration in the early eighties against the backdrop of the federal political system was an opportunity to assert the collective identity of the Assamese people. He discusses in detail a process of federalism to rope in the immigrant communities that came to Assam for various reasons throughout the history. Goswami (2007), on the other hand, takes a critical look at government's policy of reorganizing political boundaries in ethnic lines under the Indian federal system to contain ethnic discontent caused by internal displacement and migration. The author also emphasizes on finding an economic solution to the large scale cross-border migration that, according to her, is predominantly an economic phenomenon.

There are a few studies that examine the causes of migration into Assam. In a somewhat journalistic account, Hazarika (1999) describes the nature of immigration across the border from Bangladesh. Based on personal interviews and extensive traveling across and along the border, his account on Bangladeshi infiltration highlights the problem of high population pressure, devastation caused by nature and general destitution of people in Bangladesh as primary causes of migration into sparsely populated terrain of

Assam with relatively better economic opportunities. He also finds that some of the migration are temporary and have a seasonal pattern.

Using census data for 1971 and 1991, Kumar and Aggarwal (2003) show that distance and urbanization are the significant causes of internal migration while differences in earnings is the most significant cause of international migration. Gogoi (2005) further examines the role of per capita income, land-man ratio, and distance in determining the flow of migration into Assam. While these two studies investigate causes of both internal and external migration into Assam, Roy (2005) discusses various economic incentives for illegal migration from Bangladesh. He argues that rather than a myopic consideration of relative earnings in current period, a more dynamic, life-time utility consideration is a better explanation of trans-border migration into Assam. He also thinks that a significant part of the incentives for migration to Assam comes from elements outside the labor market such as purchase of land, encroachment of public land and forests, exploitation of common property resources, public goods and infrastructure etc. Social networks among the immigrants reduce the problems that arise out of asymmetric information, and thus provide further incentives in the source country to migrate.

There have been attempts to estimate the magnitude of migration – particularly, illegal immigration in the post-independence period. In a research report, Saikia (1995-96) presents her estimates of migration into Assam between 1951 and 1971. Goswami (1984) presents his assessment of foreign immigration in the post-independence period. Gowasmi and Gogoi (1984) examines the demographic transition as a result of migration into Assam between 1901 and 1971. In a more recent study, Goswami et al (2003)

examine the population growth of Assam during the period 1951-1991 with a focus on migration. While they report the census figures on total migration into Assam, they also use indirect methods to estimate the magnitude of migration with further decomposition into internal and international migration. Additionally, they present their estimates of legal and illegal immigrants. Saikia (2005) further provides estimates of illegal migrants into Assam using another indirect method based on differences in the growth rates of Muslim and non-Muslim population in different districts of Assam.

There is a relatively recent literature that discusses the threat to national security as a result of illegal migration from Bangladesh. Goswami (2006) argues that the presence of a large number of illegal immigrants potentially enables external actors like Pakistan and China to influence events in the Northeast. The evidence of militant groups from Assam and other northeastern states being sheltered in Bangladesh and being aided by Pakistan's Inter Service Intelligence (ISI) only aggravates this fear. Goswami (2007) reflects on the so-called "lebenstraum" theory that sees the influx of Bangladeshi immigrants as a part of a conspiracy to make Assam a part of greater Bangladesh but settles for its outright rejection in favor of economic motivations of migration.⁴

3. Illegal Migration into Assam

As discussed above, migration into Assam is not a recent phenomenon. However, it has occurred on a relatively larger scale in more recent decades. Although migrants coming to Assam include people from the rest of India as well as from the neighboring countries of Bangladesh and Nepal it is the second group which has been a focus of attention

⁴ This conspiracy theory found a place in Governor S. K. Sinha's report to the President of India on illegal migration into Assam (Sinha, 1998) and was further articulated by pro-Hindu political parties like Bhartiya Janata Party (BJP).

during last several years. In this section we make an attempt to define and to provide an estimate of illegal immigrants in Assam. .

Who are illegal immigrants?

Although “illegal migration” or/and “illegal immigrants” (particularly from Bangladesh) are very much a part of the public discourse on society, polity, and economy of Assam, the definitions of these two terms are far from being concrete.⁵ The shared history of the British colonial rule, the partition at the time of independence, the role played by India in the creation of Bangladesh, and the provisions under the Citizenship Act – all contribute to this lack of concreteness. Section 2(1)(b) of the Citizenship Act of 1955 defines an “illegal migrant” as a foreigner who entered India

- (i) without a valid passport or other prescribed travel documents : or
- (ii) with a valid passport or other prescribed travel documents but remains in India beyond the permitted period of time.

However, there are a few caveats that need to be considered before this definition can be applied to identify illegal immigrants.

First, until 1947, Bangladesh (then East Bengal) was a part of British India and there were few legal restrictions on the movements of people across different parts of the country.⁶ In fact, the British colonizers encouraged the peasants from East Bengal to

⁵ On the definitions of migrants, foreigners, and citizens, Barua (2008) writes, “Citizens and foreigners are contested concepts in Assam. The reasons ... lie partly in the difference between the way partition played out in the east and in the west. While in Punjab, the “exchange of population” occurred in the immediate aftermath of the Partition, in the east the movement of population remained open-ended. ... The Assamese view is stubbornly non-discriminatory: it does not acknowledge any implicit right of return of Hindus.”

⁶ In response to the demand of the native people of Assam, who viewed large scale migration from Bengal as a ploy to reduce them into a political minority, the British government introduced a “line sytem” in 1916 (modified later in 1939) under which areas were demarcated for settlement of new immigrants. This line system was intended to curb large scale encroachment of lands belonging to native people. The Muslim League, the political party that favored migration of Muslim population into Assam and was able to form

migrate to the Brahmaputra valley for cultivation of the waste lands. As the migrant workers from Central and East-Central India arrived in Assam to work in tea plantations, the demand for food grains increased and the local production could not satisfy this increased demand. During the interwar period between the two world wars, there was a huge influx of Muslim peasants from East Bengal.⁷ This mass movement of Muslim population was also encouraged under the “grow more food” program announced in 1942 by Sir Syed Mohammad Saadulla, who headed the Muslim League provincial government in Assam.

Second, the partition of India into a Muslim-majority Pakistan and a Hindu-majority India (Hindustan) that came along with India’s independence from the British colonial rule caused large scale communal violence and movements of people across the borders of these newly created countries. At that time Muslim-dominated East Bengal and the Sylhet district of Assam became a part of Pakistan and a large number of Hindu refugees fled this part of the new world. The Indian constitution made special provisions for granting citizenship to these refugees from Pakistan for a limited period of time (until January 1, 1966) immediately after partition. The refugees who entered India during that period were later required to go through a process of naturalization. But most refugees did not follow the legal procedures and thus became a part of the illegal immigrants.

Third, under the Indo-Bangladeshi Treaty of Friendship, Cooperation and Peace, also known as the *Indira-Mujib* Treaty, signed between then Indian Prime Minister Indira Gandhi and Bangladeshi Prime Minister Sheikh Mujibur Rahman immediately after the

the provincial government, urged the colonial power to abolish the line system and to adopt a more liberal immigration policy.

⁷ Between 1911 and 1931, the Muslim population in Assam increased from 5 percent to 30 percent. (Kotwal, 2001).

birth of Bangladesh in 1971, India agreed to take responsibility of all migrants who entered India on or before March 24, 1971. Thus, according to this treaty, irrespective of religion, anyone who entered the Indian state of Assam before that cutoff date is not *de facto* illegal immigrant.

Finally, the Assam Accord signed between the All Assam Students Union (AASU) and the All Assam Gana Sangram Parishad (AAGSP) who spearheaded a mass movement (the ‘Assam Agitation’) during 1979-1985 against illegal immigration and the Government of India crystallized the aforementioned provisions by setting March 24, 1971, as the cutoff date for identification and deportation of immigrants in Assam. This accord also provided for delayed citizenship to those who came to Assam between January 1, 1966 and March 24, 1971.

Thus, those who crossed the international border without proper legal documents to come to Assam on or after March 25, 1971, are the illegal immigrants provided all those who came before that deadline became citizens through the legal process akin to naturalization. It should be kept in mind, however, that the children born to these illegal immigrants *may* or *may not* be lawful citizens of India by birth. In this regard, the following provisions stated in Section 3 of the Citizenship Act of 1955 would apply:

- (i) A person born in India on or after 26th January, 1950, but before 1st July, 1987, is a citizen of India by birth irrespective of the nationality of his/her parents.
- (ii) A person born in India on or after 1st July, 1987, but before 3rd December, 2004, is considered a citizen of India by birth if either of his/her parents is a citizen of India at the time of his/her birth.

(iii) A person born in India on or after 3rd December, 2004, is considered citizen of India by birth if both the parents are citizens of India or one of the parents is a citizen of India and the other is not an illegal migrant at the time of his/her birth.

Furthermore, any minor child can be registered as a citizen of India under Section 5(4), if the Central Government is satisfied that there are “special circumstances” justifying such registration. Each case would be considered on merits. These provisions together with the fact that most immigrants who entered before 1971 have not followed the legal process to become Indian citizens complicate the issue of identifying the illegal immigrants.⁸

How many?

From our discussion above, it is clear that obtaining a precise estimate of the magnitude of illegal migration into Assam is almost impossible. Because the illegal immigrants are unlikely to provide truthful information, direct enumeration is not a useful method. However, the Census of India provides data on migration characteristics like place of birth, place of last residence, reason for migration, and duration of residence at the place of enumeration. Data on educational level, economic activity, and age distribution of the migrants are also available in these tables. However, estimates of migration based on these data could be inaccurate and, therefore, misleading. Nevertheless, we can make some interesting observations about illegal immigrants into Assam from these estimates. In Table 1, we present the 1991 Census data on interstate and international migration by districts. The international migrants are estimated to be one-third of a million people. Even if we consider all of them to be illegal immigrants –

⁸ The Illegal Migrants (Determination by Tribunal) Act (IMDT) of 1983, that placed the onus of proving the citizenship of the alleged illegal migrant on the complainant further complicated the actual detection. This act was repealed by the verdict of the Supreme Court in 2005.

which is unlikely to be the case – going by all other indicators of illegal migration to Assam, it is a gross underestimation. As we can see from the table, however, Kamrup, Tinsukia, Dibrugarh, and Sonitpur receive the bulk of interstate migration. In contrast, Nagaon, Cachar, Karimganj, Kamrup, Bongaigaon, and Barpeta receive the bulk of the international immigrants. The fact that the districts receiving the most of international migration are in close geographical proximity to Bangladesh, these numbers may give somewhat realistic picture of the concentration of Bangladeshi immigrants, who presumably have entered the state illegally.

[Insert Table 1 here]

Because of the inadequacy of direct enumeration in estimating illegal migrants, several indirect methods have been used in previous studies. One method is to compare decennial population growth rates of Assam with those of India. This method, however, gives us a rough estimate of the extent of total migration but not of illegal migration into Assam. Column 3 of Table 2 gives the difference in growth rates between Assam and India. Note that until 1971, the difference has been positive. Under the restrictive assumption that the natural growth rate of population in Assam is same as in the rest of the country, we may infer that migration accounts for this difference. As we can see from the table, during the first two decades of the 20th century and the two decades immediately after independence in 1947, migration accounted for more than 10 percent of population growth in Assam. We present the estimated number of migrants based on these differences in population growth rates in column 4. According to these estimates, about 4 million migrants entered Assam during a period of one century. This is at best a very conservative estimate.

[Insert Table 2 here]

The fact that the population growth rate in Assam has been lower than that for India since 1971 does not necessarily mean that there was no migration into Assam during this period. There could be several reasons for lower population growth rates in Assam during 1971-2001. *First*, because of the socio-political unrests and insurgency since the late 1970s, the number of people migrating from the rest of India and across the international border may have declined. *Second*, there has been substantial reverse migration of people from other parts of the country who used to live in Assam. Also, the people of Assam moved in large numbers to other parts of India for education or for work during this period. *Third*, the natural rate of growth in Assam is lower than in other parts of the country. *Finally*, a look at the spatial distribution of population growth rates during these three decades reveals that there are a number of districts that experienced growth higher than the average for Assam/India.

During the two decades between 1971 and 1991, Dhemaji, North Cachar Hills, Kokrajhar, Karbi Anglong, Kamrup, and Bongaigaon recorded annual growth rates of 5.37 percent, 4.9 percent, 3.8 percent, 3.7 percent, 3.3 percent, and 3.2 percent respectively. Note that the population of Assam as a whole grew at an annual average growth rate of 2.66 percent and that of India at the rate of 2.72 percent during the same period of time. Similarly, Kamrup with an average annual growth rate of 2.61 percent, North Cachar hills with 2.47 percent, Goalpara with 2.30 percent, Dhubri with 2.29 percent, Karbi Anglong with 2.27 percent, Nagaon with 2.23 percent and Karimganj with 2.19 percent were growing faster than the all India average (2.14 percent) or the all Assam average (1.89) during 1991-2001. The fact that these districts are relatively closer

to the border with Bangladesh is a clear indication that cross-border migration is responsible for this higher population growth rates in these districts. Although the differences in population growth rates are suggestive of migration into Assam, these numbers are not very useful in estimating illegal immigrants from Bangladesh.

Some studies use the so-called survival method to obtain an estimate of illegal migrants.⁹ This method involves splitting the total population into different age groups and using their corresponding survival ratios to obtain projections for migrant populations. Goswami et al. (2003) estimate the number of total migrants into Assam between 1951 and 1991 using this survival ratio method. They then use information on places of birth provided in the population censuses to decompose the estimated number into interstate and international migrant groups. The underlying assumption is that since the migrants born in India have the right to live anywhere in India, they will correctly report their respective places of birth. They further decompose the international migrants into legal and illegal immigrants. Some of the foreign migrants report their places of birth correctly. The authors assume that they are legal migrants and, therefore, the difference between total estimated number of international migrants and the number of legal migrants will be an estimate of the number of illegal immigrants.

[Insert Table 3 here]

Table 3 presents the estimated number of migrants in Assam and their various compositions. As it is clear from the table, during the 40 years period between 1951 and

⁹ In the literature researchers use two indirect methods: the residual or vital statistics method and the survival method. The second method is considered to be more accurate because the estimates based on the first method are likely to amplify relatively moderate errors in population counts or in statistics of births and deaths. The estimates based on the second method, on the other hand, are free from such possibilities as different survival ratios are applied to different age groups instead of the single births or deaths figure for the entire population. These methods are discussed in details in Goswami et al (2003)

1991, the number of international immigrants accounted for two-thirds of the total immigrants. Within the category of international immigrants, the illegal component is almost twice as big as the legal one. The total illegal migrants entering Assam during these four decades are estimated to be about 1.3 million. However, if we adhere to the cutoff date of 1971 for identification of illegal immigrants, far less than a million people are estimated to have entered Assam illegally between 1971 and 1991. These numbers are, however, most likely to be gross underestimation of the scale of illegal migration into Assam.

Another way of getting a conservative rough estimate of immigrants from Bangladesh is to examine the decline of the Hindu population in that country, particularly after independence. As mentioned before, there were large scale movements of Hindu refugees to Assam, Tripura, and West Bengal immediately after the partition. These movements of people across the border did not stop and have been continuing even today. The fact that the Hindu population of erstwhile East Bengal (now Bangladesh) decreased from 27 percent in 1947 to about 9 percent in 2001 gives a rough idea of the magnitude of this immigration into India.¹⁰ Because of geographical contiguity and the fact that it had been the destination of past migration it is safe to claim that Assam received most of the Hindu refugees from Bangladesh. During the war between India and Pakistan in 1971 that created the sovereign nation of Bangladesh there was another influx of refugees that included both Hindus and Muslims. In recent decades, immigrants from Bangladesh not only included refugees but also economically destitute people in search of better opportunities.

¹⁰ A part of this decline is due to the differences in natural growth rate between Hindu and Muslim population (Das 1989)

Yet another way of estimating illegal immigrants, that has been suggested in the literature is to look at the religious composition of the population and the changes in it.¹¹ Since most of the recent immigrants from Bangladesh are Muslims, unusually high growth of the Muslim population in Assam compared to the rest of the country indicates large scale immigration and these growth rates can be used to obtain an estimate of illegal immigrants in Assam. Table 4 presents the proportions of Muslim population in India and Assam. As this table shows, while the proportion of the Muslim population in India dropped from about 23 percent in 1931 to about 10 percent after the partition and has marginally increased to 13 percent in 2001, in Assam this share climbed up significantly from about 23 percent in 1931 to 31 percent in 2001. It suggests that the Muslim population grew at a much faster rate in Assam than in other parts of the country. For example, the population growth rate among the Muslim community in Assam at 77.4 percent during 1971-91 was significantly higher than the growth rate of Muslim population in India which was at 55 percent.¹² This rate in Assam during 1971-91 was also much larger than that during the previous two decades between 1951 and 1971. During 1991-2001, the Muslim population in Assam grew by about 29 percent which is slightly lower than the growth rate for India at 30 percent.

[Insert Table 4 here]

An examination of district-level growth rates of Muslim population reveals that during the period between last two censuses: 1991-2001, this group grew at much faster rates in all but one district of Assam. As shown in Figure 1, only in Dibrugarh, the

¹¹ See Saikia (2005)

¹² In contrast, the Hindu population growth rate between 1971 and 1991 was significantly lower than that during 1951-71 and also lower than the all India average.

Muslim population grew at about the same rate as did the other religious groups. On the other hand, the growth rate of Muslim population exceeded that of other religious group by more than 30 percentage points in the district of Karbi Anglong.

[Insert Figure 1 here]

The proportion of Muslims in total population by district adds another dimension to what we can infer about illegal migration into Assam from Figure 1. Figure 2 reveals that the districts with relatively higher proportion of Muslim population in 2001 are also closer to the Bangladesh border. Note that these numbers represent the stock of Muslim population that, to a large extent, resulted from the influx of illegal immigrants from Bangladesh over a long period of time.

[Insert Figure 2 here]

Under the assumption that the natural rate of population growth among the indigenous Assamese-speaking Muslims is same as that among other religious groups and that there is little evidence of Muslims migrating from other parts of India, this excessive growth can be attributed to illegal migration from Bangladesh. Using these growth rate differentials, Saikia (2005) estimates the number of illegal immigrants to be at least 1.4 million between 1971 and 1991, and at least 1.1 million between 1991 and 2001. Figure 3 shows the estimated numbers of illegal immigrants by district between 1971 and 2001. However, these estimated figures are likely to be an underestimate because they do not take into account the illegal Hindu migrants from Bangladesh or from Nepal.

[Insert Figure 3 here]

Thus, these estimates put the number of illegal immigrants in Assam between a few hundred thousand people to a few millions. There are a few other estimates available from government sources. For example, one government record shows that between 1972 and 1993, of the people who entered India from Bangladesh legally, 836 thousand people stayed back illegally. Further, quoting Home Ministry/Intelligence Bureau source the 10 August 1998 issue of *India Today* reports, and cited by Sinha (1998), that there were 4 million illegal migrants residing in Assam in 1997.

4. Causes of Illegal Immigration

Although from a historical perspective migration into Assam occurred for reasons which were not purely economic in nature, there are reasons to believe that the recent waves of migration – particularly across the border from Bangladesh, have been mainly due to economic reasons. Excessive population growth and resultant squeeze on natural resources have created an environmental crisis in Bangladesh. Consequently, economic opportunities have shrunk and there has been massive outflow of people from that country.¹³ Traditional economic theories suggest that differences in current wage rate and land-man ratio between the place of origin and the place of destination could be the main motivating factors for migration. Earlier studies have empirically tested the validity of these theoretical hypotheses. Gogoi (2005) finds that while land-man ratio is a significant determinant of migration, there is little evidence to support that per capita income differential has led to migration from Bangladesh to Assam. In contrast, Kumar and Aggarwal (2003) find income differentials to be a significant factor for international

¹³ Alam (2003) discusses in detail the nature of this environmental crisis and its links with economic opportunities.

migration into Assam.¹⁴ Gogoi (2005) also finds that geographical distance between the place of origin and the place of destination has significant negative effect on migration. Thus, Assam being the next-door neighbor to Bangladesh, it receives a large number of the migrants entering India illegally.

It is important to recognize that even though the difference in current wage between Bangladesh and Assam is not significant enough to motivate people to migrate, it is unlikely that prospective migrants will have such a myopic consideration while deciding whether to migrate or not. Rather it is more plausible that they will compare life-time welfare with and without migration. Furthermore, even with higher wages in the place of destination, it is more likely that in the initial years of migration welfare of the migrants will be lower because of all non-economic inconvenience that come along with migration. Thus, if not for life-time utility there are more disincentives than otherwise for migration.

Most immigrants from Bangladesh – particularly those who enter and live in Assam illegally own very little assets in Bangladesh. Because of the population pressure it is hard to acquire land and other properties. In Assam, it is relatively easier to acquire land and other assets. There are vast public lands available in Assam. The riverine deltas along the river *Brahmaputra* and other major rivers were mostly uninhabited. Moreover, a large part of the state was covered by forests. The immigrants, with little resistance, could, and still can, encroach upon those lands. In recent decades, immigrants not only have encroached public lands and forests but also have encroached lands in reserved *belts*

¹⁴ This difference may stem from the fact that Gogoi (2005) uses data on both internal and international migration to estimate his regression model while Kumar and Aggarwal (2003) estimate separate equations for internal and international migration. Furthermore, Gogoi uses income in the state/country of origin while Kumar and Aggarwal use the income differential between the state/country of origin and the state/country of destination.

and blocks for the tribal population in Assam. These encroachments have led to the destruction of the eco system, and to ethnic tensions. The area under forests has decreased from more than 30 percent to less than 20 percent which has created immense ecological imbalance in Assam.

The decision to move to a new place always involves risk. If the prospective migrant tries to avoid the legal process of immigration, the risk multiplies. The agent will be willing to take such a high degree of risk only if the expected benefits far outweigh the opportunity costs. In Bangladesh with a large population, the economic opportunities for the poverty stricken people are almost non-existent. Although Assam is one of the most backward states in India, the economic opportunities particularly in the informal sector are relatively much larger. Furthermore, the network of previous migrants reduces the problems that arise from asymmetric information. This network provides information and access to the informal labor market. Sometimes this network of past migrants with their connections with politicians may help the new migrants get around the legal problems and acquire properties in the new place.

As our discussion shows, there is a whole host of economic factors that may affect the decision to migrate. Intuitively plausible and validated by anecdotal evidence for immigration from Bangladesh to Assam, these reasons need to be subjected to rigorous empirical scrutiny. However, it is beyond the scope of the current study due to lack of suitable data.

5. Economic Consequences of Migration

In general, large-scale migration has a wide range of short-run and long-run effects on the society and economy of the host region/country. Studies have shown that the migration of

Bangladeshis into Assam has already had significant consequences for the society, polity, economy, and environment of the state. However, the economic consequences can be both direct and indirect. Migration can and does affect the economy indirectly through its impact on society, polity, and environment.

It is important to recognize that there are both beneficial and harmful effects of migration on the economy. The Bangladeshi migrants work primarily in the agricultural sector or in the urban informal sector. The peasant migrants from the erstwhile East Bengal in the beginning of the twentieth century brought with them better cultivation techniques and greater varieties of crops. They also introduced multiple cropping that was not practiced by the natives.¹⁵ Thus, they contributed to rise in productivity of agriculture in Assam. Because of this contribution, Assam had a rice surplus by as early as 1947 and also had a number of vegetables and crops earlier unknown in the state.¹⁶

The general concern about the harmful economic impact of immigration, particularly of illegal immigration, is over the labor market consequences. Because the immigrants in general and illegal immigrants in particular supply cheap labor, there is an apprehension that they take away jobs from native workers. In order to determine the effects of illegal immigration in the labor market in Assam, we will examine the available facts. In Table 5, we present our calculation of percentage distribution of migrant workers by occupational categories. The table gives a general idea about how immigrants may affect the outcome of the labor market. As we can see, in 1991 census 41 percent of the international migrant workers are cultivators and another 10 percent agricultural laborers.

¹⁵ See Madhab (2006)

¹⁶ See Goswami (2007)

However, interstate and international migrant workers taken together, most of them are engaged in non-agricultural activities.

[Insert Table 5 here]

How about other indicators of labor market outcomes? A comparison of real wages in Assam with those in other parts of the country will indicate to some extent the labor market conditions in the state. In Table 6, we present average rural wages (both nominal and real) for agricultural workers, non-agricultural workers and unskilled workers for 2002 and 2003. As we can see, for all three categories, real wages are lower in Assam than in other parts of the country. It may be an indication of relatively higher supply of labor but is not directly attributable to illegal immigrants. Further, it has been pointed out that the illegal immigrants do not compete for jobs in the same labor market as do the native people.¹⁷ High unemployment is prevalent among the educated natives and since the illegal immigrants are mostly illiterate, they do not compete for the same jobs. In recent years, the Bangladeshi immigrants have replaced migrant workers from other parts of India, particularly from Bihar, in the informal labor market. They work in increasing numbers as construction workers, day laborers, porters, rickshaw pullers, and household helpers. The supply of cheap labor has definitely benefitted the consumers of services and producers in Assam. However, it should be recognized that the children of these immigrants have now received education and they have started entering the formal labor market, which may aggravate the educated unemployment problem.

[Insert Table 6 here]

¹⁷ See Madhab (2006)

Large-scale immigration places tremendous pressure on land. This has already been documented for the Northeastern India.¹⁸ Since one of the motives for immigration from Bangladesh is to acquire land and other assets, and these immigrants are mainly engaged in agricultural activities, this pressure on land has direct as well as indirect consequences for agricultural productivity. *First*, the average land holding has been constantly declining (see Table 7). Although inheritance law is partially responsible for this decline, one cannot ignore the effects of acquisition of cultivable land by the immigrants. *Second*, as we have mentioned before, as a result of the encroachment of riverine deltas and forest lands by the immigrants, the eco system in Assam has been adversely affected leading to long term effects on weather and climatic conditions. The rivers are a source of freshwater fish and home of many aquatic lives. Assam's forests are the home of several endangered species of wildlife. Human activities along the water bodies including fishing and encroachment of forest lands have created additional dangers to these wild lives and therefore pose threats to the eco system. Furthermore, the depletion of forest has long-run impact on the climate of the state and the region. *Third*, the immigrants have encroached on land inside the belts and blocks specifically reserved for the tribal people in the state. In recent decades, Assam has witnessed a rise in ethnic tensions and militancy which to a large extent have been triggered by this pressure on their land created by the illegal immigrants. All these are purported to have an adverse effect on agricultural productivity.

[Insert Table 7 here]

The illegal migrants do not pay tax and thus they do not contribute to government revenue. Agricultural income – except for income from cash crop like tea – is not taxed.

¹⁸ See Saikia (1984)

Furthermore, the immigrants also do not pay tax on their income from petty trades. However, the government spends on providing basic infrastructure: roads, power supply, water supply, health, education to these immigrants. Also, the state government has established special departments: the Char Area Development Department and the Minority Development Corporation, primarily for the development of the immigrants from Bangladesh. Government funds are allocated to these departments. If we further add the large sum of money the government spends every year in providing reliefs to the flood victims among whom the immigrants living in the riverine deltas constitute a large fraction, and subsidies on food items through fair price shops, the total costs to the government of maintaining this immigrant population would run into several crores of rupees.¹⁹

Immigration – particularly illegal immigration from across the international border – has influenced the overall economic performance through its effects on the society. The influx of immigrants has long-run implications for demographic composition of Assam: not only has the diversity increased but also in last quarter of a century, immigration has led to political unrests and ethnic tensions. Further, the illegal migrants more often than not, in connivance with influential politicians, acquire voting rights that has a major impact on the electoral politics of the democratic institutions of Assam. Increased competition among diverse groups together with changing political balances may have adverse effects on the economy. Table 8 gives a perspective on growth performance of Assam in comparison with the neighboring states and the rest of the country. Assam has been one of the slowest growing states in both aggregate and per capita terms during the period since 1980. Furthermore, the growth of per capita net state domestic product

¹⁹ See Madhab (2006) and Sarma (2006)

during 1991-2000 has been slower than during the eighties, and the average annual rate of growth is much below the rate for other northeastern states and the national average. The growth rate of aggregate net state domestic product has been lower than the all India average, and it has fallen significantly during the nineties.

[Insert Table 8 here]

Yet another picture of economic performance can be gleaned by comparing state's position in terms of various infrastructure with those of others. In Table 9, we present various indices of economic and social infrastructure along with growth rates of per capita net state domestic products for 16 major states during the 1990s. We also present religious and linguistic diversity indices for those states. As we can see from the table, the composite infrastructure development index (IDI) has the lowest value for Assam indicating poor state of infrastructure. The diversity is relatively higher in Assam compared to other states. We may derive the following tentative conclusions from these observations. *First*, the poor economic performance both in terms of growth and provisions of public good may be attributed, to a large extent, to the socio-political problems triggered by illegal immigration from Bangladesh. *Second*, the central government has allocated substantial funding for the development of the northeastern states in last few decades. The failure to produce the desired results only indicates substantial hemorrhage of public funds.

[Insert Table 9 here]

6. Concluding Remarks

This paper examines various aspects of illegal migration into Assam from Bangladesh. We first attempt to define an illegal immigrant in Assam by discussing the parameters set

by history and polity of the state over a long period of time. Given the fluidity of the concept and the 'illegal' nature of the cross-border population movement, it is not difficult to realize that measuring the extent of illegal migration into Assam could be very challenging. Various estimates put the number of illegal immigrants anywhere between a few hundred thousands to 4 million. We also discuss some of the reasons for cross-border migration from Bangladesh to Assam. Although a wide range of factors are mentioned, the main focus is on economic factors which seem to have weighed more than others in recent times. Environmental crisis caused by population pressure in Bangladesh and relatively greater economic opportunities in terms of higher lifetime income, acquisition of land and assets have been the primary motivations behind large scale migration.

We then discuss the effects of illegal immigration on the economy of Assam. Although rigorous quantitative analysis is desirable, the absence of a sufficient amount of reliable data does not allow us to pursue such an endeavor. Therefore, our analysis is qualitative in nature - often based on anecdotes and careful observations. There are both beneficial and harmful effects on the economy. The immigrants have contributed to the rise of agricultural productivity and by supplying cheap labor in the informal labor market have benefitted the consumers and producers alike. The immigrants do not seem to compete with the native workers who are generally educated and seek employment in the formal labor market. The immigrants have put tremendous pressure on land, creating socio-political and environmental problems which have indirect adverse effects on the economy. Finally, the immigrants hardly contribute to the government revenue while the government spends a substantial amount to maintain this significantly large fraction of the population.

For a long period of time, it has been recognized that it is of utmost importance to stop or at least to slow this influx of illegal immigrants and several policy options have been discussed. Some of these options have even been tried. Although the Assam Accord provided for detection and deportation of the immigrants who entered Assam illegally after 1971, the actual number of detection and deportation so far has been disappointing. This accord also provided for border fencing. Assam shares a border of 262 kilometers with Bangladesh. According to government statistics, fencing has been completed only along 176.07 kilometer. Note that 92 kilometers of this Assam-Bangladesh border are over the water. It has been suggested that in order to prevent population movements, border patrolling should be intensified. However, there are a number of problems with all these measures as discussed in Jamwal (2004).

Since people move across the border from Bangladesh primarily for economic reasons, the solution to this problem must address these economic issues. As India's economy grows at a fast pace, the pace of migration is also likely to accelerate. It is important to recognize that despite the impressive growth that India has been able to achieve in recent years, one-fourth of India's population still lives under the poverty line. Accelerated immigration from across the border will be a formidable obstacle to India's effort to reduce poverty. Also it is in India's best interest that Bangladesh does not fall far behind in the process of economic growth. Greater economic cooperation between two countries is of strategic importance. Particularly, in the border areas India, in cooperation with Bangladesh, should launch economic development programs that improve the quality of life on both sides of the border. These programs could be introduced as private-public partnership initiatives with involvement of non-governmental organizations

(NGOs) and could aim at providing basic education and health care, and generating employment. In this context, the suggestion of guest worker program may also be incorporated.

Table 1: Interstate and International Migration to Assam: 1991 Census
(Based on Census Place of Birth Statistics)

District	Interstate Migration	International Migration
Dhubri	24373	14292
Kokrajhar	19578	13314
Bongaigaon	21490	22765
Goalpara	8452	12311
Barpeta	8631	21450
Nalbari	10297	9860
Kamrup	93714	27852
Darrang	25990	19927
Sonitpur	40900	18120
Lakhimpur	11376	6070
Dhemaji	10317	7133
Marigaon	5980	7780
Nagaon	30400	48481
Golaghat	18540	2803
Jorhat	18435	2392
Sibsagar	17051	1960
Dibrugarh	41014	6790
Tinsukia	52456	11880
Karbi Anglong	31391	10400
N.C. Hills	6090	2010
Karimganj	14615	29428
Hailakandi	6150	6326
Cachar	19339	36211
Assam	536579	339555

Source: Census of India: 1991 Assam, Migration Tables V-1

Table 2: Population Growth in Assam and India and Estimates of Migrants: 1901 - 2001

Decade	Growth rate: Assam	Growth rate: All India	Difference Col. 1 – col.2	Estimated migrants
	1	2	3	4
1901-11	16.99	5.73	11.26	0.37
1911-21	20.48	-0.31	20.78	0.80
1921-31	19.91	11.00	8.91	0.41
1931-41	20.40	14.22	6.17	0.34
1941-51	19.93	13.31	6.62	0.44
1951-61	34.98	21.51	13.34	1.07
1961-71	34.95	24.80	10.15	1.10
1971-91	53.26	54.39	-1.13	-0.17
1991-2001	18.85	21.34	-2.49	-0.56

Source: Authors' calculation based on data from Census of India 2001

Table 3: Composition of Foreign Immigrants

Period	Total immigrants	Interstate immigrants	Total foreign immigrants (estimated)		
			Total	Legal	Illegal
1951-61	1067846	260636 (24.40)	807210 (75.60)	314183 (29.42)	493027 (46.18)
1961-71	835937	340476 (40.73)	495461 (59.27)	330015 (39.48)	165446 (19.79)
1971-91	976969	290625 (29.75)	686344 (70.25)	40803 (4.18)	646641 (66.07)
Total	2880752	891737 (30.96)	1989015 (69.04)	685001 (23.78)	1304014 (45.26)

Note: The numbers in parentheses are percentage shares in total immigrants

Source: Goswami et al., 2003, *pp.*114

Table 4: Proportion of Muslim Population in India and Assam, 1911 – 2001

Year	India	Assam
	1	2
1911	22.39	16.23
1931	23.49	22.78
1951	9.91	24.68
1961	10.71	25.30
1971	11.21	24.56
1991	12.12	28.43
2001	13.42	30.91

Source: Census of India: Various Years

Table 5: Migrant Workers by Occupational Categories: 1991

	Place of last residence is outside Assam but within India	Place of last residence is outside India
Total number of migrant workers ¹	254872 (67.98)	120048 (32.02)
Percentage distribution by occupational category		
• Cultivators	16.65	41.31
• Agricultural laborers	4.99	10.27
• Workers in household industries	0.87	2.70
• Other workers	77.49	45.71

Notes: ¹ Percentage shares in total migrant workers coming from outside Assam are given in parentheses

Source: Authors' calculation based on Census of India 1991

Table 6: Average daily wages in Assam and All India: 2002 and 2003

Types of wages	2002				2003			
	Nominal (Current Rs.)		Real (1986-87 Constant Rs.)		Nominal (Current Rs.)		Real (1986-87 Constant Rs.)	
	Assam	India	Assam	India	Assam	India	Assam	India
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Agricultural wage	56.8	60.04	17.75	19.31	63.33	66.02	19.19	20.44
Non-agricultural wage	78.29	81.08	24.47	25.90	71.68	89.29	21.72	27.47
Unskilled laborers	52.48	57.16	16.40	18.26	58.92	58.87	17.85	18.11

Source: Authors' calculation from labor statistics published by the Labour Bureau

Table 7: Agricultural Land Holding in Assam and India

Year	<u>ASSAM</u>			<u>ALL INDIA</u>		
	No. of holdings	Total operated area (in thousand hectares)	Average size of holdings (in hectares)	No. of holdings	Total operated area (in thousand hectares)	Average size of holdings (in hectares)
	1	2	3	4	5	6
1970-71	1964376	2882	1.47			
1976-77	2253654	3079	1.37			
1980-81	2297588	3121	1.36			
1985-86	2419156	3161	1.31			
1990-91	2523379	3205	1.27	106637	165507	1.55
1995-96	2682997	3138	1.17	115580	163357	1.41

Source: Economic Survey Assam: 2003-2004, pp.19

Table 8: Growth Rates of Net State Domestic Product, Per Capita Net State Domestic Product and Population: 1980 - 2003

State / Union Territory	Real NSDP Growth Rates			Real NSDP per capita Growth Rates			Population Growth 1980-2003
	1980-2003	1981-1990	1991-2000	1980-2003	1981-1990	1991-2000	
Andhra Pradesh	5.52	6.17	5.35	3.82	4.01	3.98	1.70
Arunachal Pradesh	6.74	8.57	5.61	4.08	5.45	3.30	2.66
Assam	3.23	3.99	2.42	1.34	1.84	0.64	1.89
Bihar	4.06	4.79	3.29	1.79	2.66	0.84	2.27
Jharkhand	5.53		5.29	3.12		2.88	2.41
Goa	6.74	5.90	7.52	5.21	4.40	5.97	1.52
Gujarat	5.36	5.04	5.64	3.43	3.08	3.68	1.94
Haryana	5.46	6.35	4.65	3.07	3.92	2.24	2.39
Himachal Pradesh	5.06	4.65	5.44	3.25	2.74	3.70	1.82
Jammu & Kashmir	3.34	2.59	4.09	0.84	0.04	1.63	2.50
Karnataka	5.76	4.89	7.37	3.95	2.94	5.85	1.81
Kerala	4.39	3.19	5.55	3.16	1.85	4.39	1.23
Madhya Pradesh	4.21	4.60	3.29	1.47	2.22	1.15	2.74
Chhattisgarh	3.41		1.59	1.96		0.06	1.46
Maharashtra	5.66	5.85	5.47	3.54	3.58	3.47	2.12
Manipur	4.59	4.57	4.57	1.84		1.76	2.75
Meghalaya	5.29	5.24	5.51	2.52	2.42	2.82	2.76
Mizoram							
Nagaland	7.94	8.18	7.69	3.48	3.73	3.22	4.46
Orissa	3.17	2.33	4.11	1.53	0.51	2.55	1.65
Punjab	4.74	5.23	4.26	2.82	3.33	2.36	1.92
Rajasthan	5.96	7.20	4.29	2.83	4.63	1.89	3.13
Sikkim	8.97	10.13	7.31	5.10		5.10	3.88
Tamil Nadu	5.54	5.43	6.00	4.10	4.01	4.97	1.44
Tripura	6.74	5.27	7.85	7.71		7.56	-0.97
Uttar Pradesh	4.07	4.86	3.19	1.84	2.57	1.03	2.23
Uttaranchal	3.14		3.27	1.33		1.45	1.82
West Bengal	5.40	4.10	6.55	3.61	1.90	4.92	1.79
Andaman & Nicobar Islands	4.43	4.12	4.74	0.48		0.58	3.95
Chandigarh	8.19		8.49	4.55		5.01	3.63
Delhi	8.00	7.20	8.79	3.94	3.01	5.09	4.06
Pondicherry	6.47	4.19	8.75	4.05	1.30	6.82	2.42
All India Average	5.39	5.36	5.42	3.09	2.88	3.26	2.30

Source: Author's calculations from the Reserve Bank of India

Table 9: Economic and Social Infrastructure, Growth and Diversity in 16 Indian States

States	Economic Overhead Capital Index	Social Overhead Capital Index	Infrastructure Development Index	Growth (Average annual between 1991-2000)	Religious diversity index	Linguistic diversity index
	(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	8.46	4.14	9	3.98	0.20	0.27
Assam	3.76	3.13	5.1	0.64	0.47	0.62
Bihar	6.13	2.73	6.69	0.84	0.30	0.81
Gujarat	10.99	6.62	14.12	3.68	0.19	0.16
Haryana	9.95	5.79	12.18	2.24	0.20	0.20
Himachal Pradesh	6.67	8.26	12.07	3.70	0.08	0.76
Karnataka	10.04	4.99	11.32	5.85	0.26	0.54
Kerala	10.84	10.36	19	4.39	0.58	0.07
Madhya Pradesh	6.78	2.61	6.58	1.15	0.14	0.66
Maharashtra	11.08	6.62	14.22	3.47	0.33	0.45
Orissa	6.92	2.71	6.79	2.55	0.10	0.33
Punjab	11.29	6.98	14.72	2.36	0.48	0.15
Rajasthan	6.77	3.89	7.82	1.89	0.20	0.75
Tamil Nadu	10.48	6.33	13.02	4.97	0.21	0.24
Uttar Pradesh	6.37	2.3	6.19	1.03	0.30	0.31
West Bengal	6.33	5.06	9.06	4.92	0.39	0.26

Notes: The infrastructure indices (EOCI, SOCI and IDI) for 1991-92 have been taken from Ghosh and De, 2005. The growth rates are from Table 1. The diversity indices are calculated from census data for 1991. We use the following formula to compute our measures of Diversity:

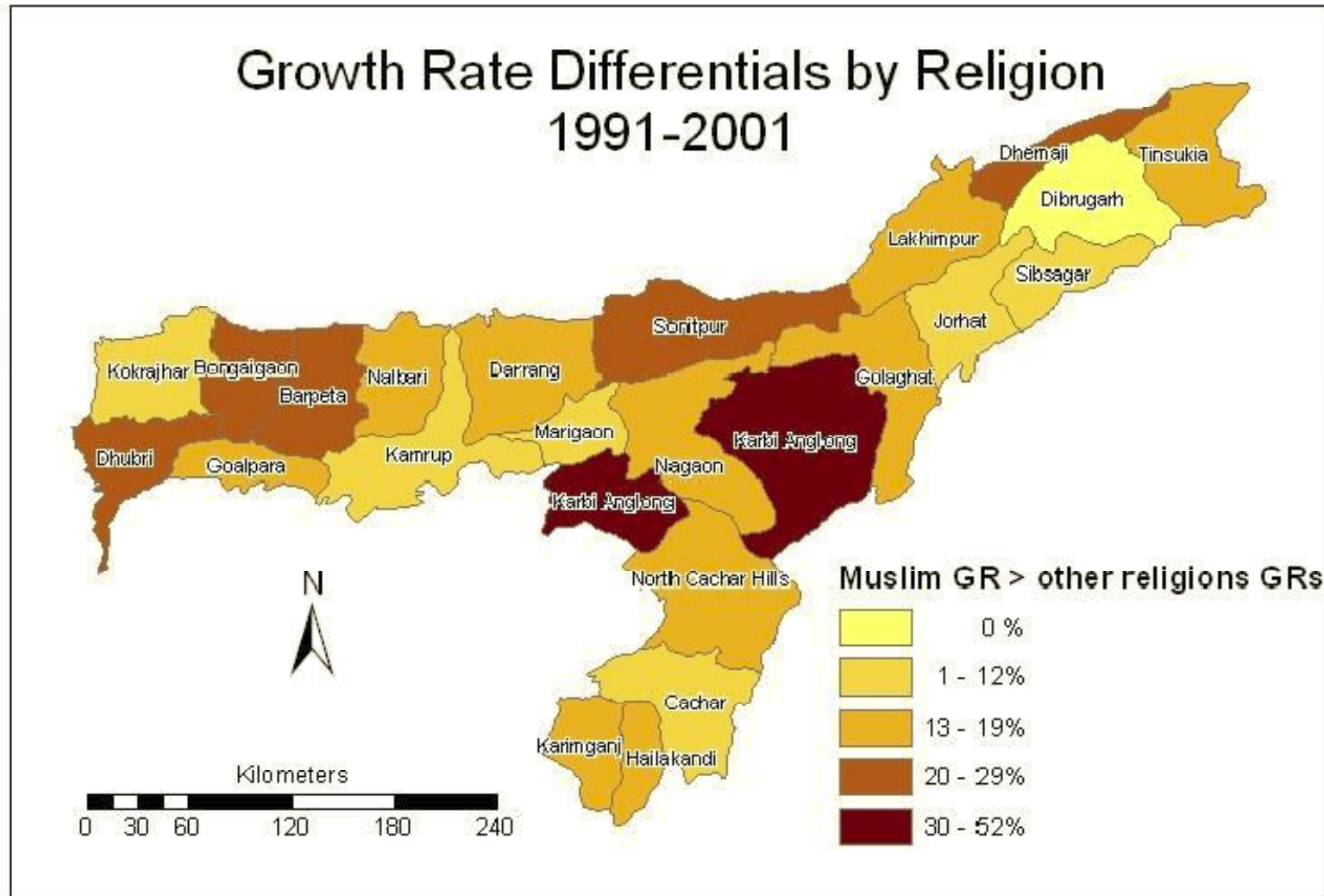
$$Diversity_j = 1 - \sum_{i=1}^N s_{ij}^2$$

where s_{ij} is the share of group i ($i = 1, 2, \dots, N$) in state j .²⁰ This measure reflects the probability that two randomly selected individuals from a population belong to different groups.²¹ A value of 0 indicates perfectly homogeneous society and a value 1 indicates the most diverse society with each individual belonging to a different group.

²⁰ The religious groups are: Hindus, Muslims, Christians, Sikhs, Buddhists, Jains, other religious groups and 'no religion stated'. Thus, $N = 8$. The number of linguistic groups (defined by the numbers of people who state a language as their mother tongue) varies from state to state. Among the 16 states we have considered, Kerala and Tamil nadu have the lowest number of linguistic groups with 60 groups each and Maharashtra has the highest number with 144. Assam has 112 different linguistic groups.

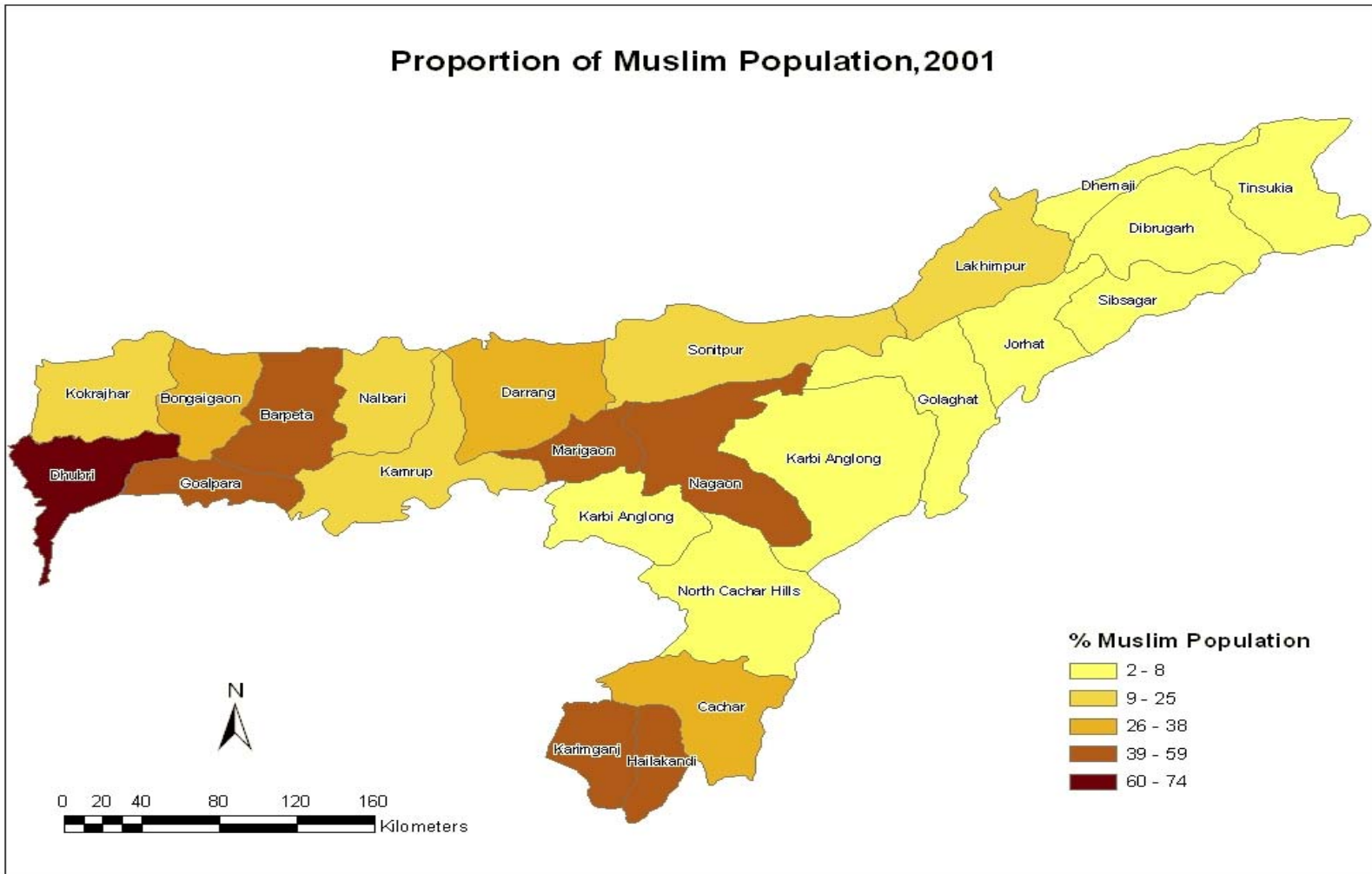
²¹ These indices are commonly used in the literature. For example, see Alesina et al (1999) and Alesina et al (2003)

Figure1: Growth Differentials by Religion, Assam



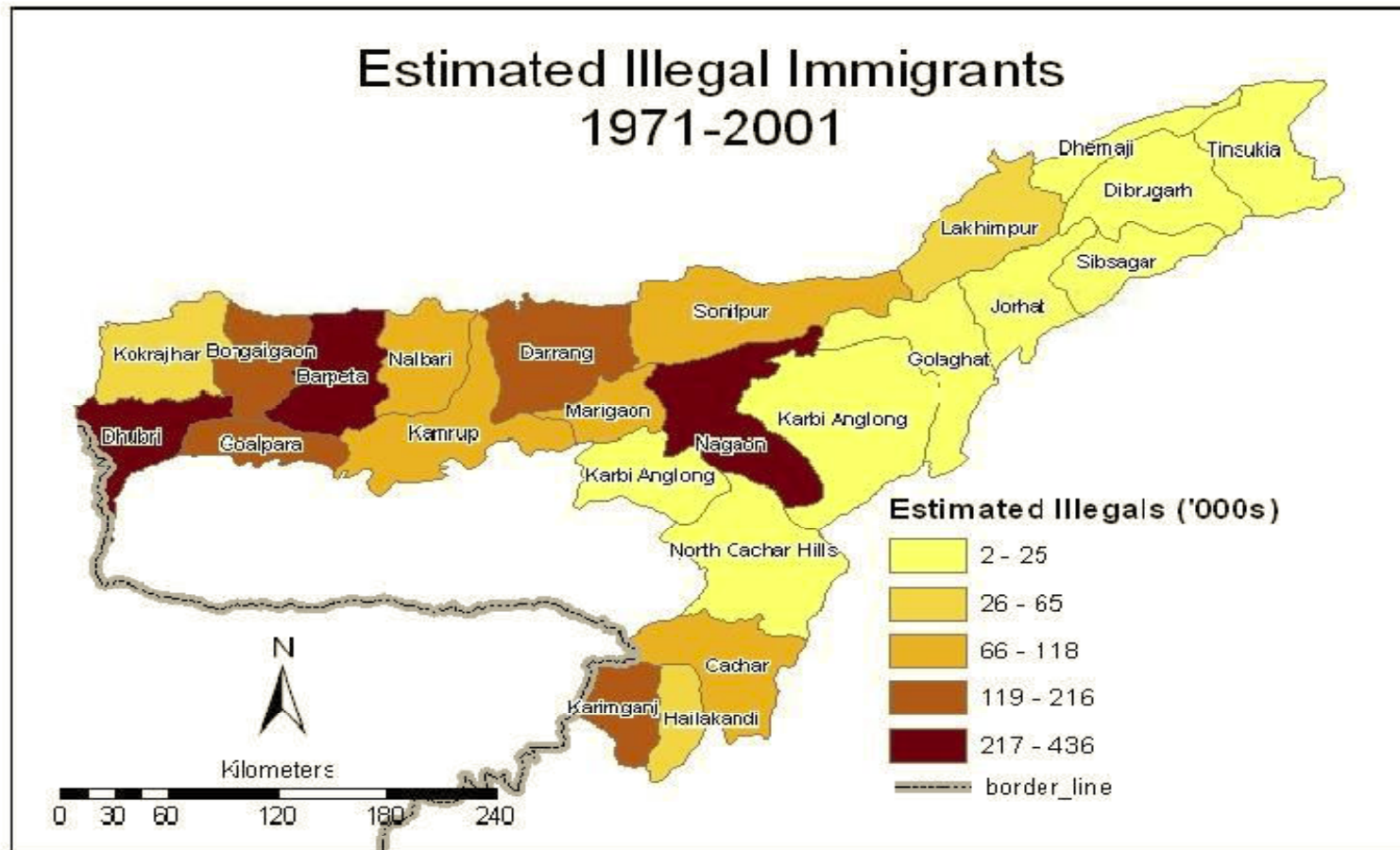
Source: Saikia (2005)

Figure 2: District wise Muslim Population in Assam in 2001



Source: Saikia (2005)

Figure 3: Estimated Illegal Bangladeshi Migrants in Assam, 1971-2001



Source: Saikia (2005)

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