Background and Objective: Despite the increasingly intense debate on the issue of immigration in Assam, there is no clear consensus on the nature and magnitude of such influx. With the help of historical Census data and the most robust Sample registration system (SRS) data, we aim to present the most scientific estimate on immigration trend in Assam during 1951-2001.

Method: We first analyzed the readily available migration data in Census of India, 1961-2001. Thereafter, we estimated immigration trend for 1971-2001 using comparing the estimated and enumerated population in Assam. To calculate estimated population in Assam, we used cohort-component method of projection on Census and SRS data.

Findings: Both direct and indirect estimates revealed that Assam is the destination for the migrants mainly from East Pakistan/Bangladesh, Nepal and Mynmar before and after India’s independence. On average, ninety percent of immigrants in Assam are of Bangladeshi or Pakistani origin. Census report on immigrants has been substantially under reported in post Assam movement period. Indirect estimates shows assuming 1951 as reference period, the number of ever-immigrants and their descendants in Assam rose as high as 4235124 in 2001.

Interpretation: Every sixth individual in Assam is either an immigrant who entered in Assam after 1951 or their descendants constituting approximately 16 percent of the total population in Assam in 2001.
A Vietnamese offensive in Kampuchea results in a new movement of refugees to the Thai border; Israelis, secretly working with the Sudanese and others, transport Ethiopian Jews to Israel, soon followed by an Ethiopian protest that their citizens have been abducted; Tamils from northern Sri Lanka flee to India and Tamil secessionists call upon India to invade Sri Lanka, likening their situation to that of Bangladesh in 1971; and relations between Nigeria and Ghana are strained when the Nigerian government announces that 700,000 migrant workers must immediately leave.

- Weiner, 1985, p. 441

1. Introduction

The world possibly has never fallen short of illegal human movements and the consequences thereafter across decades and borders. In fact, the history of the world can easily be described as one of migration, as almost each one inhabiting the world has been a migrant or descendant migrant at some point (Hazarika, 2006). People originate somewhere, but are found elsewhere. This is because they move. But what makes people move illegally? At instances it could be a State-driven movement (Weiner, 1985); at others the State could intervene much later only to correct the incorrect consequences. Religion working through persecution, propagation and fundamentalism can also be instrumental in pulling and pushing humans across nations; politics acting through vote banks and parties can often create pressures before, during and after illegal human movements; similarly, war and conflicts, as well as lack of economic opportunities, also trigger waves of migration. Besides human beings themselves, nature can also generate streams of human movements through recurrent floods, droughts, cyclones and the like (Kumar, 2006). Immigration has been more strongly conceptualized as one that increases sociocultural diversity of a population. This can be an asset if it unleashes creativity, competition and trade whereas can turn out as a liability because of possible threats to cultural identity and social cohesion (Willekens, Massey, Raymer & Beauchemin, 2016).

Some Indian States, particularly Assam—a major State situated in Northeast India—is no exception to such demographic movements. Assam has historically been on the migration interface of diverse population streams, and much of this is easily linked to its colonial geography and factors such as historical labour demand and supply (Dasgupta, 2001-2002; Sengupta, 2006). In fact, because of such an astounding demographic mix, a few scholars have characterized Assam as a ‘miniature Asia’. However, in recent decades, Assam has displayed tendencies for power struggle across socio-demographic groups, and witnessed a number of armed conflicts between ‘insurgents’ and the State. Importantly, demographic changes are increasingly contending hegemonies, coexistence of pan-Indian nationalism and regionalism, community consciousness, language standardization, synchronizations, politicizations, disintegrations, securitizations and so on (Sengupta, 2006). Besides, Islamic interests, pro-Bangladesh sentiments, unnatural partition, porous borders, devastating floods, population
pressure on land and lack of economic opportunities (Kumar, 2006; Siddiqui 2003), have also pushed thousands from Bangladesh towards India’s North-east, particularly Assam. However, it may be argued that heterogeneities in the socio-demographic fabric have made movement within and across this region an old familiar process, whereas it is only the differences in terminologies and treatments on crossing these borders that makes the process complicated, controversial and, often, illegal. Clearly, the issue of cross-border migration today has thus evolved from an extremely interesting mix of the region’s geography and history.

What impact do illegal human movements have on the political economy at both the origin and the destination? More often than not this profoundly impacts the bilateral relationship between the two concerned nations, their positions within the network of international relations and the internal policy decisions of both the nations (Weiner, 1985). More locally, such influx accelerates population growth, alters demographic attributes, increases border fluidities, creates economic and political pressure on the host nation – all of which and more are applicable in the case of persistent cross-border migration into Assam (Kumar, 2006). If the process prolongs the impacts are expected to intensify manifold. Consequently, either an assimilated or an integrated society evolves, or a long-term impact observed in terms of altered socio-demographic attributes, including linguistic and religious composition etc. make the natives minorities in their own land—the threat that lingers in Assam presently. It is also likely that differences in socioeconomic and behavioral attributes of the local and the migrant population can significantly alter the economic and the political environment. Furthermore, it is also perceived that a large influx of migrant population can further diminish the limited opportunities and scarce resources available to the locals (Kumar, 2006).

However, it is important to note that, despite the increasingly intense debate on the issue of cross-border migration in Assam, there is no clear consensus on the nature and magnitude of such influx. Political perceptions¹ notwithstanding, estimates provided by academics and researchers also tend to vary widely due to differences in underlying assumptions, data and methods. In fact, the estimation of illegal immigrants in Assam is very challenging due to several reasons. First, Assam (or India) does not have a robust civil registration system to assess the natural growth rate periodically at the district or local level. Second, immigration has been a highly politicized issue in Assam in past several decades, and has led to severe underreporting of immigration status by the immigrants in Census and other household surveys. Third, in terms of language or religious affiliation or other socio-economic features, immigrants in Assam are not very distinct from some native population subgroups in the state; thus, it is difficult to ascertain immigration status on the basis of language, religion or other ethnic characteristics. Fourth, no systematic information is available to determine the legality of the immigration process. In fact,

¹ On 10 April 1992, Shri Hiteshwar Saikia, then chief minister of Assam, stated that there were three million illegal Bangladeshi migrants in Assam. Two days later, he committed a volte face, and declared that there were no illegal migrants in Assam (The Governor of Assam 1998).
it is noted that often immigrants are able to obtain necessary documents to establish citizenship status (Minister of State for Home affairs 2016 reported by Assam Tribune, April 26, 2016; Sadiq 2008; Asomiya Pratidin, 24 June 2016). Clearly, given the relevance of immigration in Assam, it is critical to review the figures and arrive at robust estimate of migration to facilitate planning and policy discussions. Against this backdrop, this paper combines both direct and indirect demographic methods to estimate the possible magnitude of cross-border migration in Assam during 1951 to 2001.

2. A brief history of immigration in Assam

The identity of any place in India, or the significance of any time, has grown largely from her histories of changing rulers. No matter how deep one attempts to dig into the historical roots of human mobility between the current entities called Assam and Bangladesh, it is almost impossible to do it without beginning the discussion from colonization. Initiating from 1757, after defeating the Nawab of Bengal, the British went on a mission of demarcating the political territories. Goalpara and Sylhet, two districts of earlier Assam, were acquired by the East India Company as early as 1765 after having obtained the Dewany of Bengal Suba from the Mughal Emperor Shah Alam (Bose, 1989). The local rulers were a party to this play as well. During this period, India had a vast areas of uninhabited land between regions (which were, of course, under distinct rulers) referred to as the frontier zones. With increasing population in all possibility and with administrative and economic requirements of the British, very soon these frontiers shrunk and line borders were born. Ludden (2003), describes how the first boundary between Sylhet in present day Bangladesh and Meghalaya in present day India, once a part of Assam, came into being in the year 1791 (as cited in Murayama 2006).

However, once an international border is drawn, there emerges the issue of legitimacy of movement across borders. Therefore, in order to understand the dynamics of cross-border human movement and the involved flexibilities or rigidities, it is important to familiarize oneself with the development of borders, as it has a direct bearing upon the equations that has evolved over these years. As such, Assam has had a long history of invasions and annexations that precedes colonial rule. Assam, a land ruled by the Ahoms traditionally, faced invasion by the Burmese during 1817-1826. Dasgupta (2001-2002) writes that the British, having intervened in this conflict, ended up taking charge of the land. This gave colonial powers control over Assam and her destinies, which they moulded ever since until India won independence in 1947. Bose (1989) is therefore of the opinion that Assam was a ‘conquered territory’ of the British. Dasgupta (2001-2002) points out 1826 as the year that saw both labour and entrepreneurs migrating into Assam from Bengal owing to a colonial conquest that opened up the region as a land frontier. In those days, productive and skilled in-migration from Bengal was seen most positively in the sparsely populated Brahmaputra valley with little or no economic progress whatsoever.
Around 1886, the British had opened up Assam and its great niches by introducing the railway in this beautiful valley of the Brahmaputra. Along with it came the latest and most lasting manifestations of the many waves of immigration and acculturation that this land has been subject to (Singh, 1984, p. 1058).

Bose (1989) has marked 1826, February 22 precisely as the official beginning of the new State of Assam. According to Murayama (2006), Assam is almost fifty years younger. The new province, she says, with Sylhet as a part, was born in the year 1874. This inclusion ensured administrative convenience for the British, who fuelled the in-migration of the relatively better educated Bengalis to make Assam economically better off.

Besides the colonial administrative strategies, the two significant waves of migration into Assam were due to estate labour and agriculture. It is noted that the development of commercial agriculture of the estate type in Assam was one of the greatest magnets for in-migration in Assam during the colonial period, and that it made Assam the fastest growing province in India (Davis 1951).

Table 1. Trends in percent growth in Assam 1872-1941

<table>
<thead>
<tr>
<th>Period</th>
<th>Percent growth (^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1872-1881</td>
<td>9.1</td>
</tr>
<tr>
<td>1881-1891</td>
<td>9.2</td>
</tr>
<tr>
<td>1891-1901</td>
<td>5.9</td>
</tr>
<tr>
<td>1901-1911</td>
<td>14.6</td>
</tr>
<tr>
<td>1911-1921</td>
<td>12.8</td>
</tr>
<tr>
<td>1921-1931</td>
<td>15.6</td>
</tr>
<tr>
<td>1931-1941</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Source: Census of India, 1931, Vol.3 (Assam), Part 1, p.5 and 1941, Vol1, p.63 (as cited in Davis, 1951 Pp.115).

With the introduction of tea cultivation in 1840, British imported tea labourers (termed “coolie) from Bihar and Orissa en masse, since there were hardly any landless labourers in sparsely populated Assam. Also, the indigenous Assamese couldn’t be persuaded to leave their farms and villages to work in tea gardens. For example, in 1921, 571,000 persons from Bihar and Orissa were enumerated in Assam. The second type of migration, termed “farmer migration”, however, is more relevant to an understanding of the historical background of the present study. Assam, which had a lot of waste and fallow land, began attracting Muslim peasants and cultivators from the East Bengal districts of the Bengal Presidency as early as 1891 (Bose, 1989). It is noted that

\(^2\) These figures make allowance for changes in the boundaries.
despite the long-standing congestion of population and scarcity of land, the mass migration of Bengalis to the Assam valley was first reported in the 1911 Census (Davis 1951). The number of persons born in Bengal but living in Assam were 159,000 and 348,000 in 1911 and 1921, respectively, excluding those of tea estates (Census of India, 1921). At first, the Bengali farmers simply spilled over into the nearby districts of Goalpara, and the other districts of the valley contained only a few thousand Bengalis, most of whom were clerks, traders, and professional men rather than farmers.

Table 2. Growth of Bengal-Born Population in Assam, 1911-1931

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Born in Mymensingh</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911</td>
<td>194,000</td>
<td>37,000</td>
</tr>
<tr>
<td>1921</td>
<td>376,000</td>
<td>172,000</td>
</tr>
<tr>
<td>1931</td>
<td>575,000</td>
<td>311,000</td>
</tr>
</tbody>
</table>

Source: Census of India, 1931, Vol.3 (Assam), Part 1, P50. (as cited in Davis, 1951 pp118)

However, during 1911-1921, they formed a sizable proportion of the population, except in two districts in Upper Assam—Sibsagar and Lakhimpur (Davis 1951). By 1921, a fifth and a sixth of population was Bengal-born in Goalpara and Nagaon district, respectively. It is said that, in the Brahmaputra valley, Bengal-born settlers increased fourfold between 1911 and 1921. Much of this movement was from a single, thickly populated district in Bengal called Mymensingh (Table 2). The 1931 Census report of Assam describes the following way:

Where there is a waste land thither flock the Mymensinghias. In fact the way in which they have seized upon the vacant areas in the Assam Valley seems almost uncanny. Without fuss, without tumult. Without undue trouble to the district revenue staffs, a population which must amount to over half a million has transplanted itself from Bengal to Assam Valley during the last twenty five years. It looks like a marvel of administrative organization on the part of the Government but it is nothing of the sort: the only thing I can compare it to is the mass movement of a large body of ants.

For about half a century, the streams of human movements gradually extended themselves, and there was no significant social or political discussions concerning this issue. However, by the 1930s, several rows of little thatched huts that appeared along the riverbank emerged as an issue of contention for the local population, who were unable to accept the loss of forest land to the migrants. The second was in terms of the loss of language. The third was the religious threat, which was coupled with the Muslim League’s demand for the new nation of Pakistan (Murayama, 2006). In the Census of 1931, Mullan said that the Assamese might encounter the threat of becoming a minority in their own land, recalls Mishra (2006). Prior to that, in 1920, in fact, the land system was introduced and by 1930-36, as many as 59 forest and village grazing
reserves were thrown open to the immigrants in the Nowgong district under a colonization scheme that grouped migrants into particular areas. By March 1933, 47,637 acres of land was given to 441 Hindus as against 1619 immigrant Muslim families and, thus, by 1936, 37.7 per cent of the land was under migrant occupation in Nowgong district alone (Mishra, 2006). Thereafter, several areas of confrontations have been identified, including issues such as linguistic composition, religious identity as well as political demand for a new nation, East Pakistan (Murayama, 2006; Sinha, 1998). Politicization of issues both at regional and national level became further complicated due to the partition of India in 1947. Clearly, colonization, invasion, annexation, industry, agriculture, land, politics, partition and more have all contributed in constructing the history of immigration to Assam and the simultaneous construction and realization of an identity and imagination of Assam.

After independence the effect of Assam’s local resistance was beginning to be felt at the centre. The Indian parliament officially acknowledged the problem in 1950 by passing the Immigrants (Expulsion from Assam) Act 1950. The Act however was only on paper in the ground the inflow was actually picking up yet again.” (Joseph, 2006, p. 7)
heightening of insecurity among the minorities intensified migration of the Hindus to the bordering states of India.’ (Nandy, 2005, p. iv).

1975 saw water disputes between India and the newly born state of Bangladesh. Bangladesh accused that India has been diverting the dry season flow of the Ganges into one of her internal rivers before it reaches Bangladesh. This in turn has been affecting the South-Western part of Bangladesh in terms of agriculture, industry, domestic water supply, fishing and navigation and so on. Thus, people from these affected areas have started migrating to India (Swain 1996).

Cross-border movement is an increasingly pertinent global concern and has a significant bearing on international peace and security. From a regional perspective, identity and underdevelopment have been the two basic issues responsible for volatility in Assam for long (Das 2012). The report of the Governor of Assam to the President of India clearly observes that the problem was only economic to begin with, became communal and political with partition and independence and, in the post-independence era, expanded into an international concern. However, both India and Bangladesh are responsible (if not equally) for the enormity of the problem. From the Indian perspective, a number of policy shortcomings are apparent, including open and poorly controlled and managed borders, absence of a sound and comprehensive immigration policy, rampant corruption among the border forces, cynical policy of turning the foreign migrants into captive voters by political parties, the stubborn denial by the Bangladesh government of the very existence of the problem, inaccurate policy prescriptions, legal loopholes, political short sightedness, indecisions and profound human errors (Nandy, 2005; Deshingkar and Akter, 2009; Singh, 1984).

3. Immigrants in Assam: A critical review of previous estimates

Data gaps (Deshingkar and Akter, 2009), dependence on decadal Census data (Willekens, Massey, Raymer & Beauchemin, 2016) and the lack of information regarding age or year of migration make it difficult to analyse the trends and effects of migration on socio-eco-political events and processes (Willekens, Massey, Raymer & Beauchemin, 2016). Although there are several attempts to estimate the magnitude of immigrants in Assam, only a few studies are based on scientific methods and data. The earliest known attempt at the estimation of illegal migrants in Assam was by Weiner (1983). This study estimated an excess of about 10 million people in Assam in 1981 under the assumption that Assam’s growth rate is similar to India. Weiner argued that in the absence of any evidence that the growth rate of Assam is higher than India, only one assumption stands valid: such net growth is due to immigration. Goswami, Saikia and Goswami (2003) used the Census survival ratio method to conclude that Assam had about 2.8 million immigrants during 1951-1991. However, the Census survival method has a serious limitation, since it completely ignores birth and deaths to immigrants or migrants, and depends heavily on equal coverage in the two Censuses.
Saikia (2005) estimated the number of illegal migrants in Assam at 1.4 million and 1.1 million during 1971-1991 and 1991-2001 respectively. This study also mentioned that the government recorded the entry of 0.84 million people into Assam from Bangladesh during 1972-1992; these people stayed back. Nath and Nath (2009) highlighted that as per the Home Ministry/Intelligence Bureau, there were about four million illegal migrants settled in Assam in 1997. Another study by Nath, Nath and Bhattacharya (2012) used the demographic projection technique (Leslie population matrix method) to estimate the population of Assam from 1971 to 1991 and from 1991 to 2001. For this purpose, they used life-table survival rates and age-specific fertility rates of the Sample Registration System of India. This study shows that during 1971-1991, the estimated amount of undocumented migration was 830775 and during 1991-2001, it was 534819. However, this study has several shortcomings. For instance, this study did not consider the substantial fertility differential between religions even during 1991-2001 or explain how net migration was computed in the absence of emigration data.

A more recent attempt at estimation was by Borooah (2013), whose approach essentially was an improved extension of Weiner’s method. While Weiner used the all-India growth rate in Assam to calculate the excess population in Assam, Borooah used the all-India non-Muslim and Muslim growth rate for the non-Muslim and Muslim population in Assam, and found that Assam has always experienced excess population for both non-Muslim and Muslim populations; however, the excess of non-Muslim population was noted to be much higher than that of the Muslim population. However, this approach also suffers in at least four respects. First, the assumption that Assam’s growth rate should be equal to that of India in absence of migration is a very strong assumption. Both the Sample Registration System and National Family Health Survey reports show that Assam’s total fertility rate (TFR) is substantially lower than India’s (IIPS & ORC Macro, 1995, 2000, 2007; RGI 1999). Therefore, the assumption of a higher fertility rate in Assam will have substantial impact on the estimation of excess population during the study period. Similarly, the mortality rate of Assam is substantially higher than India’s throughout the study period (RGI 1998; 1999; 2004; 2007; 2008). Second, the differential in fertility between religions is found to be higher in Assam than in India. For example, as per NFHS 3, the gap in Hindu TFR and Muslim TFR is 0.44 for India whereas the same for Assam is 1.69 (IIPS & ORC Macro, 2007; IIPS and ORC Macro, 2008). Third, the extrapolated growth rate of the Muslim population in India (28.06%) was much higher than the actual growth rate for the period 2001-11 (24.76%). Finally, this study was based entirely on the overall growth rate and did not consider the three important demographic aspects, viz., fertility, mortality and documented migration, while estimating the magnitude of excess migration in Assam. Besides, a common limitation of all the above-mentioned studies was that none examined the trends in immigration data directly available through the decadal C
ensus. Given these limitations, the objective of the present study is to provide more robust estimates of immigrants in Assam during 1951-2001. The details regarding the data and methods are described in the following section.

4. Methods and Data

Description of the methods

We applied the cohort component method of projection to derive the number of immigrants in Assam indirectly. The cohort component method is a robust demographic technique used to forecast population by age and sex, by taking three essential components of demographic change, viz., fertility, mortality and migration, as inputs. Unlike other mathematical models of population projection, this method is purely based on empirical approach of age-sex growth rate.

The most basic form of population projection is defined by

\[ P(t+n) = P(t) + B(t) - D(t) + NIM(t) + I(t) - E(t) \]  

where, \( P(t) \) is the population at time \( t \); \( B(t) \) and \( D(t) \) are number of births and deaths; \( NIM(t) \) indicates the net interstate migrants; \( I(t) \) and \( E(t) \) denote the number of immigrants and emigrants during the period \( t \) to \( t+n \).

The mathematical description of the cohort-component method is described below.

1: Multiply base population in each age group at time \( t \) with 5-year survival probability to get survived people at \( t+5 \). Let \( K_x^{f(t)} \) and \( K_x^{f(t+5)} \) be the female population at time \( t \) and \( t+5 \) respectively, then the projected female population at time \( t+5 \) would be

\[
K_x^{f(t+5)} = K_x^{f(t)} \frac{x L_x^{f(t+5)}}{x L_x^f}
\]

\( x L_x^f \) is the person years lived by \( l_x \) females in the age group \( x \) to \( x + 5 \).

Similarly, \( K_x^{m(t)} \) and \( K_x^{m(t+5)} \) be the male population at time \( t \) and \( t+5 \) respectively, then the projected male population at time \( t+5 \) would be:
This provides projections for ages 5 and above, that is for conventional age groups 5-9, 10-14, ...
at time t + 5. For ages below 5, the number of births in the period t to t+5 needs to be computed as shown below

II. To calculate the number of births by sex during t to t+5: Let \( B_{t,t+5} \) be the number of births during the period to t+5 and \( W_x \) be the women years lived. For the computation of women year, we can use the relation \( W_x = \left[ K^{f(t)} + K^{f(t+5)} \right] \times \frac{5}{2} \). Once women years have been calculated, then the total number of births may be easily calculated using the relation

\[
B_{t,t+5} = \sum W_x \times \left( \frac{ASFR}{1000} \right).
\]

Since our prime interest here is the number of female and male births, we can use total births to compute them separately using sex ratio at birth (SRB). Therefore,

\[
FB = TB \times \frac{100}{100 + SRB}
\]

where FB and TB indicate the number of female births and number of total births respectively.

Male Birth (MB) = Total birth – Female birth

III. The projection of “0-4” age group: In step I, the calculation of the first age group is not done as it required the number of female births computed in the second step. Using information from the relevant life tables on the probability of survival, the projection of the population in the age group ‘0-4’ is carried out. The relation provided below shows the importance of mortality schedules as well as fertility schedules in determining future populations.

\[
K^{f(t+5)}_0 = FB \times \frac{5Lo^f}{5lo}
\]

\[
K^{m(t+5)}_0 = MB \times \frac{5Lo^m}{5lo}
\]

where \( \frac{5Lo^f}{5lo} \) and \( \frac{5Lo^m}{5lo} \) explains how many person-years are lived in each age group by males and females respectively relative to the radix of the respective life table (male and female life tables).

The values of \( \frac{5Lo^f}{5lo} \) and \( \frac{5Lo^m}{5lo} \) can be taken from the constructed abridged life table.
V. **Compute the total population**: We compute total population at \( t+5 \) and compute growth rate and crude birth rate which is \( \text{CBR} = \frac{\text{No. of births}}{\left[ TP(t) + TP(t+5) \right]^2} \).

The above steps I to V are repeated for successive 5-year periods up to the next Census; this is possible since the Indian Censuses are separated by multiples of 5 years.

VI. **Adjustment for migration rate**: Finally, we adjust estimated population with the given migration population (in-migration, out-migration and immigration information available from Census data and emigration information from NSSO survey).

VI. **Excess or deficit population**: We repeat all these processes for the periods 1971-1991 and 1991-2001. Following this, we compare the estimated figures with the observed figures in the Census to get the magnitude of excess population in Assam for these periods. Thus, the principle of applying cohort component methods is to estimate the expected size of the population in Assam given fertility, mortality and migration schedule the state passed. This estimated total size of population is thereafter compared with the Census figure to derive the excess or deficit population in Assam.

For the period 1971-1991, the Census population at 1971 was the base period and for the period, 1991-2001, 1991 was the base period. For 1971-1991 projections, we excluded new immigrants (as per Census 1971, about 364,037 immigrants come to Assam after 1961 but before 1971). Similarly, for 1991-2001 projections, we excluded the estimated new immigrants (the estimated immigrants are about 1246610 who came after 1971 but before 1991).

**Description of the data**

*Age-sex data*

We used the age-sex data from Census of India, 1961, 1971, 1991 and 2001. It is worthwhile to note that Census enumeration exercise did not take place in Assam in 1981 due to the “Assam movement” against immigrants. Since migration data in 2011 Census is yet to be released, we couldn’t carry out the analysis for the period 2001-11. The base population for 1971 is adjusted for the current administrative boundary of Assam.

*Fertility and mortality data*

For both these periods (1971-91 & 1991-2001), we used State-level fertility and mortality assumptions from the Sample Registration System (SRS), India. For the mortality schedule, we used abridged life-tables for the corresponding period. Previous studies found that the SRS
provides the most reliable fertility and mortality data in India and its States. A detailed description of SRS data can be found in (Saikia et al 2011; Bhat 2002).

Migration data

Census D-series data gives migration information by place of birth, place of last residence and duration stay in place of enumeration. Using these data, we calculated net interstate migration.

To examine ever-immigrants in Assam, we used the “place of birth” and “place of last residence and duration in the residence” information in the Census years 1961, 1971, 1991 & 2001. By the term “ever-immigrants”, we mean foreign-born people (born any place outside India) staying in Assam at the time of Census enumeration. Since the 1981 Census was not conducted in Assam, we cannot give the estimates for 1971-81 and 1981-91 separately.

The Census doesn’t provide any information on emigration from India. The only source on emigration from India is the 64th round of the National Sample Survey Organisation (NSSO 2010). Since the NSSO doesn’t appropriately represent our study period, we give estimates of excess population with emigration and without emigration.

Measures

We presented both absolute magnitude of immigrants and rate of excess population (due to immigration) in Assam. For both direct and indirect estimates, new immigrants are foreign-born people staying in Assam for less than 10 years at the time of Census enumeration. The ever-immigrants in direct estimates are foreign-born people in Assam at the time of Census enumeration irrespective of their duration of stay in Assam. The ever-immigrants in indirect estimates are the foreign-born people who came to Assam after 1951. The ever-immigrants and their descendants (shown in the right panel of Figure 5) are the foreign-born people in Assam who came after 1951 and the growth in their population, say, the ever immigrants and their descendants in the year 2001 = Ever immigrants at 1991 + growth in ever-immigrants in 1991 + new immigrants during 1991-2001.

5. Results based on Census of India, 1961-2001

Reported Ever-immigrants in Assam

Figure 1 depicts the trends in reported ever-immigrants in Assam for the past few decades. As noted earlier, the term “ever-immigrant” denotes people living in Assam at the time of Census enumeration but born outside India irrespective of their duration of stay in Assam. Therefore, these figures don’t include the children of the immigrants born in Assam. It is clear from Figure
that the number of total reported ever-immigrants in Assam in 1961 was 860331 and rose to 986847 in 1971. Overall, it appears to be male dominated ever-immigration, viz., female–male sex ratio is 742 and 848 (per 1000 males) for 1961 and 1971 census respectively. The proportion (expressed in percentage) of ever-immigration (ever-immigrants divided by total population) is 7.93 and 6.74 (per 100 persons) in 1961 & 1971, respectively\(^3\).

**Figure 1: Trends in ever-immigrants in Assam, 1961-2001**

![Graph showing trends in ever-immigrants in Assam, 1961-2001](image)

Source: Migration information by place of birth, D Series, Census of India, respective rounds

The number of reported ever-immigrants comes down sharply in the 1991 and 2001 Census. The number of ever-immigrated people in 1991 Census is about three times less than the previous Census. It poses several questions on the consistency of the reported place of birth information. First, is this figure consistent with the figures reported in the previous Census? The ever-immigrants in 1991 Census (339555) should be survivors of the ever-immigrants in Assam in 1971. Therefore, if we assume the growth rate of Assam during 1971-1991 applies to the population of ever-immigrants, the number of ever-emigrants should be the sum of new immigrants in 1971-91 and the survivors of ever-immigrants in 1971. If we simply apply the

\(^3\)The total population of Assam was 10837329 and 14625152 in 1961 and 1971, respectively.
average crude death rate (CDR) of Assam\textsuperscript{4} during 1971-91 on ever-immigrants, the estimated number of immigrants should be at least 730266 (at the exponential annual growth rate of 2.13 per cent for the period 1971-91 observed for all population in Assam).

Second, is it possible that ever-immigrants of Assam moved out of the country between 1971 and 1991? To answer this question, we need to review a series of historical events during this period in East Pakistan and in Assam. As mentioned earlier, Assam has been an important destination for migrants from densely populated Bangladesh (or East Pakistan before the independence of India). Both 1961 and 1971 Census data confirm the continual immigration from Bangladesh or East Pakistan (Figure 2). In the year 1971, Bangladesh (or East Pakistan) fought for liberation from Pakistan; millions fled to India to escape rape and genocide (Beachler 2007; Debnath 2011; Ganguly and Milate 2015; Pruitt 2011).

At the same time, Assam experienced a dramatic increase in the number of registered voters—from 6.3 million in 1972 to 8.7 million in 1979\textsuperscript{5}—which was not the result of the enfranchisement of new voters who were previously ineligible (Weiner 1983). This resulted in a student-led anti-immigrant movement during 1979-85 (the ‘Assam Movement’) that demanded the identification and expulsion of illegal Bengali immigrants in Assam. The Assam Movement created huge social unrest, including the boycott of the 1981 Census, State elections and the infamous Gohpur and Nellie massacres. Therefore, the people of Bangladeshi origin were too intimidated to report their actual place of birth or last residence information in 1991 Census. Thus the reporting of “place of birth” or “immigrant status” was severely under-accounted in post-1971 Censuses.

**Immigrants by source countries**

Figure 2 presents the trends in immigrants in Assam by countries of origin during 1961-2001. The first three countries of origin are Pakistan or Bangladesh\textsuperscript{6}, Nepal and Burma. For the same reason discussed earlier, the reported number of immigrants is substantially lower in the most recent Censuses. On average, the number of immigrants from Pakistan/Bangladesh is about 11 times higher than the number of immigrants from the second source country, Nepal. Figure 3

\textsuperscript{4}As per the Sample Registration System data, the crude death rate (CDR) of Assam during 1971-1991 varied from 17.8 to 11.5. If we apply the average CDR on the ever-immigrants, the number of deaths among immigrants during 1971-1991 should have been 2,56,580.

\textsuperscript{5}In 1979, shortly before the parliamentary election, the Chief Election Commissioner, S. L. Shakdher, stated that the electoral rolls for Assam had been inflated by the registration of illegal Bengali migrants from Bangladesh. See L. K. Sarin, India’s North-East in Flames (New Delhi: Vikas Publishing House, 1980), p. 36.

\textsuperscript{6}Since Bangladesh was a part of Pakistan until 1971, we combine the immigrants from East Pakistan, Pakistan and Bangladesh. In the 1961 and 1971 Censuses, the people who came from (present) Bangladesh reported East Pakistan or Pakistan as their source of origin. In the 1991 and 2001 Censuses, there was a very small number of ever-immigrants from Pakistan. Most of them have been in Assam for more than 30 years, or are immigrants from current Bangladesh (or then Pakistan) too.
further presents the trends in the share of Bangladeshi/Pakistani immigrants to the total immigrants in Assam. On average, ninety percent of immigrants in Assam are of Bangladeshi or Pakistani origin.

**Figure 2: Trends in ever-immigrants by source countries**, 1961-2001

Source: Migration information by place of birth, D Series, Census of India, respective rounds; only the first three countries by immigrant size.

**Figure 3: Proportion of immigrants from Bangladesh/Pakistan to all immigrated persons in Assam, 1961-2001**

---

7 We combined the figures from Pakistan and Bangladesh since Bangladesh was a part of Pakistan until 1971 Census. We maintain this uniformity for post-1971 Censuses. It is worth to mention that in 1991 & 2001 Census, out of total immigrants from Bangladesh and Pakistan, only 4 percent were from Pakistan.
New Immigrants only from East Pakistan or Bangladesh

Finally, Figure 4 depicts the trends in reported new-immigrants from Bangladesh/Pakistan in Assam for the past few decades. The term “new-immigrant” indicates people from Bangladesh/Pakistan who have been staying in Assam less than 10 years at the time of census enumeration.

Figure 4: Trends in new-immigrants in each decade in Assam from Pakistan & Bangladesh, 1961-2001

Source: 1961 DIII Migrants classified by place of birth and duration of residence in place of enumeration; 1971 & 1991 DII (/2) Migrants classified by place of birth and duration of residence in place of enumeration; 2001 D2
Migrants classified by place of last residence, sex and duration of residence in place of enumeration. Migrants with period not stated are redistributed proportionally. It is important to note that the third bar corresponds to a period of 20 years (1971-1991).


Using the cohort-component projection method, we estimated the total number of excess population in Assam during 1971-1991 and 1991-2001 (Tables 3 and 4). Since the 2011 census migration data is yet to be released, we couldn’t estimate the excess population in Assam for 2001-2011. The excess population estimated here is attributable to immigration from any country. Since census direct estimates shows that approximately ninety percent of immigration in Assam is from Bangladesh historically, we may infer that ninety percent of estimated immigrants have migrated from Bangladesh.

Tables 3 and 4 present the estimates of immigrant population and their descendants in Assam for two different periods. Since the census doesn’t provide any information on emigration (people moving out of country), we present estimates before and after adjusting emigration rate from NSSO. Both the tables present step-wise results of immigration estimation in Assam. The first four rows give the total population, net interstate migration and total immigrants as recorded in the census. In the absence of any emigration abroad from Assam, the total number of immigrants and their descendants was about 1.17 million during 1971-1991. This figure increases to 1.24 million if we assume that Assam experienced India’s emigration rate during this period. As per the recoded immigrants pattern in Assam during 1961-2001, the immigrants from East Pakistan/Bangladesh is about 1.12 million.

Similarly, for the period 1991-2001, Assam experienced about 1.86 million of excess population if no person from Assam moved out of the country. However, if we assume that Assam experienced India’s emigration rates, Assam had 1.93 million of excess population, out of which 1.74 immigrants are from Bangladesh.

Figure 5: Reconstructed trends in new-immigrants and ever-immigrants and their descendants (who came after 1951), 1951-2001 only from Pakistan & Bangladesh
Finally, Figure 5 presents the reconstructed trends of new-immigrants (left panel of Figure 5) and ever-immigrants and their descendants on the basis of both direct and indirect evidence from Census and SRS data (right panel of Figure 5). During 1971-2001, the ever-immigrants are calculated adding the new-immigrants with the growth of immigrants counted in previous decades and assuming 1951 as reference period, the number of ever-immigrants and their descendants in Assam rose as high as 4235124 in 2001.

7. Discussions and Conclusion

Cross-border migration has been an area of research and policy interest. In fact, we often come across perceptions and statements that both Bangladeshi and Nepali migrants have a sizeable presence in India (Behera 2011). The heavy volume of literature available on the illegal immigration issue in Assam has most consensually and repeatedly harped on the non-availability of correct estimates, which has been a major shortcoming because the whole problem is with, and because of, numbers. Whatever estimates are available in the existing literature are mostly discrepant, due to several reasons. Therefore, the importance of the robustness of the dataset used in this study is self-significant. Moreover, in India, the census birthplace statistics provide only a direct method of estimating migration to a State, but are not reliable because it is possible that migrants provide inaccurate information regarding place of birth during Census enumeration (Nath, Nath and Bhattacharya 2012). Therefore, a combination of indirect and direct methods of estimation improves the accuracy of a study. The present estimates are based on the most robust use of data and demographic techniques, and incorporate various demographic components related to fertility, mortality and migration in Assam during the study period. The strength of this study also lies in the fact that we do not rely heavily on any assumption of demographic pattern in Assam, but rather use the empirical evidence provided by the census and the SRS to estimate the trends of immigration in Assam. Our approach estimates that the number of new-immigrants in Assam from Bangladesh was about 1.12 and 1.74 million during 1971-1991 and 1991-2001, respectively. The estimated ever-immigrants (who came after 1951 to Assam) and their descendants were as high as 4.2 million in 2001. Thus, every sixth individual in Assam is either
an immigrant who entered in Assam after 1951 or their descendant (approximately 15.88 percent of the total population in Assam in 2001).

To place our estimates in perspective, it is worthwhile to mention that three types of estimates surface in the discussion of cross-border migration in Assam. First, an estimation of Muslims in the State, using the most obvious assumption that anyone who infiltrates from Bangladesh must be a Muslim and religion is one thing people usually do not lie about. Second, an estimation of immigrants into Assam using the assumption that bulk immigration to the State takes place from Bangladesh and, third, linguistic estimates. When the first two kinds of estimation are seen in a comparative light, there are bound to be discrepancies, because not all immigrants are Muslims, and not all Muslims are immigrants. Also, population grows independent of migration as well. However, analyzing logically, one realizes that there are bound to be more Muslims in the State than immigrants because of the accumulation of Muslim immigrants (and Muslim natives as well) through time. Nevertheless, the Report of the Governor of Assam (November 1998) on illegal migration in Assam also brings to light some important facets that must be considered for a more comprehensive estimation of immigration in Assam. In particular, it will be important to take into account the census information of Bangladesh to corroborate the expected movement of population since independence, and mainly after 1971. For instance, the Report indicates that since 1971, a considerable proportion of the Hindu population of Bangladesh and of the Bihari Muslim population residing in refugee camps in Bangladesh have entered Assam.

In concluding, it is worth emphasizing the enormous challenges of providing access to basic services to all the persons residing in the State and also of safeguarding the fundamental rights of all migrants. The higher fertility level among the people of immigrant origin than among the natives has a substantial implication in the demographic and linguistic composition of Assam. In fact, it is argued that higher fertility and population growth in Bangladesh acts as a push factor due to resultant poverty and land pressure, and so has been a major factor triggering illegal migration (Hazarika, 1993). However, it is largely ‘identity-based politics’ that has made its way through ‘cultural exclusivism’, and given the problem its current stature and magnitude (Chakraborty, 2012). It indeed is a syndrome, because only under prescribed conditions can a person be categorized as indigenous or foreigner or a member of a minority group—an individual’s identities intersect as per one’s situations of existence. In other words, alienations and claims are thus entangled in a very complicated frame and one does not have direct answers to these. All claims are, therefore, illegitimate on the one hand and all of them can be justified on the other. However, when associated with social, economic, political and cultural insecurities, the issue of migration becomes magnified and assumes greater relevance. Such a porous border requires greater political and administrative cooperation, both within Assam and between India and Bangladesh, to ensure smooth movement across it. Once the external influences have been sealed, India can revise her electoral rolls, and maintain these more systematically. Migrants can
perhaps be treated as international migrants by considering the need and motive of migration from social, economic, cultural and humanitarian perspectives.

This study has a few limitations. The estimates of immigrants in Assam presented in this study are the most reserved estimates of immigrants, due to two main reasons. First, in the absence of appropriate emigration information during 1951-2001, we can use only one round of NSSO data to adjust the estimates of excess population in Assam. If we ignore the NSSO data, our estimates (with emigration adjustment) are the minimum value of immigrants in Assam. The second limitation of this study is that we restricted the analysis to the total population in Assam due to the paucity of data at religious or linguistic characteristics. This can be a direction for future research. Finally, we cannot estimate the number of immigrants during 2001-2011 since the migration data of Census 2011 is not out yet.

Acknowledgement: This study was supported by the ICSSR grant on the project “Cross Border Migration in Assam during 1951-2011: Process, Magnitude, and Socio-Economic Consequences”. The authors are grateful to Prof Atul Sarma, Former Vice-chancellor, Rajiv Gandhi University, Arunachal Pradesh, India and Prof P M Kulkarni, Centre for Study of Regional Development, Jawaharlal Nehru University, Delhi for their consistent consultation in carrying out this study.

References


Census of India, 1921. Vol 3 Assam, pp 38, 40.


### Table 3: Estimated immigrants (from any country and Pakistan& Bangladesh) in Assam, 1971-1991

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Description of rows</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total population counted in 1971 census</td>
<td>1462515</td>
<td>7714240</td>
<td>6910992</td>
</tr>
<tr>
<td>2</td>
<td>Total population counted in 1991 census</td>
<td>2241432</td>
<td>1165798</td>
<td>1075633</td>
</tr>
<tr>
<td>3</td>
<td>Net interstate migration during 1971-1991</td>
<td>30992</td>
<td>33440</td>
<td>-2448</td>
</tr>
<tr>
<td>4</td>
<td>Total Immigrants in during 1971-1991</td>
<td>40803</td>
<td>20487</td>
<td>20316</td>
</tr>
<tr>
<td>5</td>
<td>Emigrants during 1971-1991 (No data; assuming zero)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Projected without adjusting migration</td>
<td>2121079</td>
<td>1092593</td>
<td>1028486</td>
</tr>
<tr>
<td>7</td>
<td>Estimated population after adjusting net interstate migrants &amp; immigrants</td>
<td>2128259</td>
<td>1097985</td>
<td>1030273</td>
</tr>
<tr>
<td>8</td>
<td>Difference between actual and projected (excess) [Row 8 = Row 2 - Row 7]</td>
<td>1131728</td>
<td>678132</td>
<td>453596</td>
</tr>
<tr>
<td>9</td>
<td>Rate of excess population [Row 9 = Row 8 / Row 2 * 100] due to immigration</td>
<td>5.05</td>
<td>5.82</td>
<td>4.22</td>
</tr>
<tr>
<td>10</td>
<td>Total immigrants with zero emigration [Row 10 = Row 8 + Row 4]</td>
<td>1172531</td>
<td>698619</td>
<td>473912</td>
</tr>
<tr>
<td>11</td>
<td>Number of emigrants based on NSSO rate for India</td>
<td>74079</td>
<td>38744</td>
<td>35334</td>
</tr>
<tr>
<td>12</td>
<td>Excess population due to immigration after adjusting emigration</td>
<td>1205807</td>
<td>716876</td>
<td>488931</td>
</tr>
<tr>
<td>13</td>
<td>Total immigrants and their descendents from any country in 1971-1991</td>
<td>1246610</td>
<td>737363</td>
<td>509247</td>
</tr>
</tbody>
</table>

### Table 4: Estimated immigrants (from any country and Bangladesh) in Assam, 1991-2001

<table>
<thead>
<tr>
<th>Serial No</th>
<th>Description of rows</th>
<th>Persons</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total population counted in 1991 census</td>
<td>2241432</td>
<td>1165798</td>
<td>1075633</td>
</tr>
<tr>
<td>2</td>
<td>Total population counted in 2001 census</td>
<td>2665552</td>
<td>1377703</td>
<td>1287849</td>
</tr>
<tr>
<td>3</td>
<td>Net interstate migration during 1991-2001</td>
<td>-159707</td>
<td>-62321</td>
<td>-97386</td>
</tr>
<tr>
<td>4</td>
<td>Total Immigrants (from any country) during 1991-2001</td>
<td>5053</td>
<td>2702</td>
<td>2351</td>
</tr>
<tr>
<td>5</td>
<td>Emigrants during 1991-2001 (No data; assuming zero)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Estimated population without adjusting migration</td>
<td>2495370</td>
<td>1288352</td>
<td>1207018</td>
</tr>
<tr>
<td>7</td>
<td>Estimated population after adjusting net interstate migrants &amp; immigrants</td>
<td>2479905</td>
<td>1282390</td>
<td>1197514</td>
</tr>
<tr>
<td>8</td>
<td>Difference between actual and projected (surplus) [Row 8 = Row 2 - Row 7]</td>
<td>1856473</td>
<td>953130</td>
<td>903343</td>
</tr>
<tr>
<td>9</td>
<td>Rate of surplus population [Row 9 = Row 8 / Row 2 * 100]</td>
<td>6.96</td>
<td>6.92</td>
<td>7.01</td>
</tr>
<tr>
<td>10</td>
<td>Total immigrants with zero emigration [Row 10 = Row 8 + Row 4]</td>
<td>1861526</td>
<td>955832</td>
<td>905694</td>
</tr>
<tr>
<td>11</td>
<td>Number of emigrants based on NSSO rate for India</td>
<td>74079</td>
<td>38744</td>
<td>35334</td>
</tr>
<tr>
<td>12</td>
<td>Surplus population after adjusting emigration [Row 12 = Row 2 - (Row 6 + Row 4 + Row 11)]</td>
<td>1930552</td>
<td>991874</td>
<td>938677</td>
</tr>
<tr>
<td>13</td>
<td>Total immigrants and their descendents in Assam in 1991-2001</td>
<td>1935605</td>
<td>994576</td>
<td>941028</td>
</tr>
<tr>
<td>14</td>
<td>Total immigrants and their descendents from East Pakistan/Bangladesh in Assam during 1991-2001</td>
<td>1742044</td>
<td>895118</td>
<td>846925</td>
</tr>
</tbody>
</table>

---

1. Adjusted for present boundaries of Assam