



Migration and Population Growth: A Case Study of Assam

KEYWORDS

Migration, immigration, demographic structure

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ABSTRACT

The tremendous influx of migrants into Assam has left it grappling with the massive problem of population explosion and has put enormous pressure on the socio-economic infrastructure of the state. A change in the demographic pattern in a country is an obvious resultant effect of migration, but if the change is significantly high in a short span of time it is bound to cause a serious socio-economic problem for the country experiencing this phenomenon. The paper focuses on the changing demographic structure of Assam in the context of sustained and large scale migration. Besides it estimates the impact of in-migration and immigration on population growth in Assam. Empirical evidence prompts the paper to conclude that the population in Assam is significantly affected by the intra-state and international migration, but not by the inter-state migrants. Besides evidence reveal that the population in Assam is significantly affected by immigration from Bangladesh and Nepal, but not from Bhutan.

I. INTRODUCTION

Population movement or migration, internal or external, is a universal phenomenon in human society. Its nature, degree, direction and dimension, however, may vary from case to case. Numerous studies have been conducted to identify the attributes associated with migratory movements of people. Along with 'push' and 'pull' factors, a variety of explanations are also available as the cause and effect of migration and consequent societal change.

Migration can be defined as the movement of individuals or groups of people from one place of residence to another who have the intention of staying in the new place for a substantial period of time. Population change or population growth is used to imply the change in the number of inhabitants of a region during a specific period of time, irrespective of the fact whether change is negative or positive. Such a change can be measured in terms of absolute numbers and in terms of percentage. The three basic components of population change are fertility, mortality and migration. Migration has been taking place since time immemorial, and it indicates the inherent tendency of human beings to move from one place to another due to intense poverty, lack of economic opportunities and perceptions of a better life.

The tremendous influx of migrants (both internal and external) to Assam has left it grappling with the massive problem of population explosion and has put enormous pressure on the socio-economic development of the state. A change in the demographic pattern in a country is an obvious resultant effect of migration, but if the change is significantly high in a short span of time it is bound to cause a serious social concern for the country experiencing this phenomenon

II. OBJECTIVES OF THE PAPER

1. To focus on the changing demographic structure of Assam in the context of sustained and large scale migration.
2. To estimate the impact of in-migration (intra-state and inter-state migration) and immigration (international migration) on population growth in Assam.

III. CHANGING DEMOGRAPHIC STRUCTURE IN ASSAM

Assam, a state with a diverse population in respect of ethnicity, religion and language having varied socio cultural practices, is characterized by a very high rate of population growth which has been even higher than the country's average almost throughout the last century. The State's population was 3.29 million in 1901 and it increased to 26.65 million in 2001

by experiencing an average annual exponential growth rate of 2.11 per cent during 1901-2001 as against the country's 1.47 per cent (Kar 2007). As a consequence, the share of the State's population to the country's total increased from 1.38 per cent in 1901 (Kar 2007) to 2.59 per cent in 2001. The population of Assam stands at 31.16 million according to 2011 census. Such a high growth rate has a number of far reaching demographic implications.

In the post-Independence period, the decennial growth rate of population in the State both during 1951-61 and 1961-71 was as high as 34.98 and 34.95 respectively as against the country's average growth of 24.8 per cent. This led to a net increase of 18.6 million people during 1951-2001. There was a sharp fall of death rates with a very slow decline of birth rates and migration contributed immensely to such rates of population growth. A host of inter-related socio-economic factors such as universalization of marriage, marriage at a lower age, illiteracy, poverty, high infant mortality, migration etc. might be responsible for keeping the birth rate still considerably high here as elsewhere in the country. Immigration and migration of population having varied socio-economic levels have to a great extent influenced the very demographic scenario in the State.

The decadal growth in Assam was 18.92(1991-2001) and 16.93(2001-2011). This shows that population growth has slowed. The sex-ratio in Assam had improved from 923 in 1991 to 935 in 2001. It has even more favorable in 2011 at 954, which is, in fact, higher than the national average of 940. The above figure shows that gender disparity in numbers had been gradually corrected between the censuses in the last two decades. The density of population has also increased from 286 in 1991 to 340 in 2001 and now to 397 in 2011. This indicates a sharp increase in population of the Assam.

Assam's population comprises of 6.85% of SC, 12.41% of ST, 36% of workers and remaining 64% of non-workers. Male constitutes 52% of the population whereas females constitute 48%. Assam has made substantial progress in the literacy front since independence as evidenced by the fact that literacy rate has increased significantly from 63.25%(71.28% males and 54.61% females) in 2001 to 73.18%(78.81% males and 67.27% females) in 2011. Also, the proportion of child population in the age-group 0-6 years has declined from 16.87 to 14.47 in Assam.

In 2001, Hindus accounted for 64.9% of the total population, Muslims 30.9%, Christians for only 3.7%. Dividing the

population according to the language they speak, Assamese constituted of 60.8%, Bengalis 27.5%, Hindi 5.9%, Nepali 2.1% only.

Presently the Death rate and Birth rate in Assam are 7.2 and 21.9 respectively. The Infant Mortality Rate (IMR) is 58/1000 live births and the Maternal Mortality Rate (MMR) is 351 per 1 lakh live. These are among the highest in the country. The Natural Growth rate is 14.7.

IV. MIGRATION AND ITS IMPACT

Application of Regression model

Assam has been experiencing an explosive rate of growth. This growth is mostly powered by unfettered migration which has been categorized under the three heads- (a) intra-state migration (b) inter-state migration and (c) international migration. This research paper focuses its attention on only the migration from the three international nations which are near Assam viz. Bangladesh, Bhutan and Nepal.

The null hypotheses are

Population of Assam is not affected by intra-state, inter-state, international migration.

Population of Assam is not affected by immigration from Bangladesh, Bhutan and Nepal.

1. Methodology and Data Source

Relevant secondary data have been used to fit the model formulated to test our null hypotheses. Only migrants from foreign nations nearby Assam i.e. Bangladesh, Bhutan and Nepal have been taken into consideration.

2. The Model

A basic multiple regression model, showing the relationship between total population of Assam and intra-state, inter-state and international migration is constructed. The structure of the model is

Model A:

$$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3$$

Where,

- Y = total population
- X₁ = Intrastate migration
- X₂ = Interstate migration
- X₃ = International migration

The 2nd model shows the relationship between total population of Assam and migrants from Bangladesh, Nepal and Bhutan and is formulated as

Model B:

$$Y_0 = b_0 + b_1Y_1 + b_2Y_2 + b_3Y_3$$

Where,

- Y₀ = total population
- Y₁ = migrants from Bangladesh
- Y₂ = migrants from Bhutan
- Y₃ = migrants from Nepal

Table 1
Factors influencing Total Population in Assam

Districts	Total population	Intrastate	Interstate	International
Kokrajhar	905,764	266,689	17,971	8,666
Dhubri	1,637,344	321,049	21,993	7,687
Goalpara	822,035	182,991	8,811	7,860
Bongaigaon	904,835	202,078	20,369	12,653
Barpeta	1,647,201	333,939	6,512	8,991
Kamrup	2,522,324	742,308	108,217	16,169
Nalbari	1,148,824	320,951	6,425	5,577

Darrang	1,504,320	322,144	18,243	9,766
Marigaon	776,256	156,590	4,350	4,009
Nagaon	2,314,629	420,051	25,791	26,131
Sonitpur	1,681,513	345,654	34,877	10,628
Lakhimpur	889,010	170,311	12,943	2,968
Dhemaji	571,944	156,387	9,454	3,044
Tinsukia	1,150,062	226,607	50,983	7,934
Dibrugarh	1,185,072	281,014	34,225	3,522
Sibsagar	1,051,736	193,383	20,737	1,171
Jorhat	999,221	207,519	23,546	1,414
Golaghat	946,279	220,696	19,540	1,726
KarbiAn- glong	813,311	189,240	28,713	6,629
North Cachar Hills	188,079	52,921	5,434	1,198
Cachar	1,444,921	306,310	19,142	23,474
Karimganj	1,007,976	190,214	12,462	16,154
Hailakandi	542,872	112,707	5,186	3,187

Source:Census of India 2001

Result of the Regression

	B	t	sig
Constant	159739.894	1.756	.095
intra-state	3.678	6.451**	.000
inter-state	-3.539	-1.151	.264
international	15.891	2.138*	.046

a. Predictors: (constant),intra-state, inter-state, international

b. Dependent Variable: Total Population

** indicates significance at 1% level

* indicates significance at 5% level

For Model A, the value of R is estimated at .946, indicating a very high correlation between the population of Assam and overall migration. Again, the value of R² (.895) reveals that migration accounts for 89 per cent of the variation in population. Similarly, the F value is found to be significant, implying that the model efficiently predict the dependent variable. Finally, the t-value is found to be significant, implying that the null hypothesis stating that population of Assam is not affected by intra-state, inter-state, international migration is false. Besides, the Durbin-Watson value of 1.773 reveals that the data is free from auto-correlation. Hence we have evidence to reject our null hypothesis and can state that population in Assam is affected by the intra-state, inter-state and international migration. Also, intra-state migration and international migration affects population in Assam, but not the inter-state migrants.

Table 2
Immigration from Bangladesh, Bhutan and Nepal influencing total population in Assam

Districts	Total population	Bangladesh	Bhutan	Nepal
Kokrajhar	905,764	8,183	108	181
Dhubri	1,637,344	7,320	20	115
Goalpara	822,035	11	7,222	130
Bongaigaon	904,835	12,155	23	191
Barpeta	1,647,201	8,758	22	71
Kamrup	2,522,324	12,261	67	2,743
Nalbari	1,148,824	4,278	33	667

Darrang	1,504,320	8,349	67	866
Marigaon	776,256	3,561	6	114
Nagaon	2,314,629	24,258	6	493
Sonitpur	1,681,513	8,595	39	1,537
Lakhimpur	889,010	2,064	12	708
Dhemaji	571,944	2,184	17	478
Tinsukia	1,150,062	4,415	74	3,197
Dibrugarh	1,185,072	2,185	4	1,170
Sibsagar	1,051,736	622	1	461
Jorhat	999,221	854	4	483
Golaghat	946,279	979	16	662
KarbiAnglong	813,311	3,504	30	2,636
North Cachar Hills	188,079	444	6	736
Cachar	1,444,921	22,868	2	190
Karimganj	1,007,976	15,964	0	53
Hailakandi	542,872	3,121	0	14

Source:Census of India 2001

Result of the Regression

	B	t	sig
Constant	621006.305	3.981	.001
Bangladesh	54.141	4.129**	.001
Bhutan	24.498	.408	.688
Nepal	205.926	2.126*	.047

a.Predictors: (constant), Bangladesh, Bhutan, Nepal

b. Dependent Variable: Total Population

** indicates significance at 1% level

* indicates significance at 5% level

For Model B, the value of R is estimated at .719, indicating a very high correlation between the population of Assam and overall migration. Again, the value of R2 (.517) reveals that migration accounts for only 51 per cent of the variation in population. Similarly, the F value is found to be significant, implying that the model efficiently predict the dependent variable. Finally, the t-value for Bangladesh and Bhutan are

found to be significant, implying that the null hypothesis stating that population of Assam is not affected by immigration is false. Besides, the Durbin-Watson value of 1.156 reveals that the data is free from auto-correlation. Hence we have evidence to reject our null hypothesis and can state that population in Assam is affected by immigration from Bangladesh and Nepal.

Result of the Regression

	Model A	Model B
R	.946	.719
R2	.895	.517
F	53.874 6 (.000)	.751 (.003)
Durbin-Watson	1.773	1.156

V. CONCLUSION

In this paper, no extraneous facts except that are borne out of the data available from the Census reports have been considered for determining the change in the demographic pattern.

While, on one hand, the burgeoning population growth in Assam is a boon to supply the workforce needed for building the infrastructure for economic and industrial development, on the other hand, it is also a curse as it creates a plethora of problems both domestic and international, such as overcrowding of people in cities or semi-urban areas, shortage of hygienic accommodation and food staff, scarcity of drinking water, shortage of road connectivity, transportation and communication, mounting unemployment, conflict between nations and a host of other problems.

This paper establishes a significant relationship between migration and total population in Assam. On the basis of the empirical results, it can be concluded that immigration from Bangladesh and Nepal have a positive impact on Assam's population. Thus empirical evidence prompts the paper to conclude that the population in Assam is significantly affected by the intra-state and international migration, but not by the inter-state migrants. Besides evidence reveal that the population in Assam is significantly affected by immigration from Bangladesh and Nepal, but not so much from Bhutan.

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