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Comparative Demographic Distribution of Upper and Lower Assam

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Abstract: India is a country with rich tapestry of cultures, ethnic mixes, languages and traditions which coexist in harmony and peace. Assam, a state in the northeast part of India sets a fine example which contributes to the presence of multiple ethnic identities of the country. The state is generally classified into four major parts i.e. Upper Assam, Lower Assam, Hills and Barak Valley and North Assam. There are seven districts under Upper Assam and ten districts under Lower Assam. The paper focuses on the comparative demographic distribution of Upper and Lower Assam. The parameters that are used for the study are physical factors, socio-cultural and political factors, demographics and physical and social disaster. The study consists of data extracted from secondary sources like Census of India, Statistical handbooks, Economic survey reports and other published journals. The main aim of the study is to identify the reasons which has led to the Upper Assam's decrease in the percentage of total population of the state and Lower Assam's increase in the percentage of the state in 2011 as compared to 2001. Finally, suggestions shall be derived from the best practices to ensure that proper attention is paid to the rising population of Lower Assam. Also certain measures shall be proposed to achieve a balanced growth in the state.

Keywords: Upper Assam, Lower Assam, Demography, Census of India

I. INTRODUCTION

Demography is the study comprising of human population with respect to size, composition, spatial distribution and changes in the population that occur over time. It is a very significant part of planning process. Populations are never static; they grow or decline depending upon the various conditions. Planners need to study changes in the composition of the population so that they are able to plan for the education, health care services, and economic development projects of a region. Depending upon the age of residents, gender, occupation, level of education, poverty etc. planners chalk out the requirements or desire of the residents. [1]

Populations are never static; they grow or decline through the interplay of three demographic processes. These three demographic Processes are:

A. Fertility

Number of births that occur to an individual or a population.

B. Mortality

Death of an individual or the number of deaths that occur in a population.

C. Migration

The movement of people into or out of a specific geographic area.

The number of people in a given area can grow or decline as a result of the number of births that take place, the number of deaths that occur and/or by the number of people moving in or out of a place. Migration can drastically change the size and composition of a population in a brief period of time, especially in small geographic locations. Planners need to study changes in the composition of the population to plan for education, health care services, and economic development projects. The age of residents, gender, occupation, level of education, marital status, and living arrangements provide planners with the type of information needed to plan for the residents' diverse needs. [2]

Knowing age ranges is of critical importance to planners since it is closely related to the demand for different types of services. A population composition that has a large percentage of residents under age 15 implies the need for schools, primary health services, and recreational needs. Gender is another key factor. For example, women, especially in their early reproductive years, 20–35, may need specialized health services for childbearing. Population analysis is important to city planning because design standards are usually expressed in terms of population as planning is done in relation to population- its size, distribution and composition.

For planners and any policy makers it is always suggested to study and analyse the changes in demography of an area. The reasons should be identified for the change in demography as it will help in determining the demand of facilities and services, feasibility of new programs or schemes etc. It helps to identify factors which leads to increase or decrease in population of an area and act accordingly to balance the population. [3]

II. STUDY AREA

Assam is a state in the northeast part of India, with a geographical area of 78,438 sq.km. as per 2011 census, total population of Assam was 31,169,272. The growth rate of the state was 16.93%. The state is generally classified into four major parts i.e. Upper Assam, Lower Assam, Hills and Barak Valley and North Assam. Upper Assam consists of 29.80% of total land of Assam and Lower Assam 28.50%. [4]

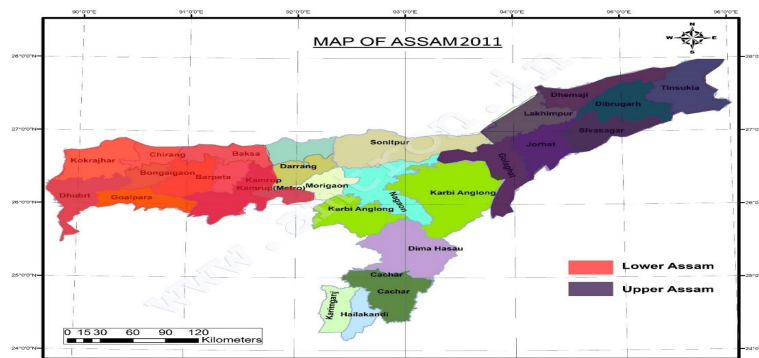


Fig. 1 Map of Assam (2011)

Ahoms ventured into Assam in around 1228 AD and ruled till 1826 AD. It is said that the name of Assam {Asom} associated with the Ahoms. As Gait observes, the word Assam was connected with the Shan invaders (Ahoms) of the Brahmaputra Valley. Assam is a land of varied socio-cultural elements. It is a multi-cultural, multi ethnic, multi religious and multi lingual society. Linguistically the Assamese society contains diverse linguistic people such as Assamese, Bengalis, Nepalis, Bodos, Rabhas, Mishings, Tiwas, Karbis and such other linguistic groups. Assam is the land where people from all major groups such as the Hindus, Christians, Sikhs, Buddhist, Muslims are living together for centuries in peace and harmony.

Particulars	Unit	2001 Census		2011 Census (P)	
		Assam	India	Assam	India
1. Population	Lakhs	267	10287	312	12102
2. Decadal Growth	Per cent	18.92	21.54	16.93	17.64
3. Change in percentage of decadal growth	Per cent	(-) 5.32	(-) 2.32	(-) 2.03	(-) 3.86
4. Density	Per Sq. Km.	340	325	397	382
5. Sex-Ratio	Females per 1000 males	935	933	954	940
6. Literacy	Per cent	63.25	64.80	73.18	74.04
(a) Male	Per cent	71.28	75.30	78.81	82.14
(b) Female	Per cent	54.61	58.70	67.27	65.46
7. Urban Population	Per cent	12.90	27.82	-	-
(a) Male	Per cent	13.33	28.29	-	-
(b) Female	Per cent	12.44	27.31	-	-
8. Rural Population	Per cent	87.10	72.18	-	-
(a) Male	Per cent	86.67	71.71	-	-
(b) Female	Per cent	87.56	72.69	-	-

9. S.C. Population	Per cent	6.85	16.20	-	-
10. S.T. Population	Per cent	12.41	8.20	-	-
Source: Census of India, 2001 and 2011.					

TABLE I

Population Features At A Glance Of Assam And India

On the northern part of Assam lies the Eastern Himalayas reaching the highest altitude in the Namcha Burawa at 7,756 feet above mean sea level. This range continues towards the southeast and joins the Patkai hills, the natural boundary between Assam and Myanmar. Although Assam is a land locked state, it is linked with the neighboring countries by several routes. The physical divisions of Assam have led to the emergence of two distinct ethnics, cultural and linguistic groups namely the dwellers of the hills and those of the plains. The demographic characteristics of the population of Assam shows a very striking variations. [5]

The spatial distribution of the population as well as the density is getting accentuated with changes in the ethnic compositions and migrations from neighboring states and other countries. Therefore, this study is done to throw some light on the changing demographics of the state. Assam today has 16 Scheduled Castes and 23 Scheduled Tribes, with proposals for inclusion of more ethnic groups in the two categories still awaiting approval of the Centre. There are 27 districts in the state of which 10 districts under Lower Assam and 7 districts under Upper Assam.

Table 2

District wise classification

Division Name	Divisional Office	Districts
Lower Assam	Panbazar	Dhubri, Kokrajhar, Bongaigaon, Goalpara, Baksa, Chirang, Barpeta, Nalbari, Kamrup Rural, Kamrup Metro
Upper Assam	Jorhat	Lakhimpur, Dibrugarh, Dhemaji, Tinsukia, Sibsagar, Jorhat, Golaghat
Source: http://shodhganga.inflibnet.ac.in/		

A ranking of districts by population size in 2001 and 2011 is done to analyse the difference in the population growth of upper Assam and lower Assam. Basically percentage to total population of the state in 2011 is compared with 2001. It is observed that lower Assam had sudden increase in the percentage to total population of Assam. Therefore, this study focuses on the various reasons which led to the sudden rise and fall in the population. This analysis would be helpful for the government, policy makers and other allied agencies which directly or indirectly work for the public. Moreover, it would lead to the identification of cause and effects of various factors which have an impact on the demography of any place. [6]

Table 3

Ranking of districts by population size in 2001 and 2011

Rank in 2011	State/ District	Population 2011	Percentage to total population of the state 2011	State/District	Population 2001	Percentage to total population of the state 2001	Rank in 2001
1	2	3	4	5	6	7	8
	Assam	31,169,272	100.00	Assam	26,655,528	100.00	
1	Nagaon	2,826,006	9.07	Nagaon	2,314,629	8.68	1
2	*Dhubri	1,948,632	6.25	*Sonitpur	1,665,125	6.25	2
3	*Sonitpur	1,925,975	6.18	*Dhubri	1,566,396	5.88	3
4	Cachar	1,736,319	5.57	Cachar	1,444,921	5.42	4
5	*Barpeta	1,693,190	5.43	*Barpeta	1,394,755	5.23	5
6	*Kamrup	1,517,202	4.87	*Kamrup	1,311,698	4.92	6
7	Dibrugarh	1,327,748	4.26	Dibrugarh	1,185,072	4.45	7
8	Tinsukia	1,316,948	4.23	Tinsukia	1,150,062	4.31	8

9	*Kamrup Metropolitan	1,260,419	4.04	*Kamrup Metropolitan	1,059,578	3.98	9
10	Karimganj	1,217,002	3.90	Sivasagar	1,051,736	3.95	10
11	Sivasagar	1,150,253	3.69	Karimganj	1,007,976	3.78	11
12	Jorhat	1,091,295	3.50	Jorhat	999,221	3.75	12
13	Golaghat	1,058,674	3.40	Golaghat	946,279	3.55	13
14	Lakhimpur	1,040,644	3.34	Lakhimpur	889,010	3.34	14
15	Goalpara	1,008,959	3.24	*Baksa	857,947	3.22	15
16	Karbi Anglong	965,280	3.10	*Kokrajhar	843,243	3.16	16
17	Marigaon	957,853	3.07	Goalpara	822,035	3.08	17
18	*Baksa	953,773	3.06	Karbi Anglong	813,311	3.05	18
19	*Darrang	908,090	2.91	Marigaon	776,256	2.91	19
20	*Kokrajhar	886,999	2.85	*Darrang	759,858	2.85	20
21	*Udalguri	832,769	2.67	*Udalguri	758,746	2.85	21
22	*Nalbari	769,919	2.47	*Nalbari	689,053	2.59	22
23	*Bongaigaon	732,639	2.35	*Bongaigaon	612,665	2.30	23
24	Dhemaji	688,077	2.21	Dhemaji	571,944	2.15	24
25	Hailakandi	659,260	2.12	Hailakandi	542,872	2.04	25
26	*Chirang	481,818	1.55	*Chirang	433,061	1.62	26
27	Dima Hasao	213,529	0.69	Dima Hasao	188,079	0.71	27
* Note: Due to creation of 4 new districts, the rates for 2001 have been affected in 12 districts.							
Source: Census of India, 2001 and 2011							

III.PARAMETERS FOR STUDY

The population distribution in Assam is greatly affected by various factors such as Physiography, socio-cultural and political factors, demographics and physical and social disaster. Hence the parameters which are chosen for the study are: Physical factors i.e. climate, landform, soil, minerals and space relationships(accessibility); Socio-Cultural and Political factors; Demographics i.e. population, sex ratio, literacy rate and population density; Physical and Social Disasters. [7]

A. Physical Factors

1) Climate

a) *Temperature Conditions:* If we look at the temperature conditions of Upper Assam, the average low is 9 degree Celsius and average high is 30 degrees Celsius when compared to Lower Assam, the average low is 14 degree Celsius and average high is 33 degrees Celsius. Hence it can be seen that the favourable temperature is present at Lower Assam hence the population rise is obvious. Such conditions are preferred over heavy winters in Upper Assam. Since humans prefer to live in those areas which provides them ambient temperature conditions. [8]

b) *Amount of Precipitation:* Upper Assam has precipitation level, average 480 mm Lower Assam has precipitation level, and average 390 mm considering rainfall as a factor, Lower Assam has more favourable condition as compared to Upper Assam. Since in Upper part of Assam has high precipitation level there is more forest cover, which creates leached soil and intensive soil erosion. Hence the agricultural practices are restricted to certain areas which limits the population growth in Upper Assam. [8]

2) Landform

c) *Altitude:* The Upper Assam has an average altitude of 80 m, and Lower Assam is having an average altitude of 50 m, which depicts that Upper Assam is having high altitude as compared to Lower Assam. Hence Upper Assam has hilly areas with very little plane surfaces, but Lower Assam has more plane areas. This favours the population growth in Lower Assam. Humans favour low altitude areas for habitation as compared to higher altitude areas because of many reasons like road connectivity,

danger of landslides etc. moreover hilly areas are not preferable for agriculture though it is possible in hilly areas also. The air pressure in hilly areas is low and causes respiratory problems in people moreover food takes much time to cook in these areas. Also the availability of water is major problem in hilly areas. These are some of the reasons which make low altitude areas more favourable for population growth.

- d) *Slope*: Upper Assam has high altitude areas hence having a sloping terrain. This makes the construction activity difficult like the construction of houses, providing infrastructure like roads. Hence settlement started to grow at low rate as compared to Lower Assam. Also the agricultural practices are not favourable in areas with high slope because of heavy soil erosion. Therefore, the population growth is more in Lower Assam. [9]
- e) *Subsoil water*: Subsoil water is low in high altitude areas as compared to low altitude areas. Since water is an important factor for any settlement to survive. Therefore easy availability of water in Lower Assam favors higher population growth as compared to Upper Assam.
- 3) *Soil*: Since Lower Assam falls in the Brahmaputra river valley, the soils in these parts are more fertile as compared to Upper Assam. The yearly flood in the river brings fertile soil to the Lower Assam. Hence the agricultural productivity is more. This leads to employment opportunities and food availability in the Lower Assam. Moreover, topography of these areas are plane which further aids the agriculture. Hence Lower Assam has higher population than Upper Assam.
- 4) *Minerals*: Though the availability of minerals are low in Upper Assam as compared to Upper Assam. Upper Assam has petroleum and coal sources; Lower Assam has granite as only mineral. Since availability of minerals triggers the population growth but still it is not one of the important factor. There are alternatives like agriculture which is far more important factor for creating habitable area.
- 5) *Space Relationships (Accessibility)*: Through the accessibility point of view, it is seen that the Lower Assam is well connected with other parts of India mostly with the West Bengal, Sikkim and Bihar. Through Lower Assam other parts of whole north-east is connected via road and rail. In comparison with the Upper Assam it is well connected. The infrastructure services in terms of linkage and connectivity is also proper as compared to the Upper Assam. Also, it shares boundary with Bangladesh and due to better connectivity migrants easily move to Lower Assam.

B. Socio-Cultural and Political Factors

The economy of Lower Assam is predominantly agrarian. Industrial activities are limited to certain parts like Bongaigaon and Kamrup. The people dependent on agricultural and allied activities are more in comparison to industrial activities because they are more skilled in agriculture as compared to Industries. There are limited industries in Upper Assam and due to hilly terrain it doesn't favour agricultural practices a lot. Therefore, the population growth is more in Lower Assam.

In recent years there has been communal clashes in Lower Assam otherwise it has been a peaceful zone. The political behaviour favours towards the incoming of migrants from the Bangladesh which further increases the population of Lower Assam. Since Lower Assam is in close proximity to Bangladesh.

C. Demographics

- 1) *Population*: Through the below table it is clear that the Population is less in Upper Assam as compared to Lower Assam. The total population of Upper Assam in 2001 was 6793324 and it increased to 7673639. The total population of Lower Assam in 2001 was 9590431 and it increased to 11253550 in 2011. There is 1.12 % and 1.17% increase in Upper and Lower Assam respectively. [6]

TABLE 4
Population Distribution

Upper Assam	2001	2011	Lower Assam	2001	2011
Lakhimpur	889,010	1,040,644	Dhubri	1,566,396	1,948,632
Dibrugarh	1,185,072	1,327,748	Kokrajhaar	843,243	886,999
Dhemaji	571,944	688,077	Bongaigaon	612,665	732,639
Tinsukia	1,150,062	1,316,948	Goalpara	822,035	1,008,959
Sibsagar	1,051,736	1,150,253	Baksa	857,947	953,773
Jorhat	999,221	1,091,295	Chirang	433,061	481,818

Golaghat	946,279	1,058,674	Barpeta	1,394,755	1,693,190
			Nalbari	689,053	769,919
			Kamrup	1,311,698	1,517,202
			Kamrup (Metropolitan)	1,059,578	1,260,419
<i>Source: Census of India, 2001 and 2011</i>					

- 2) *Sex Ratio*: The sex ratio distribution is mentioned below depicts that there has been increase in avg. sex ratio from 2001 to 2011. The avg. sex ratio for Upper Assam in 2001 was 932 and in 2011 it increased to 954 in a decade, for Lower Assam in 2001 it was 935 and in 2011 it increased to 953. This shows that the change in avg. sex ratio is faster in Lower Assam as compared to Upper Assam. [6]

TABLE 5 Sex Ratio Distribution

Upper Assam	2001	2011	Lower Assam	2001	2011
Lakhimpur	951	965	Dhubri	946	952
Dibrugarh	931	952	Kokrajhaar	946	958
Dhemaji	941	949	Bongaigaon	942	961
Tinsukia	913	948	Goalpara	956	962
Sibsagar	928	951	Baksa	957	969
Jorhat	933	956	Chirang	948	969
Golaghat	930	961	Barpeta	937	951
			Nalbari	932	945
			Kamrup (Rural)	934	946
			Kamrup (Metropolitan)	853	922
<i>Source: Census of India, 2001 and 2011</i>					

- 3) *Literacy Rate*: The literacy rate distribution shown below depicts that in Upper Assam during 2001 the avg. literacy rate was 69.02 and it increased to 76.81 in 2011. The avg. literacy rate of Lower Assam during 2001 was 61.12 and it increased to 70.67 in 2011. Hence the rate of increase in avg. literacy rate of Lower Assam is more than the Upper Assam although Upper Assam has high literacy rate than Lower Assam. [6]

TABLE 6
Literacy Rate Distribution

Table 6 – Literacy Rate Distribution					
Upper Assam	2001	2011	Lower Assam	2001	2011
Lakhimpur	68.56	78.39	Dhubri	48.17	59.36
Dibrugarh	68.96	76.22	Kokrajhaar	52.29	66.63
Dhemaji	64.48	69.07	Bongaigaon	60.95	70.44
Tinsukia	60.95	70.92	Goalpara	58.03	68.67
Sibsagar	74.47	81.36	Baksa	59.57	70.53
Jorhat	76.34	83.42	Chirang	52.61	64.71
Golaghat	69.38	78.31	Barpeta	56.00	65.03
			Nalbari	72.66	79.89
			Kamrup	67.73	72.81
			Kamrup (Metropolitan)	83.21	88.66
<i>Source: Census of India, 2001 and 2011</i>					

- 4) *Population Density*: The population density rate shown below depicts that in Upper Assam a range of 219-1689 was existing in 2001 which increased to 244-2010 in 2011, in case of Lower Assam in 2001 the range was 177-394 which increased to 302-457 in 2011. If we consider an average population density of Upper and Lower Assam, it shows that Lower Assam is having high population density as compared to Upper Assam. [6]

TABLE 6
Population Density Distribution

Upper Assam	2001	2011	Lower Assam	2001	2011
Lakhimpur	390	457	Dhubri	941	1,171
Dibrugarh	351	393	Kokrajhaar	266	280
Dhemaji	177	213	Bongaigaon	355	425
Tinsukia	303	347	Goalpara	451	553
Sibsagar	394	431	Baksa	427	475
Jorhat	350	383	Chirang	219	244
Golaghat	270	302	Barpeta	521	632
			Nalbari	683	763
			Kamrup	377	436
			Kamrup (Metropolitan)	1,689	2,010

Source: Census of India, 2001 and 2011

D. Physical and Social Disasters

- 1) *Physical Disasters - Earthquakes, Landslides, Volcano, Floods, Epidemics, Droughts*: Such physical disasters like earthquakes landslide are prevalent in Upper Assam due to high altitude and hilly areas. Only flood is a major disaster in Lower Assam. Yearly flood occurs in Brahmaputra River which majorly affects the low lying areas of Lower Assam. But it also brings the fertile soil along with it which increases the agricultural productivity of Lower Assam.
- 2) *Social Disasters - Wars, Genocide, Communal clashes*: The above mentioned social disasters are a major influencing factors for any demographic analysis. It has been seen that such problems are affecting recently in Lower Assam i.e. in Kokrajhaar and Goalpara Districts, (2013). Its effect may be seen in upcoming census. But until now such situations were predominant in Upper Assam, in the areas neighboring Nagaland. [7]

IV.CONCLUSION

After this study it can be concluded that there is disparity in the population rise of Upper and Lower Assam. The parameters which led to the identification of the reasons which favored population growth in Lower Assam and decline in Upper Assam are to be dealt by the policy makers and planners in detail. Certain measures shall be taken to make a balance growth in the region. Moreover, provision of basic facilities and services shall be provided to the Lower Assam to meet the demand of the rising population. Employment opportunities, basic educational facilities, health care facilities, physical infrastructure, housing and allied facilities and services shall be provided at Lower and Upper Assam. It is to be done to avoid migration of people from the state to other areas. Also strict measures shall be taken to restrict the migrants from neighboring countries to maintain a balance in the state. It is to be noted that this study although focused on the factors which led to the growth and decline of population but there are still many factors which needs attention and the author might not be aware of. Further the study is done for a short period of time i.e. the census data of 2001 and 2011. Therefore, further scope of the study may be to identify and analyse those remaining factors and recommend measures and strategies to maintain a balanced population growth in the state.

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