

## Urbanization and Development in the Far East of India

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### ABSTRACT

Urbanization in today's world is indivisible to development and an important predictor economic growth; leading its study to paramount importance. The present study investigates trend of urban population growth in Assam and the increasing inequality in different size-classes towns over the years. Share of urban population and decadal growth rate have been computed for all the districts of the state, correlation was established between urban population in different size-class cities and household urban amenities and development indicators. Findings of the study showed urbanization is skewed towards the principal city and the Gini concentration confirms inequality in urban population is at increase. It has also been seen household and urban amenities are disproportionately distributed over different size-class towns; and the correlation matrix explains the positive direction between development indicators and urbanization in the state.

**Key words :** Development urbanization, population.

### INTRODUCTION

Urbanization refers to the concentration of human populations into distinct areas, leading to transformation of land for residential, commercial, industrial and transportation purposes. In its simplest terms, urbanization refers to transformation of people from predominantly rural to predominantly urban. There is no standard definition of urban; it varies from country to country (United Nations, 2009). The rural-urban classification used in India is a dynamic process, although there are some limitations to the definition (Bhagat, 2005). In the contemporary world, rapid urbanization has been evident particularly

in developing countries. The United Nations has projected that half of the world's population would live in urban areas by the year 2050. Precisely, it is predicted that 64.1% and 85.9% of the developing and developed world respectively will be urbanized by 2050 (United Nations, 2011). Following the same tune the numbers of million plus cities are estimated to be 75 by 2021 (United Nations, 2002). According to the census 2011 the urban population of India constitutes 377 million people and in some quarters, it is estimated to be doubled by 2025. Also in the recent Census, there is a substantial increase

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in the urban population due to rural-urban classification and net rural-to-urban migration. Urban experts believed that India's urbanization would slow down because of its exclusionary nature and its inability to spur rural-to-urban migration (Kundu, 2011). However, the 2011 Census shows some unexpected results. A huge number of new towns emerged during the last decade, contributing significantly to the speeding up of urbanization in India (Bhagat, 2011). There are wide ranging implications of urbanization on socio-economic development hence urbanization along with urban growth is phenomena of increasing concern to both planners and policy makers. Urbanization is one of the significant aspects of social, cultural and economic transformation. New metropolitan cities are going through many socio-cultural and economic transformations which can be reflected in the demographic and spatial pattern of the city (Sita, 2007).

The Eleventh Five-Year Plan suggested that urbanization should be seen as a positive factor in over-all development as the urban sector contributes about 62% of the GDP. There is also a growing realisation that an ambitious goal of 9-10% growth in GDP fundamentally depends upon a vibrant urban sector (Planning Commission of India, 2008). It is well evident that increase in the size of urban population is a common feature. Increase in urban population as well as its geographical extent aggravates demands for basic civic amenities like sanitation, water, electricity, etc. In addition, there is challenge for planners and policy makers to provide employment, both skilled and unskilled, for the migrant masses in the urban areas. Furthermore, urban areas are always in the limelight and inconsistencies of all kind are well reported by the electronic and print media. Therefore, there is always a pressure on the part of the Government to strive forward for development of urban areas. On the other hand, the importance of cities to the modern economy

hardly emphasizes internal scale economies at all. Instead, the emphasis is on external effects, spillovers, and external economies of scale, factors that have all become more important with increased industrialization, technical progress, and economic development. The external effects of the urban environment on productivity indicate that there is a strong positive relation between urbanization and economic development (Quingly, 2008).

**Background of the study area:** Assamese society is traditionally agrarian. The humble people of the state practice subsistent agriculture and allied activities. During British time, the tea plantation and oil industry in Assam established some of the oldest and modern towns of India. Guwahati is considered as "the Gateway" to the north-east. However from 1901 till independence the pace of urbanization in Assam had been extremely slow (Figure 1). At the time of independence only 4% people were urban in Assam whereas in India 17% people were urban. But, after independence and till 1971, there has been steady increase in the urbanization process in Assam. Thereafter, the process took little momentum and in 2011, 14% people become urban. However, it should be noted that throughout this period, the level of urbanization in Assam has been consistently very low as compared to India's level of urbanization. The estimated growth of 7.34% in GSDP of the state for 2010-11 comprises of a growth of 6.49% in agriculture and allied sectors, 4.78% in industrial sector and 8.76% in service sector (Economic Survey, Assam 2011-12).

In view of the above discussion, it is evident that that urbanization has been one of the engines for development because, it brings together a host of other phenomenon. The process of urbanization is associated with changes in the socio-cultural as well as physical mosaic of the landscape. There has been

unanimity among the scholars and policy makers that urbanization brings about changes in terms of economy, culture, transport network, etc. The northeast part of India where the process of urbanization has been relatively slow compared to India and so is the economic development. Therefore, it becomes important to enquire the causes of the slow pace of urbanization. At the same time, economic development of the region over the period of time also needs explanation. The present study is an attempt in this direction to identify regions of urbanization and regions of growth in each of the district of Assam, and the pace of its urban growth, and to identify the inequality in different size-classes towns and establish relationship between urban household amenities, development indicators and urbanization in the state.

## METHODOLOGY

The Census of India data has been used right from 1951 to 2011. It needs mention here that for the year 1981 the Census was not conducted in Assam therefore; no analysis has been carried out for the said year. From the Census of India we have considered General Population Tables and Provisional Population Tables for several mentioned years. The town Directory for Assam from 1971, 1991 and 2001 have been considered for the study. In addition, we have also used the Human Development indicators for Assam and its districts from Planning Commission of India (2011-12); Ministry of Power, Government of India (2009); Information Bureau, Ministry of Health and Family Welfare (MoHFW), Government of India and; Annual Health Survey (AHS) 2011.

To have a clear understanding urbanization in Assam levels, trends and patterns of urban Assam and its districts have been found out. In addition, to establish a relationship between urbanization and selected development

indicators correlation analysis has also been carried out.

### **Gini Concentration Index and Lorenz curve:**

One of the dimensions of urbanization process is the concentration of urban population in few pockets or nodes. Here, concentration specifies to the disproportionate distribution of population at certain locations. There can be several factors for disproportionate unequal distribution. Gini Concentration Index and Lorenz curve can be used to measure the inequality in the distribution of urban population. Gini index measures the ratio of the area between the Lorenz Curve and the equi-distribution line (henceforth, the concentration area) to the area of maximum concentration. Higher value of Gini index indicates greater levels of concentration in the bigger cities in comparison to smaller ones. Gini Concentration Index is given by:

$$G_i = \sum_{i=1}^n (X_i Y_{i+1}) - \sum_{i=1}^n (X_{i+1} Y_i)$$

Where,

$G_i$  = Gini Concentration Index

$X_i$  = Cumulative proportion of urban population

$Y_i$  = Cumulative proportion of urban localities, and

$n$  = Number of urban localities.

## RESULTS

According to the census of India 2011, Assam is one of the least urbanized states of the country and rank third from bottom after Himachal Pradesh and Bihar. At the time of independence, the level of urbanization of Assam was 4% whereas; India had 17% urban population. The year 1991 marks the turning point of the Indian economy because at this time India started globalization and liberalization

of her economy. At this important point in time, the level of urbanization in Assam was merely 11% but, at the all India level one-fourth of India's population was urban. In the last two decades the level of urbanization of Assam has increased to 14% which is much less than the national average of 31.6% in the year 2011. According to the recent Census, there are 88 and 125 statutory towns and census towns in Assam respectively. Although in 1991, the number of census towns in Assam was only 19 and statutory towns were 74 in number.

Table 1 illustrates decadal growth of urban population in districts of Assam since independence. Surprisingly enough, the first decade after independence witnessed the highest growth rate of urban population (12.66%) in Assam. The decades of 1960s showed decreased in the decadal growth rate of urban population (6.5%) whereas; it increased in the next decade to 9.3%. But, thereafter there has been continuous decline in the decadal growth rate of urban population till 2001-11. In the last decade, the decadal growth rate of urban population in Assam was merely 2.76%. In the last decade, the phenomenally high decadal growth rate of urban population of 20% has been found in Nalbari, which is the neighboring to Kamrup Metro. In districts like Tinsukia and Dibrugarh, which is industrialized, the decadal growth rate of urban population has been decreasing since independence. In addition, there are districts like Sonitpur, Bongaigaon and Kamrup where the decadal growth rate for urban population for 2001-11 is -0.26, -0.82 and -8.44 respectively. There are nine districts in Assam where the decadal growth rate of urban population is higher than the state average like Nalbari, Marigaon, Karimganj, Nagaon, Chirang, Cachar, Lakhimpur,

Jorhat. Among these districts, five districts are surrounding the district of Kamrup Metro; these are Nalbari, Goalpara, Marigaon, Nagaon and Chirang. The higher decadal growth rate of urban population in these four districts may be because of the expansion or the influence of the largest city of Assam to its neighbouring districts.

The percentage of urban population is an important indicator of development of a region. After the census of 1991, Assam has only 11% urban population which has slightly increased to 13% after the 2001 Census. After the recent Census, Assam has only 14% urban population. The corresponding figure for urban population in India is 25%, 27% and 31% for 1991, 2001 and 2011 Censuses respectively (Table 2). Thus, it is found that there is a large difference in the urban population in Assam and India. On the other hand, there is wide variation in the level of urbanization in different districts of Assam. Kamrup Metro is the most urbanized district of the state with urban population is as high as 83%. Twenty years back in 1991, the district has only one-third of its population urban but, after that in next Census in 2001 there is unprecedented increased the urban population (80%). Dima Haso is the next most urbanized district of Assam (29%). There are two districts namely Jorhat and Tinsukia which has 20% urban population. According to the 2001 Census, there are only four districts in Assam which has more urban population than the state average these districts are Dima Haso, Jorhat, Tinsukia and Dibrugarh with urban population of 29%, 20%, 20% and 18% respectively. On the other hand, there are 15 districts in Assam with less than 10% urban population. The least urbanized district of Assam in 2011 is Baksa with merely 1.3% urban population.

**Table 1.** Decadal growth rate (DGR) of urban population in districts of Assam, 1951-2011.

State /Districts	DGR	DGR	DGR	DGR	DGR
	1951	1961	1971	1991	2001
	1961	1971	1991	2001	2011
<b>Assam</b>	<b>12.66</b>	<b>6.5</b>	<b>9.3</b>	<b>3.82</b>	<b>2.76</b>
Kokrajhar	--	7.98	19.73	0.15	0.63
Dhubri	11.35	4.35	7.38	1.88	0.49
Goalpara	3.43	6.09	13.64	2.84	10.6
Barpeta	7.65	8.42	4.16	3.04	1.61
Marigaon	--	--	--	1.52	9.29
Nagaon	8.66	4.69	7.24	2.02	4.89
Sonitpur	6.17	13.45	4.52	6.92	-0.26
Lakhimpur	21.59	15.94	9.38	3.26	4.01
Dhemaji	--	--	--	33.68	2.48
Tinsukia	25.16	5.77	4.04	4.11	1.74
Dibrugarh	8.4	6.38	6.04	2.44	0.67
Sibsagar	3.46	10.2	6.25	4.79	1.31
Jorhat	11.15	15.08	5.52	2.88	2.82
Golaghat	17.17	2.69	7.1	6.61	2.05
Karbi Anglong	--	--	59.08	3.05	2.41
Dima Hasao	--	--	--	--	0.3
Cachar	--	--	--	--	5.69
Karimganj	8.1	6.77	0.42	2.23	4.93
Hailakandi	12.65	1.91	5.39	2.91	0.93
Bongaigaon	--	18.58	8.47	4.86	-0.82
Chirang	--	--	--	--	4.21
Kamrup	25.21	4.73	16.14	3.86	-8.44
Kamrup(Metropolitan)	--	-	--	--	2.29
Nalbari	16.92	3.27	4.87	1.71	20.03
Baksa	--	--	--	--	--
Darrang	45.37	6.27	9.89	-3.48	3.28
Udalguri	--	--	--	--	1.34

In Assam, the urban population increased from 12.7% to 14.1% from 2001 to 2011, an absolute increase of 1.6%. In the case of the most urbanized districts of Assam, that is, Kamroop Metro, this increased is 2.7%, from 80.2% in 2001 to 82.9% in 2011. On the other hand, Dima Haso, which is second most urbanized district of Assam, has witnessed decrease in percentage urban population since 2001. All other districts except Dima Haso has observed increased in percentage of urban population. From 1991 to 2001, there is 47 point increase in the urban population in the Kamroop Metro. Alternatively, the increased in the urban population in Kamroop Metro is 2.5 times from 1991 to 2011. Thus the decade of 1990s has witnessed two and a half times increase in the urban population of Kamroop Metro. The relatively less urbanized districts of Assam have observed larger percentage increase compared to

relatively more urbanized districts. This shows that less urbanized districts are catching the pace of urbanization but, it is very slow. For instance, Baksa, which is the least urbanized districts of the state, has 13 times increased in the urban population from 2001 to 2011.

In India, there are six different size classes of cities based on population of cities. In 1971, there were 2 cities with more than 1 lakh population. In the same year, 26 cities had population in between 10,000 to 19,999 and these cities comprised one-fourth of the total urban population of Assam. In 1981, there were five cities in Assam with more than 1 lakh population and these cities constitute 38% of total urban population of Assam. In the same year, 33 cities had population in between 10,000 to 19,999 and these cities comprised about one-fifth of the urban population of Assam. In 2001, cities with more than 1 lakh

population increased to 7. These cities are inhibited by about two-fifth of the total urban population of Assam. There are 44 towns with population 5000 to 9999 in 2001 but, it comprises only 9% of the total urban population of Assam. The number of cities in Assam has risen from 75 in 1971 to 94 in 1991 and finally, in 2001 the number of cities in Assam increased to 131. Thus we find that there has not only been significant increase in the number of cities in Assam but, the pattern of size class of cities in Assam has also changed in the last few decades. Earlier in 1971, cities with population 10,000 to 19,999 comprised one-fourth of the total urban population. On the contrary, cities with more than 1 lakh population constitute about 40% of the total urban population of the state. It is also found that the number of

relatively smaller cities (like 5,000 to 9,999 size class cities) has doubled from 22 in 1971 to 44 in 2001. There has been more than three times increase in the cities with population more than 1 lakh from 1971 to 2001. It should be noted here that relatively smaller cities and the largest cities are growing in number as well as percentage of urban population but, this not been the case with other cities. This is one of the characteristics of the urbanization in Indian cities; whereby, population from rural areas move either to the smaller towns or to the biggest cities. There is no step migration in India from smaller size class to successive larger size class and finally to the largest size class. Therefore, there is extra burden population on the largest cities of India.

**Table 2.** Percentage of urban population, their differences and ratios in districts of Assam, 1991-2011.

Districts	% Urban 1991	% Urban 2001	% Urban 2011	Difference				Ratio	
				2011- 2001	2001- 1991	2011- 1991	2011- 2001	2001- 1991	2011- 1991
Kamrup (Metro)	32.7	80.2	82.9	2.7	47.5	50.2	1.0	2.5	2.5
Dima Haso	22.8	31.6	28.7	-2.9	8.8	5.9	0.9	1.4	1.3
Jorhat	17.6	19.4	20.1	0.7	1.8	2.5	1.0	1.1	1.1
Tinsukia	16.4	19.2	20.0	0.8	2.8	3.6	1.0	1.2	1.2
Dibrugarh	15.2	17.1	18.4	1.3	1.9	3.2	1.1	1.1	1.2
Cachar	12.1	15.8	18.2	2.4	3.7	6.1	1.2	1.3	1.5
Bongaigaon	10.8	13.9	13.8	-0.1	3.1	3.0	1.0	1.3	1.3
Goalpara	10.6	12.2	13.7	1.5	1.6	3.1	1.1	1.2	1.3
Nagaon	10.5	12.2	13.0	0.8	1.7	2.5	1.1	1.2	1.2
Karbi Anglong	9.1	11.3	11.8	0.5	2.2	2.7	1.0	1.2	1.3
Nalbari	7.8	10.5	10.7	0.2	2.7	2.9	1.0	1.4	1.4
Dhubri	7.6	9.2	10.4	1.2	1.6	2.8	1.1	1.2	1.4
Sivsagar	7.3	9.1	9.6	0.5	1.8	2.3	1.1	1.3	1.3
Kamrup	7.2	8.5	9.4	0.9	1.3	2.2	1.1	1.2	1.3
Goalpara	7.1	8.1	9.2	1.1	1.0	2.1	1.1	1.1	1.3
Karimganj	6.5	8.1	9.1	1	1.6	2.6	1.1	1.3	1.4
Sonitpur	6.3	7.3	8.9	1.6	1.0	2.6	1.2	1.2	1.4
Lakhimpur	5.9	7.3	8.8	1.5	1.4	2.9	1.2	1.2	1.5
Barpeta	5.1	6.9	8.7	1.8	1.8	3.6	1.3	1.4	1.7
Morigaon	4.9	6.1	7.7	1.6	1.2	2.8	1.3	1.2	1.6
Chirang	2.3	5.8	7.4	1.6	3.5	5.1	1.3	2.5	3.2
Hailakandi	1.8	5.4	7.3	1.9	3.6	5.5	1.4	3.0	4.1
Dhemaji	NA	4.8	7.0	2.2	4.8	7.0	1.5	NA	NA
Kokrajhar	NA	4.4	6.2	1.8	4.4	6.2	1.4	NA	NA
Darrang	NA	4.3	6.1	1.8	4.3	6.1	1.4	NA	NA
Udalguri	NA	3.9	4.5	0.6	3.9	4.5	1.2	NA	NA
Baksa	NA	0.1	1.3	1.2	0.1	1.3	13.0	NA	NA
<b>Asssam</b>	<b>11.1</b>	<b>12.7</b>	<b>14.1</b>	<b>1.38</b>	<b>1.6</b>	<b>3.0</b>	<b>1.1</b>	<b>1.1</b>	<b>1.3</b>
<b>India</b>	<b>25.72</b>	<b>27.03</b>	<b>31.16</b>	<b>4.13</b>	<b>1.31</b>	<b>5.44</b>	<b>1.2</b>	<b>1.1</b>	<b>1.2</b>

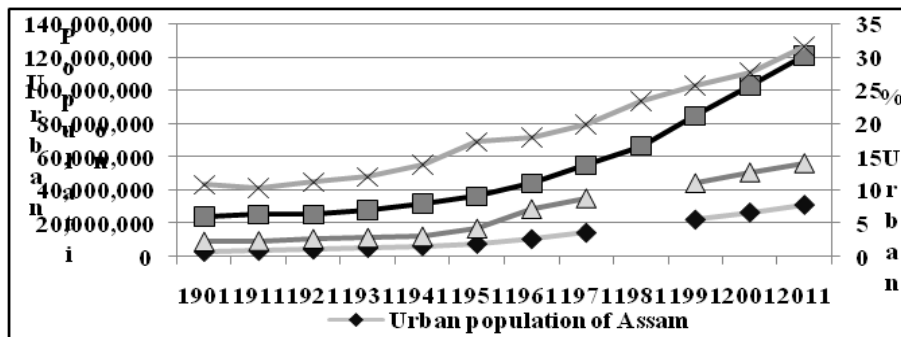
**Table 3.** Number of cities in different size-classes, total population and percentage of urban population in each size-class cities of Assam, 1991-2001.

Class Size of cities	1971			1991			2001		
	No. of town	Total Population	Percent Urban	No. of town	Total Population	Percent Urban	No. of town	Total Population	Percent Urban
Above 100,000	2	252,305	18.66	5	913,982	38	7	1,338,529	38.92
50,000-100,000	6	315,065	23.3	5	288,568	12	8	538,064	15.64
20,000-49,999	10	265,867	19.66	19	543,159	22.6	25	692,025	20.12
10,000-19,999	26	339,065	25.08	33	470,064	19.5	35	507,816	14.77
5,000-9,999	22	153,904	11.38	21	152,438	6.3	44	317,596	9.23
less than 5000	9	25,815	1.91	11	37,814	1.6	12	45,210	1.31
<b>Total</b>	<b>75</b>	<b>1,352,021</b>		<b>94</b>	<b>2,406,025</b>		<b>131</b>	<b>3,439,240</b>	

**Note:** The Figure for 2011 is not given because the Census of India has not published the data yet.

Gini coefficient indicates the spatial inequalities in the distribution of urban population with respect to proportion of size class of towns (Figure 1). From Table 4 it can be seen that the value of Gini concentration index increases consistently from 1971 to 2001 and vindicates the presence of higher the concentration of urban population in class I cities of Assam as compared to smaller cities. The increase in the urban population share and simultaneous decrease relatively smaller towns can be considered as a cause for such a change. It is one of the characteristics of India urbanization

whereby the largest city grows much faster than the smaller cities because people move to the largest city for better employment opportunities and other amenities. The Gini concentration shows that the people living in the urban areas were comparatively uniform in 1971 which was 0.49 which has increased to 0.55 in 1991 and finally to 0.58 in 2001 which shows the growing inequality of population in different size class of towns. This phenomenon puts added challenge to the largest cities in terms of providing very basic amenities to the newcomers.



**Figure 1.** Comparison of trends of urban population growth and percentage urban in India and Assam, 1901-2011.

**Source:** Census of India, 1901-2011.

**Note:** 1. Census was not conducted in Assam in 1981.  
2. Urban population is in '00.

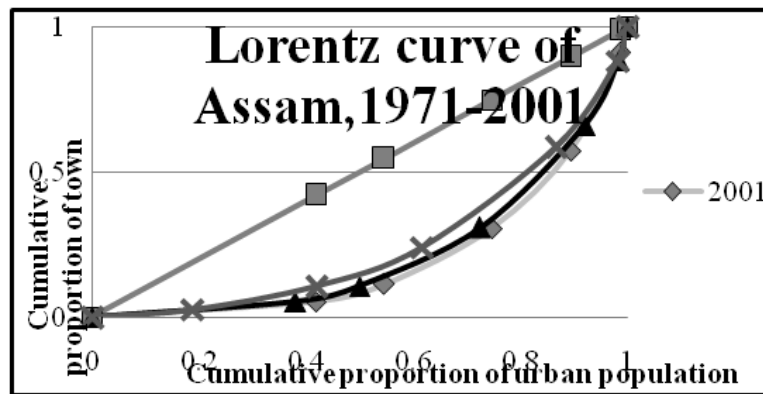


Figure 2. Gini concentration index and Lorentz curve for Assam, 1971, 1991 and 2001.

Table 4. Gini Concentration index for urban population and proportion of towns in Assam, 1971-2001.

Class Size	Population size for each size class of city	1971 Cumulative	1991 Proportion of Urban	2001 Population
I	Above 100000	0.19	0.38	0.42
II	50000-100000	0.42	0.5	0.55
III	20000-49999	0.62	0.73	0.75
IV	10000-19999	0.87	0.92	0.89
V	5000-9999	0.98	0.98	0.99
VI	Less than 5000	1	1	1
<b>GINI</b>		<b>0.49</b>	<b>0.55</b>	<b>0.58</b>

To have an understanding of the development of urban areas in Assam, it is important to visualize it through selected basis amenities in different size class cities of Assam. As mentioned above, class one cities have the largest urban population, followed by class three cities. Similarly, numbers of households are also largest in the class one city followed by class three cities. In the urban areas of Assam, total 333 Government hospitals are available of which 92 (28%) are in the class one cities in 2001. It important to note that in urban areas of Assam one Government hospital is available for

more than 10,000 populations. In addition, one bed in the Government hospital serves 136 people. In the class I cities, one hospital serves more than 14,500 populations; and one bed in these hospitals provide service to 77 people. The condition is comparatively better in smaller towns in terms of hospitals where one hospital serves more than 5500 populations but, one bed provides service to more than 950 people. At the same time it should be noted that the condition of hospitals in terms of availability of basic facilities needs further enquiry.



**Table 5:** Distribution of total population, household and selected urban amenities in different size-class cities of Assam, 2001.

Amenities	I	II	III	IV	V	VI	Total
Population	1,338,529	538,064	692,025	507,816	317,596	45,210	3,439,240
Household	290,939	109,256	136,207	101,331	64,121	8,993	710,847
Hospitals	92	38	63	66	56	18	333
Hospital bed	17217	2544	2707	135	332	2218	25153
Medical college	6	0	0	0	0	1	7
Engineering college	5	0	0	0	0	0	5
Banks	192	97	112	103	76	16	596
Government school	572	381	696	704	746	101	3200

In Assam, there is 1074 Government school for over 3 million urban populations. In other words, Assam has one Government school for each 1075 children in urban areas. In the class one cities, the situation is even worst. There one Government school serves 2340 children. In the Class V and Class VI towns, one Government school serves 425 and 447 children which is the lowest. These statistics indicates that there is urgent need to open new Government school in Class I and Class II cities I Assam. Medical and Engineering colleges are only concentrated in the class I cities. There is only one medical college in the class VI city. Thus, we find that there is concentration of technical Institutions in the class one city only. Again, the class one city has the largest number of banks to serve the people. In the urban areas of Assam, there are 596 banks in total. Alternatively, there are 1.7 banks for per 1000 population in 2001 in Assam. Thus, we have find that Government school are less in relatively larger cities but, higher education and technical education facilities are more in such cities.

After having detailed representation of urbanization in Assam, it is equally important to have a comprehensive picture of urbanization at the district level along with selected development indicators. Kamrum Metro is the most

urbanized district of Assam and the poverty rate is only 13.3 which are the second lowest in the state too. The lowest poverty rate in Assam is in Sivsagar (10.3). It is believed also the increase in the level of urbanization reduces the poverty rate. But, this is not consistent with the level of urbanization in different districts of Assam. For example, in Dima Haso, Jorhat and Tinsukia the poverty rates are 21.3, 21.9 and 29.1 respectively in 2011. These districts just follow Kamrup Metro in the hierarchy of urbanization. On the other hand Dibrugarh, which is the fifth most urbanized districts of Assam, has poverty rate of 14 only. The highest poverty rate of 31.5 is found in the district of Karbi Anglong (34.9) closely followed by Karimganj (33.4), Dhubri (32), Baksa (32.9), and Kokrajhar (32.5). Among all districts of Assam, the literacy rate (LR) is highest in the district of Kamrup Metro. The lowest literacy rate is found in the districts of Dhubri (59.5%) followed by Darrang (64.6%), Chirang (64.7%) and Barpeta (65%). In general, more urbanized districts have literacy rate more than 70% and relatively less urbanized districts have comparatively fewer literacy rate; although this is not very consistent with all districts. The workforce participation rate is one of the important proxy indicators to identify the development of a region. It is also

**Table 6.** Distribution of selected development indicators in different districts of Assam, 2011

District	% Urban	PR	LR	WPR	SD
Kamrup (Metro)	82.9	13.3	88.7	44.6	4.2
Dima Haso	28.7	21.3	79.0	51.2	2.0
Jorhat	20.1	21.9	83.4	56.6	7.7
Tinsukia	20.0	29.1	71.0	48.3	7.7
Dibrugarh	18.4	14.0	76.2	50.1	5.9
Cachar	18.2	29.2	80.4	44.8	10.3
Bongaigaon	13.8	24.0	70.4	44.7	4.1
Golaghat	13.7	14.5	78.3	52.2	8.0
Nagaon	13.0	19.2	73.8	47.2	6.1
Karbi Anglong	11.8	34.2	73.5	44.2	4.1
Nalbari	10.7	15.6	79.9	39.9	5.4
Dhubri	10.4	32.0	59.4	48.5	9.3
Sivsagar	9.6	10.3	81.4	57.4	3.6
Kamrup	9.4	17.4	72.8	47.5	4.8
Goalpara	9.2	26.3	68.7	44.4	10.2
Karimganj	9.1	33.4	79.7	49.3	11.9
Sonitpur	8.9	24.7	70.0	46.6	5.9
Lakhimpur	8.8	20.2	78.4	40.3	9.6
Barpeta	8.7	22.4	65.0	41.0	12.3
Morigaon	7.7	20.3	69.4	46.4	7.3
Chirang	7.4	25.3	64.7	50.1	8.1
Hailakandi	7.3	27.0	75.3	47.6	8.3
Dhemaji	7.0	19.6	69.1	45.3	6.1
Kokrajhar	6.2	31.5	66.6	45.2	9.7
Darrang	6.1	23.3	64.6	48.0	1.1
Udalguri	4.5	28.9	66.6	46.8	7.9
Baksa	1.3	31.9	70.5	49.7	7.3

an evidence of health of the economy of a region. The workforce participation rate of all districts of Assam is less than 50% except few districts like Sivsagar (57.5%), Jorhat (56.6%), Golaghat (52.2%), Dima Haso (51.2%) and, Chirang and Dibrugarh (50.1%). The lowest workforce participation is in the districts of Nalbari (39.9%). Surprisingly, the workforce participation rate is only 44.6% in Kamrup Metro. The school drop-out is comparatively low in Assam. In the first five most urbanized districts of Assam, the school drop-out is as low as less than 6%. More specifically, the school

drop-out is only 2% in Dima Haso and 4% in Kamrup Metro. It is interesting to note that the school drop-out rate is the lowest in the districts of Darrang (1.1%). The highest school drop-out is in Karimganj (11.9%). There are only three districts where school drop-out is more than 10% otherwise the school drop-out rate in all districts of Assam is low. It should also be noted that more urbanized districts have comparatively less school drop-out.

We have tried to show correlation of urbanization with different development indicators. Table 7 (A) shows the correlation matrix

**Table 7 (A).** Correlation matrix of urbanization and selected development indicators, 2011.

	<b>% Urban</b>	<b>PR</b>	<b>LR</b>	<b>WPR</b>	<b>SD</b>
% Urban	1				
PI	-0.3543	1			
LR	0.5875	-0.4703	1		
WPR	-0.0133	-0.1632	0.2004	1	
SD	-0.2676	0.422	-0.1801	-0.229	1

**Note:** PR=Poverty rate; LR=Literacy rate; WPR=Workforce participation rate; and SD=school dropout.

**Table 7 (B).** Correlation matrix of urbanization and selected development indicators in Assam, 2011.

<b>% Urban</b>	<b>PPB</b>	<b>PCEC</b>	<b>HWT *</b>	<b>PCI</b>	
% Urban	1				
PPB	-0.2825	1			
PCEC	0.5636	-0.2374	1		
HWT	0.0529	0.351	0.3102	1	
PCI	0.3723	-0.4154	0.2921	-0.4667	1

**Note:** 1. PPB= Population/bed (served by Govt. Hospitals); PCEC= Per-capita electricity consumption; HWT= Household without toilet; and PCI= Per-capita income. 2. The data for HWT has been borrowed from Annual Health Survey

of percent urban with poverty rate (PR), Literacy rate (LR), workforce participation rate (WPR) and school drop-out (SD). It shows there is strong negative relationship between poverty rate and percent urban. This also depicts that less poor people live in the urban areas. On the other hand, it appears that urbanization and LR is positively related to urbanization. Also, the relationship between urbanization and SD is strongly negative indicating that in urban areas there is less SD. Similarly, in Table 7 (B), correlation matrix of urbanization and development indicators like population per bed (served by Govt. hospital) (PPB), per-capita electricity consumption (PCEC), household without toilet (HWT) and per-capita income (PCI) is given. Here urbanization is strongly negatively co-related to PPB. The table 5 also shows that there is lack of hospitals as well as hospital beds in the urban areas of Assam. Conversely, PCEC and PCI are positively co-related to urbanization. Unlike these, HWT is positively but, weakly related to urbanization.

## DISCUSSION

The current situation of urbanization in Assam and related development is the result of past trends and processes that will define the profile of the future scenarios too. Assam is the most prominent north-eastern state of India not only in terms of areas but, also in economic and cultural fronts. It is also provides passage to all the north-eastern states of India. Therefore, the development Assam is paramount importance for the development of the other states of the region. In this respect, urbanization is one of the important aspects of development because it indirectly speed-up development processes. However, level of urbanization in Assam in 2011 is less than half (14%) of India's level of urbanization (31%). This has been the case throughout the last century although, the level of urbanization increased after independence and more specifically, after 1971. At the district level, there is large variation in the level of urbanization in Assam. Kamrup Metro is the most urbanize district of the state and districts

surrounding Kamrup Metro are also relatively more urbanized. The cities that are developed because of the oil industry are comparatively more urbanized. It is interesting to note that all districts of Assam have lower level of urbanization compared to national average, except Kamrup Metro. In Kamrup Metro, the level of urbanization has increased to two and a half times in the last two decades. It enjoys the privilege of largest city of north-east India.

Like many other state of India, there is increase in the number of cities with more than one lakh population. As expected, the small towns have registered phenomenal increase in Assam in the Census 2011. This may be because of definitional change of the urban area or large numbers of small rural areas have fulfilled the population and economic criteria for being a town (Bhagat, 2011). The increase in the number of town has been remarkable in Class I and Class V towns although, other towns have also grown for the last three to four decades. In the last four decades the distribution of percentage of urban population has increased has changed significantly. During 1970s, Class IV towns constituted largest percentage share of population but, in 2001 the Class I town constitute largest share of urban population. The share of smaller towns has reduced considerably though their number has increased. The possible causes of growth of urban population may be attributed to absolute growth of urban area, migration from rural areas to urban areas, migration from other states, Immigration, natural increase, and last but not the least neglect of the village economy. The fundamental features of urbanization in Assam can be summed up as lopsided urbanization induces growth of class I cities; urbanization occurs without industrialization and strong economic base; urbanization is mainly a

product of demographic explosion and poverty induced rural-urban migration; rapid urbanization leads to massive growth of slum followed by misery, poverty, unemployment, exploitation, inequalities, degradation in the quality of urban life; urbanization occurs not due to urban pull but due to rural push; poor quality of rural-urban migration leads to poor quality of urbanization; and, distress migration initiates urban decay. Therefore, unplanned urbanization has some ramifications like housing problem, growth of slums, problems related to sanitation and water, transportation problems, pollution, inadequate provision of social infrastructure etc. Class I city like Guwahati is suffering from urban poverty, unemployment, housing shortage, crisis in urban infra-structural services these large cities cannot absorb these distressed rural migrants, i.e., poor landless illiterate and unskilled agricultural labourers. Hence the migration to urban class I cities causes urban crisis more acute.

#### **Policy Implication:**

Redirection of investment is recommended to develop strong economic base for small and medium city neglected so far. Redirection of migration flows is required. Since the mega cities have reached saturation level for employment generation and to avoid overcrowding into the over congested slums of mega cities. It is required to build strong economic sector (Kundu and Basu,1998) in the urban economy, growth efforts and investments should be directed towards small cities which have been neglected so far so that functional base of urban economy is strengthened. Then redirection of migration to these desirable destinations will be possible.

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