CHAPTER 3

RECENT TREND OF URBANIZATION AND GROWTH OF URBAN CENTRES IN NORTH BENGAL

3.1 Introduction

The process of urbanization started off rather slowly in North Bengal. Gradually with the passage of time urbanization spread its wings across various districts of North Bengal. During the last twenty years, North Bengal witnessed an unprecedented increase in not only its urban population but also in the number of urban centres. This increase in urban population and the number of urban centres however is not uniform. Some districts witnessed a rapid increase in urban population while rest of the districts was devoid of any urban growth resulting in an increase in disparity within the region. The growth of urban centres was also not uniform. Moreover, very few statutory towns emerged, with an increase taking place only in terms of census towns. Given this background it is very important to analyze the recent trends in urbanization for various parameters across North Bengal during the period 1991 to 2011 covering three census years.

Although, study of urbanization exclusively for Nortrh Bengal has been very limited yet a number of scholars have tried to analyze the urbanization process in North Bengal within a broader framework of West Bengal. Chakma, N. and Ghosh, B. (2014) [1] in their study of recent trends of urbanization in West Bengal found the decadal growth rate of urban population during 2001 – 2011 to be more than 3 times that of the national average for Maldah district and to be more than 2 times that of the national average for Jalpaiguri district. Therefore, these two districts of North Bengal saw a stupendous growth in their urban population during 2001 – 2011. Chakraborty, S., Chatterjee, S., Das, K. and Roy, U. (2015) [2] in their study of urbanization in West Bengal found for all the districts large towns have experienced a fall in their population concentration and the medium towns of North Bengal witnessed a growth in their population share in 2011. Anisujjaman, Md. (2015) [3] studying the urbanization patern in West Bengal found among the districts of North Bengal, except Darjeeling rest of the districts registered a low level of urbanization in 2011. Chakraborty, S., Das, K. and Roy, U. (2015) [4] in their study of new census towns of West Bengal found most of the new census towns which emerged in 2011 in West Bengal are located in the vicinity to large cities in the highly urbanized districts. This will

put further pressure on these large cities which are already suffering from issues like insufficient infrastructure and very poor provision of basic services. According to Chatterjee, M. (2017) [5] the rapid growth of small and medium towns in West Bengal was due to the result of a conscious policy decisions for the development of non-metro towns and regular elections in the local self-government institutions which made the urbanization process a more balanced in West Bengal. Karmakar, J. (2017) [6] in his study of urban centres of West Bengal found small and intermediate towns are negatively growing and big and large cities are positively growing in West Bengal. Moreover, the population share of small, intermediate and million cities are decreasing while it is increasing for big and large cities.

3.2 Level of Urbanization in North Bengal

The level of urbanization is measured as the percentage of urban population to total population of a region. The level of urbanization is a very good indicator of the extent of urban development in a region. Historically, India being a developing country, the level of urbanization is less compared to any developed region. North Bengal i.e. the extreme north - eastern part of West Bengal being relatively backward exhibits a low level of urbanization.

Table 3.1 The Level of Urbanization in North Bengal

District / Region	1991	2001	2011
Darjeeling	30.47	32.34	39.42
Jalpaiguri	16.36	17.84	27.38
Koch Bihar	7.81	9.10	10.27
Uttar Dinajpur	13.34	12.06	12.05
Dakshin Dinajpur	13.35	13.10	14.10
Maldah	7.07	7.32	13.58
North Bengal	13.52	14.16	18.70
West Bengal	27.48	27.97	31.87
India	25.71	27.82	31.14

The census was not conducted in Jammu and Kashmir in 1991. The figures for Jammu and Kashmir are projected population figures for the year 1991. Source: Various Census of India publications for 1991, 2001 and 2011.

Table 3.1 shows the level of urbanization across various districts of North Bengal for the three census year of 1991, 2001 and 2011. The level of urbanization in West Bengal and India has also been calculated to contextualize the actual figures for various districts of North Bengal.

From the table it can be observed that in 1991 Darjeeling district has the highest level of urbanization in North Bengal, which was followed by Jalpaiguri, Dakshin Dinajpur, Uttar Dinajpur, Koch Bihar and Maldah district respectively. The overall level of urbanization in North Bengal was 13.52 % in 1991 which was very low compared to that of West Bengal and

India in 1991. Among the districts, only Darjeeling exhibits an urbanization level above that of West Bengal and India in 1991. The situation in 2001 also portrays the same picture. Darjeeling district again was way ahead of other districts in terms of the level of urbanization, followed by Jalpaiguri, Dakshin Dinajpur, Uttar Dinajpur, Koch Bihar and Maldah district respectively. Similar to 1991, only Darjeeling district recorded a level of urbanization above that of West Bengal and India in 2001. During the period from 1991 to 2001, following the trend of West Bengal and India most of the districts of North Bengal show a very marginal increase in their level of urbanization, clearly pointing to a lackluster development of this region. The story for 2011 was slightly different with districts like Darjeeling, Jalpaiguiri and Maldah showing significant progress in terms of their level of urbanization. Infact, the level of urbanization in Maldah nearly doubled in 2011 compared to 2001, an effort worth mentioning. In 2011 also Darjeeling district with a level of urbanization significantly above that of West Bengal and India occupied the 1st position, followed by Jalpaiguri and Dakshin Dinajpur district respectively. Maldah, which was earlier the least urbanized district of North Bengal, occupies the 4th position in 2011. The internal variation in the level of urbanization across the six districts of North Bengal measured by coefficient of variation was 0.53 in 1991, 0.54 in 2001 and 0.54 in 2011, signifying a status co during the period from 1991 to 2011.

3.3 Percentage share of Total and Urban Population among Six Districts of North Bengal

Table 3.2 shows the percentage share of total and urban population among the six districts of North Bengal for 1991, 2001 and 2011. In 1991, Jalpaiguri district has the highest share of total population followed by Maldah, Koch Bihar, Uttar Dinajpur, Darjeeling and Dakshin Dinajpur district respectively. Infact, nearly 45 % of total population in North Bengal stayed in the district of Jalpaiguri and Maldah in 1991. Jalpaiguri district also dominate in terms of the share of urban population in 1991, followed by Darjeeling, Uttar Dinajpur, Maldah, Koch Bihar and Dakshin Dinajpur district respectively.

Table 3.2 Percentage share of Total and Urban Population among the Six Districts of North Bengal

District	1991		2001		2011	
	% of Total Population in N.B	% of Urban Population in N.B	% of Total Population in N.B	% of Urban Population in N.B	% of Total Population in N.B	% of Urban Population in N.B
Darjeeling	10.80	24.34	10.93	24.96	10.73	22.62
Jalpaiguri	23.27	28.16	23.10	29.11	22.50	32.95
Koch Bihar	18.04	10.41	16.84	10.82	16.38	8.99
Uttar Dinajpur	15.76	15.54	16.58	14.12	17.47	11.26

Dakshin Dinajpur	10.22	10.09	10.21	9.44	9.74	7.34
Maldah	21.91	11.46	22.35	11.56	23.18	16.83
Source: Calculated by the researcher from various Census of India publications.						

Again, more than 50 % of urban population in North Bengal stayed in Jalpaiguri and Darjeeling district in 1991. Interesting to note here is the huge difference in the share of total and urban population for the district of Darjeeling, Koch Bihar and Maldah in 1991. Darjeeling has a higher share of urban population because of its high level of urbanization while for Koch Bihar and Maldah, a higher share of total population is because of their huge rural population base. In 2001 also, Jalpaiguri district has the highest share of total population, again followed by Maldah, Koch Bihar, Uttar Dinajpur, Darjeeling and Dakshin Dinajpur district respectively. The share of urban population in 2001 was also very skewed with maximum in Jalapiguri district, followed by Darjeeling, Uttar Dinajpur, Maldah, Koch Bihar and Dakshin Dinajpur district respectively. In 2011, the highest share of total population was in Maldah district, followed by Jalpaiguri, Uttar Dinajpur, Koch Bihar, Darjeeling and Dakshin Dinajpur district respectively. Therefore in 2011, Maldah overtook Jalpaiguri in terms of its share of total population in North Bengal, a feat achieved due to relatively higher growth rate of both rural and urban population in Maldah district. However in 2011, Jalpaiguri district still has the highest share of urban population in North Bengal, again followed by Darjeeling, Maldah, Uttar Dinajpur, Koch Bihar and Dakshin Dinajpur district respectively.

Looking across the time period, the share of urban population out of total urban population in North Bengal has slightly decreased for the districts of Darjeeling, Koch Bihar, Uttar Dinajpur and Dakshin Dinajpur and it has considerably increased for Jalpaiguri and Maldah district. Table 3.3 showing the share of total and urban population in North Bengal with respect to West Bengal indicates a steady increase from 1991 to 2011. Infact from 2001 to 2011, the share of urban population has increased more rapidly than the share of total population in North Bengal with respect to West Bengal.

Table 3.3 Percentage share of Total and Urban Population in North Bengal with respect to West Bengal

Region	1991		2001		2011	
	% of Total Population in West Bengal	% of Urban Population in West Bengal	% of Total Population in West Bengal	% of Urban Population in West Bengal	% of Total Population in West Bengal	% of Urban Population in West Bengal
North Bengal	17.68	8.70	18.37	9.30	18.86	11.60
Source: Calculated by the researcher from various Census of India publications.						

3.4 Urban – Rural Ratio of Population

Urban – Rural Ratio of population is defined as the number of people residing in urban area for every single person residing in rural area. If the urban – rural ratio is equal to 1, it means for every single person residing in rural area there is one person residing in urban area also. When the urban – rural ratio is greater than 1, it signifies more number of people staying in urban area compared to rural area.

Table. 3.4 Urban – Rural Ratio of Population

District / Region	1991	2001	2011
Darjeeling	0.438	0.478	0.651
Jalpaiguri	0.196	0.217	0.377
Koch Bihar	0.085	0.100	0.114
Uttar Dinajpur	0.154	0.137	0.137
Dakshin Dinajpur	0.154	0.151	0.164
Maldah	0.076	0.079	0.157
North Bengal	0.156	0.165	0.230
West Bengal	0.379	0.388	0.468
India	0.346	0.385	0.452

Source: Calculated by the researcher from various Census of India publications.

Table 3.4 shows the urban – rural ratio of population among the six districts of North Bengal for 1991, 2001 and 2011. The urban – rural ratio of population for West Bengal and India has also been taken in the picture to make ready comparison. In 1991, Darjeeling district recorded the highest urban – rural ratio of population among the six districts of North Bengal followed by Jalpaiguri, Dakshin Dinajpur, Uttar Dinajpur, Koch Bihar and Maldah district respectively. The urban – rural ratio of population for five out of six districts of North Bengal was below the value for West Bengal and India in 1991. In 2001 also, the sequence of districts in descending order of their urban – rural ratio of population remained same to that of 1991. In 2011 slight change in the sequence of districts can be observed, Maldah with the least urban – rural ratio of population improving fast and occupying the 4^{th} position among the districts of North Bengal. Across the time period from 1991 to 2011, Darjeeling, Jalpaiguri, Koch Bihar and Maldah district has seen a steady increase in their urban – rural ratio of population, but Uttar Dinajpur and Dakshin Dinajpur experienced fluctuating fortunes during the twenty years period.

3.5 Tempo of Urbanization

Tempo of urbanization refers to the speed of urbanization and is measured by the growth in the level of urbanization and growth in urban – rural ratio of population over the years. The

Annual Exponential Growth Rate of Urbanization and Annual Exponential Growth Rate of Urban – Rural Ratio has been calculated by the formulas under:

Annual Exponential Growth Rate of urbanization = $[1/n\{\ln(PU_{t+n}/PU_t)\}]*100$

Where, ln = Natural log, PU_{t+n} = Percent urban in $t+n^{th}$ census, PU_t = Percent urban in t^{th} census, n = Census interval.

Annual Exponential Growth Rate of Urban – Rural Ratio = $[1/n\{\ln(UR_{t+n}/UR_t)\}]*100$

Where, ln = Natural log, UR_{t+n} = Percent urban in $t+n^{th}$ census, UR_t = Percent urban in t^{th} census, n = Census interval.

Table. 3.5 Annual Exponential Growth Rate of Urbanization

District / Region	1991 - 2001	2001 - 2011
Darjeeling	0.596	1.980
Jalpaiguri	0.866	4.284
Koch Bihar	1.529	1.210
Uttar Dinajpur	-1.009	-0.008
Dakshin Dinajpur	-0.189	0.736
Maldah	0.347	6.180
North Bengal	0.463	2.781
West Bengal	0.177	1.305
India	0.789	1.127

Source: Calculated by the researcher from various Census of India publications.

Table 3.5 shows the annual exponential growth rate of urbanization for various districts of North Bengal for two decades 1991 – 2001 and 2001 – 2011 respectively. Again the annual exponential growth rate of urbanization has been calculated for West Bengal and India for contextualizing the figures of various districts of North Bengal. As seen in the table during 1991 – 2001, the annual exponential growth rate of urbanization was highest in Koch Bihar district followed by Jalpaiguri, Darjeeling and Maldah district respectively. Infact, during this period both Uttar Dinajpur and Dakshin Dinajpur registered a negative growth rate of urbanization, a feature very uncommon for a developing country like India. However, the point to note here is, during this period West Bengal as a whole also registered a very sluggish annual exponential growth rate of urbanization when compared with that of India. Infact, all the four districts which registered a positive growth rate during 1991 – 2001, grew at a pace faster than that of West Bengal as a whole. To be more precise, Koch Bihar and Jalpaiguri recorded an annual exponential growth rate of urbanization slightly higher than that of India during 1991 – 2001. During the period 2001 – 2011, the annual exponential growth rate of urbanization accelerated in all the districts of North Bengal except Uttar Dinajpur which continues to register a negative

growth rate. However, the negative growth rate of Uttar Dinajpur came down from -1.009 during 1991 – 2001 to -0.008 during 2001 – 2011 implying a positive trend. The districts which experienced stupendous growth in urbanization during 2001 – 2011 were Maldah and Jalpaiguri. Infact during 2001 – 2011 decade, Maldah district recorded an annual exponential growth rate of urbanization nearly 5 times higher than that of West Bengal and India, while for Jalpaiguri it was higher by nearly 3.5 times. North Bengal as a whole during both the decade registered an annual exponential growth rate of urbanization more than 2 times that of West Bengal and India.

Table. 3.6 Annual Exponential Growth Rate of Urban – Rural Ratio

District / Region	1991 - 2001	2001 - 2011
Darjeeling	0.868	3.085
Jalpaiguri	1.045	5.518
Koch Bihar	1.670	1.339
Uttar Dinajpur	-1.155	-0.009
Dakshin Dinajpur	-0.218	0.851
Maldah	0.374	6.879
North Bengal	0.537	3.324
West Bengal	0.245	1.862
India	1.077	1.598

Source: Calculated by the researcher from various Census of India publications.

Table 3.6 shows the annual exponential growth rate of urban – rural ratio of population across the six districts of North Bengal for the decade 1991 – 2001 and 2001 – 2011. Following the earlier trend of annual exponential growth rate of urbanization, here also during 1991 – 2001, Koch Bihar district registered the highest annual exponential growth rate of urban – rural ratio of population, followed by Jalpaiguri, Darjeeling and Maldah district respectively. Here also during 1991 – 2001, both the districts of Uttar Dinajpur and Dakshin Dinajpur registered a negative growth rate of urban – rural ratio of population. In the next decade during 2001 – 2011, the district of Maldah and Jalpaiguri registered the highest annual exponential growth rate of urban – rural ratio of population. Moreover for both the decades, Darjeeling, Jalpaiguri and Maldah district experienced an annual exponential growth rate of urban – rural ratio of population higher than that of West Bengal as a whole. North Bengal as a whole also registered an annual exponential growth rate of urban – rural ratio of population higher than that of West Bengal during 1991 – 2001 and both West Bengal and India during 2001 – 2011. The annual exponential growth rate of urban – rural ratio of population accelerated in all the districts except Uttar Dinajpur during 2001 – 2011 compared to the earlier decade. However, the negative growth rate

of Uttar Dinajpur came down from -1.155 during 1991 – 2001 to -0.009 during 2001 – 2011 implying a positive trend.

3.6. Decadal Growth Rate of Population

Table 3.7 shows the decadal growth rate of population across the various districts of North Bengal during 1991 – 2001 and 2001 – 2011. The decadal growth rate of total population, urban population and rural population has been calculated individually for comparison and understanding. The decadal growth rate of West Bengal and India has also been taken into consideration for getting the actual picture. During 1991 – 2001, the decadal growth rate of total population was highest in Uttar Dinajpur district, followed by Maldah, Darjeeling, Dakshin Dinajpur, Jalpaiguri and Koch Bihar district respectively. The interesting point to note is during 1991 – 2001, out of the six districts of North Bengal, the decadal growth rate of total population in five districts viz. Uttar Dinajpur, Maldah, Darjeeling, Dakshin Dinajpur and Jalpaiguri was above the decadal growth rate of total population in West Bengal and four districts viz. Uttar Dinajpur, Maldah, Darjeeling and Dakshin Dinajpur recorded a decadal growth rate of total population above that of India.

Table 3.7 Decadal Growth Rate of Population

District / Region	1991 - 2001			2001 - 2011		
	Total Population	Urban Population	Rural Population	Total Population	Urban Population	Rural Population
Darjeeling	23.79	31.40	20.45	14.77	39.88	2.77
Jalpaiguri	21.45	32.44	19.30	13.87	74.72	0.65
Koch Bihar	14.19	33.11	12.58	13.71	28.28	12.25
Uttar	28.72	16.39	30.61	23.15	23.02	23.17
Dakshin	22.15	19.87	22.50	11.52	20.04	10.23
Maldah	24.78	29.16	24.45	21.22	124.81	13.04
North Bengal	22.34	28.12	21.43	16.88	54.32	10.71
West Bengal	17.77	19.88	16.97	13.84	29.72	7.68
India	21.54	31.48	18.10	17.72	31.80	12.29

Source: Calculated by the researcher from various Census of India publications.

The decadal growth rate of urban population during 1991 – 2001 was highest in Koch Bihar district, followed by Jalpaiguri, Darjeeling, Maldah, Dakshin Dinajpur and Uttar Dinajpur district respectively. However, with respect to decadal growth rate of urban population during 1991 – 2001, only four districts viz. Koch Bihar, Jalpaiguri, Darjeeling and Maldah recorded a higher growth rate than that of West Bengal and only two districts viz. Koch Bihar and Jalpaiguri recorded a decadal growth rate of urban population higher than that of India. The decadal growth

rate of rural population during 1991 – 2001 was highest in Uttar Dinajpur district, followed by Maldah, Dakshin Dinajpur, Darjeeling, Jalpaiguri and Koch Bihar district respectively. Again all the districts except Koch Bihar during 1991 – 2001 recorded a decadal growth rate of rural population higher than that of West Bengal and India. Looking at North Bengal as a whole, the decadal growth rate of total population and rural population during 1991 – 2001 was way above that of West Bengal and India. Comparing the decadal growth rate of urban and rural population during 1991 – 2001, it can be observed that in Koch Bihar, Jalpaiguri, Darjeeling and Maldah district the urban population grew much rapidly compared to their rural counterpart. On the other hand, both Uttar Dinajpur and Dakshin Dinajpur recorded a higher decadal growth rate of rural population compared to their urban counterpart during 1991 – 2001.

During the next decade i.e. 2001 – 2011 the decadal growth rate of total population was again highest in Uttar Dinajpur district, followed by Maldah, Darjeeling, Jalpaiguri, Koch Bihar and Dakshin Dinajpur district respectively. Comparing the decadal growth rate total population during 2001 – 2011, it can be observed that in four districts viz. Utttar Dinajpur, Maldah, Darjeeling and Jalpaiguri it was higher than that of West Bengal and in two districts viz. Uttar Dinajpur and Maldah it was higher than that of India. During 2001 – 2011, the decadal growth rate of urban population was highest in Maldah district, followed by Jalpaiguri, Darjeeling, Koch Bihar, Uttar Dinajpur and Dakshin Dinajpur district respectively. Again the three districts viz. Maldah, Jalpaiguri and Darjeeling during 2001 – 2011 recorded a decadal growth rate of urban population higher than that of West Bengal and India. The decadal growth rate of rural population during 2001 – 2011 was highest in Uttar Dinajpur district, followed by Maldah, Koch Bihar, Dakshin Dinajpur, Darjeeling and Jalpaiguri district respectively. Comparing the decadal growth rate of rural population with West Bengal and India during 2001 – 2011, it was revealed that four districts viz. Uttar Dinajpur, Maldah, Koch Bihar and Dakshin Dinajpur recorded a higher growth rate than the state and two districts viz. Uttar Dinajpur and Maldah recorded a higher growth rate than the country. Looking at the figures of North Bengal as a whole, during 2001 – 2011 it can be observed that the decadal growth rate of total, urban and rural population was higher than West Bengal and decadal growth rate of urban population was higher than India.

Comparing the two decades it can be observed that all the six districts witnessed a decline in their decadal growth rate of total and rural population during 2001 – 2011 compared to 1991 – 2001. The decadal growth rate of rural population declined sharply for most of the districts

during 2001 – 2011 compared to 1991 – 2001 leading to a decline in decadal growth rate of total population. The decadal growth rate of urban population on the other hand increased during 2001 – 2011 compared to the earlier decade for all the districts except Koch Bihar. The increase in decadal growth rate of urban population has been stupendous for Maldah (more than 100% increase) and Jalpaiguri district during 2001 – 2011.

3.7 Annual Exponential Growth Rate of Population

Table 3.8 shows the annual exponential growth rate of total population, urban population and rural population for the six districts of North Bengal during 1991 – 2001 and 2001 – 2011. The annual exponential growth rate of total, urban and rural population for West Bengal and India during 1991 – 2001 and 2001 – 2011 has also been calculated for comparison. During 1991 – 2001 decade, the annual exponential growth rate of total population was highest in Uttar Dinajpur district, followed by Maldah, Darjeeling, Dakshin Dinajpur, Jalapiguri and Koch Bihar district respectively. During 1991 – 2001 the annual exponential growth rate of total population in five districts viz. Uttar Dinajpur, Maldah, Darjeeling, Dakshin Dinajpur and Jalapiguri was higher than that of West Bengal and it was higher than that of India in four districts viz. Uttar Dinajpur, Maldah, Darjeeling and Dakshin Dinajpur respectively. The annual exponential growth rate of urban population during 1991 – 2001 was highest in Koch Bihar district, followed by Jalpaiguri, Darjeeling, Maldah, Dakshin Dinajpur and Uttar Dinajpur district respectively. With respect to West Bengal, the annual exponential growth rate of urban population during 1991 – 2001 was higher in the districts of Koch Bihar, Jalapiguri, Darjeeling and Maldah. Comparing with India, it was higher only in the districts of Koch Bihar and Jalpaiguri during 1991 – 2001. Uttar Dinajpur district recorded the highest annual exponential growth rate of rural population during 1991 – 2001, followed by Maldah, Dakshin Dinajpur, Darjeeling, Jalpaiguri and Koch Bihar district respectively. Again all the five districts except Koch Bihar recorded a higher annual exponential growth rate of rural population during 1991 – 2001 compared to West Bengal and India.

Table 3.8 Annual Exponential Growth Rate of Population

District / Region	1991 - 2001			2001 - 2011		
	Total Population	Urban Population	Rural Population	Total Population	Urban Population	Rural Population
Darjeeling	2.13	2.73	1.86	1.38	3.36	0.27
Jalpaiguri	1.94	2.81	1.76	1.30	5.58	0.06
Koch Bihar	1.33	2.86	1.19	1.28	2.49	1.16

Uttar Dinajpur	2.52	1.52	2.67	2.08	2.07	2.08
Dakshin Dinajpur	2.00	1.81	2.03	1.09	1.83	0.97
Maldah	2.21	2.56	2.19	1.92	8.10	1.23
North Bengal	2.02	2.48	1.94	1.56	4.34	1.02
West Bengal	1.64	1.81	1.57	1.30	2.60	0.74
India	1.95	2.74	1.66	1.63	2.76	1.16
Source: Calculated by the researcher from various Census of India publications.						

During the decade 2001 – 2011, the annual exponential growth rate of total population was again highest in Uttar Dinajpur district, followed by Maldah, Darjeeling, Jalpaiguri, Koch Bihar and Dakshin Dinajpur district respectively. Comparing the annual exponential growth rate of total population during 2001 – 2011 with the state and national average, it can be seen that three districts viz. Uttar Dinajpur, Maldah and Darjeeling recorded a higher growth rate than West Bengal and two districts viz. Uttar Dinajpur and Maldah recorded a higher growth rate than India. The annual exponential growth rate of urban population during 2001 – 2011 was highest in the district of Maldah, followed by Jalpaiguri, Darjeeling, Koch Bihar, Uttar Dinajpur and Dakshin Dinajpur district respectively. Again three districts viz. Maldah, Jalpaiguri and Darjeeling witnessed an annual exponential growth rate of urban population higher than the state as well as the national average during 2001 – 2011. The annual exponential growth rate of rural population during 2001 – 2011 was highest in Uttar Dinajpur district, followed by Maldah, Koch Bihar, Dakshin Dinajpur, Darjeeling and Jalpaiguri district respectively. Comparing the annual exponential growth rate of rural population during 2001 – 2011 with that of West Bengal and India, it can be observed that four districts viz. Uttar Dinajpur, Maldah, Koch Bihar and Dakshin Dinajpur recorded a growth rate higher than the state average and two districts viz. Uttar Dinajpur and Maldah recorded a higher growth rate than the national average.

Comparing the districts across the decades shows the annual exponential growth rate of total and rural population decreased for all the districts during 2001 – 2011 compared to 1991 – 2001. However, the annual exponential growth rate of urban population increased in all the districts except Koch Bihar during 2001 – 2011 with respect to the earlier decade.

From table 3.8 it can also be identified the districts in North Bengal which are in an urbanizing mode. For any district to be in an urbanizing mode it needs to satisfy the following condition:

RGUP > RGTP > RGRP

Where, RGUP = Annual exponential growth rate of urban population.

RGTP = Annual exponential growth rate of total population.

RGRP = Annual exponential growth rate of rural population.

Accordingly during 1991 – 2001, Darjeeling, Jalpaiguri, Koch Bihar and Maldah district were in an urbanizing mode. While during 2001 – 2011, Darjeeling, Jalpaiguri, Koch Bihar, Dakshin Dinajpur and Maldah district were in an urbanizing mode. North Bengal as a region was also in an urbanizing mode during both the decades like West Bengal and India.

3.8 Urban – Rural Growth Differential (URGD)

To get an insight about the process of urbanization unfolding in North Bengal it is important to analyze the urban – rural growth differential (URGD) for various districts. The higher URGD indicates a rapid urbanization taking place in a region. Table 3.9 shows the urban – rural growth differential (URGD) for various districts of North Bengal during 1991 – 2001 and 2001 – 2011. The URGD for West Bengal and India has also been calculated for a systematic comparison. As seen from the table, the URGD during 1991 – 2001 was highest in the district of Koch Bihar, followed by Jalpaiguri, Darjeeling and Maldah district respectively. During 1991 – 2001, a negative URGD has been recorded for Uttar Dinajpur and Dakshin Dinajpur which means in these two districts during 1991 – 2001 the rural population grew faster compared to their urban counterpart. The result, level of urbanization in these two districts declined in 2001 compared to 1991. When comparing the URGD figures for 1991 – 2001 with West Bengal and India, it shows three districts viz. Koch Bihar, Jalpaiguri and Darjeeling having a higher URGD compared to West Bengal and only Koch Bihar having a higher URGD compared to India.

Table. 3.9 Urban – Rural Growth Differential (URGD)

District / Region	1991 - 2001	2001 - 2011
Darjeeling	0.87	3.08
Jalpaiguri	1.04	5.52
Koch Bihar	1.67	1.34
Uttar Dinajpur	-1.15	-0.01
Dakshin Dinajpur	-0.22	0.85
Maldah	0.37	6.88
North Bengal	0.54	3.32
West Bengal	0.25	1.86
India	1.07	1.60

Source: Calculated by the researcher from various Census of India publications.

During 2001 – 2011, the URGD value in all the districts except Uttar Dinajpur were in positive signifying substantial urbanization taking place in these districts. Infact during 2001 – 2011, Maldah district recorded the highest URGD, followed by Jalpaiguri, Darjeeling, Koch

Bihar and Dakshin Dinajpur district respectively. The URGD during 2001 – 2011 in three districts viz. Maldah, Jalpaiguri and Darjeeling was above that of West Bengal and India. The important point to note here is that URGD has improved in the district of Maldah, Jalpaiguri, Darjeeling and Dakshin Dinajpur during 2001 – 2011 compared to the earlier decade. The increase in URGD has been very sharp for Maldah and Jalpaiguri during 2001 – 2011 compared to the earlier decade signifying a rapid urbanization in these two districts. Koch Bihar district although recorded a positive URGD during 2001 – 2011, but the value has slightly declined compared to the earlier decade signifying a slowing down of the urbanization process. Dakshin Dinajpur district recorded a positive URGD during 2001 – 2011 compared to a negative URGD during the earlier decade which will help the district to urbanize rapidly. Uttar Dinajpur district although recorded a negative URGD during 2001 – 2011, but its value has come down significantly compared to the earlier decade and the district may at best be considered as preparing itself for a rapid urbanization in the future. Overall the URGD of North Bengal has increased more than 6 times during 2001 – 2011 compared to the earlier decade and was significantly higher than the state and national URGD values making it one of the rapidly urbanizing regions in the state as well as in the country.

3.9 Location Quotient

Location Quotient is the ratio of the proportion of any characteristic in an area to its proportion of the same characteristic in the region. This relative way of studying the proportion is important because a simple proportion of any characteristic like the percentage of urban population will portray the local picture only. Simple proportions do not give any idea about the position of an area with respect to the whole region or the country. The formula to calculate location quotient is as follows:

$$LQ_i = \frac{\text{Urban population in district i / Total population in district i}}{\text{Urban population in North Bengal / Total population in North Bengal}}$$

Here location quotient value of 1 indicate the proportion of urban population in district i is same as that of the whole of North Bengal. A location quotient value greater than 1 indicates the proportion of urban population is more in district i, compared to the whole of North Bengal indicating concentration of urban population in district i and location quotient value less than 1

indicates the proportion of urban population is less in district i compared to the whole of North Bengal indicating dispersion of urban population.

Table 3.10 Location Quotient			
District / Region	1991	2001	2011
Darjeeling	2.25	2.28	2.11
Jalpaiguri	1.21	1.26	1.46
Koch Bihar	0.58	0.64	0.55
Uttar Dinajpur	0.99	0.85	0.64
Dakshin Dinajpur	0.99	0.93	0.75
Maldah	0.52	0.52	0.73
North Bengal	1.00	1.00	1.00
Source: Calculated by the researcher from various Census of India publications.			

Table 3.10 shows the location quotient of the level of urbanization among the six districts of North Bengal for 1991, 2001 and 2011. In 1991, the location quotient was highest in Darjeeling district, followed by Jalpaiguri, Uttar Dinajpur, Dakshin Dinajpur, Koch Bihar and Maldah district respectively. Infact in 1991, only in two districts viz. Darjeeling and Jalpaiguri there was concentration of urban population compared to North Bengal. Uttar Dinajpur and Dakshin Dinajpur have an evenly distributed urban population similar to that of North Bengal in 1991. Koch Bihar and Maldah have a highly dispersed urban population compared to North Bengal in 1991. In 2001 also the highest location quotient value was recorded in Darjeeling district, followed by Jalpaiguri, Dakshin Dinajpur, Uttar Dinajpur, Koch Bihar and Maldah district respectively. Therefore in 2001 also Darjeeling district has a very high concentration of urban population compared to North Bengal and Jalpaiguri district also recorded concentration of urban population compared to North Bengal. Rest of the four districts experienced a dispersed urban population compared to North Bengal in 2001. The location quotient in 2011 was also highest in Darjeeling district, again followed by Jalpaiguri, Dakshin Dinajpur, Maldah, Uttar Dinajpur and Koch Bihar district respectively. In 2011 also urban population was concentrated in Darjeeling and Jalpaiguri district and was dispersed in rest of the four districts with respect to North Bengal. A close look at the location quotient values across the time period gives some interesting insights. Jalpaiguri and Maldah district have seen a steady increase in their location quotient value signifying a faster rate of urbanization compared to North Bengal. Uttar Dinajpur and Dakshin Dinajpur district have recorded a steady decline in their location quotient value signifying a slower rate of urbanization compared to North Bengal. Darjeeling and Koch Bihar have maintained their very high and very low location quotient values respectively signifying a condition of status co in their rate of urbanization with respect to North Bengal.

3.10 Ranks-Size Rule

If urban centres are arranged according to their population size in a particular region they are related to one another. The population of the second largest urban centre will have half the population of the largest or primate city, the third largest urban centre will have $1/3^{rd}$ population of the largest urban centre of the region. This relationship between the population of any urban centre and its rank in a set of urban centres of a region is called the rank-size rule. Usually the relationship between populations of any urban centre and its rank is shown on a double logarithmic graph paper which gives 'S' shaped curvilinear trend. This rank-size relationship was proposed scientifically and popularized by G.K.Zipf in his book 'Human Behavior and the Principle of Least Effort' in 1949 as a theoretical model to explicit the relationship between observed and empirical regularity in the size of settlement hierarchy either rural or urban. According to Zipf, if all the urban centres of a region are ranked in descending order of population, then the population of the n^{th} ranked urban centre will be equal to population of the largest urban centre divided by n. this relationship can be expressed by the formula:

$$P_n = P_1/n$$

Where, P_n = Population of the n^{th} ranked urban centre.

P_1 = Population of the largest urban centre.

n = Rank of the urban centre.

For calculating the rank-size relationship first of all the urban centres of North Bengal for any particular year will be arranged in descending order according to their population size where rank 1 will be assigned to the largest urban centre of North Bengal in that particular year. Then the reciprocal of rank for each urban centre will be calculated and sum it up. Next to get the expected population (PE) of the largest urban centre, divide the sum of actual population (PA) of all urban centres by the sum of reciprocal of rank for each urban centre. After getting the expected population of the largest urban centre, calculate the expected population for rest of the urban centres. The expected population of the 2^{nd} largest urban centre is equal to the expected population of the largest urban centre divided by its rank i.e. 2. Similarly, the expected population of the 3^{rd} largest urban centre is equal to the expected population of the largest urban centre divided by its rank i.e. 3. In this way calculate the expected population of rest of the urban centres by dividing the expected population of the largest urban centre by their corresponding ranks. If the calculations are correct, then the summation of expected population of all urban

centres will be equal to or very close to the summation of actual population of all urban centres. Finally, by subtracting the actual population of any urban centre from its corresponding expected population will give the difference between the expected and actual population of any urban centre. The actual and expected population along with the rank of the urban centres can be plotted in a double logarithmic graph paper with rank on the *x-axis* and actual population (PA) and expected population (PE) on the *y-axis* for a visual representation of the rank-size relationship.

Table 3.11 Calculation of Rank-Size Relationship for North Bengal in 1991

Urban Centre	PA	Rank	1/Rank	PE	PE-PA
Siliguri	216950	1	1	369691.9639	152741.9639
Raiganj	151045	2	0.5	184845.9819	33800.98194
Dabgram	147217	3	0.333333	123230.6546	-23986.34537
English Bazar	139204	4	0.25	92422.99097	-46781.00903
Balurghat	126225	5	0.2	73938.39278	-52286.60722
Darjeeling	73062	6	0.166667	61615.32731	-11446.67269
Cooch Behar	71215	7	0.142857	52813.1377	-18401.8623
Alipurduar	69613	8	0.125	46211.49549	-23401.50451
Jalpaiguri	68732	9	0.111111	41076.88488	-27655.11512
Islampur	45240	10	0.1	36969.19639	-8270.803612
Kalimpong	38832	11	0.090909	33608.36035	-5223.639647
Kaliaganj	37817	12	0.083333	30807.66366	-7009.336343
Gangarampur	31177	13	0.076923	28437.84338	-2739.156624
Dhupguri	30375	14	0.071429	26406.56885	-3968.431151
Kurseong	26758	15	0.066667	24646.13093	-2111.869074
Mangalbari Samundai	24939	16	0.0625	23105.74774	-1833.252257
Mainaguri	21430	17	0.058824	21746.58611	316.5861107
Mal	20395	18	0.055556	20538.44244	143.4424379
Dinhata	17697	19	0.052632	19457.47178	1760.471783
Mathabhanga	17336	20	0.05	18484.59819	1148.598194
Tufanganj	16418	21	0.047619	17604.37923	1186.379233
Alipurduar Railway Jn.	16322	22	0.045455	16804.18018	482.1801765
Falakata	15536	23	0.043478	16073.56365	537.5636471
Guriahati	15336	24	0.041667	15403.83183	67.83182844
Cart Road	13572	25	0.04	14787.67856	1215.678555
Old Maldah	13021	26	0.038462	14218.92169	1197.921688
Domohani	12853	27	0.037037	13692.29496	839.2949586
Uttar Latabari	12170	28	0.035714	13203.28442	1033.284424
Uttar Bagdogra	12064	29	0.034483	12747.99875	683.9987546
Paschim Jitpur	10871	30	0.033333	12323.06546	1452.065463
Haldibari	10870	31	0.032258	11925.54722	1055.547222
Dalkhola	10652	32	0.03125	11552.87387	900.8738713
Odlabari	9907	33	0.030303	11202.78678	1295.786784
Uttar Kamakhyaguri	9092	34	0.029412	10873.29306	1781.293055
Kasba	8221	35	0.028571	10562.62754	2341.62754
Mekliganj	8205	36	0.027778	10269.22122	2064.221219
Gairkata	7725	37	0.027027	9991.6747	2266.6747
Mirik	7022	38	0.026316	9728.735892	2706.735892
Hili	6823	39	0.025641	9479.281125	2656.281125
Sahapur	6609	40	0.025	9242.299097	2633.299097
Kharimala Khagrabari	6269	41	0.02439	9016.877168	2747.877168

Bhangri Pratham Khanda	6151	42	0.02381	8802.189616	2651.189616
Checha Khata	6009	43	0.023256	8597.487532	2588.487532
Bairatisal	4703	44	0.022727	8402.090088	3699.090088
Jaldhaka Hydal Power Project Town	3097	45	0.022222	8215.376975	5118.376975
∑	1624777		4.394948	1624777	0.0000
Source: Calculated by the researcher from various Census of India publications.					

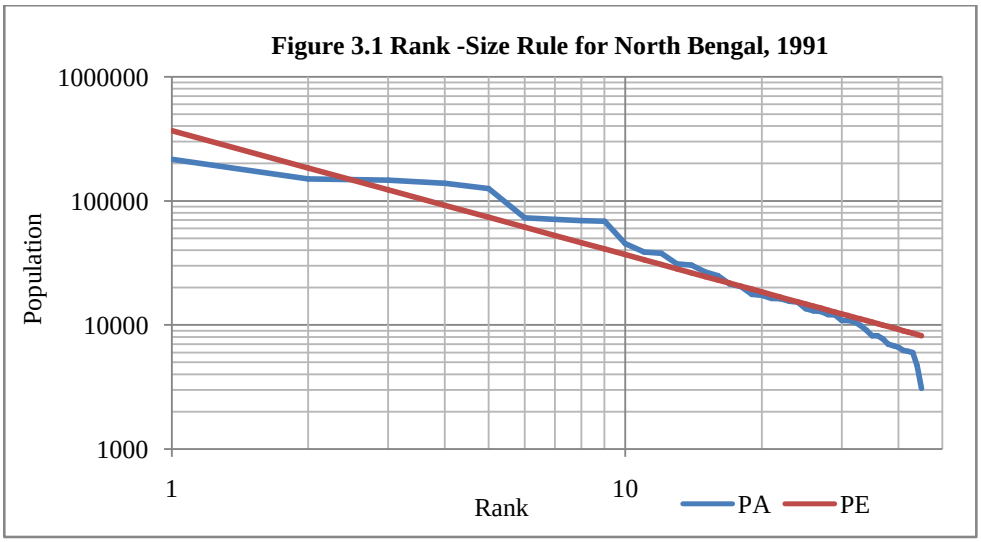

Table 3.11 shows the calculation for rank-size relationship of North Bengal for 1991. In 1991, Siliguri was the largest urban centre in North Bengal. The actual population of Siliguri in 1991 was 216950, whereas according to the rank-size rule the expected population of Siliguri in 1991 should be 369691. Therefore the difference between actual and expected population of Siliguri was more than 1.5 lakhs in 1991, which was quite huge for an urban centre of the size of Siliguri. The 2nd largest urban centre of North Bengal in 1991 was Raiganj with an actual population of 151045 and an expected population of 184846. Therefore, the actual population of Raiganj was less than its expected population by around 33000 persons. Thereafter from rank 3rd to rank 16th of urban centres the actual population in 1991 exceeds the expected population. Again from rank 17th to rank 45th of urban centres the actual population was less than the expected population. Figure 3.1 shows the actual and expected population of all urban centres in North Bengal for 1991 in a double logarithmic graph paper. Here PE is the expected population which is a straight line and PA is the actual population of all urban centres.

Table 3.12 Calculation of Rank-Size Relationship for North Bengal in 2001

Urban Centre	PA	Rank	1/Rank	PE	PE-PA
Siliguri	472374	1	1	467652.8037	-4721.196311
Raiganj	165212	2	0.5	233826.4018	68614.40184
English Bazar	161456	3	0.333333	155884.2679	-5571.732104
Balurghat	143321	4	0.25	116913.2009	-26407.79908

Darjeeling	107197	5	0.2	93530.56074	-13666.43926
Jalpaiguri	100348	6	0.166667	77942.13395	-22405.86605
Cooch Behar	76874	7	0.142857	66807.54338	-10066.45662
Alipurduar	72999	8	0.125	58456.60046	-14542.39954
Old Maldah	62959	9	0.111111	51961.42263	-10997.57737
Gangarampur	53533	10	0.1	46765.28037	-6767.719631
Islampur	52738	11	0.090909	42513.89124	-10224.10876
Kaliaganj	47650	12	0.083333	38971.06697	-8678.933026
Kalimpong	42998	13	0.076923	35973.29259	-7024.707409
Kurseong	40019	14	0.071429	33403.77169	-6615.228308
Jaygaon	38689	15	0.066667	31176.85358	-7512.146421
Dhupguri	38130	16	0.0625	29228.30023	-8901.699769
Dinhata	34273	17	0.058824	27508.98845	-6764.011548
Mainaguri	27106	18	0.055556	25980.71132	-1125.288684
Mal	23218	19	0.052632	24613.30546	1395.305457
Mathabhanga	21107	20	0.05	23382.64018	2275.640184
Khagrabari	19787	21	0.047619	22269.18113	2482.181128
Falakata	19379	22	0.045455	21256.94562	1877.945622
Tufanganj	19310	23	0.043478	20332.7306	1022.730595
Guriahati	18901	24	0.041667	19485.53349	584.533487
Alipurduar Railway Jn.	15899	25	0.04	18706.11215	2807.112148
Uttar Bagdogra	15774	26	0.038462	17986.6463	2212.646296
Banarhat T.G	14473	27	0.037037	17320.47421	2847.474211
Uttar Latabari	14450	28	0.035714	16701.88585	2251.885846
Dalkhola	13895	29	0.034483	16125.95875	2230.958748
Cart Road	13663	30	0.033333	15588.42679	1925.42679
Paschim Jitpur	13396	31	0.032258	15085.57431	1689.574313
Haldibari	13185	32	0.03125	14614.15012	1429.150115
Mekliganj	10835	33	0.030303	14171.29708	3336.297081
Uttar Kamakhyaguri	10547	34	0.029412	13754.49423	3207.494226
Bholar Dabri	10011	35	0.028571	13361.50868	3350.508677
Kasba	9835	36	0.027778	12990.35566	3155.355658
Mirik	9141	37	0.027027	12639.26496	3498.264965
Gairkata	8724	38	0.026316	12306.65273	3582.652729
Kharimala Khagrabari	7233	39	0.025641	11991.09753	4758.09753
Checha Khata	6847	40	0.025	11691.32009	4844.320092
Kendua	5773	41	0.02439	11406.16594	5633.165944
Aiho	5409	42	0.02381	11134.59056	5725.590564
Bairatisal	5405	43	0.023256	10875.6466	5470.646597
Kachu Pukur	5343	44	0.022727	10628.47281	5285.472811
Nachhratpur Katabari	5113	45	0.022222	10392.28453	5279.284526
Sobhaganj	4894	46	0.021739	10166.3653	5272.365298
Bhangri Pratham Khanda	4113	47	0.021277	9950.059653	5837.059653
Pattabong T.G	1633	48	0.020833	9742.766744	8109.766744
∑	2085169		4.458797	2085169	0.0000
Source: Calculated by the researcher from various Census of India publications.					

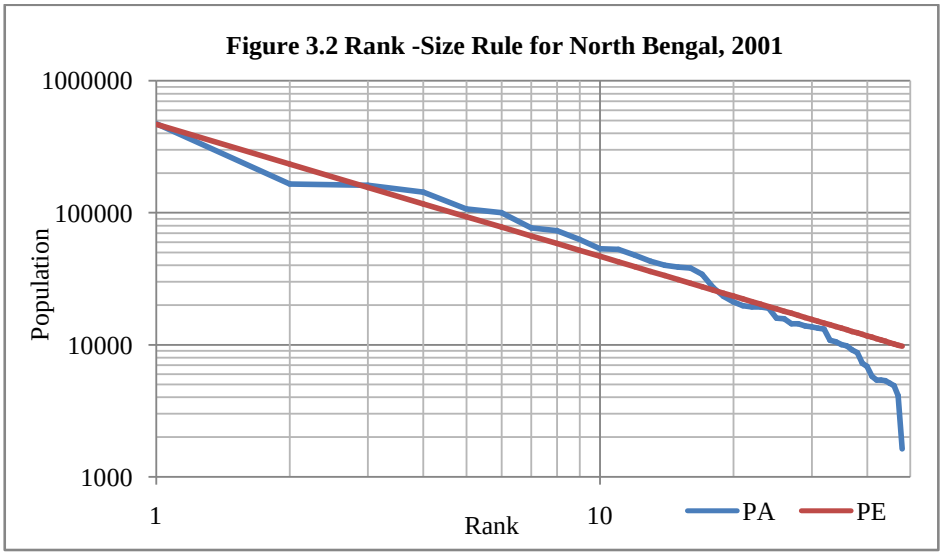

Table 3.12 shows the calculation for rank-size relationship of North Bengal for 2001. In 2001, Siliguri was again the largest urban centre in North Bengal with respect to population size with an actual population of 472374. The expected population of Siliguri according to rank-size rule in 2001 was 467653, which was very close to its actual population. Therefore, the difference between expected and actual population, which was very high positive in 1991 has turned into mild negative in 2001. The 2nd largest urban centre in 2001 was again Raiganj with an actual population of 165212 and an expected population of 233826. Thus for Raiganj, the actual population in 2001 was less than its expected population by around 68000 persons which has increased considerably in 2001 compared to 1991. Thereafter from rank 3rd to rank 18th of urban centres in 2001, the actual population was more than their expected population. Again from rank 19th to rank 48th of urban centres in 2001, the expected population was more than their actual population. Infact, for the smallest four urban centres with rank 45th to 48th the expected population was more than double their actual population. Figure 3.2 shows the actual and expected population of all urban centres of North Bengal in a double logarithmic graph paper for 2001. Here PE is the expected population of all urban centres which is a straight line and PA is the actual populationof each urban centre.

Table 3.13 Calculation of Rank-Size Relationship for North Bengal in 2011

Urban Centre	PA	Rank	1/Rank	PE	PE-PA
Siliguri	513264	1	1	589772.4239	76508.4239
English Bazar	205521	2	0.5	294886.212	89365.21195
Raiganj	183612	3	0.3333333	196590.808	12978.80797
Balurghat	153279	4	0.25	147443.106	-5835.894024
Dabgram	119040	5	0.2	117954.4848	-1085.515219
Darjeeling	118805	6	0.1666667	98295.40398	-20509.59602

Jalpaiguri	107341	7	0.1428571	84253.20341	-23087.79659
Old Maldah	84012	8	0.125	73721.55299	-10290.44701
Cooch Behar	77935	9	0.1111111	65530.26932	-12404.73068
Alipurduar	65232	10	0.1	58977.24239	-6254.75761
Kharia	61661	11	0.0909091	53615.6749	-8045.3251
Binnaguri	58840	12	0.0833333	49147.70199	-9692.298008
Gangarampur	56217	13	0.0769231	45367.10953	-10849.89047
Islampur	54340	14	0.0714286	42126.60171	-12213.39829
Kaliaganj	53530	15	0.0666667	39318.16159	-14211.83841
Kalimpong	49403	16	0.0625	36860.77649	-12542.22351
Dhupguri	44719	17	0.0588235	34692.49552	-10026.50448
Kurseong	42446	18	0.0555556	32765.13466	-9680.865339
Jaygaon	42254	19	0.0526316	31040.65389	-11213.34611
Dalkhola	36930	20	0.05	29488.6212	-7441.378805
Dinhata	36124	21	0.047619	28084.40114	-8039.598862
Mainaguri	30490	22	0.0454545	26807.83745	-3682.16255
Mal	25218	23	0.0434783	25642.2793	424.2793001
Uttar Bagdogra	25044	24	0.0416667	24573.851	-470.149004
Mathabhanga	23890	25	0.04	23590.89696	-299.1030439
Khagrabari	23122	26	0.0384615	22683.55477	-438.4452345
Guriahati	21064	27	0.037037	21843.42311	779.4231075
Tufanganj	20998	28	0.0357143	21063.30085	65.30085369
Falakata	19716	29	0.0344828	20336.98013	620.9801346
Uttar Satali	18454	30	0.0333333	19659.0808	1205.080797
Alipur	17347	31	0.0322581	19024.9169	1677.9169
Krishnapur	16470	32	0.03125	18430.38825	1960.388247
Uttar Latabari	16350	33	0.030303	17871.89163	1521.891633
Bara Suzapur	15808	34	0.0294118	17346.24776	1538.247762
Banarhat T.G	15652	35	0.0285714	16850.64068	1198.640683
Bara Mohansingh	15616	36	0.0277778	16382.56733	766.5673307
Tari	14558	37	0.027027	15939.79524	1381.795241
Cart Road	14444	38	0.0263158	15520.32694	1076.326945
Haldibari	14404	39	0.025641	15122.36984	718.3698437
Paschim Jitpur	14334	40	0.025	14744.3106	410.3105976
Odlabari	14194	41	0.0243902	14384.69327	190.6932659
Bamangram	13550	42	0.0238095	14042.20057	492.2005691
Jagannathpur	13454	43	0.0232558	13715.63777	261.6377652
Dumriguri	13416	44	0.0227273	13403.91873	-12.08127492
Bholar Dabri	12670	45	0.0222222	13106.05386	436.0538645
Silampur	12664	46	0.0217391	12821.13965	157.1396501
Milka	12581	47	0.0212766	12548.34944	-32.65055525
Tekagach	12418	48	0.0208333	12286.9255	-131.074502
Baliadanga	12379	49	0.0204082	12036.17192	-342.8280836
Uttar Kamakhyaguri	12022	50	0.02	11795.44848	-226.5515219
Sonada Khasmahal	11635	51	0.0196078	11564.16517	-70.83482542
Telipara T.G	11535	52	0.0192308	11341.77738	-193.2226172
Mathapari	11529	53	0.0188679	11127.78158	-401.2184169
Mirik	11513	54	0.0185185	10921.71155	-591.2884462
Parangarpar	11408	55	0.0181818	10723.13498	-684.8650199
Chhota Suzapur	11216	56	0.0178571	10531.65043	-684.3495732
Bhimram	11058	57	0.0175439	10346.88463	-711.1153701
Karari Chandpur	10941	58	0.0172414	10168.49007	-772.5099327
Birpara	10821	59	0.0169492	9996.142778	-824.857222
Alipurduar Railway Jn.	10733	60	0.0166667	9829.540398	-903.4596016
Sonatala	10589	61	0.0163934	9668.400392	-920.5996081
Kasba	10067	62	0.016129	9512.45845	-554.5415499

Sahapur	9906	63	0.015873	9361.467046	-544.5329539
Uttar Madarihat	9631	64	0.015625	9215.194123	-415.8058765
Mechiabasti	9592	65	0.0153846	9073.421906	-518.5780938
Kalkut	9184	66	0.0151515	8935.945817	-248.0541833
Mekliganj	9127	67	0.0149254	8802.573491	-324.4265089
Jateshwar	8963	68	0.0147059	8673.123881	-289.8761191
Nazirpur	8778	69	0.0144928	8547.426433	-230.5735666
Geni	8747	70	0.0142857	8425.320341	-321.6796585
Bagbari	8660	71	0.0140845	8306.653858	-353.3461422
Chakchaka	8582	72	0.0138889	8191.283665	-390.7163347
Samuktola	8132	73	0.0136986	8079.0743	-52.92569995
Kharimala Khagrabari	7844	74	0.0135135	7969.89762	125.8976203
Chaspara	7731	75	0.0133333	7863.632319	132.6323187
Checha Khata	7613	76	0.0131579	7760.163472	147.1634724
Jadupur	7585	77	0.012987	7659.382129	74.38212862
Gairkata	7577	78	0.0128205	7561.184922	-15.81507816
Dakshin Khagrabari	7469	79	0.0126582	7465.47372	-3.526279704
Baksinagar	7255	80	0.0125	7372.155299	117.1552988
Laskarpara	7137	81	0.0123457	7281.141036	144.1410358
Gopalpur	7016	82	0.0121951	7192.346633	176.346633
Lalman	6894	83	0.0120482	7105.691854	211.6918543
Dungra Khasmahal	6789	84	0.0119048	7021.100285	232.1002846
Kharibari	6660	85	0.0117647	6938.499105	278.4991047
Jagijhora Barabak	6474	86	0.0116279	6857.818883	383.8188826
Kendua	6452	87	0.0114943	6778.993378	326.9933782
Dakshin Rampur	6392	88	0.0113636	6701.959363	309.9593625
Chak Bhrigu	6269	89	0.011236	6626.656448	357.6564484
Bandhail	6175	90	0.0111111	6553.026932	378.0269323
Badamtam T.G	6102	91	0.010989	6481.015647	379.0156473
Itahar	6022	92	0.0108696	6410.569825	388.569825
Nachhratpur Katabari	6011	93	0.0107527	6341.638967	330.6389667
Hanskunda	5939	94	0.0106383	6274.174722	335.1747224
Mangalbari	5934	95	0.0105263	6208.130778	274.1307779
Aiho	5898	96	0.0104167	6143.462749	245.462749
Jitu	5892	97	0.0103093	6080.128081	188.1280815
Chongtong T.G	5802	98	0.0102041	6018.085958	216.0859582
Singtam T.G	5792	99	0.010101	5957.297211	165.2972111
Chopra	5777	100	0.01	5897.724239	120.724239
Kachu Pukur	5752	101	0.009901	5839.33093	87.33092974
Mangarjung T.G	5644	102	0.0098039	5782.082587	138.0825873
Chhatianmor	5582	103	0.0097087	5725.945863	143.9458631
Chanchal	5570	104	0.0096154	5670.888691	100.8886914
Sobhaganj	5488	105	0.0095238	5616.880228	128.8802277
Chhota Laukuthi	5480	106	0.009434	5563.890792	83.89079154
Rangabhita	5464	107	0.0093458	5511.891812	47.89181218
Jalalpur	5460	108	0.0092593	5460.855777	0.855776883
Kamat Phulbari	5339	109	0.0091743	5410.756183	71.7561826
Dakra	5268	110	0.0090909	5361.56749	93.56749003
Chakiabhita	5251	111	0.009009	5313.26508	62.26508021
Shyamdhan	5192	112	0.0089286	5265.825213	73.82521342
Rongmook Cedar T.G	5150	113	0.0088496	5219.22499	69.2249903
Jhangra	5022	114	0.0087719	5173.442315	151.4423149
Baisguri	5021	115	0.0086957	5128.45586	107.45586
Harirampur	5021	116	0.0086207	5084.245034	63.24503365
Dakshin Odlabari	4997	117	0.008547	5040.789948	43.78994789
Lataguri	4981	118	0.0084746	4998.071389	17.07138901

Chalsa Mahabari	4973	119	0.0084034	4956.070789	-16.9292109
Bairatisal	4916	120	0.0083333	4914.770199	-1.229800805
Baneswar	4841	121	0.0082645	4874.152264	33.15226366
Nagar Changrabandha	4483	122	0.0081967	4834.200196	351.2001959
Sukhiapokhri	4450	123	0.0081301	4794.897755	344.8977553
Dhaliabari	4383	124	0.0080645	4756.229225	373.229225
Bhangri Pratham Khanda	4379	125	0.008	4718.179391	339.1793912
Matialihat	4215	126	0.0079365	4680.733523	465.733523
Sisha-Jumrha	4130	127	0.007874	4643.877354	513.8773536
Ging T.G	4089	128	0.0078125	4607.597062	518.5970617
Birodhi	3838	129	0.0077519	4571.879255	733.8792551
Par Patiram	3225	130	0.0076923	4536.710953	1311.710953
Dakshin Bagdogra	2647	131	0.0076336	4502.079572	1855.079572
∑	3217931		5.4562249	3217931	0.0000
Source: Calculated by the researcher from various Census of India publications.					

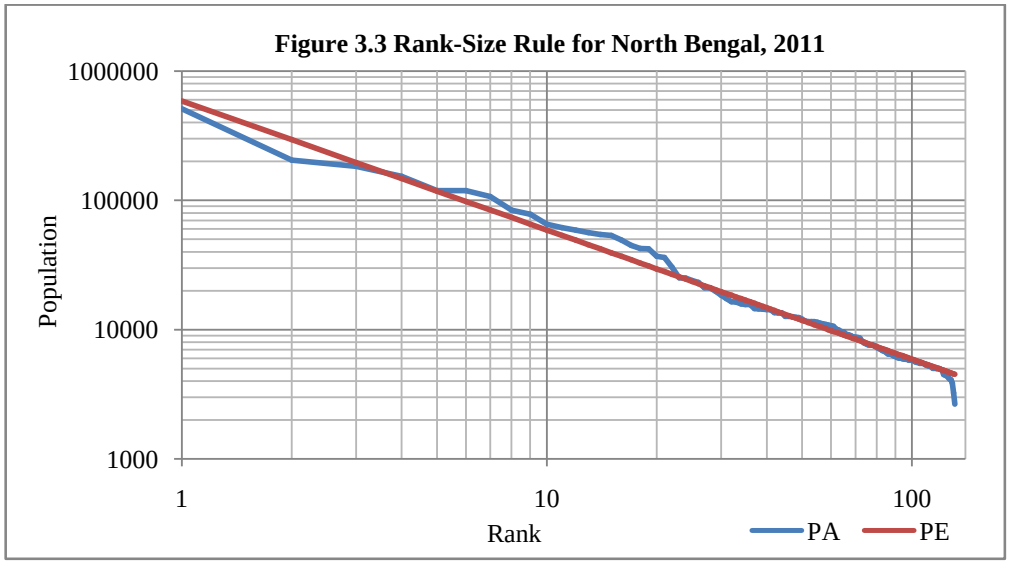

Table 3.13 shows the calculation for rank-size relationship of North Bengal for 2011. In 2011 also like the earlier years, Siliguri was the largest urban centre in North Bengal. The actual population of Siliguri in 2011 was 513264 whereas its expected population for 2011 was 589772. Therefore the gap between the expected population and actual population in Siliguri has again become quite significant and turned positive in 2011. In 2011, English Bazar was the 2nd largest urban centre of North Bengal with respect to population size by replacing Raiganj. The actual population of English Bazar in 2011 was 205521 whereas its expected population was 294886. Therefore the actual population of English Bazar was less than its expected population by a huge margin. The 3rd largest urban centre in 2011 for North Bengal was Raiganj with an actual population of 183612 and an expected population of 196590. Therefore the expected population of Raiganj exceeds its actual population in 2011, but the difference was only marginal. There

after from rank 4th to rank 22nd of urban centres the actual population was more than their expected population in 2011. 23rd rank urban centre in 2011, which was Mal had an expected population which was more than its actual population. Again from rank 24th to rank 26th of urban centres had a higher actual population compared to their expected population. From rank 27th to rank 46th of urban centre, except rank 44th, had a higher expected population than their actual population in 2011. There after, from rank 47th to rank 73rd of urban centres had a higher actual population than their expected population in 2011. Finally, from rank 74th to rank 131st of urban centres, except rank 78th, 79th, 119th and 120th had an higher expected population compared to their actual population in 2011. Figure 3.3 shows the actual and expected population of all urban centres of North Bengal for 2011 in a double logarithmic graph paper. PE which shows the expected population of all urban centres is a straight line and PA is the actual population of all urban centres in 2011.

3.11 H – Index

The degree of urban population concentration within the districts of North Bengal will be measured by H – Index. The H – Index is defined as follows:

$$H = \sum_{i=1}^{n} (P_i / P)^2$$

Where, P_i = Population of city i.

P = Total urban population in the district.

n = Total number of urban centres in the district.

Thus, higher the H – Index value, greater will be the degree of urban concentration. Moreover, the reciprocal of H – Index is the number of equal sized cities that would generate the measure. Therefore, if the H – Index value is 1, one city monopolize the space and total urban population is living in only one city of the district, on the other hand if the H – Index value is small, it implies that the urban population is spread across a large number of urban centres in the district and hence the degree of competition for the cities to grow is higher.

Table. 3.14 H - Index

District	1991	2001	2011
Darjeeling	0.351	0.356	0.203
Jalpaiguri	0.163	0.153	0.083
Koch Bihar	0.225	0.177	0.121
Uttar Dinajpur	0.414	0.377	0.314
Dakshin Dinajpur	0.629	0.604	0.480

Maldah	0.599	0.519	0.177
Source: Calculated by the researcher from various Census of India publications.			

Table 3.14 shows the H – Index value across various districts of North Bengal for 1991, 2001 and 2011. In 1991, the H – Index value was highest in Dakshin Dinajpur district, followed by Maldah, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri district respectively. The higher value of H – Index in Dakshin Dinajpur district was due to the fact that the total urban population was living in a concentrated form in very few urban centres. This was true because in 1991, there were only three urban centres in Dakshin Dinajpur district viz. Balurghat, Gangarampur and Hili and more than two-third of the total urban population lived in Balurghat, the district headquarter and only class I town of the district. Maldah district also recorded a very high H – Index value in 1991 due to the same reason with only four urban centres in the district in 1991 and again more than two-third of total urban population living in English Bazar, the district headquarter and only class I town of the district. Uttar Dinajpur district in 1991 also recorded a relatively high H- Index value due to the same reason, here Raiganj, the district headquarter and the only class I town of the district in 1991 dominated the urban space. The H – Index value in Darjeeling district was relatively less in 1991, because the dominance of Siliguri city in the district was balanced by the presence of other big urban centres like Darjeeling, Kalimpong and Kurseong. Jalpaiguri and Koch Bihar district recorded a very low H – Index value in 1991 due to the presence of large number of urban centres of the same status. In Jalpaiguri district the urban centres like Jalpaiguri, Alipurduar, Dabgram, Mainaguri, Dhupguri and Mal are worth mentioning. Similarly, in Koch Bihar district the presence of urban centres like Cooch Behar, Dinhata, Mathabhanga, Mekliganj, Tufanganj and Haldibari have reduced the H – Index value in 1991. In 2001 also Dakshin Dinajpur district recorded the highest H – Index value, followed by Maldah, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri district respectively. Therefore, there was a clear cut trend of higher H – Index value associated with a lower level of urbanization. This is certainly true because in a district with lower level of urbanization, the urban system is not very matured resulting in a few cities dominating the scene. In 2011, the trend in H – Index value was slightly different, although Dakshin Dinajpur district still recorded the highest value but now it was followed by Uttar Dinajpur, Darjeeling, Maldah, Koch Bihar and Jalpaiguri district respectively. There was a remarkable decrease in the H – Index value for Maldah district in 2011, compared to the earlier years. This has been made

possible by a huge increase in the number of urban centres Maldah district witnessed in 2011, compared to 2001. Although, most of the new urban centres in maldah district which came up in 2011 are census towns but this has considerably reduced the dominance of English Bazar in the urban system of the district. This decrease in H – Index value with the passage of time was not only confined to Maldah district, rather all other districts of North Bengal witnessed the same trend which was made possible by an addition of new urban centres mostly census towns in all the districts especially in 2011. Therefore, North Bengal as a whole was witnessing a rapid increase in the number of urban centres along with a steady increase in the level of urbanization which was making the urban system not only more matured but also more balanced in terms of their population concentration.

3.12 Percentage of Urban Area

The percentage of urban area to total area of the district can also provide some useful insight about the type of urban development in a region. India being a developing country with majority of the population living in rural area obviously has a very low percentage of urban area to total area. The districts of North Bengal are also no exception to this and the percentage of urban area to total area of the district was very low in some of the districts of North Bengal.

Table 3.15 Percentage of Urban Area

District / Region	Total Area in sq. km.	1991		2001		2011	
		Urban Area in sq. km.	% of Total Area	Urban Area in sq. km.	% of Total Area	Urban Area in sq. km.	% of Total Area
Darjeeling	3149	69.28	2.20	75.3	2.39	153.49	4.87
Jalpaiguri	6227	157.19	2.52	121.1	1.94	367.30	5.90
Koch Bihar	3387	30.01	0.89	41.34	1.22	68.94	2.04
Uttar Dinajpur	3140	39.64	1.26	44.3	1.41	64.73	2.06
Dakshin Dinajpur	2219	21.01	0.95	22.7	1.02	31.25	1.41
Maldah	3733	21.66	0.58	25.3	0.68	86.09	2.31
North Bengal	21855	338.79	1.55	330.04	1.51	771.79	3.53
West Bengal	88752	3069.76	3.46	3324.74	3.75	5119.41	5.77
India	3287469	62242.78	1.89	78163.26	2.38	102220.59	3.11

Source: Calculated by the researcher from various Census of India publications.

Table 3.15 shows the total area of the district, total urban area and percentage of urban area to total area of the districts of North Bengal for 1991, 2001 and 2011. The corresponding figures for West Bengal and India have also been taken into consideration for comparison. In 1991, the percentage of urban area to total area of the district was highest in Jalpaiguri district, followed by Darjeeling, Uttar Dinajpur, Dakshin Dinajpur, Koch Bihar and Maldah district

respectively. As seen from the table only Jalpaiguri and Darjeeling district had a percentage of urban area over 2% in 1991. The interesting point to note was that all of the districts of North Bengal recorded a lower percentage of urban area compared to that of the average for West Bengal in 1991. While comparing the figures with that of average for India in 1991 only Darjeeling and Jalpaiguri district have a better percentage of urban area than India. In 2001, the percentage of urban area to total area of the district decreased in Jalpaiguri district, resulting in Darjeeling district occupying the top position, followed by Jalpaiguri, Uttar Dinajpur, Koch Bihar, Dakshin Dinajpur and Maldah district respectively. Again in 2001 also, all the districts of North Bengal recorded a percentage of urban area considerably less than that of the average for West Bengal while only Darjeeling district could match with the average for India in 2001. In 2011, again Jalpaiguri district regained its top position with respect to percentage of urban area to total area of the district, followed by Darjeeling, Maldah, Uttar Dinajpur, Koch Bihar and Dakshin Dinajpur district respectively. The district of Maldah and Jalpaiguri showed remarkable improvement in 2011 compared to earlier years with respect to the percentage of urban area. Infact in 2011, Jalpaiguri district had a better percentage of urban area than that of the average for West Bengal. While both Jalpaiguri and Darjeeling district and North Bengal as a whole had a better percentage of urban area than that of average for India in 2011.

Across the time period, all the districts witnessed an increase in the percentage of urban area to total area of the district from 1991 to 2011. The interesting trend was the 2001 – 2011 decade saw a steeper increase in percentage of urban area to total area of the district compared to 1991 – 2001 decade. This was due to reclassification of a huge number of rural settlements as census town in 2011 spread across all the districts of North Bengal. The percentage of urban area to total area of the district more than doubled in Darjeeling, Jalpaiguri and Maldah district in 2011 compared to 2001 because these three districts accounted for majority of the new census towns which emerged in 2011.

3.13 Total and Urban Population Density

Population density gives an idea about the balance between the population and resource base of a region. A high population density usually results in a lot of burden to provide services to people of a particular region.

Table 3.16 Total and Urban Population Density

District / Region	1991	2001	2011

	Population Density Total (Persons / sq. km)	Population Density Urban (Persons / sq. km)	Population Density Total (Persons / sq. km)	Population Density Urban (Persons / sq. km)	Population Density Total (Persons / sq. km)	Population Density Urban (Persons / sq. km)
Darjeeling	413	5717	511	6911	586	4743
Jalpaiguri	450	2915	546	5011	622	2887
Koch Bihar	641	5648	732	5458	832	4198
Uttar Dinajpur	604	6382	778	6647	958	5596
Dakshin Dinajpur	555	7817	677	8672	755	7561
Maldah	706	8612	881	9523	1069	6292
North Bengal	551	4804	674	6318	788	4169
West Bengal	767	6094	903	6746	1028	5683
India	267	3496	325	3661	382	3689
Source: Calculated by the researcher from various Census of India publications.						

Table 3.16 shows the total population density and urban population density across the six districts of North Bengal for 1991, 2001 and 2011. The total population density and urban population density for 1991, 2001 and 2011 has also been calculated for West Bengal and India for proper comparison. As a matter of fact the urban population density is always higher compared to the rural population density because in urban area people live in a more congested form compared to their rural folk. Therefore, the urban population density is bound to be higher than total population density (because for calculating total population density both urban and rural components are taken into consideration) and the districts of North Bengal are also no exception to this universal trend. In 1991, the total population density was highest in Maldah district, followed by Koch Bihar, Uttar Dinajpur, Dakshin Dinajpur, Jalpaiguri and Darjeeling district respectively. Therefore, it can be seen that in 1991, the districts with a very high percentage of rural population indicating indirectly a high degree of backwardness like Maldah, Koch Bihar and Uttar Dinajpur accounted for a very high density of total population. This was because, it has been seen historically that in backward regions the natural increase of population is very high resulting in a huge pressure on the resource base of that region. While comparing the total population density of various districts of North Bengal with that of West Bengal and India in 1991two opposite trends emerge. None of the districts of North Bengal had a total population density higher than that of average for West Bengal while all the districts of North Bengal had a total population density which was substantially higher than that of India in 1991. The urban population density in 1991 was also highest in Maldah district, followed by Dakshin Dinajpur, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri district respectively. The districts of Maldah, Dakshin Dinajpur and Uttar Dinajpur with a very low level of urbanization in 1991 but

recording a very high urban population density points to a lack of maturity in their urban system resulting in a very few urban centres being developed where people from all over the district congregate to get a taste of urban way of life. In 1991, among the six district of North Bengal only two districts viz. Maldah and Dakshin Dinajpur recorded an urban population density higher than that of West Bengal and only Jalpaiguri district recorded an urban population density lower than that of India. The total population density in 2001 was also highest in Maldah district, followed by Uttar Dinajpur, Koch Bihar, Dakshin Dinajpur, Jalpaiguri and Darjeeling district respectively. Darjeeling district always recorded the lowest total population density among the districts of North Bengal because the hilly part of the district with difficult terrain is very sparsely populated. Again in 2001 also, the total population density in all the districts of North Bengal was less than the average for West Bengal while all the districts recorded a total population density which was significantly higher than India. The urban population density in 2001 was again highest in Maldah district, followed by Dakshin Dinajpur, Darjeeling, Uttar Dinajpur, Koch Bihar and Jalpaiguri district respectively. In 2001 only in Maldah and Dakshin Dinajpur district the urban population density was higher than that of West Bengal while comparing with India like the total population density, the urban population density was much higher in all the districts of North Bengal. In 2011, the total population density was again highest in Maldah district, followed by Uttar Dinajpur, Koch Bihar, Dakshin Dinajpur, Jalpaiguri and Darjeeling district respectively. In 2011, Maldah distrct saw a huge increase in total population density and became the only district from North Bengal with a higher total population density than that of West Bengal while comparing with India all the districts have a higher total population density than the average for the country. However, in 2011 the urban population density was highest in Dakshin Dinajpur district, followed by Maldah, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri district respectively. Again in 2011, the urban population density in Dakshin Dinajpur and Maldah district was above that of West Bengal while the urban population density was less than the national average in only Jalpaiguri district.

Across the time period for all the districts very interesting facts emerge. The total population density for all the districts increased with the passage of time. Infact, the total population density increased by more than 50% in 2011 compared to 1991 for the districts of Uttar Dinajpur and Maldah, which are also the two most backward districts of this region with a huge share of minority population. The trend in urban population density was mixed. All the

districts except Koch Bihar saw an increase in urban population density in 2001 compared to 1991. This increase in urban population density in 2001 compared to 1991 had been very steep for Jalpaiguri district. However, during the next decade all the districts witnessed a decline in their urban population density in 2011 compared to 2001. This declining trend in urban population density in 2011 can be mainly attributed to huge increase in the number of census towns across the districts which were earlier villages with a relatively lesser degree of population concentration.

3.14 Number of Urban Centres in North Bengal

The definition of an urban area according to the Census of India is as follows;

1. All places with a municipality, corporation, cantonment board or notified town area committee, etc.
2. All other places which satisfied the following criteria:
    i. A minimum population of 5000;
    ii. At least 75 percent of the male main working population engaged in non-agricultural pursuits; and
    iii. A density of population of at least 400 persons per sq. km.

The first category of urban centres is known as Statutory Towns. These towns are notified under law by the concerned State / UT Government and have local bodies like municipal corporations, municipalities, municipal committees, etc., irrespective of their demographic characteristics. The second category of urban centres is known as Census Towns which are identified on the basis of census data.

Urban Agglomeration (UA): An urban agglomeration is a continuous urban spread constituting a town and its adjoining outgrowths (OGs), or two or more physically contiguous towns together with or without outgrowths of such towns. An urban agglomeration must consist of at least a statutory town and its total population (i.e. all the constituents put together) should not be less than 20000.

Out Growths (OG): An Out Growth (OG) is a viable unit such as a village or a hamlet or an enumeration block made up of such village or hamlet and clearly identifiable in terms of its boundaries and location. Some of the examples are railway colony, university campus, port area, military camps etc., which have come up near a statutory town outside its statutory limits but

within the revenue limits of a village or villages contiguous to the town. While determining the outgrowth of a town, it has been ensured that it possesses the urban features in terms of infrastructure and amenities such as pucca roads, electricity, taps, drainage system for disposal of waste water etc., educational institutions, post offices, medical facilities, banks etc., and physically contiguous with the core town of the UA.

Table 3.17 Number of UAs / Towns and Out Growths (OGs) in India		
Type of Towns/ UAs/ OGs	2001	2011
Statutory Towns	3799	4041
Census Towns	1362	3894
Urban Agglomerations	384	475
Out Growths	962	981
Source: Census of India 2011; Provisional Population Totals, Urban Agglomerations and Cities.		

Table 3.18 shows the total number of urban centres across various districts of North Bengal in 1991, 2001 and 2011. In 1991, Jalpaiguri district had the highest number of urban centres, followed by Darjeeling, Koch Bihar, Uttar Dinajpur, Maldah and Dakshin Dinajpur district respectively. In 2001 again Jalpaiguri district had the highest number of urban centres, followed by Koch Bihar, Darjeeling, Uttar Dinajpur, Maldah and Dakshin Dinajpur district respectively. The number of urban centres in 2011 was also highest in Jalpaiguri district, followed by Darjeeling, Maldah, Koch Bihar, Uttar Dinajpur and Dakshin Dinajpur district respectively. Across the time period, the number of urban centres remained more or less same in 1991 and 2001, but in 2011 all the districts witnessed a steep increase in their number of urban centres due to the emergence of new census towns all across North Bengal.

Table 3.18 Number of Urban Centres in North Bengal			
District / Region	1991	2001	2011
Darjeeling	9	9	29
Jalpaiguri	15	17	40
Koch Bihar	9	10	18
Uttar Dinajpur	5	6	9
Dakshin Dinajpur	3	2	7
Maldah	4	5	29
North Bengal	45	48	131
Source: Calculated by the researcher from various Census of India publications.			

3.15 Decadal Growth Rate of Urban Centres in North Bengal

Table 3.19 shows the decadal growth rate of urban centres across various districts of North Bengal during 1991 – 2001 and 2001 – 2011 decade. The decadal growth rate of urban centres in India has also been calculated for the same period for comparison. During 1991 – 2001 decade, the decadal growth rate of urban centres was very marginal for most of the districts. The

highest decadal growth rate of urban centres during 1991 – 2001 was in Maldah district, followed by Uttar Dinajpur, Jalpaiguri and Koch Bihar district respectively. The district of Darjeeling did not witness any change in its number of urban centres during 1991 – 2001 period. Dakshin Dinajpur was the only district which witnessed a negative decadal growth rate of urban centres during 1991 – 2001 because the number of urban centres in the district declined from 3 in 1991 to 2 in 2001. Out of the six districts of North Bengal, only three districts viz. Maldah, Uttar Dinajpur and Jalpaiguri registed a higher decadal growth rate of urban centres compared to India during 1991 – 2001 decade.

Table 3.19 Decadal Growth Rate of Urban Centres in North Bengal

District / Region	In Percentage	
	1991 - 2001	2001 - 2011
Darjeeling	0.00	222.22
Jalpaiguri	13.33	135.29
Koch Bihar	11.11	80.00
Uttar Dinajpur	20.00	50.00
Dakshin Dinajpur	-33.33	250.00
Maldah	25.00	480.00
North Bengal	6.67	172.92
India	11.83	53.71

Source: Calculated by the researcher from various Census of India publications.

During the next decade i.e. 2001 – 2011, there seems to be a growth spurt in the number of urban centres. The decadal growth rate of urban centres also validated this point with all the districts registering a very high positive decadal growth rate of urban centres. The highest decadal growth rate of urban centres during 2001 – 2011 decade was observed in Maldah district, followed by Dakshin Dinajpur, Darjeeling, Jalpaiguri, Koch Bihar and Uttar Dinajpur district respectively. This very high decadal growth rate of urban centres during 2001 – 2011 decade witnessed in some districts of North Bengal like Maldah and Dakshin Dinjapur district was because of the low base effect (since very few urban centres existed earlier therefore a moderate to high absolute increase in the number of urban centres gets transformed into a decadal growth rate which is very high). North Bengal as a whole also witnessed a surge in the decadal growth rate of urban centres during 2001 – 2011 compared to the earlier decade. Infact, except Uttar Dinajpur district, all other districts of North Bengal showed a decadal growth rate of urban centres which was considerably higher than that of India during 2001 – 2011. North Bengal as a whole also registered a decadal growth rate of urban centres which was more than three times that of India during 2001 – 2011. The internal variation among the districts of North Bengal in

terms of their decadal growth rate of urban centres also decreased during 2001 – 2011 compared to 1991 – 2001. The coefficient of variation measured shows a value of 3.20 for 1991 – 2001 and 0.70 for 2001 – 2011.

3.16 Statutory Towns and Census Towns in North Bengal

As mentioned earlier there are two types of urban centres in India, one is the statutory town and the other is the census town. Since statutory towns are all places with a municipality, corporation, cantonment board or notified town area committee, etc. therefore they are better capable of handling the huge urban population pressure by providing basic services, amenities and infrastructure to their residents. After the 74th Constitution Amendment Act in 1992, their financial capability has also been increased to a large extent to carry out the developmental works based on local aspirations and demands. Whereas, the census towns without this institutional and financial backing continue to be managed within the frame work of gram panchayets, with very limited resource availability to fulfill the needs and demands of their residents.

Table 3.20 Number of Statutory Towns and Census Towns in North Bengal

District / Region	1991		2001		2011	
	Statutory Town	Census Town	Statutory Town	Census Town	Statutory Town	Census Town
Darjeeling	5	4	5	4	5	24
Jalpaiguri	3	12	4	13	5	35
Koch Bihar	6	3	6	4	6	12
Uttar Dinajpur	3	2	3	3	4	5
Dakshin Dinajpur	1	2	2	0	2	5
Maldah	2	2	2	3	2	27
North Bengal	20	25	21	27	23	108

Source: Calculated by the researcher from various Census of India publications.

Table 3.20 shows the number of statutory town and census town in each district of North Bengal for 1991, 2001 and 2011 respectively. It was interesting to note that Koch Bihar district although with a very low level of urbanization in 1991, had the highest number of statutory towns, followed by Darjeeling, Jalpaiguri, Uttar Dinajpur, Maldah and Dakshin Dinajpur district respectively. In 1991, the number of census town was highest in Jalpaiguri district, followed by Darjeeling, Koch Bihar, Uttar Dinajpur, Dakshin Dinajpur and Maldah district respectively. In fact in each of the last three districts mentioned above have only two census towns in 1991. In 2001 also, Koch Bihar district had the highest number of statutory towns, followed by Darjeeling, Jalpaiguri, Uttar Dinajpur, Dakshin Dinajpur and Maldah district respectively. Like

1991, the number of census towns in 2001 was also highest in Jalpaiguri district, followed by Darjeeling, Koch Bihar, Uttar Dinajpur, Maldah and Dakshin Dinajpur district respectively. In fact in 2001, Dakshin Dinajpur district did not have a single census town, because out of the two census town the district had in 1991, one was converted to a statutory town and the other was reclassified as a village in 2001. In 2011 also, the maximum number of statutory towns was in Koch Bihar district, followed by Darjeeling, Jalpaiguri, Uttar Dinajpur, Dakshin Dinajpur and Maldah district respectively. In 2001, compared to the earlier years there has been a many fold increase in the number of census towns for all the districts of North Bengal. The maximum number of census town in 2011 was recorded again in Jalpaiguri district, which was followed by Maldah, Darjeeling, Koch Bihar, Uttar Dinajpur and Dakshin Dinajpur district respectively.

Across the time period the number of statutory towns either remained same or increased marginally during the period from 1991 to 2011. In the district of Darjeeling, Koch Bihar and Maldah there was no change in the number of statutory town from 1991 to 2011. Jalpaiguri district saw an increase in the number of statutory towns by 2 from 1991 to 2011 while both in Uttar Dinajpur and Dakshin Dinajpur district it increased by 1 during the same period. The number of census towns on the other hand also showed marginal change in 2001 compared to 1991, with four districts viz. Jalpaiguri, Koch Bihar, Uttar Dinajpur and Maldah seeing an increase in the number of census town by 1, it remained unchanged in Darjeeling district while only in Dakshin Dinajpur district the number of census town declined by 2. However in 2011, all the districts of North Bengal witnessed a sharp increase in their number of census towns compared to 2001. Infact, Maldah district recorded the highest gain, with an absolute increase in the number of census town by 24, followed by Jalpaiguri district where it increased by 22, in Darjeeling district by 19, in Koch Bihar district by 8, in Dakshin Dinajpur distrct by 5 and in Uttar Dinajpur district by 2 respectively. Overall, North Bengal saw an increase in the number of statutory town from 20 in 1991 to 23 in 2011 and an increase in the number of census town from 25 in 1991 to 108 in 2011. Therefore, the recent acceleration in the process of urbanization across the various districts of North Bengal was fuelled by these numerous new census towns which emerged in 2011.

3.17 Percentage of Statutory Towns in North Bengal

As it has been discussed earlier that statutory towns are more capable of handling the complex urban dynamics and problems emerging in urban centres of India now. Table 3.21 shows the percentage of statutory towns out of total urban centres in each district of North Bengal for 1991, 2001 and 2011. The percentage of statutory town during the same period for India has also been calculated for comparison. In 1991, the percentage of statutory town out of

Table 3.21 Percentage of Statutory Town

District / Region	1991	2001	2011
Darjeeling	55.56	55.56	17.24
Jalpaiguri	20.00	23.53	12.50
Koch Bihar	66.67	60.00	33.33
Uttar Dinajpur	60.00	50.00	44.44
Dakshin Dinajpur	33.33	100.00	28.57
Maldah	50.00	40.00	6.90
North Bengal	44.44	43.75	17.56
India	63.89	73.61	50.93

Source: Calculated by the researcher from various Census of India publications.

total urban centres was highest in Koch Bihar district, followed by Uttar Dinajpur, Darjeeling, Maldah, Dakshin Dinajpur and Jalpaiguri district respectively. Comparing the percentage of statutory town in various districts of North Bengal with India in 1991 shows that only Koch Bihar district recorded a better ratio than the national average. In 2001, Dakshin Dinajpur district with both of its urban centres recognized as statutory town had no census town resulting in the district occupying the highest position with respect to the percentage of statutory town out of total urban centres, followed by Koch Bihar, Darjeeling, Uttar Dinajpur, Maldah and Jalpaiguri district respectively. In 2001 also only Dakshin Dinajpur district had a higher percentage of statutory towns compared to that of average for India while for rest of the districts of North Bengal this percentage was considerably less than that of India. In 2011 however, Uttar Dinajpur district had the highest percentage of statutory towns out of total urban centres, followed by Koch Bihar, Dakshin Dinajpur, Daerjeeling, Jalpaiguri and Maldah district respectively. The interesting thing was, in 2011 all the districts of North Bengal recorded a percentage of statutory towns which was less than the national average. The most important trend visible from the table however, was the decline in the percentage of statutory town out of total urban centres across all the districts of North Bengal during the study period. This decline in percentage was sharper in 2011 when all the districts witnessed a rapid increase in the number of their census towns. Since the number of statutory towns either remained same or increased marginally for all the districts,

therefore the districts which witnessed the highest increase in census towns also witnessed a resultant steep decline in their percentage of statutory towns compared to total urban centres in the district. This trend of decline in the proportion of statutory town out of total urban centres with the passage of time was also true for India as a whole.

3.18 Number of Urban Centre per Lakh Rural Population

India is a country of more than 1.2 billion people with more than 2/3rd of them still living in rural areas. Given this condition of majority population still living in rural areas, urban centres also has the added responsibility of providing goods and services to people who live in their surrounding rural areas outside the metropolitan boundary. It is also imperative that urban centres create functional linkages with their surrounding rural areas so that the rural areas are also benefitted by the process of urbanization and rural development becomes integrated in the broad developmental framework of a region. North Bengal, one of the least urbanized regions of the state of West Bengal with more than 3/4th of total population still living in rural areas depends heavily on its urban centres for providing goods, services and infrastructure to the people living in rural areas. Thus from the point of view of the rural people the availability of a nearby urban centre is of primary importance.

Table 3.22 Number of Urban Centre per Lakh Rural Population

District / Region	1991	2001	2011
Darjeeling	0.99	0.83	2.59
Jalpaiguri	0.64	0.61	1.42
Koch Bihar	0.45	0.44	0.71
Uttar Dinajpur	0.30	0.28	0.34
Dakshin Dinajpur	0.28	0.15	0.49
Maldah	0.16	0.16	0.84
North Bengal	0.43	0.38	0.94
India	0.73	0.70	0.95

Source: Calculated by the researcher from various Census of India publications.

Table 3.22 shows the number of urban centres available per lakh rural population across the various districts of North Bengal for 1991, 2001 and 2011 respectively. The figure for India has also been calculated for the same period for comparison. In 1991 with very few urban centres in North Bengal, none of the districts recorded at least one urban centre per lakh rural population. Among the districts of North Bengal in 1991, Darjeeling district had the highest number of urban centre per lakh rural population, followed by Jalpaiguri, Koch Bihar, Uttar Dinajpur, Dakshin Dinajpur and Maldah district respectively. Comparing with India in 1991, only the district of

Darjeeling among the six districts of North Bengal recorded a better figure. In 2001 also the situation did not improve a lot with Darjeeling district again recording the highest number of urban centres per lakh rural population, followed by Jalpaiguri, Koch Bihar, Uttar Dinajpur, Maldah and Dakshin Dinajpur district respectively. Like 1991, in 2001 also only Darjeeling district had a higher number of urban centres per lakh rural population compared to India. In 2011 only in two districts of North Bengal i.e. Darjeeling and Jalpaiguri, at least one urban centre was available per lakh rural population. Moreover, in 2011 also Darjeeling district had the highest number of urban centres per lakh rural population, followed by Jalpaiguri, Maldah, Koch Bihar, Dakshin Dinajpur and Uttar Dinajpur district respectively. In 2011, only in the two districts of North Bengal viz. Darjeeling and Jalpaiguri have a higher number of urban centres per lakh rural population compared to India.

Looking across the time period, in 2001 compared to 1991, the number of urban centres per lakh rural population not only declined for all the districts of North Bengal but also for India marginally. This was because the urbanization process has not really taken off in North Bengal even in 2001 resulting in the emergence of a very few new urban centres in this region, although the absolute number of people living in rural areas had been increasing quite steadily during this period. In 2011, compared to 2001 and 1991, all the districts saw an improvement in their number of urban centres per lakh rural population due to the emergence of a number of new census towns in 2011. The increase in the number of urban centres per lakh rural population had been very steep for Darjeeling, Jalpaiguri and Maldah district because these three districts accounted for the majority of the new census towns in North Bengal which emerged in 2011. During this period i.e. 2001 to 2011, the rural population in terms of their absolute number had been increasing steadily across the districts but a steep increase in the number of census towns during the same period outpaced the rural population growth. North Bengal as a whole also saw considerable improvement in the number of urban centres per lakh rural population in 2011 compared to earlier years and was very close to the national average.

3.19 Size – Class Category of Urban Centres and their Population in North Bengal

The study of size-class distribution of urban centres and urban population is of paramount importance. The size-class analysis of urban centres and population has fascinated urban geographers because of the diversity associated with growth and distribution of urban centres

and population across the size-class categories. In India the urban centres are classified into six size-class categories based on their population size which are as follows:

Class I towns – Population 100,000 and above.

Class II towns – Population between 50,000 to 99,999.

Class III towns – Population between 20,000 to 49,999.

Class IV towns – Population between 10,000 to 19,999.

Class V towns – Population between 5,000 to 9,999.

Class VI towns – Population below 5,000.

Table 3.23 Size – Class Distribution of Urban Centre and Urban Population in India

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	6.98	56.68	8.54	62.29	6.25	59.34
Class II	9.12	13.33	9.61	12.04	7.56	10.86
Class III	25.16	16.35	26.89	14.72	24.10	15.71
Class IV	31.44	9.77	30.25	7.90	28.21	8.70
Class V	21.04	3.43	20.17	2.76	27.58	4.50
Class VI	6.26	0.45	4.53	0.29	6.29	0.89

Source: Calculated by the researcher from various Census of India publications.

The study of size-class category of urban centres helps to understand the degree of vertical imbalance in the urbanization process. Table 3.23 shows the size-class distribution of urban centres and urban population in India for 1991, 2001 and 2011. It is evident from the table that there is concentration of population in the Class I towns of the country. The Class I towns are only 6.98%, 8.54% and 6.25% of the total number of urban centres of the country in 1991, 2001 and 2011 respectively. However, they accounted for 56.68%, 62.29% and 59.34% of the total urban population of the country in 1991, 2001 and 2011 respectively. This overcrowding in Class I towns is not at all good from the point of view of a balanced development of urban system in the country. The concentration of population in the Class I town also points to the fact that the availability of basic urban services and infrastructure has not been uniform across the size-class categories of urban centres in India. The Class I towns with better facilities, connectivity and opportunities attract more and more people from the rural areas and nearby smaller towns resulting in overcrowding, slum proliferation, informalization of urban economy, pollution, etc. Gradually, because of these diseconomies setting in, the Class I towns are losing their dynamism and failing to act as the 'engines of economic growth'. The decline of smaller towns especially, Class IV, Class V and Class VI is also not good from the perspective of overall

development of the country because these smaller towns were suppose to function as the link between the larger cities and rural hinterlands. Moreover, the Structural Adjustment Programme (SAP) carried on in the early 90's, resulted in an era of globalization and liberalization where investments mostly from the private sector either national or international are getting concentrated in the large cities. This process is further increasing the gap in the availability of services and opportunities between the Class I towns and other smaller towns, ultimately making the later's growth prospect in the future even more vulnerable. Actually, to save the large cities from the diseconomies of overpopulation and crowding it is of utmost importance to divert the stream of migrants originating in rural areas towards smaller towns so the vertical imbalance in urban structure can be partially restored in future.

Table 3.24 Number of Urban Centre and Total Population across Size-Classes of Urban Centres in North Bengal

Size - Class	1991		2001		2011	
	Number of Urban Centre	Total Population	Number of Urban Centre	Total Population	Number of Urban Centre	Total Population
Class I	5	780641	6	1149908	7	1400862
Class II	4	282622	5	319103	8	511767
Class III	9	276963	9	313190	13	421702
Class IV	14	194718	15	223505	34	455546
Class V	11	82033	10	68823	54	363507
Class VI	2	7800	3	10640	15	64547

Source: Calculated by the researcher from various Census of India publications.

Given this background table 3.24 shows the number of urban centres and total population in various size-class categories of urban centres in North Bengal for 1991, 2001 and 2011 respectively. As seen from the table, in 1991 the maximum number of urban centres of North Bengal was Class IV town, followed by Class V, Class III, Class I, Class II and Class VI town respectively. In 1991, however the maximum number of urban population was living in Class I town, followed by Class II, Class III, Class IV, Class V and Class VI town respectively. In 2001 also, the maximum number of urban centre in North Bengal was Class IV town, followed by Class V, Class III, Class I, Class II and Class VI town respectively. The total urban population in 2001 was again highest in Class I town, followed by Class II, Class III, Class IV, Class V and Class VI town respectively. In 2011, due to the emergence of many new census towns across all the districts of North Bengal, the maximum number of urban centres was Class V town, followed by Class IV, Class VI, Class III, Class II and Class I town respectively. However, the total urban population in 2011 was again highest in Class I town, followed by Class II, Class IV, Class III, Class V and Class VI town respectively. Looking across the table it is evident that the number of

town in all size-class categories increased in 2011 compared to 1991. More importantly, it was the smaller size-class categories particularly Class IV, Class V and Class VI towns which had seen a stupendous increase in their number in 2011 compared to 1991. The total population across various size-class categories also increased in 2011 compared to 1991. Again in the largest three size-class categories i.e. Class I, Class II and Class III towns their population in 2011 increased by around 50% - 80% compared to their 1991 population but the increase in population for Class IV towns in 2011 compared to 1991 was by 130%. Class V towns during the same period saw an increase in their population by around 340% and in Class VI towns the population during the same period increased by around 700%. Therefore, following the trend of India, in North Bengal also small towns are gradually becoming more important both in terms of their number and total population in the overall urban structure of the region.

Table 3.25 Percentage of Urban Centres and Percentage of Urban Population across various Size-Classes of Urban Centres in North Bengal

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	11.11	48.05	12.50	55.15	5.34	43.53
Class II	8.89	17.39	10.42	15.30	6.11	15.90
Class III	20.00	17.05	18.75	15.02	9.92	13.10
Class IV	31.11	11.98	31.25	10.72	25.95	14.16
Class V	24.44	5.05	20.83	3.30	41.22	11.30
Class VI	4.44	0.48	6.25	0.51	11.45	2.01

Source: Calculated by the researcher from various Census of India publications.

Table 3.25 shows the percentage of urban centre and percentage of urban population across various size-class categories of urban centres in North Bengal. In 1991 the maximum percentage of urban centres was Class IV town, followed by Class V, Class III, Class I, Class II and Class VI town respectively. The share of urban population in 1991 was however maximum in Class I town, followed by Class II, Class III, Class IV, Class V and Class VI town respectively. The important point to note here is the largest three size-classes combined had a share of only about 40% of the total urban centres but their combined share of urban population was about 82% in 1991. On the other hand the smaller three size-classes in combination had about 60% of the total urban centres where only about 18% of total urban population was residing. Therefore there is a very high degree of imbalance in the urban structure of North Bengal. In 2001 also the story was same, with the highest percentage of urban centres in Class IV town, followed by Class V, Class III, Class I, Class II and Class VI town respectively. The share of urban population was again highest in Class I town, followed by Class II, Class III,

Class IV, Class V and Class VI town respectively. In 2001, the combined share of the largest three size-classes of urban centres was about 42% while their combined share of urban population was about 85%. The smaller three size-classes in combination had a share of about 58% of total urban centres and about 15% of total urban population in 2001. Therefore in 2001 compared to 1991, the imbalance in the urban structure of North Bengal further deteriorated. In 2011 the story was slightly different with highest share of urban centres in Class V town, followed by Class IV, Class VI, Class III, Class II and Class I town respectively. The share of urban population in 2011, however was again highest in Class I town, followed by Class II, Class IV, Class III, Class V and Class VI town respectively. The combined share of the largest three size-classes of urban centres with respect to total urban centres in 2011 was about 21% while their combined share in total urban population was about 72%. The combined share of the smallest three size-classes of urban centres with respect to total urban centres was about 79% in 2011 while their combined share in total urban population was about 28%. Therefore in 2011 also the urban structure in North Bengal was highly unbalanced but the important point to note here is the largest three size-class categories of urban centres experienced a considerable decline in their share of total urban population in 2011 compared to both 1991 and 2001. In 1991 the share of total urban population in the largest three size-classes of urban centres was about 82%, which further increased to about 85% in 2001 but it declined considerably to about 72% in 2011. The inequality in the share of urban population across the size-classes measured by coefficient of variation shows a value of 0.92 in 1991, 1.08 in 2001 and 0.77 in 2011 clearly point towards a declining trend of inequality in the share of urban population across the various size-class categories of urban centres. This partial restoration of equilibrium in the urban structure is the result of an emergence of a large number of new towns in 2011 which are usually small across all the districts of North Bengal. However, it is up to the future to see how much dynamism these new towns can radiate and act as counter magnets to large cities of this region by diverting the stream of migrants from rural areas towards them.

Table 3.26 Annual Exponential Growth Rate of Urban Population Across Various Size – Classes of Urban Centres

Size - Class	North Bengal		India	
	1991 - 2001	2001 - 2011	1991 - 2001	2001 - 2011
Class I	3.87	1.97	3.68	2.28
Class II	1.21	4.72	1.72	1.73
Class III	1.23	2.97	1.69	3.41
Class IV	1.38	7.12	0.61	3.73
Class V	-1.76	16.64	0.56	7.66

Class VI	3.10	18.03	-1.51	13.83
Source: Calculated by the researcher from various Census of India publications.				

Table 3.26 shows the annual exponential growth rate of urban population in various size-classes of urban centres for North Bengal and India during 1991 – 2001 and 2001 – 2011 respectively. During 1991 - 2001 in North Bengal, the highest population growth rate was observed in Class I towns, followed by Class VI, Class IV, Class III, Class II and Class V towns respectively. During 1991 – 2001 decade, only Class V towns witnessed a negative growth of population in North Bengal. Comparing with exponential population growth rate for various size-classes of urban centres in India during 1991 – 2001, it can be observed that three size-classes viz. Class I, Class IV and Class VI towns of North Bengal had a higher exponential population growth rate than their counterparts of India. During the next decade i.e. 2001 – 2011, the highest exponential population growth rate in North Bengal was observed in Class VI towns, followed by Class V, Class IV, Class II, Class III and Class I towns respectively. Therefore during 2001 – 2011 decade the smaller urban centres particularly Class VI, Class V and Class IV towns witnessed an exceptionally high population growth rate compared to their larger counterparts. This trend of high population growth rate in smaller size-classes of urban centres can be observed for India also during 2001 – 2011 decade. Comparing the exponential growth of population during 2001 – 2011 across various size-classes of India with North Bengal, it can be observed that Class II, Class IV, Class V and Class VI towns of North Bengal showed a higher population growth rate than their Indian counterparts.

Comparing the exponential growth of population between the two decades for various size-classes of urban centres in North Bengal, it can be observed that the exponential growth rate of population increased in all the size-classes except in Class I town with the passage of time. Only in Class I town the exponential growth rate of population declined during 2001 – 2011 compared to 1991 – 2001. The most important point to note here is the smaller size-classes of urban centres witnessed the highest increase in their annual exponential growth of population in 2001 – 2011 compared to 1991 – 2001. In fact similar trends are observed for India also where the exponential growth of population in Class I town decreased while for rest of the size-classes it increased during 2001 – 2011 compared to the previous decade. This was due to the addition of numerous new census towns in 2011 especially in Class V and Class VI categories, true both for India as well as North Bengal.

Table 3.27 Decadal Growth Rate of Urban Centres across Various Size – Classes				
Size - Class	North Bengal		India	
	1991 - 2001	2001 - 2011	1991 - 2001	2001 - 2011
Class I	20.00	16.67	36.96	12.47
Class II	25.00	60.00	17.81	20.97
Class III	0.00	44.44	19.55	37.75
Class IV	7.14	126.67	7.58	43.37
Class V	-9.09	440.00	7.21	110.18
Class VI	50.00	400.00	-19.03	113.25
Source: Calculated by the researcher from various Census of India publications.				

Table 3.27 shows the decadal growth rate of urban centres across various size-classes in North Bengal and India for 1991 – 2001 and 2001 – 2011 respectively. The decadal growth rate of urban centres during 1991 – 2001 in North Bengal was highest in Class VI towns, followed by Class II, Class I, Class IV, Class III and Class V towns respectively. The highest decadal growth rate of urban centres observed in Class VI towns of North Bengal during 1991 – 2001 was really surprising because during the same period the Class VI towns all over the country witnessed a negative growth rate. In fact, comparing the decadal growth rate of urban centres across various size-class categories in North Bengal with that of India during 1991 – 2001, shows that only Class VI and Class II towns grew at a faster rate than the country's average while rest of the size-class category of towns grew at a slower rate. The next decade i.e. 2001 – 2011 saw a sudden increase in the decadal growth rate of urban centres across all the size-classes except for Class I towns both in North Bengal as well as in India. In fact during this period the highest decadal growth rate of urban centres in North Bengal was observed in Class V towns, followed by Class VI, Class IV, Class II, Class III and Class I towns respectively. The interesting point to be kept in mind while comparing the decadal growth rate of urban centres across various size-class categories is the relatively higher decadal growth rate observed across all the size-classes of urban centres in North Bengal with respect to that of India during 2001 – 2011. Again comparing the decadal growth rate of urban centres across various size-classes of urban centres in North Bengal between the two decades, it was observed that the growth rate declined only for Class I towns while rest of the classes of towns witnessed a many fold increase in their growth rate during 2001 – 2011 compared to previous decade. Similar trends were observed for India as well. However, for North Bengal, increase in the decadal growth rate during 2001 – 2011 compared to 1991 – 2001 for all the size-classes except Class I towns were much sharper than their counterparts for India. This point to the relatively rapid spread of the urbanization process across North Bengal compared to that of India during 2001 – 2011 period.

After going through a detailed analysis of size-class categories of urban centres in North Bengal focus will be towards individual district. The size-class distribution of urban centres and urban population was not uniform across the six districts of North Bengal. Keeping this in mind it is important to enquire about the subtle variation in each district with respect to their size-class distribution of urban centre and urban population.

Table 3.28 Size – Class Distribution of Urban Centre and Urban Population in Darjeeling District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	11.11	54.78	22.22	75.28	6.90	56.78
Class II	11.11	18.45	0.00	0.00	0.00	0.00
Class III	22.22	16.56	22.22	15.95	10.34	16.06
Class IV	22.22	6.47	22.22	5.66	27.59	14.25
Class V	11.11	1.77	22.22	2.79	41.38	10.69
Class VI	22.22	1.97	11.11	0.31	13.79	2.21

Source: Calculated by the researcher from various Census of India publications.

Table 3.28 shows the percentage of urban centre and percentage of urban population across various size-class categories of urban centres in Darjeeling district for 1991, 2001 and 2011 respectively. In 1991, although the urban centres were distributed quite evenly across the size-classes with no size-class recording clear cut dominance but the urban population of Darjeeling district was highly concentrated in Class I towns. In fact more than half of the total urban population in the district in 1991 stayed in Class I towns, followed by Class II, Class III, Class IV, Class V and Class VI towns respectively. In 2001, there was no Class II town in the district of Darjeeling and the urban centres were divided near equally among rest of the size-classes. However, in 2001 the urban population became even more concentrated in Class I towns compared to 1991 with more than $3/4^{th}$ of the total urban population of the district staying in Class I towns. Since there was no Class II town in the district in 2001, therefore rest of the $1/4^{th}$ of urban population remained in Class III, Class IV, Class V and Class VI towns arranged according to their shares respectively in descending order. In 2011, the evenly distributed pattern of urban centres among the various size-class categories no more exists. Rather in 2011, nearly $2/3^{rd}$ of the total urban centres was Class V towns, followed by Class IV, Class VI, Class III and Class I towns respectively. Again in 2011 also, the district of Darjeeling did not have any Class II town. Although the share of urban centre in Class I town declined considerably in 2011 compared to earlier time but still more than 50% of total urban population of the district lived in Class I towns in 2011, followed by Class III, Class IV, Class V and Class VI towns respectively.

Across the time period the proportion of Class I, Class II and Class III towns declined considerably in 2011 compared to 1991 and 2001, however during the same period the proportion of Class IV and Class V towns increased considerably. If we look at the proportion of urban population in different size-classes of towns across the time period then the dominance of Class I towns become clearly visible. During all the three years, more than 50% of the total urban population in the district of Darjeeling stayed in Class I towns. However, the share of urban population in Class II towns declined drastically and came down to zero in 2001 and 2011 in the district. The share of urban population in Class III towns of the district remained more or less same during the study period although its share in the total urban centre of the district came down drastically. The smaller three size-classes i.e. Class IV, Class V and Class VI towns witnessed considerable increase in their share of urban population in 2011 compared to 1991 and 2001. The increase had been more spectacular for Class IV and Class V towns.

Table 3.29 Size – Class Distribution of Urban Centre and Urban Population in Jalpaiguri District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	6.67	32.13	11.76	47.48	7.50	41.98
Class II	13.33	30.19	5.88	12.03	7.50	17.52
Class III	20.00	15.76	23.53	20.95	10.00	13.46
Class IV	33.33	14.79	41.18	16.17	30.00	15.83
Class V	26.67	7.14	11.76	2.57	32.50	9.02
Class VI	0.00	0.00	5.88	0.81	12.50	2.20

Source: Calculated by the researcher from various Census of India publications.

Table 3.29 shows the distribution of urban centres and urban population across various size-class categories in Jalpaiguri district for 1991, 2001 and 2011 respectively. In 1991, about 1/3rd of the total urban centres in Jalpaiguri district was Class IV towns, followed by Class V, Class III, Class II and Class I towns respectively. There was no Class VI town in Jalpaiguri district in 1991. The percentage of urban population in 1991 was however highest in Class I towns, followed by Class II, Class III, Class IV and Class V towns respectively. In fact Class I and Class II towns combined had a share of about 2/3rd of the total urban population of the district in 1991. In 2001 also, highest percentage of urban centres was Class IV towns, followed by Class III, Class I, Class V, Class II and Class VI towns respectively. In fact out of the total urban centres in the district of Jalpaiguri in 2001 nearly 2/3rd was either Class IV or Class III towns. In terms of the percentage of urban population in 2001, nearly half of them stayed in Class I towns, followed by Class III, Class IV, Class II, Class V and Class VI towns respectively.

In 2011 however, Class V towns had the highest percentage of urban centres, followed by Class IV, Class VI, Class III, Class II and Class I towns respectively. In terms of the proportion of urban population, the highest was again in Class I towns, followed by Class II, Class IV, Class III, Class V and Class VI towns respectively. Therefore, although Class I towns maintained its dominance in terms of the proportion of urban population for all the three years but a lot of shuffling in rank had taken place among the other size-class categories during the three years under consideration.

Across the time period some mixed trends are emerging. For example, the percentage of urban centres in Class II and Class III towns decreased considerably in 2011 compared to 1991. Secondly, the percentage of urban centres in Class VI and Class V towns increased considerably in 2011 compared to 1991. However, the percentage of urban centres in Class I and Class IV towns witnessed very little change in 2011 compared to 1991. With respect to the percentage of urban population in 2011 compared to 1991, Class I and Class VI towns witnessed an increase, Class II towns witnessed a decrease and for rest of the size-classes i.e. Class III, Class IV and Class V towns had seen very little change in 2011 compared to 1991.

Table 3.30 Size – Class Distribution of Urban Centre and Urban Population in Koch Bihar District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	0.00	0.00	0.00	0.00	0.00	0.00
Class II	11.11	42.02	10.00	34.07	5.56	26.93
Class III	0.00	0.00	20.00	24.55	27.78	43.26
Class IV	55.56	45.82	50.00	36.35	11.11	9.27
Class V	33.33	12.17	10.00	3.21	33.33	14.30
Class VI	0.00	0.00	10.00	1.82	22.22	6.25

Source: Calculated by the researcher from various Census of India publications.

Table 3.30 shows the percentage of urban centres and percentage of urban population in various size-class categories of urban centres in Koch Bihar district for 1991, 2001 and 2011 respectively. Koch Bihar is the only district of North Bengal which did not have any Class I town even in 2011. In 1991, more than 50% of the total urban centres in the district of Koch Bihar were Class IV towns, followed by Class V and Class II towns respectively. In fact in Koch Bihar district, in 1991 there was no Class I, Class III and Class VI towns. Therefore, the urban population of the district in 1991 was distributed among Class II, Class IV and Class V towns, with the highest in Class IV, followed by Class II and Class V towns respectively. In 2001 however, the distribution of urban centres became more balanced with urban centres in all size-

class categories except in Class I towns. Again half of the total urban centres of the district in 2001 were Class IV towns, followed by Class III towns. The percentage of urban centres in Class II, Class V and Class VI towns in 2001 was same. In terms of the percentage of urban population in 2001, the highest was in Class IV towns, followed by Class II, Class III, Class V and Class VI towns respectively. In 2011, the distribution of urban centres among the various size-classes saw a lot of change compared to 1991 and 2001. In 2011 the highest percentage of urban centre was in Class V category, followed by Class III, Class VI, Class IV and Class II category respectively. The percentage of urban population in 2011was also highest in Class III towns followed by Class II, Class V, Class IV and Class VI towns respectively.

Across the time period a lot of interesting change has taken place. Firstly, the percentage of urban centre and percentage of urban population in Class II towns declined considerably in 2011 compared to 1991. Secondly, although there was no Class III town in the district in 1991, but with the passage of time they became the most important category of urban centres both with respect to the percentage of urban centre as well as the percentage of urban population. The importance of Class IV towns declined with the passage of time due to decrease in their share of total urban centre and total urban population of the district. The Class V towns experienced a mixed fortune, with a rapid decline in 2001 compared to 1991, but they came back strongly in 2011 and were able to regain whatever loss they suffered in 2001 in terms of their share of urban centre and urban population of the district. Finally, the Class VI towns, although absent in 1991, but their importance had been increasing with the passage of time.

Table 3.31 Size – Class Distribution of Urban Centre and Urban Population in Uttar Dinajpur District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	20.00	59.71	16.67	56.11	11.11	50.69
Class II	0.00	0.00	16.67	17.91	22.22	29.78
Class III	40.00	32.83	16.67	16.18	11.11	10.20
Class IV	20.00	4.21	16.67	4.72	11.11	2.78
Class V	20.00	3.25	33.33	5.08	44.44	6.56
Class VI	0.00	0.00	0.00	0.00	0.00	0.00

Source: Calculated by the researcher from various Census of India publications.

Table 3.31 shows the distribution of urban centres and percentage of urban population across various size-classes of urban centres in Uttar Dinajpur district for 1991, 2001 and 2011 respectively. In 1991, the district of Uttar Dinajpur did not have any Class II and Class VI towns. In 1991, $2/5^{th}$ of the total urban centres of Uttar Dinajpur district was Class III town and rest of

the 3/5th of urban centres were equally divided among Class I, Class IV and Class V towns. With respect to the percentage of urban population in 1991, nearly 60% of the total urban population of the district used to stay in Class I towns and around 33% in Class III towns while rest of the urban population was shared between Class IV and Class V towns. In 2001 there was no Class VI town in Uttar Dinajpur district. Out of the total urban centres in 2001, 1/3rd was Class V town and rest of the urban centres were equally divided among Class I, Class II, Class III and Class IV towns respectively. In 2001, Class I towns accounted for more than 50% of the total urban population of the district, followed by Class II, Class III, Class V and Class IV towns respectively. In 2011, Class V towns accounted for the maximum percentage of urban centres, followed by Class II towns. Rest of the urban centres in 2011 was equally divided among Class I, Class III and Class IV towns respectively. Again in 2011 also, more than 50% of the total urban population of the district lived in Class I towns, followed by Class II, Class III, Class V and Class IV towns respectively. In 2011 also there was no Class VI town in the district of Uttar Dinajpur.

Across the time period the proportion of urban centres and proportion of urban population in Class I towns declined with the passage of time. Although, there was no Class II town in 1991, but since their emergence in 2001 they continue to become very important both with respect to their share of urban centre and share of urban population. The fortune of Class III and Class IV towns had been gradually dwindling due to their declining share in the total urban centres and total urban population with the passage of time. Class V towns on the other hand was gradually becoming an important component of the urban system with a rapid increase in their share of total urban centre and total urban population of the district.

Table 3.32 Size – Class Distribution of Urban Centre and Urban Population in Dakshin Dinajpur District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	33.33	76.86	50.00	72.81	14.29	64.87
Class II	0.00	0.00	50.00	27.19	14.29	23.79
Class III	33.33	18.98	0.00	0.00	0.00	0.00
Class IV	0.00	0.00	0.00	0.00	0.00	0.00
Class V	33.33	4.15	0.00	0.00	57.14	9.98
Class VI	0.00	0.00	0.00	0.00	14.29	1.36

Source: Calculated by the researcher from various Census of India publications.

Table 3.32 shows the distribution of urban centres and percentage of urban population across various size-class categories of towns in Dakshin Dinajpur district for 1991, 2001 and

2011 respectively. In 1991 there was no Class II, Class IV and Class VI towns in the district of Dakshin Dinajpur. The total urban centres of the district in 1991 were equally divided among the three size-class categories of Class I, Class III and Class V towns respectively. The urban population of the district in 1991 was highly concentrated in Class I towns which accounted for more than 3/4th of the total urban population, followed by Class III and Class V towns respectively. In 2001 it was very surprising to note that the district of Dakshin Dinajpur did not have any Class III, Class IV, Class V and Class VI towns. In fact there were only two urban centres in the district in 2001, one of which was Class I town and the other one Class II town. Therefore the total urban population of the district was also concentrated in these two size-class categories, with Class I town accounting for the majority of the urban population. In 2011 also the district did not have any Class III and Class IV towns. However, more than 50% of the total urban centres in the district in 2011 was Class V town and rest of the urban centres were equally divided among Class I, Class II and Class VI towns respectively. The urban population in 2011 was again concentrated in Class I towns which accounted for nearly 65% of the total urban population of the district, followed by Class II, Class V and Class VI towns respectively.

Looking across the time period, it can be said that the size-class distribution of urban centres and urban population in Dakshin Dinajpur district was highly distorted with no representation in a number of size-classes in 1991, 2001 and 2011 respectively. The Class I towns witnessed a decline in their share of total urban centres and total urban population in 2011 compared to 1991. Although there was no Class II towns in 1991, but from 2001 onwards they became the second most important size-class category with respect to their share of urban population. Class III towns although important in 1991, declined thereafter. There was no Class IV town in the district during the entire study period from 1991 to 2011. Class V towns became more important in 2011 compared to 1991 both in terms of their share of urban centre and share of urban population, although they were absent in 2001. Class VI towns only emerged in the district in 2011 and established itself an important link in the urban system of the district.

Table 3.33 Size – Class Distribution of Urban Centre and Urban Population in Maldah District

Size - Class	1991		2001		2011	
	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population	% of Urban Centre	% of Urban Population
Class I	25.00	75.75	20.00	67.01	3.45	37.94
Class II	0.00	0.00	20.00	26.13	3.45	15.51
Class III	25.00	13.57	0.00	0.00	0.00	0.00
Class IV	25.00	7.09	0.00	0.00	37.93	27.14
Class V	25.00	3.60	60.00	6.86	51.72	18.70

Class VI	0.00	0.00	0.00	0.00	3.45	0.71
Source: Calculated by the researcher from various Census of India publications.						

Table 3.33 shows the distribution of urban centres and percentage of urban population across various size-class categories of urban centres in Maldah district for 1991, 2001 and 2011 respectively. In 1991 there was no Class II and Class VI town in Maldah district. The total number of urban centres of the district in 1991 was equally divided among rest of the four size-classes i.e. Class I, Class III, Class IV and Class V towns respectively. In 1991, out of total urban population of the district more than 3/4th was concentrated in Class I towns, followed by Class III, Class IV and Class V towns respectively. In 2001 also Maldah district did not have any Class III, Class IV and Class VI towns. Out of the total urban centres of the district in 2001, 3/5th was Class V towns and the rest of the urban centres were equally distributed between Class I and Class II towns respectively. Again in 2001, more than 2/3rd of total urban population was concentrated in Class I towns, followed by Class II and Class V towns respectively. In 2011 also there was no Class III town in the district. In 2011, Class V towns with more than 50% of total urban centres and Class IV towns with more than 37% of total urban centres dominated the urban hierarchy. In fact in 2011, Class V and Class IV towns in combination accounted for nearly 90% of total urban centres of the district. Rest of the urban centres in 2011 was equally divided among Class I, Class II and Class VI towns respectively. The dominance of Class I towns with respect to percentage of total urban population of the district in 2011 came down considerably but still they accounted for about 38% of the total urban population which was followed by Class IV, Class V, Class II and Class VI towns respectively.

Comparing the figures across the time period reflects a number of interesting changes taking place in the urban structure of the district of Maldah. Firstly, there was a clear cut decline in the dominance of Class I towns both with respect to share of urban centres and share of urban population with the passage of time. The Class II towns although absent in 1991, became very important in 2001 but again showed a declining fortune in 2011. Class III towns although very important in 1991, became completely extinct in the following years. Class IV towns although present in 1991 became completely extinct in 2001 but came back very strongly in 2011 and became the second most dominant size-class category both in terms of the share of urban centres and share of urban population. Class V towns although present in 1991, became significant from 2001 onwards with a huge share in urban centres and a sizeable share of urban population. Class

VI towns were totally absent in 1991 and 2001 in the district of Maldah but had an insignificant share of urban centre and urban population in 2011.

3.20 Population Balance Sheet for various Size-Classes of Urban Centres in North Bengal

Table 3.34 shows the percentage change of population by place as well as by size-class for North Bengal during 1991 – 2001 and 2001 – 2011 respectively. For a detailed and specific understanding of urban population growth by size-class method, the total growth factors were disaggregated into five components, each of which individually affects the growth of population across various size-class categories. Figures for the percentage change of population by place during 1991 – 2001, shows that for four size-class categories the growth rate was positive whereas it was negative for two size-class categories. The highest positive population growth rate by place during 1991 – 2001 was in Class IV towns, followed by Class II, Class III and Class I towns respectively. Class V and Class VI towns witnessed a very high negative growth during 1991 – 2001 with respect to percentage change of population by place. During the next decade i.e. 2001 – 2011, five size-class categories witnessed a positive growth with respect to percentage change of population by place and only Class VI towns registered a negative growth rate. The highest positive growth rate during 2001 – 2011 with respect to percentage change of population by place can be witnessed in Class IV towns, followed by Class I, Class III, Class V and Class II towns respectively. Comparing across the decades for percentage change of population by place, the growth rate improved in Class I, Class III and Class V towns respectively, whereas for Class II and Class IV towns the growth rate declined considerably during 2001 – 2011 compared to 1991 – 2001. Class VI towns, although registered a negative growth rate for percentage change of population by place during 2001 – 2011, but it came down sharply during 2001 – 2011 compared to 1991 – 2001.

Now looking at the aggregate percentage change of population by size-class during 1991 – 2001, the highest growth rate was witnessed in Class I towns, followed by Class VI, Class IV, Class III and Class II towns respectively. Only Class V towns registered a negative growth rate with respect to aggregate percentage change of population by size-class during 1991 – 2001. During the next decade i.e. 2001 – 2011, growth rate with respect to aggregate percentage change of population by size-class was highest in Class VI towns, followed by Class V, Class IV, Class II, Class III and Class I towns respectively. Comparing across the decades, Class II,

Table 3.34 Percentage Change of Population by Place and Components of Percentage Change by Class for North Bengal during 1991 – 2001 and 2001 - 2011

Size-Class	1991-2001							2001-2011						
	Place	Class						Place	Class					
		Total	Components						Total	Components				
			In Class Change	Net Replacement		New Places Later Census	Drop-outs Later Census			In Class Change	Net Replacement		New Places Later Census	Drop-outs Later Census
				Growth of Places	Decline of Places						Growth of Places	Decline of Places		
Class I	2.29	47.31	39.58	26.59	0	0	-18.86	11.47	21.82	11.47	0	0	10.35	0
Class II	26.47	12.91	3.20	9.71	0	0	0	5.84	60.38	5.84	16.78	0	37.76	0
Class III	9.32	13.08	15.71	-7.60	0	13.97	-9.00	11.14	34.65	9.26	25.39	0	0	0
Class IV	37.73	14.79	12.35	-13.70	0	22.74	-6.60	19.29	103.81	2.38	-29.57	-4.85	135.85	0
Class V	-64.91	-16.10	7.97	-14.50	-7.50	26.38	-28.45	7.00	428.18	3.93	-19.60	5.41	438.44	0
Class VI	-116.78	36.41	0	-60.29	52.73	83.68	-39.71	-	506.64	2.50	-46.00	46.20	519.29	-15.35

Source: Calculated by the researcher from various Census of India publications.

Class III, Class IV, Class V and Class VI towns witnessed an increase in growth rate with respect to aggregate percentage change of population by size-class during 2001 – 2011 compared to 1991 – 2001. Infact, for Class V and Class VI towns the increase in growth rate was abnormally high during 2001 – 2011 compared to 1991 – 2001. Only Class I towns witnessed a declining growth rate with respect to the aggregate percentage change of population by size-class during 2001 – 2011 compared to 1991 – 2001.

Looking at the components of change by size-class method it was noticed that in class change (change in population for all those urban centres which were in same size-class category for the period under consideration) had been mostly positive for all size-classes during the two decades i.e. 1991 – 2001 and 2001 – 2011 respectively. During 1991 – 2001, the in class change was highest in Class I towns, followed by Class III, Class IV, Class V, Class II and Class VI towns respectively. During the next decade also the in class change was highest in Class I towns, followed by Class III, Class II, Class V, Class VI and Class IV towns respectively. What is interesting was the magnitude of in class change declined during 2001 – 2011 compared to 1991 – 2001 in all size-classes except in Class II and Class VI towns. For the next component i.e. net replacement category, the growth of places played a more significant role than the decline of places. During 1999 – 2001, the net replacement due to growth of places was positive for Class I and Class II towns and it was negative for rest of the size-classes. This means that in Class I and Class II towns during 1991 – 2001 the increase in population due to growth of urban centres from smaller size-class to the given size-class was more than the decrease in population due to growth of urban centres from their respective size-class to larger size-class. During the next decade i.e. 2001 – 2011, the net replacement due to growth of places was positive in Class II and Class III towns and it was negative in Class IV, Class V and Class VI towns. Class I towns during 2001 – 2011 did not witnessed any increase or decrease in population due to growth of places both in and out of its size-class category. The net replacement due to decline of places was mostly zero for the larger size-class categories of urban centres during both the decades. This means that these size-classes did not witnessed any increase or decrease in population due to decline of places both in and out of their respective size-class categories. During 1991 – 2001, the net replacement due to decline of places was negative for Class V towns and positive for Class VI towns, whereas during the next decade it was positive for Class V and Class VI towns and negative for Class IV towns. Here it must be specified that the net replacement due to growth

of places can never to negative for the largest size-class category i.e. Class I towns and the net replacement due to decline of places can never be negative for the smallest size-class category i.e. Class VI towns. The component of size-class change i.e. change in population due to entry of new urban centres during the later census can never be negative. From the table it can be observed that new places in the later census played a very important role in changing the percentage of population by size-class category. During 1991 – 2001, Class I and Class II towns did not witnessed any new urban centres entering their respective categories. The rest of the size-classes during 1991 – 2001 witnessed a number of new urban centres entering their respective categories in the later census with the highest entry observed in Class VI towns, followed by Class V, Class IV and Class III towns respectively. During the next decade, i.e. 2001 – 2011 new urban centres entered in the later census in all the size-class categories except for Class III towns. The Class VI towns witnessed the maximum entry of new urban centres in 2011, followed by Class V, Class III, Class II and Class I towns respectively. The last component of the size-class change is the dropouts i.e. a settlement which was considered as an urban centre in the previous census but lost its urban status during the later census and correspondingly the population of the settlement was converted from urban to rural in nature. During 1991 – 2001, dropouts were visible in all size-class categories except in Class II towns. Since the component of dropouts can be either in negative or zero so the highest impact of dropouts resulting in decline of urban population was observed in Class VI towns, followed by Class V, Class I, Class III and Class IV towns respectively during 1991 – 2001. During the next decade i.e. 2001 – 2011, only Class VI category witnessed dropouts, but the rate of dropouts declined considerably in Class VI towns during 2001 – 2011 compared to 1991 – 2001.

Comparing the percentage change of population by size-class and percentage change of population by place it was observed growth differentials by size-class did not correspond to those by place, nor are these variables related in a simple way. Slow place growth for example, was associated with either slow or rapid size-class growth. Moreover, new incorporations or discorporations affect the later type of growth but not the former. It was generally found that when percentage change of population by size-class was greater than percentage change of population by place, the new places registered a hige positive growth. Another important observation was for most of the size-classes during the two decades, the value of percentage

change of population by size-class was higher than the value of percentage of population by place.

3.21 Exponential Growrh Rate of Population for Various Urban Centres of North Bengal

Urban centres are a dynamic entity. Their population is continuously changing with the passage of time. The main elements of change are natural increase and migration of people in and out of any urban centre. Normally, with an increase in the size of any urban centre its population growth rate declines. But there are many cities in the world which have not confirmed to this generalized trend. North Bengal is a mosaic of six districts of West Bengal dotted with urban centres of various sizes. Annual exponential growth rate of population for each urban centre has been calculated by the following formula:

Annual Exponential Growth Rate of Population for urban centre i = $[1/n \{\ln (PU_{t+n}/PU_t)\}]*100$

Where, ln = Natural log, PU_{t+n} = Population of i^{th} urban centre in $t+n^{th}$ census,

PU_t = Population of i^{th} urban centre in t^{th} census, n = Census interval.

Table 3.35 Annual Exponential Population Growth Rate of Urban Centres in North Bengal during 1991 - 2001

Sl. No	Urban Centre	Population 1991	Population 2001	Annual Exponential Growth Rate (1991 – 2001)
1	Siliguri	216950	472374	7.78
2	Raiganj	151045	165212	0.90
3	English Bazar	139204	161456	1.48
4	Balurghat	126225	143321	1.27
5	Darjeeling	73062	107197	3.83
6	Cooch Behar	71215	76874	0.76
7	Alipurduar	69613	72999	0.47
8	Jalpaiguri	68732	100348	3.78
9	Islampur	45240	52738	1.53
10	Kalimpong	38832	42998	1.02
11	Kaliaganj	37817	47650	2.31
12	Gangarampur	31177	53533	5.41
13	Dhupguri	30375	38130	2.27
14	Kurseong	26758	40019	4.03
15	Mainaguri	21430	27106	2.35
16	Mal	20395	23218	1.30
17	Dinhata	17697	34273	6.61
18	Mathabhanga	17336	21107	1.97
19	Tufanganj	16418	19310	1.62
20	Alipurduar Railway Jn.	16322	15899	-0.26
21	Falakata	15536	19379	2.21
22	Guriahati	15336	18901	2.09
23	Cart Road	13572	13663	0.07
24	Old Maldah	13021	62959	15.76
25	Uttar Latabari	12170	14450	1.72
26	Uttar Bagdogra	12064	15774	2.68
27	Paschim Jitpur	10871	13396	2.09

28	Haldibari	10870	13185	1.93
29	Dalkhola	10652	13895	2.66
30	Uttar Kamakhyaguri	9092	10547	1.48
31	Kasba	8221	9835	1.79
32	Mekliganj	8205	10835	2.78
33	Gairkata	7725	8724	1.22
34	Mirik	7022	9141	2.64
35	Kharimala Khagrabari	6269	7233	1.43
36	Bhangri Pratham Khanda	6151	4113	-4.02
37	Checha Khata	6009	6847	1.31
38	Bairatisal	4703	5405	1.39
Source: Calculated by the researcher from various Census of India publications.				

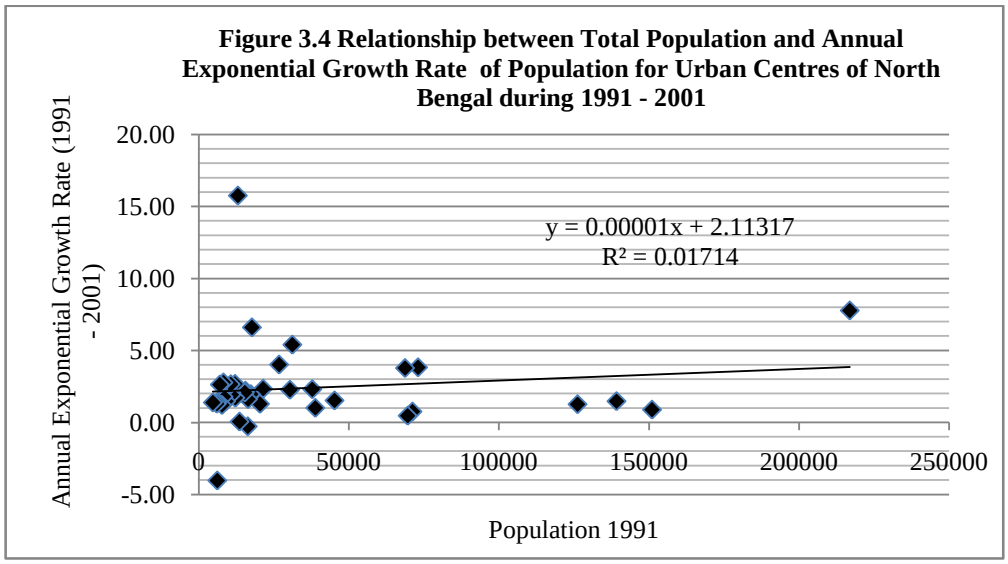

Table 3.35 shows the total population of each urban centre of North Bengal for 1991 and 2001 respectively. The annual exponential growth rate of population during 1991 – 2001 had also been shown in the table to get an idea about the rate of growth of population across various urban centres of North Bengal. Here, it must be mentioned that although, there were 45 and 48 urban centres in North Bengal in 1991 and 2001 respectively but for analyzing the annual exponential growth rate of population during 1991 – 2001 only 38 urban centres were taken into account because rest of the urban centres were not considered urban during both the census year of 1991 and 2001. Looking at the table it was observed that during 1991 – 2001 the highest annual exponential growth of population was in the town of Old Maldah, located in Maldah district. The second highest annual exponential growth rate of population during 1991 – 2001 had been observed in Siliguri, located in the foothills of the mighty Himalayas and also the largest urban centre of North Bengal. Classifying the urban centres according to their annual exponential growth rate of population during 1991 – 2001, shows there was only one urban

centre with an annual exponential growth rate of population above 10%, which was Old Maldah. There were 3 urban centres in the range of 5% to 10% annual exponential growth rate of population during 1991 – 2001, which were Siliguri, Dinhata and Gangarampur respectively. There were 13 urban centres with an annual exponential growth rate of population between 2% to 5% during 1991 – 2001; notable among them were Kurseong, Darjeeling, Jalpiaguri, Mekliganj, Dalkhola, Mirik, Kaliaganj and Dhupguri respectively. There were 15 urban centres with an annual exponential growth rate of population in the range of 1% to 2% during 1991 – 2001; notable among them were Mathabhanga, Haldibari, Tufanganj, Islampur, English Bazar, Mal, Balurghat and Kalimpong respectively. Rest of the urban centres i.e. 6 in number witnessed an annual exponerntial growth rate of population below 1% during 1991 – 2001; notable among them were Raiganj, Cooch Behar and Alipurduar respectively. Infact, 2 urban centres of the last category viz. Alipurduar Railway Junction and Bhangri Pratham Khanda witnessed a negative growth of population during 1991 – 2001. Alipurduar Railway Junction is a census town of Jalpaiguri district and developed as a railway colony since Alipuirduar became a divisional headquarters of North Frontier Railways in 1958. But recently the importance of this divisional headquarter is gradually declining and many railway employees are being transferred to other divisions of North Frontier Railways which is the main reason for decrease in population of Alipurduar Railway Junction census town. Bhangri Pratham Khanda is also a census town of Kooch Bihar district located south-east of Dinhata town, experienced decling fortunes with respect to population growth during 1991 – 2001. Looking at the distribution of urban centres according to their annual exponential growth rate of population during 1991 – 2001 across the various districts of North Bengal gives a number of interesting insights. The only urban centre with an annual exponential growth rate of population above 10% during 1991 – 2001 belongs to the district of Maldah. The 3 urban centres with an annual exponential growth rate of population between 5% to 10% during 1991 – 2001 belongs one each to the districts of Darjeeling, Koch Bihar and Dakshin Dinajpur respectively. The 13 urban centres with an annual exponential growth rate of population between 2% to 5% during 1991 – 2001 were distributed among the districts of Jalpaiguri (Five), Darjeeling (Four), Koch Bihar (Two) and Uttar Dinajpur (Two) respectively. The 15 urban centres with an annual exponential growth rate of population between 1% to 2% during 1991 – 2001 were distributed among the districts of Jalpaiguri (Five), Koch Bihar (Four), Darjeeling (Two), Uttar Dinajpur (Two), Dakshin Dinajpur (One) and Maldah

(One) respectively. The rest of the 6 urban centres with an annual exponential growth rate of population below 1% during 1991 – 2001 were distributed among the districts of Jalpaiguri (Two), Koch Bihar (Two), Darjeeling (One) and Uttar Dinajpur (One) respectively. Figure 3.4 shows the relationship between the population size of any urban centre in 1991 and their annual exponential growth rate of population during 1991 – 2001. From the figure it can be observed that in North Bengal during 1991 – 2001 the population size of any urban centre and their annual exponential growth rate of population are independent of one another. The regression coefficient between these two variables validates the inference. Moreover, the coefficient of determination calculated was less than 2%, which means that less than 2% of variation in the annual exponential growth rate of population can be explained by variation in the population size of urban centres.

Table 3.36 Annual Exponential Population Growth Rate of Urban Centres in North Bengal during 2001 - 2011

Sl. No	Urban Centre	Population 2001	Population 2011	Annual Exponential Growth Rate (2001 – 2011)
1	Siliguri	472374	513264	0.83
2	Raiganj	165212	183612	1.06
3	English Bazar	161456	205521	2.41
4	Balurghat	143321	153279	0.67
5	Darjeeling	107197	118805	1.03
6	Jalpaiguri	100348	107341	0.67
7	Cooch Behar	76874	77935	0.14
8	Alipurduar	72999	65232	-1.12
9	Old Maldah	62959	84012	2.88
10	Gangarampur	53533	56217	0.49
11	Islampur	52738	54340	0.30
12	Kaliaganj	47650	53530	1.16
13	Kalimpong	42998	49403	1.39
14	Kurseong	40019	42446	0.59
15	Jaygaon	38689	42254	0.88
16	Dhupguri	38130	44719	1.59
17	Dinhata	34273	36124	0.53
18	Mainaguri	27106	30490	1.18
19	Mal	23218	25218	0.83
20	Mathabhanga	21107	23890	1.24
21	Khagrabari	19787	23122	1.56
22	Falakata	19379	19716	0.17
23	Tufanganj	19310	20998	0.84
24	Guriahati	18901	21064	1.08
25	Alipurduar Railway Jn.	15899	10733	-3.93
26	Uttar Bagdogra	15774	25044	4.62
27	Banarhat T.G	14473	15652	0.78
28	Uttar Latabari	14450	16350	1.24
29	Dalkhola	13895	36930	9.77
30	Cart Road	13663	14444	0.56
31	Paschim Jitpur	13396	14334	0.68
32	Haldibari	13185	14404	0.88

33	Mekliganj	10835	9127	-1.72
34	Uttar Kamakhyaguri	10547	12022	1.31
35	Bholar Dabri	10011	12670	2.36
36	Kasba	9835	10067	0.23
37	Mirik	9141	11513	2.31
38	Gairkata	8724	7577	-1.41
39	Kharimala Khagrabari	7233	7844	0.81
40	Checha Khata	6847	7613	1.06
41	Kendua	5773	6452	1.11
42	Aiho	5409	5898	0.87
43	Bairatisal	5405	4916	-0.95
44	Kachu Pukur	5343	5752	0.74
45	Nachhratpur Katabari	5113	6011	1.62
46	Sobhaganj	4894	5488	1.15
47	Bhangri Pratham Khanda	4113	4379	0.63
Source: Calculated by the researcher from various Census of India publications.				

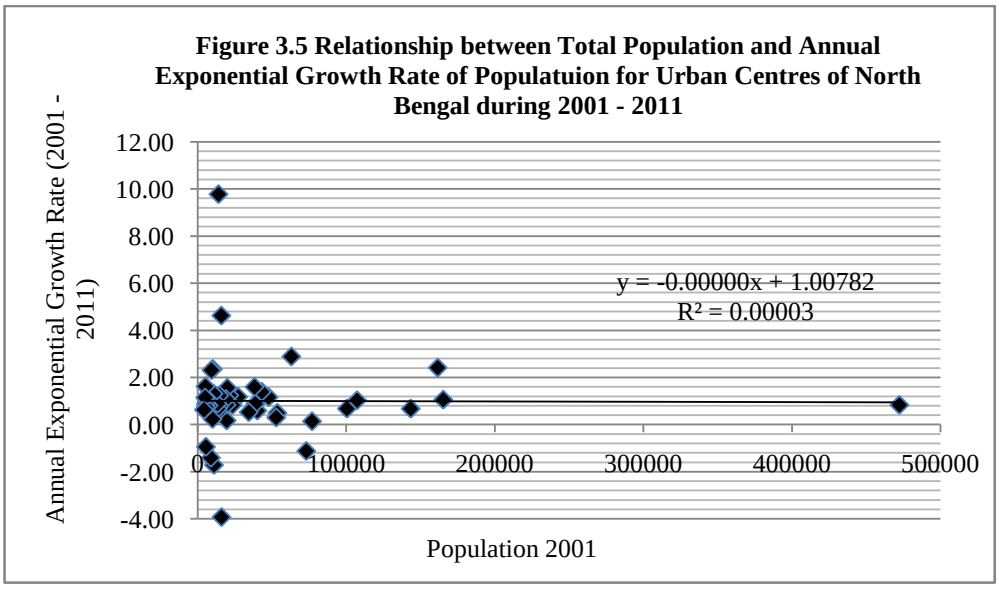

Table 3.36 shows the total population of each urban centre in North Bengal for 2001 and 2011 respectively. The annual exponential growth rate of population for each urban centre has also been calculated during 2001 – 2011. Here also, although there were 48 and 131 urban centres in North Bengal in 2001 and 2011 respectively but only 47 were taken into consideration because rest of the urban centres was not considered urban both in 2001 and 2011. From the table it was observed that Dalkhola witnessed the highest annual exponential growth rate of population during 2001 – 2011 among all the urban centres of North Bengal. However, the interesting thing was none of the urban centres of North Bengal experienced a double digit annual exponential growth rate of population during 2001 – 2011. Infact, only Dalkhola witnessed an annual exponential growth rate of population between 5% to 10% during 2001 –

2011. Only 5 urban centres witnessed an annual exponential growth rate of population between 2% to 5% during 2001 – 2011, notable among them were Old Maldah, English Bazar and Mirik respectively. There were 15 urban centres during 2001 – 2011 with an annual exponential growth rate of population between 1% to 2%, notable among them were Dhupguri, Kalimpong, Mathabhanga, Kaliaganj, Raiganj and Darjeeling respectively. Rest of the urban centres i.e. 26 in number experienced an annual exponential growth rate of population below 1% during 2001 – 2011, notable among them were Haldibari, Tufanganj, Siliguri, Mal, Jalpaiguri, Balurghat, Kurseong, Dinhata, Gangarampur, Islampur, Cooch Behar, Alipurduar and Mekliganj respectively. What was interesting, during 2001 – 2011 there were 5 urban centres which experienced a negative population growth. Out of these five urban centres which experienced a negative population growth during 2001 – 2011, two were statutory town viz. Alipurduar and Mekliganj while rest of the 3 were census town viz. Bairatisal, Gairkata and Alipurduar Railway Junction. Now looking at the distribution of urban centres from various categories of annual exponential growth rate of population during 2001 – 2011 across the diustricts gives some insightful knowledge. The only urban centre experiencing an annual exponential growth rate of population between 5% to 10% during 2001 – 2011 belongs to the district of Uttar Dinajpur. The 5 urban centres with an annual exponential growth rate of population between 2% to 5% during 2001 – 2011 were distributed among the districts of Darjeeling (Two), Maldah (Two) and Jalpaiguri (One) respectively. The 15 urban centres with an annual exponential growth rate of population between 1% to 2% during 2001 – 2011 were distributed among the districts of Jalpaiguri (Six), Koch Bihar (Three), Uttar Dinajpur (Three), Darjeeling (Two) and Maldah (One) respectively. Rest of the 26 urban centres with an annual exponential growth rate of population below 1% during 2001 – 2011 were distributed among the districts of Jalpaiguri (Nine), Koch Bihar (Seven), Darjeeling (Four), Uttar Dinajpur (Two), Dakshin Dinajpur (Two) and Maldah (Two) respectively. Figure 3.5 shows the relationship between population size of any urban centre of North Bengal in 2001 and their annual exponential growth rate of population during 2001 – 2011. Similar to the last decade there seemed to be no relationship between the population size of any urban centre in 2001 and their annual exponential growth rate of population during 2001 – 2011 i.e. these two variables are independent of one another. The regression coefficient calculated validates the inference. Moreover, the coefficient of determination calculated was less than 1% i.e. less than 1% of variation in the annual exponential

growth rate of population for urban centres of North Bengal during 2001 – 2011 can be explained by variation in population size of these urban centres in 2001.

Comparing the annual exponential growth rate of population across the urban centres of North Bengal during 1991 – 2001 and 2001 – 2011 it was observed that for most of the urban centres the annual exponential growth rate of population declined during 2001 – 2011 compared to earlier decade. The few urban centers which saw an increase in their annual exponential growth rate of population during 2001 – 2011 compared to 1991 – 2001 were Uttar Bagdogra, Dalkhola, Dhupguri, English Bazar, Kalimpong, Raiganj, Cart Road and Bhangri Pratham Khanda. Out of these 8 urban centres which experienced an increase in their annual exponential growth rate of population during 2001 – 2011 compared to 1991 – 2001, 5 were statutory town viz. Dalkhola, Dhupguri, English Bazar, Kalimpong and Raiganj while rest of the 3 were census town. These 8 urban centres belongs to the districts of Darjeeling (Three), Uttar Dinajpur (Two), Jalpaiguri (One), Koch Bihar (One) and Maldah (One) respectively. The urban centres which witnessed the highest decline in their annual exponential growth rate of population during 2001 – 2011 compared to 1991 – 2001 were Old Maldah, Siliguri, Dinhata, Gangarampur, Kurseong, Darjeeling, Jalpaiguri and Mekliganj respectively. What was interesting, all these 8 urban centres which witnessed a very high decline in their annual exponential growth rate of population during 2001 – 2011 compared to 1991 – 2001 were statutory town. These 8 urban centres belongs to the district of Darjeeling (Three), Koch Bihar (Two), Jalpaiguri (One), Dakshin Dinajpur (One) and Maldah (One) respectively.

3.22 Summary

In this chapter the main objective was to analyze the recent trends of urbanization and growth of urban centres in North Bengal. To fulfill this objective analysis was done at the district level covering all the six districts of North Bengal, size-class level as well as with individual urban centres of North Bengal. The level of urbanization had been analyzed at the district level for 1991, 2001 and 2011 respectively. For comparison the level of urbanization for West Bengal as well as for India was also taken into consideration. The trends in level of urbanization across the various districts of North Bengal showed a very moderate rate in 1991, which continued in 2001 also, but in 2011 the level of urbanization improved a lot as huge number of new census towns surfaced across all the districts of North Bengal. The percentage share of total and urban

population of North Bengal among the six districts also underwent a lot of change during the study period. The share of urban to total urban population of North Bengal had gone up in the districts of Jalpaiguri and Maldah while for rest of the districts it had gone down marginally during the study period. The interesting fact was the share of total and urban population of North Bengal with respect to total and urban population of West Bengal showed a steady increase during the study period. The urban-rural ratio of population was very less in North Bengal compared to West Bengal and India during the study period. But the encouraging fact was most of the districts of North Bengal witnessed continuous improvement in their urban-rural ratio of population during the study period. Therefore, although the urbanization process started off rather slowly in North Bengal but in the recent years it has really taken off and the future of urbanization process in North Bengal is likely to be a bright one. The tempo of urbanization measured both by annual exponential growth rate of urbanization and exponential growth rate of urban-rural ratio for North Bengal validates this prediction. It was observed that the tempo of urbanization increased considerably in five out of six districts of North Bengal with the passage of time. Thus the first hypothesis that the tempo of urbanization will increase with the passage of time for all the districts of North Bengal is partially validated with the only exception being the district of Koch Bihar where it declined during 2001 – 2011 compared to 1991 – 2001.

To analyze the growth of population across the various districts of North Bengal both the decadal and annual exponential growth rate of population was calculated for total, urban and rural population respectively. The decadal growth rate of total population and rural population declined in all the districts of North Bengal with the passage of time during the study period and this trend was quite similar to that of West Bengal and India during that period. However, the decadal growth rate of urban population increased with the passage of time in all the districts with the exception of Koch Bihar during the study period. The increase in the decadal growth rate of urban population with the passage of time was much sharper in North Bengal compared to West Bengal and India during the study period. The annual exponential growth rate of population also followed similar trends, as it declined for total and rural population across all the districts of North Bengal with the passage of time during the study period. The annual exponential growth rate of urban population however increased sharply for all the districts with the exception of Koch Bihar during 2001 – 2011 compared to 1991 – 2001. By comparing the annual exponential growth rate of total, urban and rural population for each district, it was

possible to identify the districts of North Bengal which were in an urbanizing mode. The second hypothesis considered states that most of the districts in North Bengal is in an urbanizing mode. The study shows that during 1991 – 2001 the districts of Darjeeling, Jalpaiguri, Koch Bihar and Maldah were in an urbanizing mode, where as during 2001 – 2011 the districts of Darjeeling, Jalpaiguri, Koch Bihar, Dakshin Dinajpur and Maldah were in an urbanizing mode. North Bengal as a single entity was also in an urbanizing mode similar to that of West Bengal and India during the study period. Therefore, the second hypothesis considered is validated based on the findings. The urban-rural growth differential (URGD) which plays a very significant role in setting up the pace of urbanization was mostly positive during the study period for majority of the districts. It was negative for both Uttar Dinajpur and Dakshin Dinajpiur during 1991 – 2001 and only for Uttar Dinajpur during 2001 – 2011. For North Bengal as a single entity the URGD was positive during the study period.

Location quotient was calculated to understand the relative concentration of urban population among the six districts of North Bengal. The location quotient values shows during the study period urban population had been relatively concentrated in Darjeeling and Jalpaiguri district compared to North Bengal as a whole and it was relatively dispersed in rest of the four districts compared to that of North Bengal. The rank-size relationship for all the urban centres of North Bengal was analyzed for 1991, 2001 and 2011 respectively. In 1991, the largest two urban centres of North Bengal had an actual population less than their estimated population according to the rank-size rule. The higher middle ranked urban centres in 1991 havd a higher actual population than their estimated population. The lower middle ranked urban centres in 1991 followed the rank-size relationship with their actual and estimated population very close to one another. Finally, the lower ranked urban centres in 1991 had acatual population which was quite less than their estimated population. In 2001, the highest ranked urban centre had an actual population which was very close to its estimated population. The higher middle ranked urban centres in 2001 had higher actual population than their estimated population. The lower middle ranked and lower ranked urban centres in 2001 had actual population less than their estimated population. In 2011, the largest two urban centres had actual population less than their estimated population. The higher middle ranked urban centres in 2011 had actual population more than their estimated population. The lower middle ranked and lower ranked urban centres in 2011 followed the rank-size rule with very little difference between their actual and estimated

population. Overall the deviation from the rank-size relationship seemed to decline with the passage of time with more number of urban centres of North Bengal confirming to the ideal rank-size rule distribution. The degree of urban population concentration within each district of North Bengal was measured by H-Index of concentration. The H-Index value showed the urban population was highly concentrated in few urban centres in the districts of Uttar Dinajpur, Dakshin Dinajpur and Maldah. During the study period all the districts of North Bengal witnessed a regular decline in their H-Index value, signifying a gradual dispersal of urban population among more number of urban centres within each district with the passage of time. This was made possible due to a huge increase in the number of new census towns across all the districts of North Bengal during the study period.

The percentage of urban area in most of the districts of North Bengal was less than 3% of the total area of the district. Only in Darjeeling and Jalpaiguri district it was over 3% and that also in 2011 only. However, the encouraging part of the analysis was, all the districts witnessed a steady increase in their percentage of urban area to total area of their district with the passage of time. The condition of North Bengal as a whole in this respect was quite unsatisfactory compared to that of West Bengal. However, the condition of North Bengal was better in 2011 compared to that of India, although prior to 2011 the figure of North Bengal was less than that of India. Population density is a very good indicator of the balance between the population and resource base of a region. The urban population density in each district of North Bengal was six to ten times greater than their total population density during the study period. The total and urban population density of North Bengal was quite less compared to that of West Bengal during the study period. Only Maldah district in 2011 recorded a higher total population density than that of West Bengal while the urban population density of Dakshin Dinajpur and Maldah district was higher than that of West Bengal during the study period. However, the total and urban population density of North Bengal exceeded that of India during the study period. The interesting fact was, the total population density increased in all the districts while the urban population density decreased in all the districts of North Bengal with the passage of time during the study period.

The number of urban centres in North Bengal was quite low upto 2001. However, in 2011 due to the emergence of a number of new census towns the total number of urban centres in North Bengal increased by nearly three times compared to 2001. This becomes clearer looking at the decadal growth rate of urban centres during the study period. The decadal growth rate of

urban centres in North Bengal during 1991 – 2001 was far below that of India but during the next decade i.e. 2001 – 2011 North Bengal witnessed a decadal growth rate of urban centres which was more than three times that of India. Some of the districts like Darjeeling, Jalpaiguri, Dakshin Dinajpur and Maldah witnessed a decadal growth rate of urban centres more than 100% during 2001 – 2011, i.e. during this time the number of urban centres more than doubled in these districts. Looking into the classification of urban centres into statutory towns and census towns, it showed that the number of statutory towns had been more or less fixed during the study period while the number of census towns had gone up rapidly during the study period in North Bengal. As a result of this, the percentage of statutory towns out of total urban centres of North Bengal had gone down very rapidly during the study period. In 1991, in most of the districts of North Bengal more than 50% of urban centres were statutory towns while in 2011 in all the districts of North Bengal the percentage of statutory towns out of total urban centres was less than 50%. Overall, the condition of North Bengal in this respect was quite unsatisfactory compared to that of India during the study period. The number of urban centres per lakh rural population also portrayed a very dismal picture for North Bengal. Not even a single district of North Bengal had atleast one urban centre per lakh rural population upto 2001. Only in 2011, the district of Darjeeling and Jalpaiguri had atleast one urban centre per lakh rural population. However, the encouraging part was, with the passage of time during the study period the condition was improving in all the districts of North Bengal.

Size-class analysis of urban centres in North Bengal gives us a lot of insightful knowledge about the urban system of North Bengal. In North Bengal during the study period nearly 50% of urban population resided in Class I towns, however more than 50% of all urban centres in North Bengal was either Class IV or Class V towns. The interesting thing was percentage of urban centres in the largest four size-class categories declined with the passage of time during the study period while the percentage of urban centres in the smallest two size-class categories increased with the passage of time during the study period in North Bengal. Again percentage of urban population in the largest three size-class categories declined with the passage of time during the study period and the same increased in the smallest three size-class categories with the passage of time during the study period in North Bengal. The annual exponential growth rate of population during 1991 – 2001 was highest in Class I towns and lowest in Class V towns but during the next decade i.e. 2001 – 2011 it was highest in Class VI

towns and lowest in Class I towns. The most interesting part was, the annual exponential growth rate of population declined in Class I towns during the study period while it increased in all other size-class categories during the study period in North Bengal. Therefore the third hypothesis that Class I cities will dominate other size-classes of urban centres in terms of their population share and growth rate is partially validated. The first part of the hypothesis that Class I towns will dominate the percentage share of urban population is absolutely correct but the second part that Class I towns will dominate other size-class categories in terms of their population growth rate is true only during 1991 – 2001, but during the next decade i.e. 2001 – 2011 there is complete reversal of trend with the Class I towns experiencing the least population growth among the various size-class categories of urban centres in North Bengal. The analysis of another aspect of size-class study of urban centres in North Bengal i.e. the decadal growth rate of urban centres across the size-classes points towards a haphazard growth during 1991 – 2001. However, during the next deacde i.e. 2001 – 2011 there was a strong negative relationship between the size-class of urban centres and their decadal growth rate with the lowest decadal growth rate of urban centres registered in Class I towns and the highest decadal growth rate of urban centres registered in Class V and class VI towns. This trend for North Bengal was quite similar to that witnessed for India during 2001 – 2011. The size-class analysis of urban centres in each district of North Bengal gave some generalized trends. In most of the districts of North Bengal there was concentration of urban population in Class I towns during the study period. The percentage of urban population in smaller size-class categories were increasing with the passage of time during the study period. There was a general tendency for the percentage of Class I towns to decline with the passage of time during the study period. However, the percentage of urban centres in smaller size-class categories was increasing with the passage of time during the study period.

The population balance sheet across various size-class categories of urban centres in North Bengal showed growth differentials by size-class did not correspond to those by places and they were also not related in a simple way. The percentage change of population by place as well as by size-class had been mostly positive except for one or two smaller size-class category in North Bengal during the study period. Among the components of size-class change the most important were in class change, net replacement due to growth of places and new places in later census which affects the percentage change of population by size-class. Dropouts were important only during 1991 – 2001. During 2001 – 2011, for all the size-class categories the percentage

change of population by size-class exceeded that by place; however in the previous decade it exceeded only in four out of six size-class categories of urban centres in North Bengal.

The annual exponential growth rate of population in urban centres of North Bengal during the study period did not show any clear cut trend. Some large as well as some small urban centres grew at a very high rate during the study period. The figure showing the relationship between the population size of any urban centre and their annual exponential growth rate of population, points to this lack of relationship between the two. The regression coefficient between these two variables as well as the coefficient of determination calculated during two periods validates this understanding. Therefore, the fourth hypothesis which was considered that higher the population size of any urban centre lower will be their annual exponential growth rate does not hold true for North Bengal and the hypothesis is rejected. However, there is a definite tendency of the annual exponential growth rate of urban population to slow down in most of the urban centres with the passage of time during the study period because during 2001 – 2011, 26 out of 47 urban centres observed an annual exponential growth rate of population below 1% while during 1991 – 2001 only 6 out of 38 urban centres observed an annual exponential growth rate of population below 1%.

3.23 Reference

1. Chakma, N. and Ghosh, B. (2014) Urbanisation in West Bengal: An Analysis of Recent Processes, *Space and Culture*, Vol. 2, No. 2, pp. 29-41.
2. Chakraborty, S., Chatterjee, S., Das, K. and Roy, U. (2015) Changing Pattern of Urbanization in West Bengal: An Analysis of 2011 Census of India Data, *Asian Journal of Research in Social Sciences and Humanities*, Vol. 5, No. 5, pp. 169-181.
3. Anisujjaman, Md. (2015) Urbanisation and Human Development: A Study of West Bengal, *International Journal of Humanities and Social Science Invention*, Vol. 4, No. 7, pp. 1-8.
4. Chakraborty, S., Das, K. and Roy, U. (2015) Concentrated or Dispersed Urbanization: A critical analysis of newly emerged Census Towns of West Bengal , India in 2011, *Journal of Geography and Regional Planning*, Vol. 8, No. 9, pp. 218-227.
5. Chatterjee, M. (2017) Small and Medium Towns in West Bengal: Issues in Urban Governance and Planning, *IASSI-Quarterly*, Vol. 35, No. 3-4, pp. 353-370.
6. Karmakar, J. (2017) Urban Centers Trend, Pattern and Key Challenges for Sustainability: Case of West Bengal, India, *International Journal of Social Science*, Vol.6, No. 3, pp. 181-190.