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### **A Study on Urban Population Concentration across Various Districts of North Bengal**

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#### **ABSTRACT:**

India being a developing country is in an accelerating stage of urbanization. One of the salient features of this urbanization is the tendency of urban population getting concentrated in some urban centres as well as in some pockets of our country. In this paper an attempt has been done to study the relative concentration of urban population and the degree of urban population concentration across the various districts of North Bengal by applying Location Quotient and H – Index of urban concentration respectively.

**KEY WORDS:**North Bengal, Urbanization, Urban Population Concentration.

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## **INTRODUCTION**

There is both horizontal and vertical imbalance in the process of urbanization unfolding in India. Horizontal imbalance refers to the disparity in the level of urbanization across various regions of India. Vertical imbalance in the urban structure refers to disproportionate share of urban population in various sizes of urban centres. Therefore, concentration of urban population in few pockets as well as in few urban centres has been a subject of study for urban geographers in India. This concentration of urban population in few pockets put a lot of stress on the availability of basic services, amenities and infrastructure for the urban residents.

North Bengal comprising the six districts of West Bengal viz. Darjeeling, Jalpaiguri, Koch Bihar, Uttar Dinajpur, DakshinDinajpur and Maldah is the extreme north – eastern part of the state. Historically, North Bengal has remained outside the radar of major economic development carried on in the state due to its relative isolation and difficult terrain. The urbanization process also has a lack luster history in North Bengal and it is only during the last decade that urbanization process really picked up in North Bengal. With this rapid urbanization becoming a reality in North Bengal, there is also a tendency of urban population concentration taking place. Given this condition it is important to analyze the degree of urban population concentration in North Bengal.

## **LITERATURE REVIEW**

Urban population concentration has been widely studied by a number of people all across the world. The urban population getting concentrated in few large urban centres as well as in more developed region is a reality in India now. However, with respect to North Bengal no substantial work studying the urban population concentration is available. Therefore, in this paper literature dealing with urban population concentration in developing countries and India has also been studied. Mera, K.<sup>1</sup> analyzing the relationship between growth of per capita GDP and change in primacy noted that larger cities are more productive in developing countries, therefore a decentralized policy of investment and population distribution should not be encouraged if the national goal is to maximize the growth rate of GDP. However he also noted that urbanization generally increases the per capita income of a region so a decentralized urbanization policy is effective for achieving a more equitable distribution of income across regions. Brutzkus, E.<sup>2</sup> said a high degree of urban concentration of population and investment is not a good policy measure for the progress of developing countries because a polarized urban pattern is not ideal for advancement of agriculture, better utilization of natural resource, raw material oriented basic heavy industry and probably even not for labour oriented manufacturing industry with serious prospects of export. In a different kind of work, Wheaton, W.C.

and Shishido, H.<sup>3</sup> using data from thirty four countries of the world developed a model showing the relationship between the level of economic development and regional urban concentration. Their model shows that economic behaviour plays significant role in determining the spatial pattern of urbanization. They also found after some times with the progress of a country, diminishing urban agglomeration eventually begins to occur and from that point onwards urbanization moves from a phase of concentration to one of decentralization. Henderson, V.<sup>4</sup> studying the urbanization process in developing countries found rapid urbanization in these countries is accompanied by excessively high level of concentration in very large cities, a feature more common for Asian cities in particular. This concentration of population is the result of a number of factors like externalities of congestion and pollution are relatively underpriced in megacities, centralization of bureaucratic control, infrastructure investment and public services concentrated in large cities and a poorly developed regional transport and communication facilities. Kundu, A.<sup>5</sup> said that the urbanization process in India has become concentrated in developed regions and large cities in recent years while backward areas and smaller towns tending to stagnate. The reason for this type of development is rooted in the neoliberal policy paradigm where the responsibilities of resource mobilization and launching infrastructural projects have been given to local agencies putting large municipal bodies located in developed regions at an advantageous position. Banerjee, S. and De, D.<sup>6</sup> focused on the spatial variation in the level of urbanization within North 24 Parganas District in West Bengal and observed concentration of civic amenities and urban infrastructure in some pockets resulting in deterioration of urban environment and a possible chance of breakdown of urban system in the district in future due to concentration of urban population in few urban centres. Chatterjee, M.<sup>7</sup> in her study has pointed out the fact that dominance of primate city Kolkata in the urban scenario of West Bengal is because of its colonial legacy. The process of urbanization in West Bengal is mainly offshoot of the manufacturing industry followed by tertiarization. She also pointed out how government machinery in the 1970's tried to correct this imbalance by putting emphasis on agricultural growth and strengthening of small and medium towns which however, was later swept away by the forces of globalization.

## **OBJECTIVES**

The objectives of the paper are as follows:

1. To analyze the relative concentration of urban population across the districts of North Bengal for 1991, 2001 and 2011.

2. To analyze the degree of urban population concentration within each district of North Bengal for 1991, 2001 and 2011.

## DATABASE AND METHODOLOGY

The entire study will be based on secondary source of data collected from Census of India for 1991, 2001 and 2011 at the district level. Secondary data will be analyzed for three time period of 1991, 2001 and 2011 to understand the changes which have taken place with respect to concentration of urban population among the districts of North Bengal. For studying the degree of urban concentration within each district of North Bengal H – Index will be calculated for the three years of 1991, 2001 and 2011. This will give us the scope to examine the change in the concentration of urban population within the district with the passage of time. To examine the relative concentration of urban population within the districts of North Bengal Location Quotient method will be employed. Location Quotient will be calculated for the three years of 1991, 2001 and 2011 across the districts to understand any temporal change in relative concentration of urban population across the various districts of North Bengal.

## 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:

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

$$\frac{\text{Urban population in North Bengal}}{\text{Total population in North Bengal}}$$

Here location quotient value of 1 indicates that the proportion of urban population in district *i* is same as that of whole of North Bengal. A location quotient value of 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 1: Location Quotient**

Districts	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
DakshinDinajpur	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 1 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 is highest in Darjeeling district, followed by Jalpaiguri, Uttar Dinajpur, DakshinDinajpur, Koch Bihar and Maldah respectively. Infact in 1991, only in two districts viz. Darjeeling and Jalpaiguri there is concentration of urban population compared to North Bengal. Uttar Dinajpur and DakshinDinajpur 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 has been recorded in Darjeeling district, followed by Jalpaiguri, DakshinDinajpur, Uttar Dinajpur, Koch Bihar and Maldah 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 is also highest in Darjeeling district, again followed by Jalpaiguri, DakshinDinajpur, Maldah, Uttar Dinajpur and Koch Bihar respectively. In 2011 also urban population is concentrated in Darjeeling and Jalpaiguri district and is 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 DakshinDinajpur 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.

## 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:

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

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 2: H - Index**

Districts	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
DakshinDinajpur	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 2 shows the H – Index value across various districts of North Bengal for 1991, 2001 and 2011. In 1991, the H – Index value is highest in DakshinDinajpur district, followed by Maldah, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri district respectively. The higher value of H – Index in DakshinDinajpur district is due to the fact that the total urban population is living in a concentrated form in very few urban centres. This is true because in 1991, there was only three urban centre in DakshinDinajpur 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 is relatively less in 1991, because the dominance of Siliguri city in the district is balanced by the presence of other big urban centres like Darjeeling town, 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 DakshinDinajpur district recorded the highest H – Index value, followed by Maldah, Uttar Dinajpur, Darjeeling, Koch Bihar and Jalpaiguri respectively. Therefore, there is 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 is slightly different, although DakshinDinajpur district still recorded the highest value but now it is followed by Uttar Dinajpur, Darjeeling, Maldah, Koch Bihar and Jalpaiguri district respectively. There is 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 is not only confined to Maldah district, rather all other districts of North Bengal witnessed the same trend which has been 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 is witnessing a rapid increase in the number of urban centres along with a steady increase in the level of urbanization which is making the urban system not only more matured but also more balanced in terms of their population concentration.

## **CONCLUSION**

Therefore, after a detailed study of the pattern of urban population concentration across various districts of North Bengal one thing is very clear that urban population concentration at varying degree exists in North Bengal. The location quotient analysis showing the relative

concentration of urban population across the districts of North Bengal points a very high value for Darjeeling district. The proportion of urban population in Darjeeling district has always been more than double that of the average for North Bengal during the study period. This is primarily due to the link Darjeeling district had with the colonial history of urbanization in India. The British developed the urban centres like Darjeeling, Kalimpong and Kurseong, all located within Darjeeling district due to their pleasant weather during summer season because of their locational factors. Rest of the districts of North Bengal did not receive the similar kind of patronage from the colonial rulers for their urban development making Darjeeling district the focus of urbanization process in North Bengal after independence. The H – Index value showing the degree of urban population concentration within each district has remained consistently high for DakshinDinajpur and Uttar Dinajpur district during the study period. This signifies the lack of maturity with respect to urban system in these districts with majority of the urban population opting to live in the district headquarter which is also the only class I town of the district. Therefore, from the future perspective of a balanced urban development in North Bengal, it is very important to prioritize development of smaller urban centres by providing adequate basic amenities and infrastructure facilities because they act as the link between the rural hinterlands and large cities in any backward region.

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