



URBAN LANDSCAPE IN NORTH EAST BIHAR: A GEOGRAPHICAL STUDY

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ABSTRACT:

In North East Bihar, less than 10 percent of the total population lives in urban areas, surrounded on three sides by rivers and on one side by the Himalayas. The low level of urbanization is primarily due to the prevalence of agricultural activities, the lack of mineral resources, and the unwillingness of stakeholders. By implementing a suitable regional development strategy and involving the state, this can be resolved. The aim of this paper is to explore the spatial distribution of existing towns as well as the potential level of urbanization by taking into consideration both urban and rural settlements. This paper uses secondary data gathered from census volumes and government documents.

KEYWORDS:

URBAN LANDSCAPE, REGIONAL DEVELOPMENT, URBANIZATION, SPATIAL DISTRIBUTION, SETTLEMENTS.

INTRODUCTION

The process of urbanization involves multiplying points of population concentration and increasing the size of individual urban concentrations. A historical account of urbanization reveals that the political administrative processes have played a significant role in the process of urbanization at the macro and micro level and the same has been reflected in the emergence of new state capitals and other urban centers. Urbanization at the global level has risen significantly from 13 per cent (220 million) in 1900, to 29 per cent (732 million) in 1950 and 52.1 per cent (3.63 billion) in 2011. The North-South divide is significantly visible and developed world is characterized by high level of urbanization as compared to the developing world. India has been traditionally known as the land of villages with less than one third (31.16 per cent) population living in urban areas (2011) which is far below than the world average. But the absolute urban population of India is gigantic (377 million) next only to China. It has increased by more than five times in the last fifty years (1961- 2011). For the first time, urban population growth rate has surpassed their rural counterpart and there is a significant increase in the total number of towns. The last decade (2001- 2011) witnessed the emergence of more than 2500 new towns, which is far more than the number of towns which emerged in the last hundred years (1901-2001).

The number of metropolitan cities has increased from 2 in 1901 to 5 in 1951 and 53 in 2011. India has a young and rapidly growing population where 65 % of population is below 35 years of age a potential demographic dividend, and the country needs thriving cities if this dividend is to be utilized for the development. New McKinsey Global Institute (MGI) research estimates that cities could generate 70 per cent of net new jobs created by 2030, produce around 70 per cent of Indian GDP and drive a near fourfold increase in per capita in-

come across the nation (MGI: 2010). The metropolitan centers are going to experience decreased growth rate but their spatial expansion along arteries of transport and urban growth in industrial cum commercial centers would take place rapidly with increasing tertiary activities. So the question arises, whether this higher pace of urbanization in the last decade has been uniform in the whole country or some of the areas are still lagging behind and struggling for their economic revival. This paper attempts to find out answer of this question from a regional perspective taking into account North East Bihar which is least urbanized, flood affected region with almost no natural resource base.

OBJECTIVES

- To critically examine the definitional issues of urban areas as given by the Census of India and the ambiguities arising out of the discretionary powers given to the state government;
- To highlight the spatial pattern of urbanization considering different measures like percentage method, rural population served by an urban centre and the distance covered by an individual to get goods and services;
- To give an account of evolution and spread of urban centers over the space and potential urbanization by studying the large rural settlements and their role in the process of regional development.

METHODOLOGY

Data for the study have been collected from various (published and unpublished) sources like Census publications (1961, 1971, 1981, 1991 2001 and 2011), Town Directory, District Census Handbooks, District Statistical Handbooks and other relevant literatures. Potential urbanization is calculated by considering population of rural settlements with

population above 20,000 as potential urban centers. Data collected from various sources have been processed, analyzed and depicted using statistical and cartographic techniques and relevant GIS software.

STUDY AREA

With the formation of Jharkhand as a separate state on 14th Nov. 2000, the state of Bihar is recognized primarily as a plain area divided by the river Ganga with a very small but significant

Himalayan foothill region in the northwest corner. The two broad units of the state are known as north Ganga Plain and south Ganga Plain which are further subdivided into smaller regions. North East Bihar Plain is a well-defined geographical region with internal homogeneity lying east of the Kosi, north of the Ganga and west of the Mahananda River. The region coincides with the Kosi Plain

LOCATION MAP



FIG 1

(Singh 1971) and is further subdivided into East Kosi Plain

(Purnea Plain) and West Kosi Plain (Saharsa Plain).

Frequent occurrence of floods in monsoon season and shifting of channels have made this region a khaddar land. It is also the moistest part of Bihar with rainfall varying from 125 cm and above in the SW to 200 cm and above in the NE corner of the region. The favorable hydrology and soil elements have led to growth of natural grasses in the plain areas. Underground water table is normally high and water logging is a common problem in North East Bihar. Consequently the region is favorable for rice and jute cultivation. Jute is a leading cash crop of the area with distinctive agricultural characteristics. Being located in the plain area the region lacks mineral resources and

mineral based industry. The most important industry in this region is Jute industry followed by Matchbox industry, Rice and Oilmills. Bihar is one of the least urbanized states (11.3 per cent) and the North East Bihar is a flood prone area with lesser degree of urbanization (7.4 per cent). The region falls in North East Alluvial Plain Zone II of agro climatic region. Administratively North East Bihar covers eight districts of North Bihar accounting for 20.4 per cent of the geographical area and 17.9 per cent of the state population. Urban population of the region is 11.78 per cent of the state's total urban population.

TABLE 1: NORTH EAST BIHAR: BASIC DEMOGRAPHIC CHARACTERISTICS

S.N	Spatial Unit	Total Population	Urban Population	Rural Settlements with above 20000 Population	Level of Urbanization In per cent	Potential Urbanization In per cent
1	Saharsa	1,900,661	156540	179861	8.2	17.7
2	Madhepura	2,001,762	88461	203849	4.4	14.6
3	Supaul	2,229,076	105558	138020	4.7	10.9
4	Purnea	3,264,619	343005	160332	10.5	15.4
5	Araria	2,811,569	168777	95483	6.0	9.4
6	Kishanganj	1,690,400	161123	Nil	9.5	9.5
7	Katihar	3,071,029	273822	154578	8.9	14.0
8	Khagaria	1,666,886	87159	154679	5.2	14.5
	North East Bihar	18,636,002	1384445	1086802	7.4	13.2
	Bihar	103,804,637	11729609		11.3	

Source: Respective District Census Hand Books 2011, Series 11, Part XII A

DEFINITIONAL CHARACTERISTICS OF URBAN CENTERS

From 1901 onwards, the Census of India has set up its own criteria to identify the urban places and there have been changes in these criteria from time to time. However since 1981 there has hardly been any change in these criteria. Census 2011 defines an urban place as:

(a) Any places with a municipality, corporation, cantonment board or notified town area committee; or

(b) Any other places which satisfies all the following criteria:

- (i) A minimum population of 5,000;
- (ii) At least 75 per cent of the male working population engaged in non-agricultural pursuits and
- (iii) Population density of at least 400 persq. km.

On the basis of these criteria urban places are categorized into statutory towns and census towns. Census towns are further categorized into three groups on the demographic basis. They are metropolitan areas (with population above ten lacs), cities (with population between one to ten lacs) and towns

(Population below one lac). Thus Census of India identifies following six types of urban centers on the basis of population size:

- Class I towns (population 100000 and above)
- Class II towns (population between 50000-99999)
- Class III towns (population between 20000-49999)
- Class IV towns (population between 10000-19999)
- Class V towns (population between 5000-9999) and
- Class VI towns (population below 5000).

Besides, the Census confers wide discretionary powers to its officers at the state level to identify the towns in the local context. This arbitrariness has led to the sudden increase or decrease in the number of towns in different states from one census to the next. Census 2011 has recorded an increase of 2774 towns (2532 census towns and 242 statutory towns) at all India level. Bihar has witnessed an increase of 60 census towns in 2011 Census. Bihar Municipal Act (2007) part II spells out criteria for identification of statutory towns in following words:

"The State Government may, after making such inquiry as it may deem fit, and having regard to the population of any urban area, density of population there in, the revenue generated for the local administration of such areas, the percentage of employment in non-agricultural activities in such areas, the economic importance of such area, and such other factors as may be prescribed, by notification, declare its intention to specify such area to be a larger urban area, or a medium urban area, or a transitional area to be a Nagar Panchayat or urban growth centre provided that no such declaration shall be made unless the population in the case of transitional area, that is small town, is twelve thousand and more but not more than forty thousand provided further that the non agricultural population in all the cases shall be 75 per cent or more".

The Act further explains revenue generated for the local administration should not include taxes, loans and grants received from the State Government/Central Government or institution or other sources.

PATTERN OF URBANIZATION

Bihar continues to be one of the least urbanized states of India with 11.3 per cent of the total population living in urban areas. The state seems to represent the 'subaltern' character of urbanization which refers to the growth of settlement agglomerations, whether denoted urban by the Census of India or not, that are independent of the metropolis and autonomous in their interactions with other settlements, local and global (Denis et al.: 2012). This seems to be true when we see a large number of settlements fulfilling the criteria yet not identified as urban centers. The pattern of urbanization in any area is measured in a number of ways and the most common and the best understood criterion is the percentage of urban population to the total population. In relation to developed countries, India is less urbanized with less than one third population living in urban areas (Census 2011). However the percentage of population living in urban areas has been continuously increasing from macro to micro region. North East Bihar with eight districts has level of urbanization (7.4 percent) even less than the whole of Bihar (11.3 per cent). Here none of the eight districts have the level of urbanization more than the state average. Madhepura and Supaul districts (earlier sub divisions of Saharsa district) have less than 5 per cent of population living in towns. Purnea is the only district where the level of urbanization is more than 10 per cent and in remaining five districts it is between 5 to 10 per cent. The study area has total 86 CD blocks out of which only 20 has urban population (Table 2/ Fig.1).

TABLE 2: BLOCK LEVEL URBANIZATION (%)

Level of Urbanization	CD Blocks	No. Of CD Blocks
Above National Average (31.16%)	Katihar (74.8), Purnea (63.4), Kahra (52.4), Kishanganj (43.9).	4
Between State Average and National Average (11.3-31.16%)	Madhepura (22.2), Nirmali (20.5), Araria (18.5), Supaul (18.2), Forbesganj (17), Kasba (16.2), Bahadurganj (14.6), Manihari (13.9), Murliganj (13.4), Khagaria (13) and Gogri (11.9).	11
Between State Average and Regional Average (7.4-11.3%)	Basantpur (9.9), Banmankhi (8.6).	2
Below Regional Average (7.4%)`	Thakurganj (6.3), Singheshwar (3.9), Barsoi (1.8).	3

Source: Respective District Census Hand Books 2011, Series 11, Part XII A

Another alternative measure of urbanization is concerned with the distance that rural people have to travel to the nearest urban place on a periodic basis to obtain good services. This means that greater is the distance between rural and urban areas lower will be the level of urbanization as the towns will be spread farther apart and are fewer in number. The maximum distance that a rural folk has to travel to reach nearest urban centre is calculated by using the formula $D = \sqrt{A/2.6}$ where D is the distance to be covered and A is the area. With the passage of time as the level of urbanization and number of urban centers increases there will be decrease in

the distance that a rural folk has to cover. At the state level the average distance covered is 13.5 Km. and in the north East Bihar it is 18.8 Km. At district level Saharsa (27.4 Km.) followed by Purnea (20 Km.) and Katihar and the distance covered is minimum in Madhepura (15 Km.) and Kishanganj (15.5 Km.). Another equally meaningful alternative to measure the level of urbanization is the size of rural population served by a town. It is important in the sense that India is primarily a land of villages with large number of population living in rural areas and their dependence upon nearby towns for day to day requirement of goods and services

is indispensable. In Indian context these urban centers serve as focal points of socio economic change and perform a variety of roles. Rural population of an area divided by the number of recognized urban centers may be used as a convenient measure. Rural population also termed as the threshold population of a town depends upon the level of urbanization i.e. high level of urbanization results in lower population threshold and vice versa. Lower population threshold is the product of high per capita income, high level of services and larger number of urban centers. According to 2011 Census the average threshold population for the whole country is 80000 people and in Bihar it is 4.6 lac and for the North East Bihar it is 8.2 lakh. At the district level, Saharsa has the highest threshold (17.4 lac) followed by Purnea (9.8 lac) and Katihar (9.3 lac) and Kishanganj (5.09 lac) has the lowest threshold. It is obvious that in all the eight districts threshold population of a town is higher than the state and national average showing lower level of urbanization in the area.

URBAN STRUCTURAL PATTERN AND DISTRIBUTION OF TOWNS

The urban landscape of India is characterized by the presence of metropolitan apex with few large cities and large number of small and mini towns and North East Bihar is not an exception. There is no metropolitan city in the entire region. However in the last five decades the number of Class I towns has increased to four accommodating 56.7 per cent of the urban population. On the other extreme there is no Class VI town and only two Class V towns accommodating one per cent urban population of the region (Table 3). Class II and III towns are the potential centers accounting for two third of the numeral strength and 38.3 percent of the total population.

Ramachandran (1989) calls these two categories of towns (II/III) as medium towns which can perform as an important functional link within the urban system, serve as market centers for agricultural produce and has rural oriented tertiary sector. In the last fifty years (1961-2011) the number of urban system has increased from 15 to 21. Katihar (59344) was the only Class II town of this region in 1961 and was the largest town located on the Kanpur-Guwahati railway line and the three leading functions of the town according to workers were transport, industry and commerce (Ahmad-1965). It got the Class I city status in 1981 census and in the last fifty years population of the town has increased by four times and presently it is the second largest city of the region. Purnea (40602) a Class III town in 1961 and district headquarters was the second largest town. It attained the status of Class I town in 1991 and in the last twenty years the population recorded an increase of 245 per-cent. Population growth rate for the last two decades were 49.4 and 64.4 per cent respectively. Other Class III town in the region was Kishanganj, a sub divisional town of Purnea district is an important centre of jute trade. It became Class II town in 1981 and Class I town in 2011 recording little less than four times increase in population during five decades. It is evident from the table that there has been a gradual increase in the number of towns but urban population of the region has recorded more than five times increase in the last fifty years. Physiographically, North East Bihar is divided into two regional units namely Saharsa plain with 9 urban centres and Purnea plain with 12 urban centres. Maximum number of towns falls in Class III towns termed as medium towns with population between 20000-49999. Such towns are characteristic feature of plain area and play significant role in shaping urbanization pattern and are an important component of the urban system. There are four towns each in Class I and Class II towns in North East Bihar all of them except Khagaria are district headquarter towns having administrative function in dominance.

TABLE 3: DISTRIBUTION OF POPULATION UNDER DIFFERENT CATEGORIES OF TOWNS IN NORTH EAST BIHAR

Size Class	Population Size	1971			1991			2011		
		India	Bihar	NE Bihar	India	Bihar	NE Bihar	India	Bihar	NE Bihar
I	Above 1 lakh	57.0	39.9	Nil	65.2	44.4	34.0	60.79	57.5	56.7
II	50000-99999	11.0	13.2	36.7	11.0	22.0	18.3	10.15	15.6	18.0

III	20000-49999	17.0	25.4	33.7	13.2	25.5	40.3	14.12	21.6	20.3
IV	10000-19999	10.0	17.8	23.0	8.2	7.8	7.4	10.47	2.9	3.0
V	5000-9999	4.5	3.5	6.6	2.1	0.3	Nil	3.97	2.2	1.0
VI	Less than 5000	0.5	0.2	Nil	0.3	Nil	Nil	0.5	0.2	Nil
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Respective District Census Hand Books 2011, Series 11, Part XII A

CONCLUSION

Conventionally Bihar in general and north East Bihar in particular is least urbanized and there are multitude of factors like physical, social, cultural, economic and political factors responsible for the existing low level of urbanization. However effect of these factors could be minimized by policy interventions at various levels. The study area has a large number of rural settlements with population above 20000 which can be developed as urban centers and nodes by creating job opportunities as well as making provisions of goods and services which will be utilized by the surrounding areas. Such settlements should be granted the status of urban centers and the level of urbanization would increase which will create a virtuous circle of regional development.

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