

# Population Growth and Urbanization in Bihar: A District Level Analysis

Shahid Imam

Associate Professor, Ex. Head, Department of Geography, D. S. College, Aligarh, India  
imamshahid[at]rediffmail.com

**Abstract:** *Population growth of any region is a crucial factor in the growth of urbanization, because degree of urbanization is typically expressed as the percentage of population residing in urban area. India as a country has witnessed steady growth in urbanization since 1961 to 2011, but the population growth rate continuously kept on fluctuating from 21.51 percent in 1961 to 24.80 percent in 1971, 24.66 percent in 1981, 23.87 percent in 1991 and it dipped to 21.54 percent in 2001 and finally reached 17.70 percent in 2011, registered a decrease of 3.81 percentage point over five decades. Looking at trend of urbanization and population growth rate we find there has been a continuous increase in the population growth rate since 1961 to 2001, except the census year 1991, and census year 2011, recorded a growth rate of 25.42 percent which registered a decline of 3.2 percentage point from the previous decade 2001. This research paper tries to analyse the spatio-temporal variation of population growth and urbanization at district level (2001 and 2011) as well as trends of urbanization and population growth since 1961 to 2011 in India and the state of Bihar. This research paper also tried to find out the correlation between population growth rate and rate of urbanization, as well as between the trend of population growth and urbanization since 1961 to 2011, by means of Karl Pearson's method of coefficient of correlation and their level of significance have been tested at 95% level of confidence.*

**Keywords:** Population Growth, Urbanization, Karl Pearson, Coefficient of Correlation, Bihar, Trend of Urbanization, Trend of Population Growth

## 1. Introduction

Population growth has been defined as average decadal change in the population due to surplus or deficit of births over death as well as balance of migrants entering and leaving the country or any region, whereas, urbanization has been defined as a form of social transformation from the traditional rural societies to modern urban communities, which is a long term and continuous process.

The forces which control the growth and movement of population, or the population dynamics, play a central role in the urbanization process, which is linked with high fertility and rapid growth of population in India and in a poor state like Bihar. Urbanization does not only shifts the population from rural areas to urban area but changes the whole social fabric and demographic characteristics, like occupation, culture, lifestyle and whole behavior. Occupational change from agriculture to industry and services in urban area is one of the important part of the changes. Increased agricultural performance especially in production of wheat and rice in the districts of Bihar has, in one way or the other way, must have promoted urbanization. Therefore, urbanization reflects the transition from the agricultural economy to the industries and service based economy which help in building infrastructure as well as provide access to at least basic facilities to the residents. In other words, urbanization is the product of growth process and industrialization, through exchanges of goods, services, capital, labour social structure as well as information technologies. Finally we can say that urbanization occurs due to movement of people from rural to urban areas, which leads to the growth in the size of urban population, which may also lead to other changes like land use, economy and culture. Urban living is associated with higher level of literacy rate and educational status, which ultimately affects the better health low fertility and mortality rate. Apart from this there is a greater access to social

services and greater opportunities to social and political participation. As the urbanization continues, there have been some negative impact too, like poor sanitation, communicable diseases, poor nutrition and poor housing conditions, which have direct impact on the quality of life of the people living in the urban area.

Urbanization a continuous concentration of population in urban area adopts certain social traits, which are not common in the rural societies. The process of urbanization in developed countries has been very slow and steady but in developing countries like India, it is very fast and is accompanied by rapid growth in service sectors, not by industrialization. In a state like Bihar, urbanization is a recent phenomena and is still unfolding, in spite of the fact that urbanization has been considered as an inevitable part of economic development and is concomitant to the whole gamut of factor which are responsible for economic growth and social changes. In spite of this fact, urbanization is clearly a result of the growth process and industrialization, but there are other factors too which derives the process of urbanization like exchange of goods, services, labour capital and information technology and exchange of social phenomena. In the presence of agricultural economy and absence of non-agricultural sector, the urbanization in Bihar is 11.3 percent as against 31.2 percent in India as a whole, whereas the population growth in Bihar is 25.42 percent as compared to 17.70 percent in the country as a whole.

## 2. Objective of the Study

The main objectives of this research paper have been given.

- To analyse the trends of population growth and urbanization in India and Bihar since 1961 to 2011.
- To analyse the exponential growth rate of population in India and Bihar since 1961 to 2011.

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- To analyse the spatio - temporal variation in growth of population and urbanization at district level (2001 and 2011)
- To analyse the impact of population growth rate on the urbanization in Bihar by means of coefficient of correlation and its level of significance.
- To analyse the causes behind population growth and urbanization in Bihar.

#### Database and Methodology

This research paper is primarily based on secondary sources of data, which have been collected from different census reports, as well as data have been collected from District Census Handbook of different districts of Bihar, office of the Registrar General and Census Commissioner, Ministry of Home Affairs, Government of India and Economic Survey 2019 - 20, finance department, Government of Bihar. The relevant data have been computed, tabulated and analyzed by mean of different statistical method and cartographic technique have been applied to make a comparison between the population growth and urbanization. To find out the correlation between population growth and urbanization, Karl Pearson's method of coefficient of correlation has been adopted and their level of significance have been tested at 95 percent level of confidence.

#### Study Area

Bihar is located between latitude 24°20'10" N to 27°31'15" N and 83°19'50" E to 88°17'40" E longitude and shares state level boundary as well international boundary. Nepal is located in the north of Bihar, whereas, Indian states of Uttar Pradesh in west, Jharkhand in south and west and West Bengal is located on the eastern boundary.

Bihar with an area of 94163 sq. km. constitutes only 2.68 percent of the total area of India, is slightly larger than Portugal and about the size of Indiana. Bihar comprises 38 district and the largest city of Bihar is Patna, which is a capital of Bihar, whereas Gaya, second largest city located on the bank of Phalgu River (Niranjana) is of historical and mythological significance. Gaya is known for 18<sup>th</sup> century Vishnupad Mandir and Mahabodhi temple at Bodh Gaya. The state of Bihar lies in between Himalaya Mountain in north and Chhotanagpur plateau in the south. The rivers flowing from North West to south east have played a significant role in the formation of Bihar's physiography. The state of Bihar has been divided by Himalayan River, Ganga into two parts. Bihar which forms the part of lower middle Ganga plain, has been divided into North Bihar plain and South Bihar plain, by means of river Ganga. Northern part of Bihar is embedded with younger geological structure, whereas in southern parts, older quaternary rocks are found. North West of Bihar is Terai region, whereas central part is Gangetic plain and southern part is plateau. Major river of Bihar is Ganga and its tributaries like Gandak, Bagmati, Kosi, Kali and Sone, function as a perpetual source of water

supply to the agricultural region of Bihar. Among all these rivers, Kosi is known as sorrow of Bihar, due to flood destruction. Bihar is characterized by humid and subtropical climate, with three distinct seasons of summer, winter and rainy season. There are three types of soils found in Bihar, which includes Piedmont swamp soil in the north western part of West Champaran district, Terai soil in northern part and Alluvium in the plain of Bihar. Agriculture is the mainstay of economy in Bihar, which constitutes to 79 to 80 percent of its total population. Principal agricultural crops are rice, paddy, wheat, jute, maize and oilseeds. Agriculture provides ample supply of raw materials for the agro - based industries. Bihar is the third largest producer of vegetable and fourth largest producer of fruits in the country.

Bihar is the third largest state after Uttar Pradesh and Maharashtra in terms of population. As per 2011 census report total population of Bihar is 104099452, out of which there are 54278157 males and 49821295 females. According to 2011 census report population growth rate was 25.42 percent, whereas in the previous census it was 28.43 percent. Bihar contributes 8.60 percent of the total population of India. Bihar recorded a sex ratio of 918 females per thousand male and literacy rate of 61.80 percent, whereas density of Bihar is 1106 persons per sq. km. Out of the total population of Bihar 11.3 percent live in urban region, which has increased by 0.8 percentage point in the last 10 years. The sex ratio in urban region is 895 females per thousand males, whereas the average literacy rate in urban region is 76.86 percent.

#### Trend of Urbanization and Population Growth (1961 - 2011)

Majority of the population are trying to become urban dweller, because living in cities can have lot of positive impact on the life of the people as compared to the rural areas. With the rapid increase in the population and lesser opportunities in rural areas, urban areas are becoming more lucrative. The urban population is growing several times faster than the rural areas, either through natural growth or through the migration from rural areas in search of better job opportunities and living conditions. In spite of this fact rural population is also growing at faster pace and will not only lead to the growth of population in urban areas, but there are other forces of population dynamics in rural areas, which play a central part in the urbanization process. More than half of the world population lives in urban area and developed regions have more than 50 percent of its population in urban region, since the mid - 20<sup>th</sup> century, due to ongoing urbanization and growth of the population. The urban areas are considered as engines and shrines of social changes because of overall socio - economic prosperity. In spite of the fact that Bihar has always played an important role in the economy and politics of the country, urban development in the state remained limited.

**Table 1:** Trend of Population Growth and Urbanization in Bihar and India (1961 - 2011)

Census Year	Level of Urbanization (%)		Urban Population (lakh)		Decadal Growth of Urban Population (%)		Population Growth (%)		Annual Exponential Growth Rate (Urban) *	
	India	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar
1961	18	7.4	789.4	25.8	26.2	38.30*	21.51	19.79	2.34	3.24
1971	18.2	7.7	1091.1	33.6	38.2	30.1	24.8	20.91	3.21	2.63
1981	23.3	9.6	1594.6	51.4	46.1	53.3	24.66	24.16	3.83	4.27
1991	25.7	10	2175.5	67.1	36.4	30.5	23.87	23.38	3.09	2.66
2001	27.8	10.5	2853.5	86.9	31.2	29.4	21.54	28.62	2.73	2.57
2011	31.2	11.3	3771.1	117.6	32.2	35.4	17.7	25.42	2.76**	3.06***
Correlation (Level of Urbanization & Population Growth)			P - value				t Stat			
India	Bihar	India	Bihar	India	Bihar	India	Bihar	India	Bihar	
- 0.6266	0.8545	0.18310	0.03019	- 1.6080	3.29070					

Source: Economic Survey 2019 – 20, Finance Department, Government of Bihar.

Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India.

\*Rural - Urban Distribution, Provisional Population Total, Bihar, Census of India, 2001

\*\*eCENSUSIndia: Issue Number 3: 2001

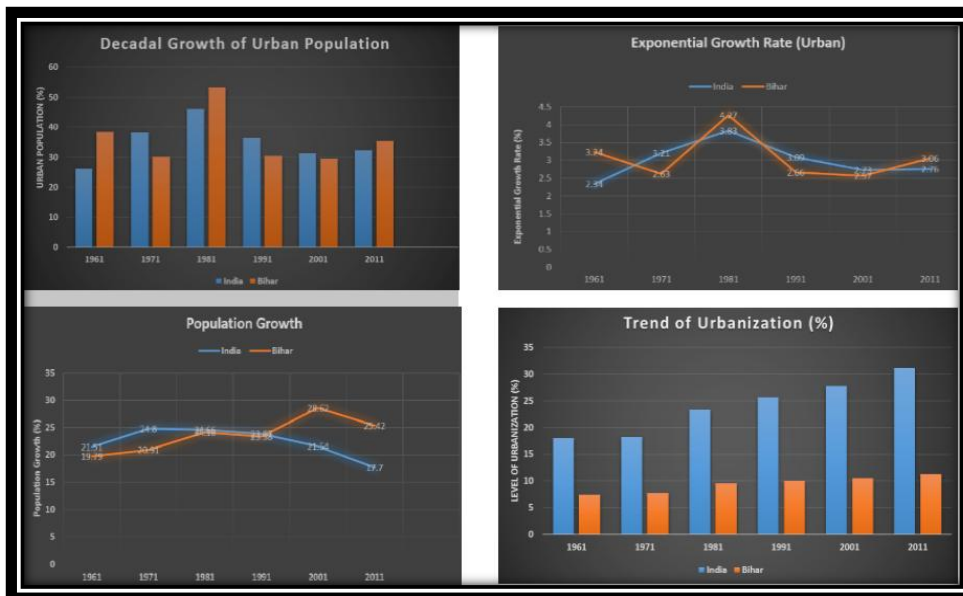
\*\*\*Manoj Kumar Pandey, Bihar, in a State of Messy Urbanization - Way Forward, Innovative Governance of Large Urban Systems, Apr 8, 2021

According to 2011 census report, out of the total population of Bihar 11.3 percent are residing in urban area, which is much less than the national average urbanization of 31.2 percent. If we compare it with growth of population we find that according to the census report of 2011, state accounts for higher growth rate of 25.42 percent as compared to national average growth rate of 17.70 percent. It is also important to mention here that state of Bihar with a total population of 104099452 accounts for 8.6 percent of the total population of the country, whereas it contributes only 3.1 percent urban population of the nation. If we go through the table - 1, we also come to the conclusion that since 1961, the pace of urbanization in Bihar always remained low. According to the census report of 1961, the level of urbanization was 7.4 percent which increased to 11.3 percent in 2011, which recorded an increase of 3.9 percentage point in the level of urbanization. If we compare the rate of urbanization of the country with the state of Bihar as a whole, we find that the pace of urbanization in India is far better than the state. Census year 1961 recorded 18.0 percent urbanization in India, which increased to 31.2 percent in 2011, registered a growth of 13.2 percentage point, which is much higher than the growth of urbanization in Bihar with 3.9 percentage point over five decades. During 2001 and 2011, the level of urbanization recorded the highest growth rate as compared to previous census year, and registered an increase of 3.4 percentage point from 27.8 percent in 2001 to 31.2 percent in 2011, whereas, Bihar as a whole registered an increase of 0.8 percentage point from 10.5 percent in 2001 to 11.3 percent in 2011. At the same time, if we compare the growth of population in Bihar, we find that it registered a faster pace and increased from 19.79 percent in 1961 to 25.42 percent in 2011, recorded a growth of 5.63 percentage point, but India, as whole recorded a decline in the growth of population from 21.51 percent in 1961 to

17.70 percent, registered a decrease of 3.81 percentage point. Urbanization in Bihar has increased from mere 9.6 percent in 1981 to Just 11.39 percent in 2011, as against 23.3 percent in 1981 to 31.2 percent in India as a whole.

It is also very surprising to note that the decadal growth in urban population, according to 2011 census, report is higher than the country as a whole. Bihar registered 35.4 percent decadal urban growth as compared to 32.2 percent in India as a whole, which is 3.2 percentage point lesser than the decadal growth of urban population in Bihar. This increase in the size of urban population will help the Bihar state government in taking up measures of urbanization in those areas, which have come under jurisdiction of Nagar Panchayat, Nagar Parishad and Municipal Corporation. Bihar government has prepared a draft to change the old criteria to transform semi - urban and rural areas into urban area.

The annual exponential growth rate of urban population shows that Bihar registered 3.24 percent annual exponential growth rate in 1961 which declined to 3.06 percent in 2011, whereas India as a whole recorded 2.34 percent annual exponential growth rate of urban population in 1961 which increased to 2.76 percent in 2011. Looking at the table - 1 reveals that the level of urbanization in Bihar has barely moved over the last five decades from 1961 to 2011, and rural area in Bihar still continues to absorb increased population. Although, there is migration from the rural to urban area in Bihar but, still it is not so fast and is modest. The modest migration of people from the rural to urban area may be due to the urban planning in Bihar, which is still at the initial stage. The urban infrastructure, like, water supply, electricity, sanitation, sewer, toilets and transportation systems are still in developing stage.



**District Wise Variation in Growth of Population**

Contrary to the trends of population growth in India and Bihar, as a whole recorded a high growth rate from 1961 to 2011, India’s south and west are now at replacement fertility population and Gujarat has now joined 13 other states at or below replacement fertility. Whereas, Bihar is the only Indian state where a woman as of 2018 was likely to have over three children in her life time. (As India moves to show population growth, Bihar gets left behind, Rukmani, S., 7 July, 2020). There has been a rapid growth of population since 1961 to 2001, except the census year 1991 which recorded a decline of 0.78 percentage point from the previous census year 1981. Similarly census year 2011 also

recorded a decline of 3.2 percentage point from previous census year of 2001

District wise pattern of population growth, according to 2001 census report, reveals that there has been a significant variation in the growth of population. According to 2001 census report, the highest growth has been observed by district Sheohar with a percentage growth of 36.61 percent, which is 7.99 percentage points higher than the state average (28.62 percent). It is also important to note that Sheohar constitutes 0.62 percent of the total population of Maharashtra and recorded an increase of 36.16 percent to its population compared to 1991 census report. Table 2 reveals that the second highest

**Table 2:** District - wise Urbanization of Bihar (2001 and 2011)

Districts	Urbanization		Population Growth (%)		Districts	Urbanization		Population Growth (%)	
	2001	2011	2001	2011		2001	2011	2001	2011
Patna	41.6	43.1	30.41	23.73	Darbhanga	8.1	9.7	31.26	19.47
Nalanda	14.9	15.9	18.75	21.39	Madhubani	3.5	3.6	26.24	25.51
Bhojpur	13.9	14.3	25.12	21.63	Samastipur	3.7	3.5	24.95	25.53
Buxar	9.2	9.6	28.94	21.67	Begusarai	4.6	19.2	29.46	26.44
Rohtas	13.3	14.5	27.83	20.11	Munger	27.9	27.8	20.58	20.21
Kaimur	3.3	4	31.10	27.50	Sheikhpura	15.6	17.1	25.04	21.09
Gaya	13.7	13.2	30.34	26.43	Lakhisarai	14.7	14.3	24.11	24.77
Jehanabad	12.1	12	30.52	21.46	Jamui	7.4	8.3	33.03	25.85
Arwal	0.0*	7.4	26.40	19.23	Khagaria	5.9	5.2	29.69	30.19
Nawada	7.7	9.7	33.10	22.63	Bhagalpur	18.7	19.8	26.87	25.36
Aurangabad	8.4	9.3	30.72	26.18	Banka	3.5	3.5	24.47	26.48
Saran	9.2	8.9	26.26	21.64	Saharsa	8.3	8.2	33.18	26.02
Siwan	5.5	5.5	25.03	22.70	Supaul	5.1	4.7	29.02	28.66
Gopalganj	6.1	6.4	26.31	19.02	Madhepura	4.5	4.4	29.63	31.12
W. Champaran	10.2	10	30.42	29.29	Purnea	8.7	10.5	35.40	28.33
E. Champaran	6.4	7.9	29.47	29.43	Kishanganj	10	9.5	31.73	30.40
Muzaffarpur	9.3	9.9	26.84	28.14	Araria	6.2	6.0	33.94	30.25
Sitamarhi	5.7	5.6	33.22	27.62	Katihar	9.2	8.9	31.08	28.35
Sheohar	4.1	4.3	36.61	27.19					
Vaishali	6.8	6.7	26.67	28.57	Bihar	10.5	11.3	28.62	25.42
	2001		2011		2001		2011		
Coefficient of correlation	- 0.23177402		- 0.334823692		Not Significant at 95% level of Confidence		Significant at 95% level of Confidence		
P - value	0.161461295		0.039900825						
t Stat	- 1.429571856		- 2.131999466						

Source: Economic Survey 2019 – 20, Finance Department, Government of Bihar  
Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India

\*Arwal came into existence in August 2001 and was earlier part of Jehanabad district. Data regarding urbanization is not available, therefore it has been taken as 0.

growth in population has been recorded by Purnea with a percentage growth of 35.40 percent as against state average growth rate of 28.62 percent, registered an increase of 6.78 percentage point. Purnea with the second highest growth of population has a substantial minority (Muslim) population, most of whom are either cultivators or agricultural laborers

Purnea lags much behind in terms of the state development indicators. Purnea with the second highest population growth, has been followed by Araria (33.94 percent), Sitamarhi (33.22 percent) and Saharsa (33.18 percent), whereas the lowest growth in population has been recorded by Nalanda with a percentage growth of 18.75 percent. Out of the total 38 districts of Bihar, twenty two districts recorded population growth rate higher than the state average growth rate. Increase in the overall population in this census year of 2001 may be due to continuous surge in the past decades, except the census year 1991, since 1961. Nawada, which recorded the lowest growth rate of 30.41 percent, which is 1.79 percentage point lower than the state average, has been followed by Munger (20.58 percent), Lakhisarai (24.11 percent) and Banka (24.47 percent). It is important to mention here that apart from Sheohar, Purnea, Araria and Saharsa, there are four other districts, named as Patna (30.41), Gaya (30.34), Jehanabad (30.52), Nawada (33.10) and Aurangabad (30.72) contributed much in the growth of population during the decade of 2001. Patna, the capital city of Bihar has more pull factors for migrants, as compared to other districts. Similarly Gaya, a centre of learning and religious place, both for Hindus and Buddhist attracted people from the nearby states as well as adjoining districts.

If we categorize all the 38 district of Bihar according to growth of population in 2001, into Low (Below 20 percent), Moderate (20.01 to 25 percent), High (25.01 to 30 percent), Very High (above 30.01 percent), we find that there is only one district named as Nalanda, which can be categorized under low level of population growth. Apart from this there are four districts, named as Samastipur (24.95), Munger (20.58), Lakhisarai (24.11) and Banka (24.47), which can be

categorized under moderate level of population growth between 20.01 to 25 percent. There are seventeen districts, named as, Bhojpur, Buxar, Rohtas, Arwal, Saran, Siwan, Gopalganj, East Champaran, Muzaffarpur, Vaishali, Madhubani, Begusarai, Sheikhpura, Khagaria, Bhagalpur, Supaul and Madhepura, can be categorized under high level of population growth, between 25.01 to 30 percent, whereas, sixteen districts, named as Patna, Kaimur, Gaya, Jehanabad, Nawada, Aurangabad, West Champaran, Sitamarhi, Sheohar, Darbhanga, Jamui, Saharsa, Purnea, Kishanganj, Araria and Katihar can be categorized under very high growth rate above 30.01 percent.

According to census year 2011, Bihar recorded a decline in the growth of population from 28.62 percent in 2001 to 25.42 percent in 2011, which registered a decrease of 3.2 percentage point. Out of 38 districts of Bihar, there are twenty two districts which recorded higher population growth than the state of Bihar (25.42 percent). It is interesting to note here that, out of 38 districts of Bihar, none of them recorded population growth rate lower than the average growth rate the country as a whole (17.70 percent), Madhepura registered the highest growth rate of 31.12 percent, which is followed by Kishanganj (30.40 percent), Araria (30.25 percent), and Khagaria (30.19 percent). Madhepura with a total population of 1526646 in 2001 recorded a total population of 2001762 in 2011, which registered an increase of 1.49 percentage point. Out of the total population of Madhepura, 4.42 percent live in urban region of the district. The average literacy rate of Madhepura in 2011 is 52.25 percent as compared to 36.07 percent in 2001. Apart from these districts, which recorded the highest percentage of growth of population, lowest growth rate has been observed by Gopalganj with a growth rate of 19.02 percent, and is followed by Arwal (19.23 percent) and Darbhanga (19.47 percent). This lowest growth of population in Gopalganj in 2011, may be attributed to the highest sex ratio of 1015 females per thousand male in 2011 as well as migration in search of good jobs to distant places even to the Gulf countries, which is very common among Muslims.

**Table 3:** District wise Comparison of Rate of Population Growth (2001 - 2011)

Category	Range	No. of Districts 2001	No. of Districts 2011	Name of the Districts	
				2001	2011
Low	Below 20 percent	1	3	Nalanda,	Arwal, Gopalganj, Darbhanga,
Moderate	20.01 to 25 percent	4	12	Samastipur, Munger, Lakhisarai, Banka,	Patna, Nalanda, Bhojpur, Buxar, Rohtas, Jehanabad, Nawada, Saran, Siwan, Munger, Sheikhpura, Lakhisarai,
High	25.01 to 30 percent	17	19	Bhojpur, Buxar, Rohtas, Arwal, Saran, Siwan, Gopalganj, E. Champaran, Muzaffarpur, Madhubani, Vaishali, Begusarai, Sheikhpura, Khagaria, Bhagalpur, Supaul, Madhepura,	Kaimur, Gaya, Aurangabad, W. Champaran, E. Champaran, Muzaffarpur, Sitamarhi, Sheohar, Vaishali, Madhubani, Samastipur, Begusarai, Jamui, Bhagalpur, Banka, Saharsa, Supaul, Purnea, Katihar
Very high	Above 30.01 percent	16	4	Patna, Kaimur, Gaya, Jehanabad, Nawada, Aurangabad, W. Champaran, Sitamarhi, Sheohar, Darbhanga, Jamui, Saharsa, Purnea, Kishanganj, Araria, Katihar	Khagaria, Madhepura, Kishanganj, Araria

Source: Compiled by Author

If we adopt the same categorization approach to categorize all the 38 districts of Bihar in low, moderate, high and very high, as we have adopted in 2001, we find that there are three districts, named as Gopalganj (19.02), Arwal (19.23) and Darbhanga (19.47), which can be categorized under low level of population growth below 20 percent. Apart from this there are twelve districts, which can be categorized under moderate level of population growth between 20.01 to 25 percent, whereas there are nineteen districts, which can be categorized under high level of population growth between 25.01 to 30 percent, and there are only four districts which can be categorized under very high level of population growth above 30 percent, which includes Madhepura, Kishanganj, Araria and Khagaria, all of them lie in North Bihar plain.

#### District Wise Variation in Urbanization

Urbanization represents the transition from agricultural economy to modern and industrial economy as well as

developed infrastructure and access to different facilities. Modernization involves shifting of rural population to urban area, with complexity in socio - economic process, like change in occupational structure, social fabric, life style, culture and behavioral aspects. The urbanization in India has been expressed as percentage of population living in urban area. In spite of the large population, but due to the absence of non - agricultural sector, the urbanization rate in Bihar is just 11.3 percent as against 31.2 percent in India as a whole in 2011. Apart from this low urbanization rate, Bihar has recorded a significant growth in the rate of urban population growth and 72 new towns were added during the decade 2001 - 2011. One of the important fact, which we have noticed that in the last few year, Bihar has witnessed relatively higherrate of economic growth, but the rate of urbanization is yet very low as compared to other states and the country as a whole. If we go through district wise pattern of urbanization in Bihar we find that south Bihar is considerably more urbanized as compared to north Bihar.

**Table 4:** Number of towns and population shares in Bihar

Town Class	2001				2011			
	Number of towns	Percent of towns	Population	Population share	Number of towns	Percent of towns	Population	Population share
Class I (1, 00, 000 & above)	19	15.8	5144150	59.3	26	13.1	6755370	57.5
Class II (50, 000 - 99, 999)	16	13.3	1186294	13.7	28	14.1	1829820	15.6
Class III (20, 000 - 49, 999)	65	54.2	2050588	23.6	76	38.2	2539376	21.6
Class IV (10, 000 - 19, 999)	17	14.2	280820	3.2	22	11.1	334484	2.8
Class V (5, 000 - 9, 999)	3	2.5	19948	0.2	38	19.1	264276	2.2
Class VI (less than 5, 000)					9	4.5	34690	0.3
Total	120	100	8681800	100	199	100	11758016	100

Source: Census 2001 and 2011

Table - 4 reveals that, class I, class II and class III town accounted for 95.67 percent of total urban population, while rest of the class IV and class V towns accounted for only 3.4 percent of the urban population. Out of 120 towns in 2001, there are 19 class I towns which comprise a total population of 5144150 whereas, the largest number of towns are categorized under class III towns, which accounts for 54.2 percent of the total number of towns and only 2.5 percent of the towns are categorized under class V towns, which are only 3 in number.

Table - 4 reveals that there is no significant change in the number or the percentage of population share of class I, class II and class III towns, but there has been a perceptible change in the number of class V towns, which has increased from only 3 towns in 2001 to 38 towns and the percentage of population share also increased from 0.2 percent in 2001 to 2.2 percent in 2011. There is a remarkable increase in the number of towns from 120 in 2001 to 199 in 2011. Census year 2011 also reveals that class I, class II and class III towns account for 94.7 percent of the population share, which is 0.97 percent point lesser than the previous census report of 2001. Apart from this rest of the class IV, class V and class VI towns account for only 5.3 percent of the population share. It is important to mention here that according to census report 2011, there are 9 class VI towns, which were absent in the census report 2001. This addition of class VI towns may be attributed to the classification as "census towns". It is also important to note here that class I towns accounted for largest share of urban population both in 2001 and 2011. Bihar state reflects the unbalanced

urbanization with the lowest number of smaller towns, which may be attributed to the fact that the industrialization and urbanization is Patna centric. Because of this Patna centric industrialization and urbanization the urbanization rate in Bihar is still 11.3 percent in spite of the fact that 79 new towns have been added to its urban portfolio.

According to census report 2001, the pattern of urbanization reveals an inter - state disparity. Out of 38 districts in Bihar there are ten districts named as Patna (41.6), Nalanda (14.9), Bhojpur (13.9), Rohtas (13.3), Gaya (13.7), Munger (27.9), Sheikhpura (15.6), Lakhisarai (14.7) and Bhagalpur (18.7) recorded higher urbanization rate as compared to the state average rate of 10.5 percent. District wise urbanization ranges from 41.6 percent in Patna to 3.3 percent in Kaimur. Patna with the highest urbanization rate is followed by Munger (27.9), Bhagalpur (18.7) and Sheikhpura (15.6). If we go through the variation in the rate of urbanization at district level, we find that there is a difference in 38.3 percentage points between Patna (highest) and Kaimur (lowest). Kaimur with the lowest urbanization rate (3.3) is 7.2 percentage point lower than the state average (10.5 percent) and 24.5 percentage point lower than the national average urbanization rate (27.8 percent) in 2001. It is important to mention here that, all of the ten districts, which have recorded urbanization rate higher than the state average, are located in South Bihar plain and accounted for the overall increase in urbanization rate of the state of Bihar. Being a capital city as well as development of industrial and educational facilities, Patna has attracted people not from the

adjoining districts, but from all over the state, which led to increase in the rate of urbanization. Patna, the capital of Bihar state has been considered as one of the fastest growing cities in India. Similarly, Gaya, a centre of learning and religious place for Hindus and Buddhist has attracted people from all over the state and adjoining districts. If we categorize all the 38 districts of Bihar (No data of urbanization is available for Arwal because it has been formed in 2001) into Low (Below 5 percent), Moderate (5.01 to 10 percent), High (10.01 to 15 percent) and Very High (Above 15 percent), we find that there are seven districts, named as Kaimur, Madhubani, Sheohar, Samastipur, Begusarai, Banka and Madhepura recorded low level of urbanization rate, below 5 percent. Out of these seven districts, five lie in north Bihar, and two in South Bihar named as Banka and Kaimur. There are nineteen districts, which have recorded moderate urbanization rate between 5.01 to 10 percent, whereas, there are seven districts, which can be categorized under high level of urbanization rate between 10.01 to 15 percent, and there are only four districts named as Patna, Munger, Sheikhpura and Bhagalpur, which can be categorized under very high level of urbanization rate above 15 percent. It is also important to mention here that all these four districts, categorized under very high urbanization rate are located in South Bihar plain, may be due to Patna centric urbanization.

According to 2011 census report the rate of urbanization is among the slowest in the country and recorded the state average urbanization rate of 11.3 percent as against the national average of 31.2 percent. The pattern of urbanization has been skewed in Bihar and there has been inter - state disparity in the rate of urbanization in Bihar in the census year 2011 too, which varies from 43.1 percent in Patna to only 3.5 percent in Banka. Patna with the highest urbanization rate is followed by Munger (27.8), Bhagalpur (19.8), Begusarai (19.2) and Nalanda (15.9). All these four highly urbanized districts are located in South Bihar, except Begusarai. Patna, again in 2011, has maintained its primacy and accounted for 14 percent of the total urban population of Bihar, which is followed by Gaya with 4 per cent of the total urban population of Bihar which has recorded the urbanization rate of 13.2 percent. Out of total 199 towns in Bihar, there are only 26 towns which have a population of at least one lakh, where there are possibility to develop secondary and tertiary activities. Out of the 38 district in 2011, there are eleven districts, which have recorded urbanization rate higher than the state average urbanization rate of 11.3 percent, and these districts are Patna, Nalanda, Bhojpur, Rohtas, Gaya, Jehanabad, Begusarai, Munger, Sheikhpura, Lakhisarai and Bhagalpur.

**Table 5:** District wise Comparison of Rate of Urbanization (2001 - 2011)

Category	Range	No.of Districts 2001	No. of Districts 2011	Name of the Districts	
				2001	2011
Low	Below 5 percent	8	7	Kaimur, Arwal, Sheohar, Madhubani, Samastipur, Begusarai, Banka, Madhepura	Kaimur, Sheohar, Madhubani, Samastipur, Banka, Supaul, Madhepura
Moderate	5.01 to 10 percent	19	19	Buxar, Nawada, Aurangabad, Saran, Siwan, Gopalganj, E. Champaran, Muzaffarpur, Sitamarhi, Vaishali, Darbhanga, Jamui, Khagaria, Saharsa, Supaul, Purnea, Kishanganj, Araria, Katihar	Buxar, Arwal, Nawada, Aurangabad, Saran, Siwan, Gopalganj, W. Champaran, E. Champaran, Muzaffarpur, Sitamarhi, Vaishali, Darbhanga,, Jamui, Khagaria, Saharsa, Kishanganj, Araria, Katihar
High	10.01 to 15 percent	7	6	Nalanda, Bhojpur, Rohtas, Gaya, Jehanabad, W. Champaran, Lakhisarai,	Bhojpur, Rohtas, Gaya Jehanabad, Lakhisarai, Purnea
Very high	Above 15.01 percent	4	6	Patna, Munger, Sheikhpura, Bhagalpur	Patna, Nalanda, Begusarai, Munger, Sheikhpura, Bhagalpur.

Source: Compiled by Author

If we follow the similar classification approach to classify districts of Bihar in low, moderate, high and very high rate of urbanization, as it has been followed in the census year 2001, we find that there are seven districts, which can be categorized under low level of urbanization below 5 percent. Out of these seven districts Begusarai has recorded a tremendous growth in urbanization rate from 4.6 percent in 2001 to 19.2 percent in 2011, whereas, Supaul, which was categorized under moderate level of urbanization in 2001, has now beencategorized under low level of urbanization because of decrease in urbanization rate from 5.1 percent in 2001 to 4.7 percent in 2011, registered a decline of 0.4 percentage point. Begusarai which recorded the tremendous increase in urbanization during 2001 to 2011 registered an increase of literacy rate from 47.98 percent in 2001 to 63.87 percent in 2011, but there is no urban agglomeration inside Begusarai district. Apart from this Madhubani, Samastipur, and Madhepura also recorded decline of 0.1, 0.2 and 0.1 percentage point respectively.

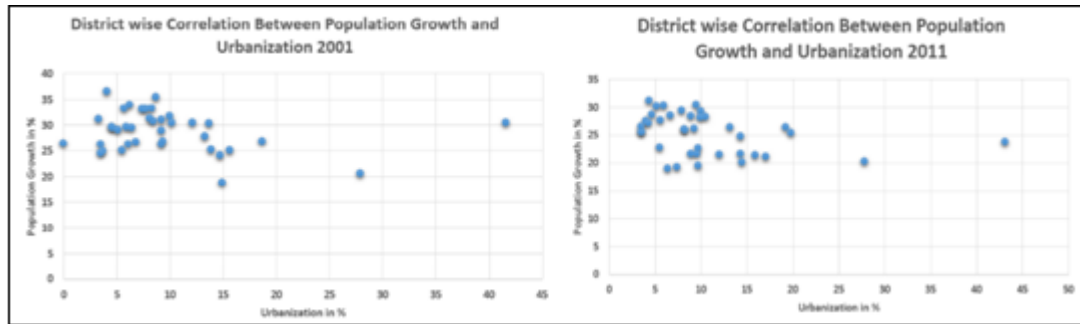
Out of 38 districts nineteen districts can be categorized under moderate level of urbanization between 5.01 to 10 percent, whereas there are six districts, which can be categorized under high level of urbanization between 10.01 to 15 percent, and only six districts can be categorized under very high rate of urbanization above 15 percent.

**Correlation**

Population dynamic like population growth and the forces responsible for the movement of people from the rural to urban area play a central part in urbanization and is strongly linked with rapid population growth. Table represents the relationship between growth of population and urbanization in 2001 and 2011 and correlation has been carried out by means of Karl Pearson’s method of coefficient of correlation as well as their significance level has been tested at 95 percent level of confidence. On the basis of the correlation obtained by means of the aforesaid statistical technique at district level in 2001 is - 0.2318, which represents a low level of negative correlation (low level of negative

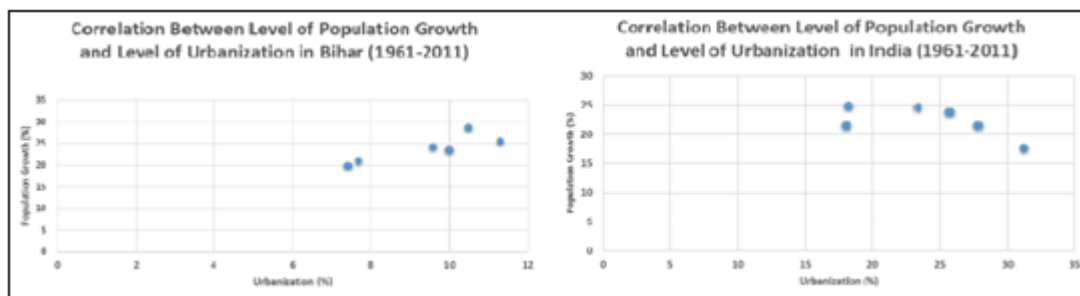
correlation (0 to - 0.25) and is not significant at 95 percent level of confidence. Similarly the coefficient of correlation found in 2011 is - 0.3348 which represents medium level of negative correlation (medium level of negative correlation -

0.25 to - 0.75), but it is significant at 95 percent level of confidence.



If we go through the correlation between the trend of population growth and urbanization, both in India and Bihar since 1961 to 2011, we find that the coefficient of correlation in India as a whole is - 0.6266, which shows a medium level of negative correlation, and is not significant

at 95% level of confidence, but the correlation value regarding Bihar as a whole, since 1961 to 2011 is +0.8545, which represents high level of positive correlation (high level of positive correlation +0.75 to +1) and is significant at 95% level of confidence.



### Causes of low urbanization

In spite of the plain topography of Bihar and an ideal condition for the development of towns, the urbanization rate is very slower as compared to the nation as a whole. According to 2011 census report 1.176 crore or 11.3percent population live in urban areas, which is much smaller than the national average (31.2 percent). During 2001 - 2011, there has been an increase of only 0.8 percentage point. There may be several causes behind this slow rate of urbanization since 1961 to 2011, which are given below.

- Low level of literacy rate, which is just 61.80 percent as against 74.04 in the country as a whole.
- State of Bihar lags under various infrastructure parameters and development, like per capita availability of power, industry, roads etc.
- Lack of mineral resources due to division of Bihar and formation of new state Jharkhand.
- The contribution of industry in state's GSDP is only 20 percent which led to low rate of urbanization.
- Recently released economic survey 2019 - 20 reveals average 10 percent growth, which is higher than the growth rate of the nation as a whole. The per capita GSDP of Bihar was Rs.47541 at current prices and Rs.33629 at constant prices.
- Low financial sources to boost the industrial growth.
- Weak industrial policy by the government of Bihar and lack of political will with Red Tapism are the another important causes of low urbanization.

### 3. Conclusion

Bihar extends over alluvial fertile plain of formed by Himalayan river Ganga and its tributaries and distributaries. Bihar is characterized by very high population growth as compared to the nation as a whole. This high growth of population along with low rate of urbanization has hampered the socio - economic development of the state. This low economic growth has aggravated the poverty and has reduced the employment opportunities. In spite of the fact that state of Bihar has posted relatively high rate of economic growth in the last few years, yet there is low level of urbanization as compared to nation as a whole, which puts the state in a paradoxical situation. Due to the absence of strong non agricultural sector like industries and services, the rate of urbanization in Bihar is still 11.3 percent in spite of high rate of population growth and high density. The growth rate of urbanization in Bihar has always remained very slow since 1961 to 2011. The rate of urbanization was 7.4 percent in 1961 as against 18.0 percent in India as a whole, which reached to just 11.3 percent in 2011, as against 31.2 percent as the rational average urbanization rate. The trend of urbanization reflects that there has been an increase of only 3.9 percentage point in Bihar, since 1961 to 2011, as against 13.2 percentage point increase in India as a whole. The state of Bihar accounts for 8.6 percent of the total population of India, but contributes only 3.1 percent of the total urban population of the country which reflects a very low pace of urbanization in Bihar, but during 2001 and 2011, the level of urbanization has increased by only 0.8



percentage point as against 3.4 percentage point in India. The pattern of urbanization in Bihar is unbalanced, as South Bihar is more urbanized than North Bihar and the urbanization is mostly concentrated in large cities like Patna, Munger, Bhagalpur etc. looking at the population growth rate we come to the conclusion that the trend of population growth in Bihar has been continuously increasing since, 1961 to 2001, except 1991, when the growth rate declined from 24.16 percent in 1981 to 23.38 percent in 1991. Apart from this population growth rate also dipped in 2011 from 28.62 percent in 2001 to 25.42 percent, a decrease of 3.2 percentage points. This shows the pace of urbanization along with growing population is indeed a long term phenomena and depicts high level of inter - state disparity at district level. Urbanization varying from the highest in Patna (43.1 percent) to the lowest in Banka (3.5 percent). Similarly population growth rate varied from the highest in Madhepura (31.12 percent) to the lowest in Gopalganj (19.02). The coefficient of correlation obtained by means of Karl Pearson's method of correlation between the trend of population growth and urbanization since 1961 - 2001, in Bihar is +0.8545, which is significant at 95% level of confidence, whereas the coefficient of correlation in India is - 0.6266, which is not significant at 95% level of confidence.

- [13] Venkateshwarlu U, 1998, *Urbanisation in India: Problems and Prospects*, New Age International Publishers.
- [14] Manoj Kumar Pandey, Bihar, in a State of Messy Urbanization - WayForward, Innovative Governance of Large Urban Systems, Apr 8, 2021

## References

- [1] Bhagat, R. B. (1992) Component of urban Growth in India with reference to Haryana: Findings from Recent Censuses, *Nagarlok*, Vol25, No.3, page.10 - 14
- [2] Brennan, E. M. (1999). Population, urbanization, environment, and security: a summary of the issues. The Woodrow Wilson Center, Environmental Change and Security Project Report, issue 5, 4 - 14
- [3] Premi. M. K. (1991): "India's Urban Scene and Its future implications" *Demography India*,
- [4] Registrar General, Census of India, Emerging Trends of Urbanization in India, Occasional Paper No.1 of 1993, Registrar General of India, New Delhi
- [5] Annapurna Shaw, *Emerging Patterns of Urban Growth in India*, Economic and Political Weekly, April 17 - 24, 1999.
- [6] Jorge Gavidia, 2000, *Disaster Management in an Urbanizing World*, UNCHS, Vol.6 No.2, 2000.
- [7] Sivaramakrishnan, K. C., 1993, *Managing Urban Environment in India: Towards an Agenda for Action*, The Times Research Foundation, Calcutta.
- [8] Sivaramakrishnan, K. C., 1998, *The Challenge of Urbanisation*, Fifty Years of Swaraj, Highlights and Shadows, Centre for Policy Research, New Delhi.
- [9] Sivaramakrishnan, K. C., 2000, *Urbanisation and problems of governance*, Problems of Governance in South Asia, Centre for Policy Research, New Delhi.
- [10] Sivaramakrishnan, K. C., 2001, *Democratic Decentralisation*, Political Reforms: Asserting Civic Sovereignty, Centre for Policy Research, New Delhi.
- [11] Suresh V., 1998, *Resources for Housing*, SDR, Vol.5 No.2 March - April 1998. The Times Research Foundation, 1996, *Role of State Housing Boards in India*.
- [12] Venkateshwarlu U, 1997, *India's Urban Vision 2021: Agenda for Shaping the Urban Future*.