

**RESEARCH ARTICLE****Patterns and Trends of Population Growth and Urbanization in Bihar: A District-Level Sociological Study****Ahmad Eqbal**

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ABSTRACT

Present research paper is a modest attempt to analyse trend of population growth in the state of Bihar. It is a secondary data based study which allows the investigator to have deep insight into the problem under study. To conduct this research researcher has taken help to collect concerned data from census book of India National Sample Survey and District Census Handbooks of different district in Bihar. In the course of study researcher collected district wise data of Bihar to have better understanding about the nature of population growth in the area under study. Investigator found out that as compared to national graph state of Bihar has shown lesser percentage in urban population growth. To represent an analysis better researcher has covered almost five decade of the population growth patterns in the state concerned. However present work may of great help to the demographer town planner and policy makers.

INTRODUCTION

Population growth is understood as the average decadal increase in population, resulting from the balance between births and deaths as well as migration inflows and outflows in a country or region. Urbanization, on the other hand, refers to a long-term and continuous process of social transformation in which traditional rural societies evolve into modern urban communities.

Population dynamics-factors influencing population growth and movement-play a crucial role in shaping urbanization in India, and particularly in economically weaker states like Bihar, urbanization is closely linked with high fertility rates and rapid population growth. Urbanization is not merely the physical shift of people from villages to cities; it transforms the social fabric and demographic profile, influencing occupations, culture, lifestyles, and overall behavior. A key aspect of this transition is the shift in occupations, as people move from agriculture towards industry and services in urban areas.

Improved agricultural output, especially in wheat and rice production across Bihar's districts, has indirectly contributed to urbanization. This reflects a broader shift from an agriculture-based economy towards one driven by industries and services. Such a transition promotes infrastructure development and ensures access to basic facilities for residents. In essence, urbanization is the outcome of industrialization and economic growth, facilitated by the exchange of goods, services, labor, capital, social structures, and modern information technologies.

Urbanization, therefore, signifies population movement from rural to urban areas, leading not only to urban population growth but also to changes in land use, economy, and culture. Urban life is often associated with higher literacy rates, better educational attainment, improved health outcomes, lower fertility and reduced mortality. Additionally, cities provide greater access to social services and opportunities for political and social participation. However, rapid urban growth also brings challenges, such as inadequate sanitation, the spread of communicable diseases, poor nutrition and substandard housing, all of which affect the quality of life.

Urbanization fosters certain social characteristics that are uncommon in rural settings. In developed countries, the process has historically been slow and steady, while in

developing nations like India it has been rapid, driven more by the growth of the service sector than by industrialization. In Bihar, urbanization is a relatively recent phenomenon that is still evolving, although it is widely regarded as an inevitable aspect of economic development, closely tied to the drivers of growth and social change. While industrialization and growth remain the primary forces, other factors such as the exchange of goods, services, labor, capital, information, and social values also contribute to the process.

Bihar's economy is still predominantly agricultural, with limited development in non-agricultural sectors. As a result, only 11.3% of Bihar's population is urbanized, compared to 31.2% at the national level. At the same time, Bihar's population growth rate stands at 25.42%, much higher than India's overall growth rate of 17.70%.

OBJECTIVE OF THE STUDY

The present research paper aims to achieve the following objectives:

1. To examine the patterns and trends of population growth and urbanization in India and Bihar from 1961 to 2011.
2. To study the exponential growth rate of population in India and Bihar during the same period.
3. To assess the spatial and temporal variations in population growth and urbanization at the district level for the years 2001 and 2011.
4. To evaluate the impact of population growth on the process of urbanization in Bihar using the coefficient of correlation and testing its statistical significance.
5. To identify and analyze the underlying factors responsible for population growth and urbanization in Bihar.

DATABASE AND METHODOLOGY

This study relies mainly on secondary data sources, gathered from various Census of India reports, District Census Handbooks of different districts in Bihar, the Office of the Registrar General and Census Commissioner (Ministry of Home Affairs, Government of India). The collected data have been systematically compiled, tabulated, and analyzed using a range of statistical techniques. To measure the relationship between population growth and urbanization, Karl Pearson's coefficient of correlation has been applied, and the significance of the results has been tested at the 95% confidence level.

TREND OF URBANIZATION AND POPULATION GROWTH (1961-2011):

A large share of the population aspires to live in urban areas because cities generally offer better opportunities and improved living conditions compared to rural regions. Rapid population growth, coupled with limited prospects in villages, has made urban centers increasingly attractive. Consequently, urban populations are expanding much faster than rural ones, driven both by natural increase and migration in search of employment and better living standards. However, rural populations are also growing significantly, which indirectly influences the pace of urbanization. Globally, more than half of the population resides in cities, and since the mid-20th century, developed regions have had over 50% of their people living in urban areas due to sustained population growth and urbanization. Urban centers are often described as engines of socio-economic transformation because they foster prosperity and social change. Despite Bihar's historic role in India's political and economic landscape, its urban development has remained relatively limited.

According to the Census of 2011, only 11.3% of Bihar's population lived in urban areas—far below the national average of 31.2%. At the same time, Bihar's population growth rate was recorded at 25.42%, much higher than the national average of 17.70%. With a total population of 104,099,452, Bihar accounts for 8.6% of India's population but contributes only 3.1% to the country's urban population. Historical census data further reveals that Bihar's level of urbanization has consistently remained low. In 1961, urbanization in the state was 7.4%, which rose only to 11.3% by 2011—an increase of just 3.9 percentage

points in five decades. In contrast, India as a whole recorded an increase from 18.0% in 1961 to 31.2% in 2011, a rise of 13.2 percentage points over the same period.

The decade 2001–2011 witnessed the highest increase in urbanization at the national level, with urbanization rising by 3.4 percentage points (from 27.8% in 2001 to 31.2% in 2011). Bihar, however, registered a much smaller increase of 0.8 percentage points (from 10.5% to 11.3% during the same period). Population growth in Bihar also showed a rising trend, increasing from 19.79% in 1961 to 25.42% in 2011—an overall rise of 5.63 percentage points. By comparison, India experienced a decline in population growth during the same period, dropping from 21.51% in 1961 to 17.70% in 2011, a decrease of 3.81 percentage points. Between 1981 and 2011, Bihar's level of urbanization rose only slightly, from 9.6% to 11.39%, whereas India's urbanization increased from 23.3% to 31.2%.

Interestingly, the 2011 Census reported that Bihar's decadal growth of urban population (35.4%) was higher than the national average (32.2%). This indicates that, despite its low overall urbanization level, the state is experiencing a relatively faster pace of urban population growth. This trend may enable the Bihar government to promote urbanization more actively, particularly in areas being upgraded to Nagar Panchayats, Nagar Parishads, and Municipal Corporations. In fact, draft policies have been prepared to revise criteria for reclassifying semi-urban and rural areas into urban units.

With regard to the annual exponential growth rate of urban population, Bihar recorded 3.24% in 1961, which slightly declined to 3.06% in 2011. In contrast, India's annual exponential growth rate rose from 2.34% in 1961 to 2.76% in 2011. These figures indicate that Bihar's level of urbanization has remained nearly stagnant over the last five decades, with rural areas continuing to absorb most of the population increase. Migration from villages to towns and cities does occur in Bihar, but it remains relatively modest. One key reason is the underdeveloped state of urban planning and infrastructure. Basic amenities such as water supply, electricity, sanitation, sewerage, toilets, and transport systems are still at an early stage of development, limiting the state's ability to attract large-scale rural-to-urban migration.

DISTRICT-WISE VARIATION IN POPULATION GROWTH:

Unlike the overall demographic trends in India—where southern and western states have already achieved replacement-level fertility—Bihar continues to record high fertility rates. Population growth in Bihar accelerated rapidly between 1961 and 2001, with the exception of 1991, which saw a decline of 0.78 percentage points compared to 1981. The 2011 Census also showed a decline of 3.2 percentage points compared to 2001.

District-level analysis highlights wide variations in population growth across Bihar. In 2001, Sheohar registered the highest growth at 36.61%, nearly eight percentage points above the state average of 28.62%. Purnea followed with 35.40%, about seven percentage points higher than the state average. Purnea's high growth is notable as it has a large minority population, mainly engaged in cultivation and agricultural labor, and lags behind in development indicators. Other districts with very high growth included Araria (33.94%), Sitamarhi (33.22%), and Saharsa (33.18%). In contrast, Nalanda recorded the lowest growth at 18.75%.

Out of 38 districts, 22 exceeded the state average growth rate in 2001. Other contributors to population growth included Patna (30.41%), Gaya (30.34%), Jehanabad (30.52%), Nawada (33.10%), and Aurangabad (30.72%). Patna, being the capital, attracted migrants due to economic opportunities, while Gaya drew people for its religious and educational significance. Districts with the lowest growth included Munger (20.58%), Lakhisarai (24.11%), and Banka (24.47%).

For categorization in 2001:

- **Low growth (below 20%):** Nalanda.
- **Moderate growth (20.01–25%):** Samastipur, Munger, Lakhisarai, Banka.

- **High growth (25.01–30%)**: 17 districts including Bhojpur, Buxar, Rohtas, Saran, Siwan, Gopalganj, East Champaran, Muzaffarpur, Vaishali, Madhubani, Begusarai, and others.
- **Very high growth (above 30%)**: 16 districts including Patna, Gaya, Nawada, Aurangabad, Sitamarhi, Sheohar, Saharsa, Purnea, Kishanganj, Araria, and Katihar.

By 2011, Bihar's overall growth rate had declined from 28.62% in 2001 to 25.42%. Still, 22 districts recorded growth above the state average, and none fell below the national average of 17.70%. The highest growth was observed in Madhepura (31.12%), followed by Kishanganj (30.40%), Araria (30.25%) and Khagaria (30.19%). Madhepura's population rose from 1.52 million in 2001 to 2.00 million in 2011, though only 4.42% of its people lived in urban areas. The district also saw literacy improve from 36.07% in 2001 to 52.25% in 2011.

At the other extreme, Gopalganj recorded the lowest growth at 19.02%, followed by Arwal (19.23%) and Darbhanga (19.47%). In Gopalganj, lower growth may be linked to a favorable sex ratio (1,015 females per 1,000 males) and significant outmigration, including migration to Gulf countries, which is common among its Muslim population.

For categorization in 2011:

- **Low growth (below 20%)**: Gopalganj, Arwal, Darbhanga.
- **Moderate growth (20.01–25%)**: 12 districts.
- **High growth (25.01–30%)**: 19 districts.
- **Very high growth (above 30%)**: 4 districts—Madhepura, Kishanganj, Araria, and Khagaria—all situated in the North Bihar plains.

DISTRICT-WISE VARIATION IN URBANIZATION:

Urbanization reflects the shift from an agrarian economy to one based on industry, services, and modern infrastructure, accompanied by improved access to facilities. This process involves the movement of rural populations to urban areas and is closely linked with changes in occupational patterns, lifestyles, social structures, culture, and behavior. In India, urbanization is measured by the proportion of the population living in urban areas.

Despite its large population, Bihar has one of the lowest levels of urbanization in the country. In 2011, only 11.3% of its population lived in urban areas, compared to 31.2% at the national level. Nevertheless, the state witnessed notable growth in urban population during 2001–2011, with 72 new towns being added in that decade. Interestingly, Bihar has experienced relatively high economic growth in recent years, yet its urbanization rate remains well below the national average and the rates of many other states. Within Bihar, the southern districts are generally more urbanized compared to those in the north.

By 2001, most of Bihar's urban population was concentrated in larger towns, particularly Class I, II, and III towns, which together accounted for nearly the entire share of the state's urban population. The number of towns rose from 120 in 2001 to 199 in 2011. The 2011 Census also reported the emergence of Class VI towns for the first time, reflecting the reclassification of settlements as "census towns." Despite the rise in the number of smaller towns, larger towns continued to dominate the urban population share. This indicates that Bihar's urban growth remains uneven, with urbanization concentrated in a few centers—primarily Patna.

The district-wise pattern of urbanization reveals considerable disparity. In 2001, Patna recorded the highest urbanization rate at over 40%, followed by Munger, Bhagalpur, and Sheikhpura. In contrast, Kaimur registered the lowest rate, just over 3%. Overall, the gap between the most urbanized and the least urbanized districts was more than 38 percentage points. All districts with urbanization rates above the state average were located in South Bihar, highlighting the south's dominance in shaping the state's urban profile. Patna, being the state capital, has long attracted migrants for employment, education, and better amenities, establishing itself as one of the fastest-growing cities in

India. Gaya, due to its religious and educational importance, also emerged as a significant urban center.

When categorized in 2001, seven districts-including Kaimur, Madhubani, Sheohar, Samastipur, Begusarai, Banka, and Madhepura-had very low urbanization levels (below 5%). Nineteen districts fell into the moderate category (5–10%), while seven districts showed high urbanization (10–15%). Only four districts-Patna, Munger, Sheikhpura, and Bhagalpur-were classified as having very high urbanization (above 15%), all located in South Bihar.

By 2011, the state's overall urbanization rate had risen slightly to 11.3%, though it remained far below the national average of 31.2%. Patna once again recorded the highest rate (over 43%), followed by Munger, Bhagalpur, Begusarai, and Nalanda. Together, these districts accounted for a significant share of Bihar's urban population, with Patna alone housing 14% of the total. Gaya contributed another 4%, though its urbanization rate was just over 13%.

District disparities persisted in 2011. Banka registered the lowest urbanization rate (3.5%), while Begusarai saw a remarkable rise from below 5% in 2001 to over 19% in 2011, despite lacking a major urban agglomeration. Conversely, districts like Supaul, Madhubani, Samastipur, and Madhepura experienced slight declines. Overall, seven districts fell into the low category (below 5%), nineteen into moderate (5–10%), six into high (10–15%), and six into very high (above 15%).

These trends confirm that Bihar's urbanization remains highly uneven, dominated by Patna and a handful of districts, while much of the state continues to lag behind.

CORRELATION

Population dynamics, such as population growth and the factors driving rural-to-urban migration, play a central role in shaping urbanization and are closely connected to rapid demographic changes. The relationship between population growth and urbanization has been examined using Karl Pearson's coefficient of correlation, with significance tested at the 95% confidence level.

At the district level in Bihar, the correlation coefficient in 2001 was -0.2318 , indicating a weak negative correlation, which was not statistically significant. In 2011, the coefficient was -0.3348 , suggesting a moderate negative correlation, which was statistically significant at the 95% confidence level.

When considering long-term trends in India and Bihar from 1961 to 2011, the correlation for India as a whole was -0.6266 . This represents a moderate negative correlation, though it was not significant at the 95% confidence level. In contrast, Bihar recorded a correlation of $+0.8545$ over the same period, representing a strong positive correlation that was statistically significant.

These findings indicate that while population growth and urbanization in India generally move in opposite directions, Bihar stands apart, where both phenomena have shown a strong and positive relationship.

CAUSES OF LOW URBANIZATION

Despite Bihar's flat topography and favorable conditions for urban growth, the pace of urbanization has remained much slower compared to the national average. As of the 2011 Census, only 11.3 percent of the population (around 1.176 crore people) lived in urban areas, far below the national figure of 31.2 percent. Between 2001 and 2011, the state recorded an increase of just 0.8 percentage points. Several factors have contributed to this sluggish trend of urbanization from 1961 to 2011, which can be outlined as follows:

- The literacy rate in Bihar is only 61.8 percent, significantly lower than the national average of 74.04 percent.
- The state lags behind in essential infrastructure and development indicators, including electricity supply, industries and road connectivity.

- The loss of mineral-rich areas following the bifurcation of Bihar and the creation of Jharkhand reduced opportunities for industrial development.
- The industrial sector contributes only around 20 percent to Bihar's Gross State Domestic Product (GSDP), limiting the scope for urbanization.
- Limited financial resources restrict the expansion of industries in the state.
- Ineffective industrial policies, lack of political determination, and bureaucratic hurdles (red tape) have further hindered urban growth.

CONCLUSION

Bihar lies on the fertile alluvial plains created by the Ganga and its tributaries, yet the state faces challenges of rapid population growth combined with a very low rate of urbanization compared to the national average. This imbalance has slowed socio-economic development, deepened poverty, and limited employment opportunities.

Although Bihar has shown relatively high economic growth in recent years, the state continues to lag behind in urbanization, creating a paradoxical situation. With the absence of a strong non-agricultural base such as industries and services, urbanization remains low—only 11.3 percent in 2011, despite high population density and rapid demographic growth.

From 1961 to 2011, the pace of urbanization in Bihar has been sluggish, increasing from 7.4 percent to just 11.3 percent, whereas India as a whole grew from 18.0 percent to 31.2 percent during the same period. Bihar contributes 8.6 percent of India's total population but only 3.1 percent of its urban population, underlining the slow pace of urban development. Between 2001 and 2011, Bihar's urbanization rose by just 0.8 percentage points, compared to 3.4 percentage points at the national level.

Urban growth within Bihar is also uneven, with South Bihar showing higher urbanization than North Bihar, and development concentrated in major cities such as Patna, Munger, and Bhagalpur. On the other hand, population growth has been consistently high from 1961 to 2001, except for a slight decline in 1991. Another dip was recorded in 2011, when growth fell from 28.62 percent in 2001 to 25.42 percent.

These patterns reveal that urbanization in Bihar, alongside high population growth, is a long-term issue shaped by regional disparities. Urbanization ranges widely—from around 43 percent in Patna to less than 4 percent in districts like Banka. Similarly, population growth varies, with Madhepura showing the highest rates and Gopalganj the lowest. Overall, the relationship between population growth and urbanization in Bihar indicates a strong positive association, in contrast to the weaker and negative correlation observed at the national level.

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