



Urbanization, Industrial Transformation, and Socio-Economic Dynamics in Murshidabad District, West Bengal, India

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Date of Submission: 03-05-2026

Date of Acceptance: 13-05-2026

ABSTRACT

The urbanization process in the Murshidabad district can be seen as having taken a unique path with rapid demographic growth, development of census towns, and low industrial development. The urbanization process in the classical sense, with rapid industrial development and growth, has been lacking in the Murshidabad region. The urbanization process in this region can be seen as having taken the path of 'subaltern urbanization' with low industrial development. The study attempts to analyze the spatial and temporal dynamics of the urbanization process with industrial development. The study uses secondary data sources such as the Census data for the years 1991-2011 and industrial data. The study also uses statistical methods such as correlation and regression & functional classification. The study reveals that the industrial employment and urban growth are low. The study also reveals that the region has been dominated by the informal sector with the development of the silk weaving industry, bidi industry, and agro-based industries. The study also reveals that the region has been dominated by marginal workers. The spatial analysis carried out in the study reveals that the urban growth in the region is clustered around the transport corridors and historical administrative centers..

KEYWORDS

Urbanization, Industrial Development, Census Towns, Labour Structure, Marginal Workers, Murshidabad, GIS Analysis, Subaltern Urbanization

I. INTRODUCTION

Urbanization, in general, is defined as a process closely associated with industrialization, economic diversification, and structural changes (Henderson, 2003). However, in various parts of India, particularly in the eastern states such as West Bengal, the process of urbanization is becoming increasingly divergent from the classical pattern of urbanization. Murshidabad district is a particular case where the process of urbanization is primarily

influenced by factors such as demographic pressures and administrative changes.

The Murshidabad district, which was primarily known for its production of silk materials and Nawabi culture, has witnessed substantial changes in the urban pattern of the region in recent decades. The development of census towns in the region has significantly altered the pattern of the rural-urban continuum, thus creating a new kind of spatial structure. Nonetheless, the process of urbanization in the region is not accompanied by an equivalent process of industrialization, thus creating what is called "pseudo-urbanization" (Kundu, 2011).

This paper seeks to critically examine the association between the process of urbanization and industrial development in Murshidabad, with special emphasis on issues such as the dynamics of labor, infrastructure, and quality of life.

II. LITERATURE REVIEW

The link between urbanization and industrialization has been debated in the literature of urban geography. Classical theories of urbanization emphasize the role of industrialization as the main driving force for urban growth (Lewis, 1954). Recent research, however, focuses on the divergent trends in developing countries.

Kundu (2011) introduced the concept of 'exclusionary urbanization.' It was emphasized that there was a lack of sufficient employment generation in the process of urban growth in India. Denis et al. (2012) studied the growth of census towns in developing countries. It was emphasized that there was a lack of formal urban government in such towns.

Pradhan (2013) studied the growth of census towns in eastern India. It was emphasized that there was a new form of urbanization in the region, which was driven by occupational changes rather than industrialization. Bhagat (2011) emphasized the role of migration in driving urban growth.

At the international level, Henderson (2003) emphasized the role of industrial concentration in



driving urban productivity. The spatial inequality in development was emphasized by the World Bank (2009). The importance of sustainable development was emphasized by UN-Habitat (2020).

There is limited research on the process of urbanization and industrialization in Murshidabad, particularly incorporating the role of labor structure.

III. RATIONALE OF THE STUDY

Murshidabad district has witnessed rapid urbanization in the form of growth in census towns, but there is no corresponding growth in industrialization and economic development. Such a situation poses critical questions regarding the nature of urbanization in the area. Though the place is historically famous for its silk production and trade, the present economy is dominated by informal small-scale industries and a large proportion of marginal workers.

Thus, the present study is essential to fill in the gap in the micro-level studies by undertaking an exhaustive examination of the pattern of urbanization in the absence of industrial support and its implications.

Urbanization and industrialization are the two phenomena that have dominated the modern world and continue to influence the lives of people in different parts of the globe. The relationship between the two is complex and multifaceted, and their interrelations have significant implications in the context of the present study.

IV. STUDY AREA

Murshidabad is geographically located between 23°48' and 24°52' North Latitude and 87°49' and 88°44' East Longitude and covers an area of 5,324 square kilometers. The Murshidabad District is strategically located in the northern part of West Bengal and is bordered by Bangladesh on the eastern boundary, Bihar on the northwestern boundary, Nadia District in the south, and Malda District in the north. The river Bhagirathi-Hooghly passes through Murshidabad District in a longitudinal direction and has significantly contributed to its physiography, resulting in vast fertile alluvial plains. The Murshidabad District has always been known for its commercial and cultural heritage, especially during the Nawabi Period, as it was an important hub for the production and trade of silk. This has significantly contributed to its present socio-economic scenario.

From an urbanization point of view, Murshidabad District has experienced considerable growth in urban centers like Berhampore, Jangipur, and Kandi. However, in recent times, it is observed that there is considerable growth in census towns. A number of census towns have been added in recent times, especially along transport corridors and river basins. This is due to the combined effect of historical growth patterns, economic factors, and infrastructural development in the region.

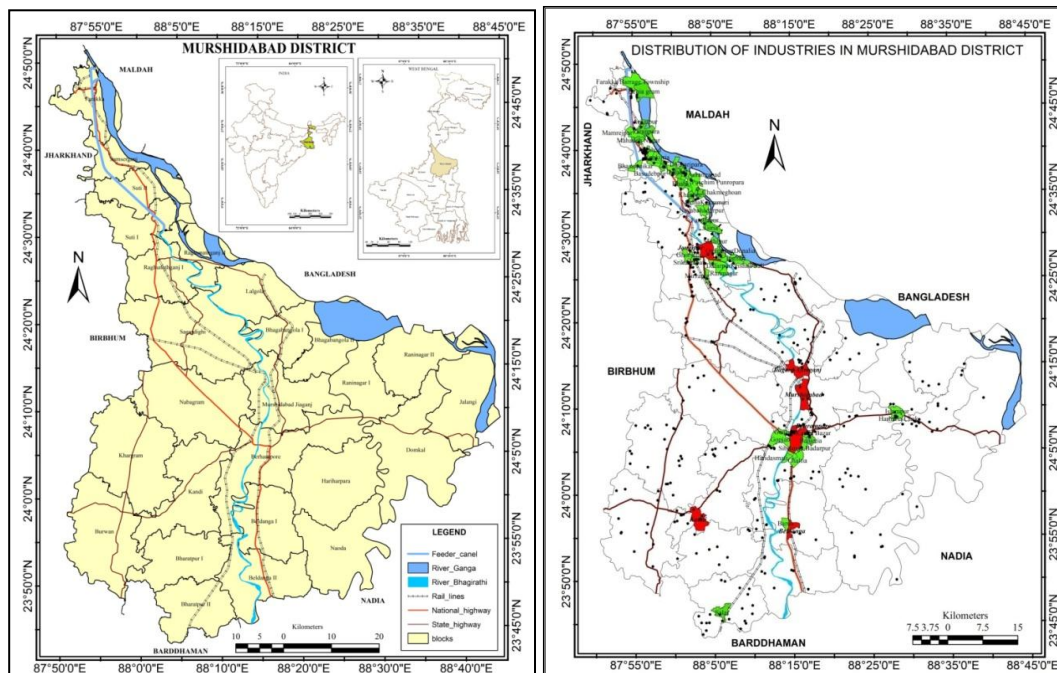


Fig: Location map of Murshidabad and Distribution of industries besides Statutory & census towns



OBJECTIVES

The main objective of the study is to explore the spatio-temporal patterns of urbanization and its relationship with industrialization and the labour force structure, particularly with reference to the functional classification of towns.

V. DATA SOURCES AND METHODOLOGY

Data Sources

The present study utilizes a quantitative and spatial approach to analyze the pattern and process of urbanization and industrialization in the district of Murshidabad. The methodological approach is based on incorporating the elements of time analysis, statistical analysis, and GIS spatial analysis to comprehend the urban and economic dynamics in a comprehensive and multi-dimensional sense.

The present study is based on secondary data sources such as the Census of India (1951-2011), District Census Handbooks, and district-level industrial data. The data sources are reliable and provide accurate information regarding the population characteristics, urban classification, and infrastructural characteristics of the district, making it a robust data source for the present study.

Methodological Framework

The research uses an extensive and multidimensional methodological framework, which includes temporal statistical analysis, functional classification of settlements, and spatial analysis, in order to examine the trends and processes of urban and economic development.

(i) Urban Growth Rate

$$\text{GrowthRate} = \frac{P_t - P_0}{P_0} \times 100$$

(ii) Correlation Analysis

The relationship between industrialization and workforce structure is examined using **correlation analysis**:

$$r = \frac{\sum(I - \bar{I})(W - \bar{W})}{\sqrt{\sum(I - \bar{I})^2 \sum(W - \bar{W})^2}}$$

where I denote industrial workforce share and W denotes total workforce composition.

(iii) Regression Model

Here Urban growth trends is analysed using a **linear regression model**:

$$Y = a + bX$$

where Y represents urbanization level and X represent time. This allows identification of long-term trends and structural breaks.

(v) Functional Classification of Towns

Towns have been classified based on dominant economic functions using occupational data:

- Primary-dominant towns (agriculture-based)
- Secondary-dominant towns (industrial/manufacturing)
- Tertiary-dominant towns (services, trade, transport)
- Mixed-function towns

(vi) Worker Distribution Analysis

Workforce is categorized into:

- Main workers
- Marginal workers
- Industrial workers
- Non-agricultural workers

(vii) Spatial analysis

For spatial analysis in the study, Geographic Information System (GIS) methods such as buffer analysis, kernel density analysis, and choropleth mapping are used. Through these methods, it is possible to analyze the spatial data in an effective way and observe the clustering of census towns and the relationship with the major transport corridors and the availability of infrastructural facilities in the district. The integration of spatial analysis with statistical analysis in the study helps in developing a better and more comprehensive understanding of the factors that influence the process of urbanization in the Murshidabad district.

VI. RESULTS AND ANALYSIS

The results clearly indicate that there is a significant increase in the rate of urbanization in Murshidabad district, particularly in the post-2001 period, which can be attributed to the rapid growth in the number of census towns. It is also evident from the regression analysis that there is a divergence in the pattern of growth in the recent period, which may indicate that the growth in the number of towns is not necessarily due to any economic development in the region.

The Murshidabad district of West Bengal was primarily an economically significant area, with the local economy heavily dependent on the production of silk, handicrafts, and river trade, particularly in the eighteenth century, as it was an important center of commercial, cultural, and economic activities. With the passage of time, the local industry in Murshidabad was affected by increased competition, technological stagnation, and the lack of modernization initiatives. Thus, the local industry in Murshidabad was gradually phased out in the long run. With regard to the contemporary



period, the industrial scenario in Murshidabad can be said to be dominated by industries such as bidi manufacturing, textile production, brick kilns, and agro-processing, which are mostly labor-intensive with low levels of capital investment.

Urbanization Trends

Urban population has increased steadily, particularly due to the growth of census towns. However, this growth is not matched by industrial expansion.

Table: Decadal growth of rural and urban population

Year	Rural (%)	Urban (%)	Total (%)
1951	4	12.02	4.59
1961	32.61	44.87	33.58
1971	28.40	27.10	28.29
1981	24.51	39.28	25.76
1991	26.68	42.87	28.20
2001	20.92	48.22	23.76
2011	11.09	91.16	21.09

Source: Census of India, 2011

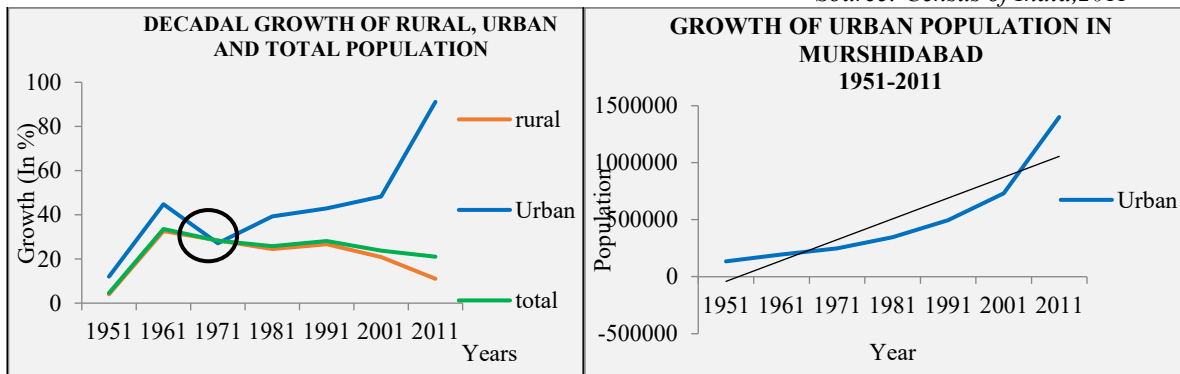


Fig: Decadal growth of rural and urban population

From the decadal growth pattern for Murshidabad District, it is observed that there is a significant change in the population growth pattern. The growth in rural areas is declining, whereas growth in urban areas is rising rapidly. The growth in rural areas is declining from 32.61% in 1961 to 11.09% in 2011. On the other hand, growth in urban areas is rising rapidly, registering an exceptional growth rate of 91.16% in 2001-2011. This is far higher than the average growth in West Bengal, which is 29.72%.

This is not supported by industrial and economic growth; rather, it is driven by the growth

in Census Towns. This is confirmed by the high correlation coefficient ($r = 0.96$), significant at 0.01 levels. This indicates that there is a strong and systematic increase in urban growth. The decadal growth graph for Murshidabad District also indicates that there is a structural break in growth in 2001. This unplanned growth in urban areas has put pressure on environmental resources, as there is an increased demand for water, an increase in waste generation, and air pollution. The growth in Murshidabad District is thus an example of pseudo-urbanization.

Industrial Development (Historical & Present)

Industrial analysis shows dominance of **informal sectors**, with limited presence of large-scale industries. This has resulted in **low productivity and income instability**.

Period	Dominant Industry	Nature	Employment Type
Pre-colonial	Silk & Handicrafts	Organized	Skilled
Colonial	Trade & Processing	Semi-organized	Mixed



Present	Bidi & Agro-processing	Informal	Unskilled
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Industrial development in Murshidabad is still at a low ebb despite rapid urbanization in the region. This shows that there is an imbalance in population growth and industrial development. Murshidabad is known for its strong industrial base in the production of silks and other handicrafts. The district had skilled labor that provided services in the trade sector. The district's riverine location also provided an advantage in trade activities.

However, with time, the strong industrial base in Murshidabad declined. During the colonial era, there was a shift in industrial activities from production to trade with semi-organized labor. However, in the present era, there is still low industrial development in Murshidabad. The district

is dominated by informal sectors that include bidi manufacturing and small-scale agro-based industries. A high number of people, especially women, are employed in these sectors. However, there is low productivity, low wages, and no job security.

The district also has cottage and household-based industries that have been affected by poor infrastructure, low capital, and low technology. The absence of high-scale and modern industries shows that there is low or no industrialization in Murshidabad. Therefore, there is no matching pace in industrial development in Murshidabad with that of urbanization.

Table: Industrial investment and employment over time.

YEAR	Number of registered units	Employment	Investment (lakh rs.)
1971-2006	District wise separate data was not available. Only consolidated report of Regd. units prior to Oct.2006 for West Bengal was available with the Directorate of M& SSE, Govt. of W.B.		
2006-07	384	3747	1425.00
2007-08	831	9025	2760.56
2008-09	599	4486	1839.96
2009-10	320	4022	1883.92
2010-11	304	23320	1379.55
2011-12	721	4028	1428.89
Total	3159	48678	10715.88

Source: Directorate of Micro, Small Medium Enterprises, 2012

The data regarding industrial investment and employment in Murshidabad from 2006-07 to 2011-12 shows that there is an irregular and unstable pattern of industrial growth. The number of registered industrial units increased from 384 in 2006-07 to 831 in 2007-08 but then decreased in the subsequent years before rising again to 721 in 2011-12

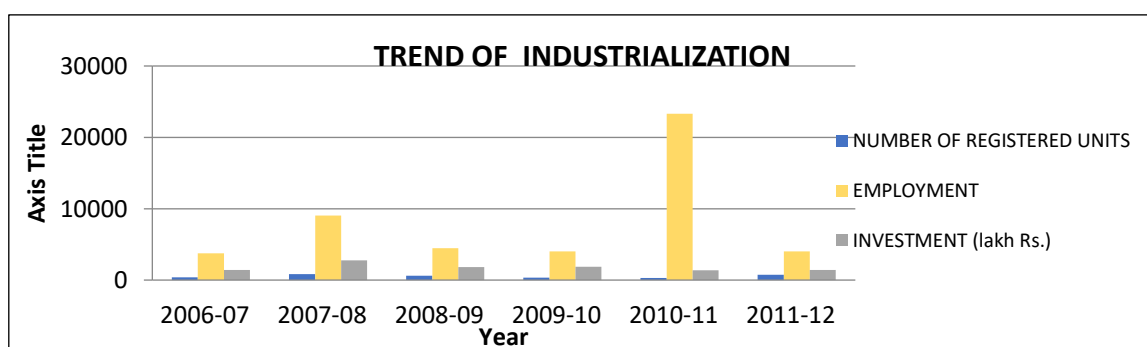


Fig.: No. of registered units, employment & investment Source: District industries centre, Murshidabad, 2021

The employment pattern also shows the same instability. While employment increased from 3,747 in 2006-07 to 9,025 in 2007-08, the subsequent years show a decline. However, there is a notable

anomaly in the data, where employment increased to 23,320 in the year 2010-11 despite the number of registered industrial units being merely 304. This



shows the prevalence of labour-intensive small-scale industries.

The investment levels are low and show fluctuations. Although the investment levels were at their peak at ₹2760.56 lakh in the year 2007-08, they started to decline in the subsequent years, showing no steady growth pattern. While the total investment is ₹10,715.88 lakh, the low investment

levels show the low industrialization in the Murshidabad industrial sector.

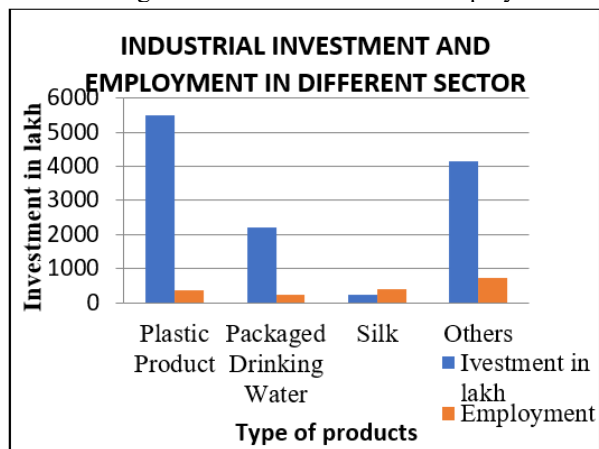
The industrial sector in Murshidabad shows low investment levels, fluctuations in the industrial sector, and informal employment patterns, indicating low industrialization and its inability to support urbanization.

Table: Industrial Investment

Product	Investment in lakh	Employment
Plastic	5509	364
Packaged Drinking Water	2220	243
Silk	230	403
Others	4161	732

Source: DIC, Murshidabad, 2021

Fig.: Industrial Investment & Employment



Source: prepared by the researcher

The above table and diagram clearly show that the main large-scale industries in Murshidabad are concentrated in plastic products, packaged drinking water, and silk. Among the above-mentioned industries, the plastic industry receives the maximum investment, whereas the silk industry generates maximum employment. From the above, it can be concluded that there is an imbalance in investment and employment in the above-mentioned industries. Despite generating maximum employment, the silk industry receives the lowest investment compared to other industries.

Murshidabad was known for the production of high-quality silk, which was an integral part of the industrial identity of Murshidabad. From the above scenario, it can be concluded that the production of silk in Murshidabad is declining. It is observed that a significant portion of the population in Murshidabad is still dependent on the production of silk, including sericulture, reeling, and weaving. Due to the lack of government funding, the growth of the silk industry in Murshidabad is limited.

Due to such circumstances, the production of silk in Murshidabad is adversely affected, which in turn leads to the decline of the industrial identity of Murshidabad.

Correlation and Regression Results

On the other hand, the statistical relationship between urbanization and industrial employment in Murshidabad reveals a low level of association. The correlation coefficient value of approximately $r = 0.3-0.4$ reveals a low positive association. Although both urbanization and industrial employment are showing a positive trend, the association between them is not very significant. It reveals that the role of industrialization in the growth of urbanization in the district of Murshidabad is negligible.

Further, the regression analysis reveals that the value of R^2 is approximately between 0.6 and 0.7. It reveals that there is a moderate level of association, and approximately 60-70% of the association can be explained by this analysis. However, this analysis does not reveal that the growth of urbanization in the district of Murshidabad is necessarily linked to the growth of industrial employment. Other factors, such as the growth of census towns and the expansion of service sectors, are also contributing to the growth of urbanization.

On the whole, this analysis reveals that there is a structural imbalance in the growth process. The growth of urbanization in the district of Murshidabad appears to be more linked to demographic and administrative factors than industrialization.



Labour Structure and Marginal Workers
 Worker distribution analysis shows a **high proportion of marginal workers**, particularly in

census towns. This reflects the informal and unstable nature of employment.

Table: Worker Distribution

Category	Percentage
Main Workers	58%
Marginal Workers	42%
Industrial Workers	18%

Table: Marginal Workers
 Source: Census of India, 2011

Area Type	% Marginal Workers
Rural	28%
Census Towns	36%
Statutory Towns	22%

The pattern of worker distribution in Murshidabad shows the high percentage of marginal workers, which indicates the vulnerable character of the labour structure in the district. Marginal workers comprise 42% of the total workers, which is very high compared to the main workers (58%). This shows that the majority of the people are engaged in seasonal or part-time employment.

The spatial distribution of the workers shows that the percentage of marginal workers is the highest in census towns (36%), followed by rural areas (28%). However, the percentage is relatively low in the case of the statutory towns (22%). This shows that the recently formed census towns, despite being urban,

do not provide enough employment opportunities and continue to retain their rural character.

The low percentage of industrial workers (18%) again proves the point that the contribution of the industrial sector is minimal in providing employment opportunities. Hence, the majority of the workers are engaged in informal sectors with low productivity.

The high percentage of marginal workers, especially in the census towns, shows the high rate of informalization of the workers and the low rate of industrialization, which is again related to the high rate of urbanization.

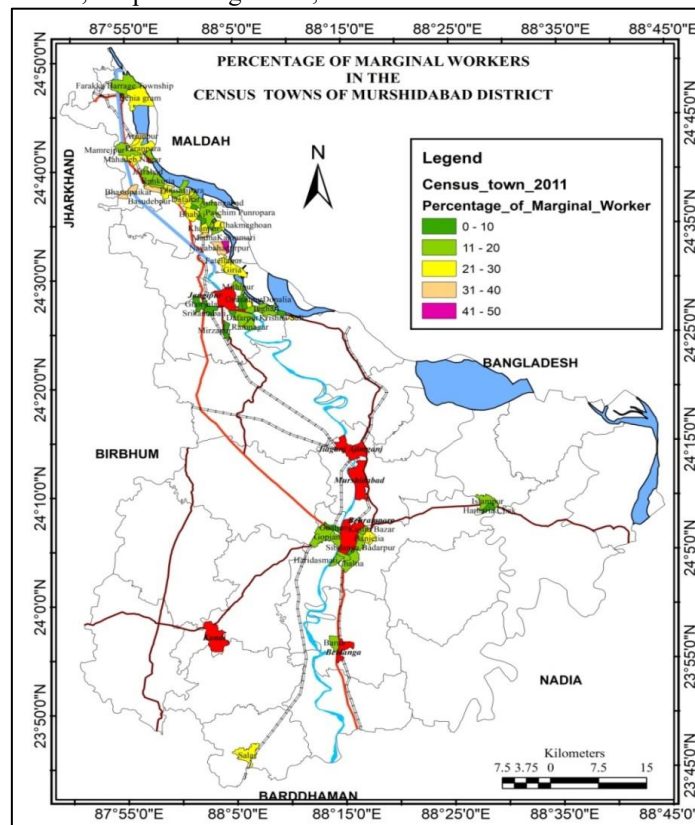


Fig.: Marginal workers of Murshidabad district Source: Computed from primary census data, 2011



Functional Classification of Towns

The pattern of classification of towns in Murshidabad also reveals an unproportional increase in census towns, which can be interpreted as an indication of the fact that the process of urbanization in the region is largely influenced by administrative factors rather than functional changes.

The pattern of functional classification of towns in Murshidabad also reveals that most of the census

towns in the region are dominated by tertiary/mixed functions, including trade, services, etc., whereas the limited number of towns with dominance of secondary functions such as industry is an indication of the low level of industrialization in the region. It is only in a few towns that there is some kind of industrial specialization, though limited in character.

Table: Functional classification of towns

Name of the Town	Stat us	Functional Classification of town and cities				
		1971	1981	1991	2001	2011
1. Dhulian	M	Manufacturing town	Manufacturing town	Manufacturing town	Manufacturing town	Trade town
2. Jangipur	M	Manufacturing town	Manufacturing town	Manufacturing town	Manufacturing town	Trade town
3. Jiaganj-Azimganj	M	Manufacturing town	Trade town	Trade town	Trade town	Trade town
4. Murshidabad	M	Trade town	Trade town	Trade town	Trade town	Trade town
5. Berhampore	M	Trade town	Trade town	Trade town	Trade town	Trade town
6. Kandi	M	Manufacturing town	Manufacturing town	Trade town	Trade town	Trade town
7. Beldanga	M	Manufacturing town	Trade town	Trade town	Trade town	Trade town
8. Farakka	CT	Manufacturing town	Manufacturing town	Manufacturing town	Manufacturing town	Manufacturing town
9. Anupnagar	CT					
10. Dhusaripara	CT	Manufacturing town				
11. Uttar Mahamadpur	CT					Manufacturing town
12. Kankuria	CT					
13. Chachanda	CT	Manufacturing town				
14. Serpur	CT	Manufacturing town				
15. Fattellapur	CT					
16. Jagtaj	CT	Manufacturing town				
17. Arungabad	CT	Trade town	Manufacturing town	Manufacturing town	Manufacturing town	Manufacturing town
18. Dafahat	CT	Manufacturing town				Manufacturing town
19. Paschim Purnapara	CT	Manufacturing town	Manufacturing town			Manufacturing town
20. Ghorsala	CT					
21. Charka	CT					
22. Srikantabati	CT					
23. Jatkamal	CT					
24. Sahajadpur	CT	Manufacturing town				



25. Khodarampur	CT	Manufacturing town	Manufacturing town			Manufacturing town
26. Harthariachak	CT					
27. Kasimbazar	CT	Manufacturing town	Manufacturing town			
28. Goaljan	CT					
29. Gorabazar	CT					Trade town
30. Lalgola	CT	Manufacturing town	Manufacturing town	Manufacturing town		Manufacturing town
31. Srimantapur	CT	Manufacturing town				

Source: District industries centre, Murshidabad, 2011

Functional analysis of the towns in Murshidabad district reveals that there is a structural pattern in the structure of the economy and occupational characteristics of the people. A significant number of towns are service-oriented, and most of the activities are centered around administration, trade, transport, education, and healthcare. In most of the towns, the primary role of these service centers is to cater to the needs of the surrounding rural population.

A small number of towns are characterized by industrial specialization, where activities are centered around silk processing, bidi manufacturing, and small-scale industries. However, even in these towns, the presence of industrial activities is very small, and there are no signs of the presence of organized and large-scale industries.

On the other hand, there are a number of towns that are characterized by a mixed type of functional characteristics, where service and industrial activities are both present. In these towns, there are no dominant characteristics of any particular type of activity, and this may be considered a transitional phase of urbanization. This reveals that urbanization in Murshidabad district is primarily centered around the growth of the service sector and not the growth of industries

VII. DISCUSSION

The findings have also indicated that there is a clear decoupling of urbanization in Murshidabad from industrialization. The urbanization is more driven by demographic pressures and changes in administrative classification than any economic development. The rise in census towns is also an indicator of this trend. The prevalence of informal industries and marginal workers also indicates that there is an underlying structural weakness in the economy.

Further, spatial analysis also indicates that there is urbanization around transport corridors. However, there is also an indication that there is a relative backwardness in peripheral regions. This indicates that there is also significant regional inequality in Murshidabad. However, there is also an indication that despite good connectivity, there is no significant development in terms of industrialization. The prevalence of labor-intensive low-productivity industries also indicates that there is significant economic vulnerability. However, there is also an indication that most of the towns in Murshidabad have developed more into service-oriented towns than industrial towns. Therefore, it is clear that there is pseudo-industrialization in Murshidabad. Overall, it is clear that there is subaltern or decoupled urbanization in Murshidabad. This is where there is significant spatial growth but no economic development.

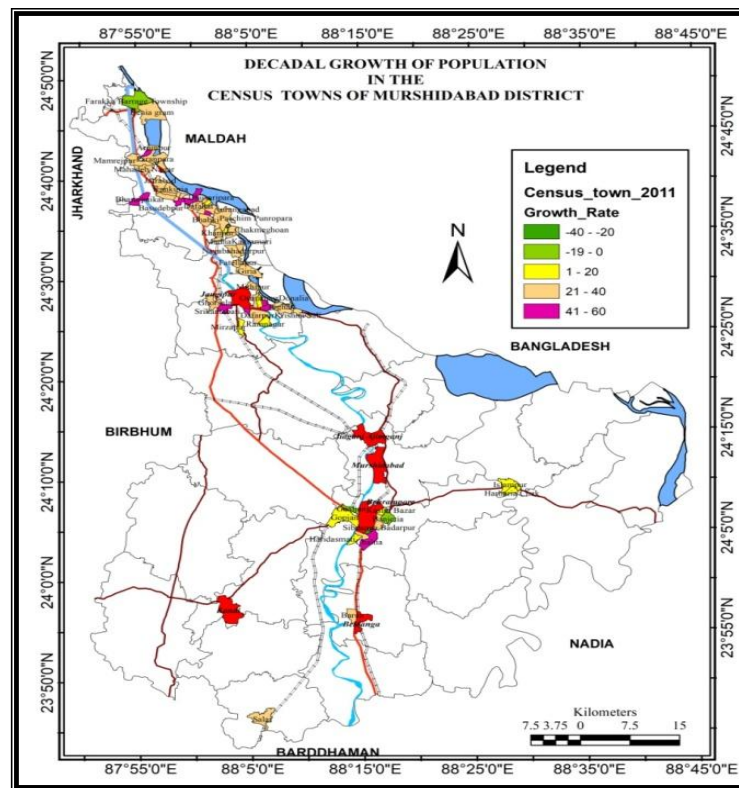


Fig.: Growth rate of towns in Murshidabad district Source: Computed from primary census data, 2011

VIII. RESEARCH GAP

There is also a scarcity of research that establishes links between historical industrial evolution and contemporary urban functional patterns and labor dynamics. Moreover, there is also a scarcity of adequate consideration of the impact of informal industries and marginal labor on urbanization.

IX. CONCLUSION

The urbanization process in Murshidabad is marked by rapid spatial growth, low industrialization, and an unstable labour structure. The shift from traditional industries to informal economic activities has failed to yield the desired results in the way of sustainable development. For the purpose of sustainable development and growth in the region, it is important that the policy interventions be made in the direction of industrial modernization and spatial growth.

The urbanization process in Murshidabad can be understood as a complex and dynamic process marked by rapid demographic growth and spatial concentration. The rise in the number of census towns indicates the changes in the rural economy. However, the absence of industrial and infrastructural development poses a threat to the urbanization process in the region.

The study emphasizes the need for an integrated approach to urban and regional planning. The complex and dynamic relationship between demographic growth and spatial concentration needs to be addressed in the context of the urbanization process.

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