

Original Article

Mapping regional diversity: a spatio-temporal study of north 24 parganas district, west Bengal

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Regional diversity regarding economic development, infrastructure, and social factors is still considered to be one of the most challenging topics for research on spatial disparities in a particular district. The main aim of this paper is to assess regional diversity in the north 24 parganas district of west Bengal with the help of spatio-temporal analysis methodology. The application of GIS technology and statistical methods allows identifying areas of socio-economic development disparities, interrelationship between urban and rural communities, and environmental constraints.

Keywords: demographic trends, conomic transformation, environmental challenges, migration patterns, sustainable development.

Introduction

Regional disparities have always been a prominent part of developing countries, and they also have a significant part to play in socio-economic planning. North 24 parganas, for instance, is an example of a region within india where such regional differences prevail on the issues of urbanization, industrialization, and rural backwardness. While some blocks have made huge progress in terms of their development and structure, others lag behind due to various factors. Change in the demography is another aspect that has been affected by the passage of time. North 24 parganas is the most populated district in the state of west bengal and is among the most densely populated in all of india. The influx of people from rural bengal as well as from bangladesh into this region has led to a tremendous shift in the demographic composition of the region. The years following liberalization also witnessed an increase in population due to the presence of economic opportunities in the kolkata metropolitan area. This resulted in the formation of a multicultural community, wherein the ancient culture of bengal is coexisting with urbanization. North 24 parganas is an area where there is diversity in terms of the economy in the sense that it encompasses traditional agricultural farming, modern industry, as well as the service sector economy. In the past, the agriculture economy was the foundation of the economic setup wherein the major crop products of the region included rice, jute, and vegetables among others. Following india's independence, due to industrialization, a number of industrial estates emerged and were largely located at barrackpore and kalyani areas. After the development of it parks in the regions of rajarhat and new town, it may be considered a knowledge economy where on one hand, high-tech industries operate and, on the other, traditional industries such as jute mills exist. Environment forms an integral part of the spatio-temporal investigation of north 24 parganas. Many environmental issues are found to prevail in north 24 parganas like deforestation, wetland encroachment, and industrial pollution. Environmental concerns have arisen due to the destruction of the east kolkata wetlands, which serve as a natural sewage disposal mechanism for kolkata. In addition to the above, problems relating to industrial pollution have created an imbalance with respect to the ecological balance. Furthermore, climatic changes in the form of increased sea level rise and the incidence of cyclones in villages within the sundarbans belt of north 24 parganas is another issue of concern. The cultural traits also serve as another crucial factor for emphasizing the regional traits of the place.



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It is worth noting here that north 24 parganas houses a variety of communities like the bengali community, bihari community, marwari community, and the bangladesh community. The cultural trait becomes an important one when discussing the lifestyle of people residing in this region by their behaviors, diets, and languages. Another thing that needs to be mentioned here is that there are many theaters located in the region that make this region highly influential for literary and artistic movements. The spatio-temporal analysis of north 24 parganas cannot ignore the matter of governance. Several initiatives were taken up by the regional administration with the aim to address issues related to urbanization and development, and sustainable economic development at the same time. These include initiatives for smart cities in rajarhat, slum improvement plans in urban settlements, and agricultural sustainability in rural areas. However, several problems prevail in terms of bureaucratic inefficiency, land acquisition problems, and resource inequalities. For the future, there will not be any other way apart from urbanization and development in terms of technology for the determination of the future of north 24 parganas. Construction of the economic corridor linking kolkata and siliguri through metro rail link and roads will help to further develop the region, but at the same time, it is imperative that the policymakers should not forget the issue of regional disparity

Conclusion

Thus, north 24 parganas is just one example of many such places where there lies an intriguing mix of history, geography, economics, and sociology. The process of spatial advancement that takes place here can be described on the basis of the existing pattern in many other places in india witnessing fast development. However, despite the significance that it holds because of its geographic location as well as its economic strength, diversity within the area needs to be managed holistically.

Theoretical framework

The study is guided by various spatial inequalities like cumulative causation theory by myrdal and core-periphery theory by friedmann. The spatial inequalities theories posit that the disparities between various regions arise because of the uneven distribution of economic opportunities and resource allocation leading to economic benefits for certain regions against others. In addition, the application of sustainable development theories shall enable the evaluation of the implications of such spatial inequality on both economic and environmental aspects in the long run.

Methodology

The methodology adopted in conducting the research on regional disparity in north 24 parganas would adopt a multifaceted research approach that would entail quantitative and qualitative approaches of data collection. In the case at hand, the use of secondary data such as reports and records from census, government files, land usage maps and satellite imagery in studying patterns related to demographic, economic and urban trends can be done. The use of the geographic information system technology would prove helpful in understanding disparities and shifts in land utilization over time. Further, the primary data collection process would entail using such methods as surveys, interviews and focus group discussions. Focus groups could be organized among important stakeholders including the local community, policy makers and urban planners. The socio-economic variables to be studied include literacy levels, migration patterns and employment status to measure regional disparity.

Results and discussion

Spatial variations in economic development

Urban blocks such as bidhannagar, barrackpore, and barasat show high levels of economic activities, with strong industrial and service sectors. In contrast, rural blocks like swarupnagar and sandeshkhali remain dependent on agriculture and face infrastructural deficits.

Temporal trends in urbanization and infrastructure growth

The study observes a rapid urban expansion over the last two decades, with significant migration towards urban centers. However, this growth has been uneven, leading to increased pressure on housing, transportation, and public services in certain blocks.

Environmental constraints and their impact

Problems in coastal regions and ecologically sensitive regions, especially the ones surrounding sundarbans, arise due to problems like global warming, soil erosion, and flooding. The above-stated problem has led to increased socio-economic disparity in the region.

Policy implications and recommendations

To address the observed disparities, the study recommends:

1. Strengthening rural infrastructure through targeted investments in roads, healthcare, and education.
2. Promoting balanced regional development by incentivizing industries in underdeveloped blocks.
3. Implementing climate adaptation state giestomiti gate environmental vulnerabilities.
4. Enhancing governance and participatory planning to ensure equitable growth.

Conclusion

Since there is variability in space and time within the north 24 parganas region, it becomes imperative that the approach adopted should take into account such variabilities to ensure sustainable development. This makes it mandatory for more studies to be done in this regard at a micro-level.

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