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Strategies for Development of Peri-Urban Area: A Case Study of Rourkela

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Abstract: ***Peri-urban areas, the transitional zones between urban and rural environments, are increasingly being targeted for sustainable development due to their rapid expansion and unique challenges. This paper explores development strategies for these areas, emphasizing the need for a balanced approach that integrates economic growth, social equity, and environmental sustainability. Key factors driving peri-urban growth include urban sprawl, population migration, and economic opportunities. The study highlights the pressures these areas face, such as inadequate infrastructure, environmental degradation, and social disparities. Comprehensive planning, including land use management, infrastructure development, and community participation, is crucial for fostering resilient peri-urban regions. Case studies from different geographical contexts illustrate successful interventions and policies, including mixed-use developments, green infrastructure, and governance frameworks. The findings suggest that sustainable development in peri-urban areas requires a multi-faceted approach, aligning local initiatives with regional planning efforts.***

Keywords: Peri-urban areas, Sustainable development, Urban sprawl, Infrastructure, environmental sustainability, Community participation, regional planning.

I. INTRODUCTION

Peri-urban areas, situated between urban and rural zones, play a crucial role in the sustainable growth of cities. These regions often encounter unique challenges like rapid population growth, lack of infrastructure, and environmental damage. Rourkela, a prominent city in Odisha, India, serves as a case study for effective development strategies in peri-urban areas. This journal examines the integrated approaches adopted in Rourkela to promote balanced and sustainable development in its peri-urban zones.

II. STUDY AREA AND LOCATION



Rourkela is a city located at 84.54E longitude and 22.12N latitude in the Sundergarh district of Odisha at an elevation of about 219 meters above mean sea level. The area of Rourkela is 200 square kilometers approximately. The city is surrounded by a range of hills and encircled by Koel and Sankha rivers which meet at Vedvyas, Rourkela and flow as a single river called Brahmani.

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It has one of the largest steel plants of the Steel Authority of India Limited (SAIL), named Rourkela Steel Plant. So, the city is also popularly known as Ispat Nagar.It also has one of the country's National Institutes of Technology (NIT Rourkela).The Steel Township and Fertilizer Township are under the Steel Plant Administration while the other city sections are under the Rourkela Municipal Corporation and Rourkela Development Authority.

Surrounding Areas are Lathikata , Bisra , Rajgangpur , Kuanrmunda , Nuagaon from which Lathikata and Bisra have higher population and less participation on in agricultural work.

III. METHODOLOGY

This study is aimed at studying the problem, and potentialities of the Peri-Urban areas and recommending strategies and guidelines for appropriate development and comprehensive growth of fringe areas of the rapidly growing metropolis- Rourkela.

According to the aim the objectives were:

1) To Delineated and study the fringe areas of Rourkela.
2) To analyse the planned and unplanned developments within the study area.
3) To prepare Land-use plan for 20 years i.e 2024.
4) To prescribe the Peri-urban bye-laws in reference to local bye-laws.

The study is based on both quantitative and qualitative data from primary and secondary sources. To understand the characteristics of the surrounding of study area and to plan according to that. The result was based on the primary information collected during survey . The information was supplemented with observation visits to the area and other sites to understand the various issues regarding the growing population toward the peri urban area.

IV. OBSERVATION:

1) Most of the population with varying socio-economic backgrounds.
2) Mixed household types, including nuclear families, extended families, and single-person households.
3) Increasing number of younger populations seeking employment opportunities.
4) Predominantly agricultural land with pockets of residential, commercial, and industrial zones.
5) Insufficient access to clean water and sanitation
6) Limited access to quality healthcare facilities and educational institutions.
7) Inadequate planning regulations and enforcement mechanisms
8) Weak implementation of development control measures.

V. RECOMMENDATION

1) Integrated Planning and Governance:

- Develop comprehensive land-use plans considering long-term growth, environmental impact, and infrastructure needs.
- Establish collaborative governance frameworks for cohesive policies and development initiatives.

2) Infrastructure Development:

- Invest in robust transportation networks, including roads, public transit, and non-motorized transport options.
- Ensure reliable provision of water, electricity, sewage, and waste management services.
- Expand broadband and telecommunications networks for enhanced connectivity.

3) Affordable Housing:

- Promote diverse housing options and incentives for developers.
- Foster economic activities that create local jobs and encourage entrepreneurship.

4) Economic Development:

- Foster local employment opportunities and develop commercial centres

5) Sustainable Practices:

- Preserve green spaces and support urban agriculture.

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- Promote the use of renewable energy sources.
- Implement policies for protecting natural habitats, water bodies, and biodiversity.

6) Community Engagement
- Participate in the planning process and provide access to quality healthcare, education, and recreational facilities.

7) Smart Growth Principles:
- Encourage compact development and mixed-use development.

8) Resilience and Adaptation:
- Develop infrastructure and community programs to enhance resilience against natural disasters and climate change impacts

9) Regulatory Frameworks:
- Establish clear regulations regarding land use, construction standards, and environmental protection.
- Simplify permitting and approval processes.

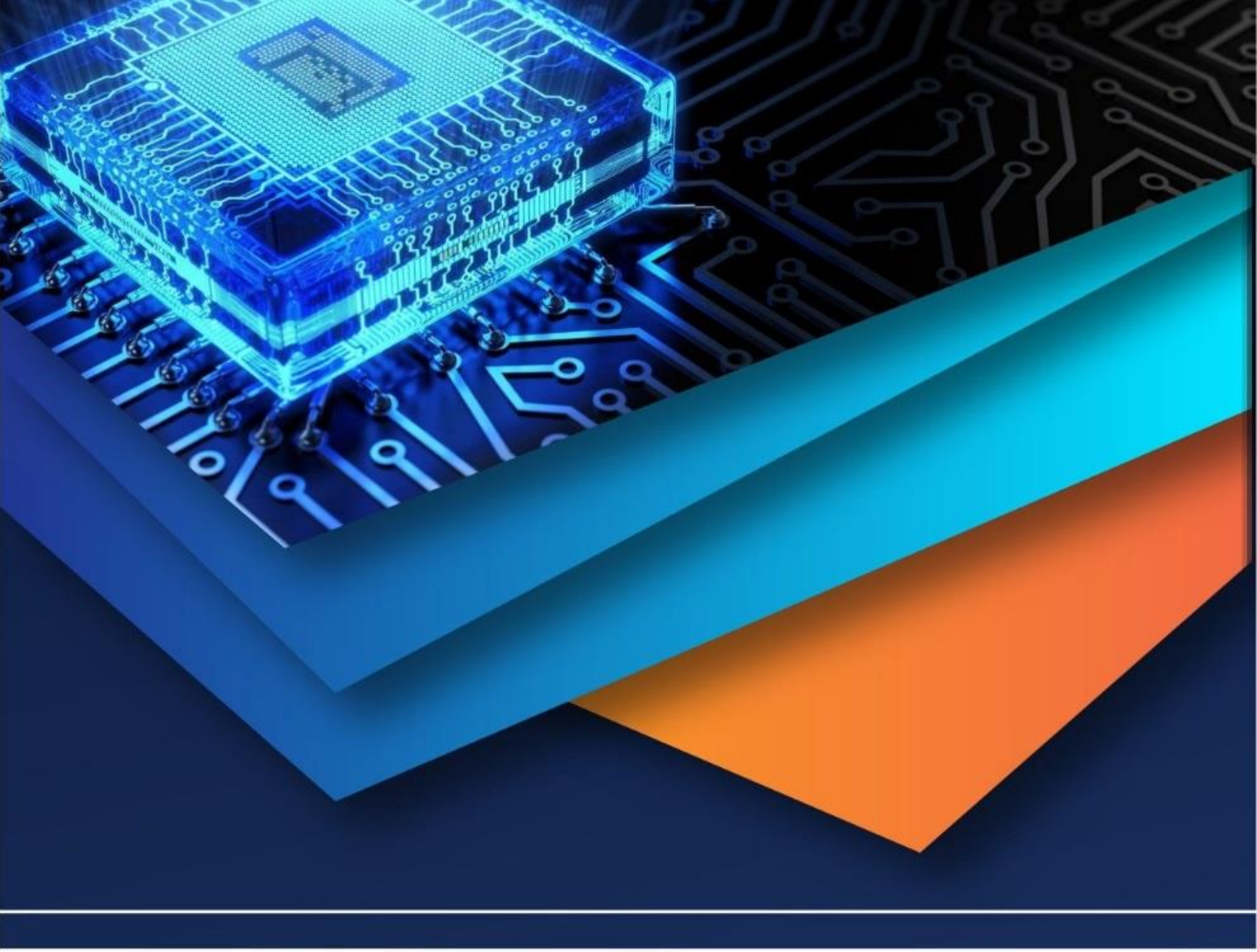
10) Monitoring and Evaluation:
- Implement continuous assessment systems and feedback mechanisms for continuous improvement and responsiveness to community needs.

VI. CONCLUSION

The peri-urban development in Rourkela demonstrates a holistic approach that integrates planning, infrastructure, economic growth, environmental sustainability, and social inclusion. By tackling multifaceted challenges through coordinated and inclusive strategies, Rourkela is fostering balanced and sustainable growth in its peri-urban areas. The lessons from Rourkela's experience provide valuable insights for other cities grappling with similar developmental challenges, emphasizing the significance of an integrated and participatory approach to peri-urban development.

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