

"Assessing Urban Transformation and Land-Use Dynamics in Unplanned Settlements: Case Studies of 10 No. Market and Bittan Market"

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Abstract - Unplanned settlement areas, such as '10 No. Market' and 'Bittan Market,' highlight the dynamic transformation of urban zones due to rapid population growth, economic activities, and shifting societal demands. Initially planned as low-density residential neighborhoods, these areas have evolved into bustling commercial hubs, exposing the disconnect between land-use planning and actual urban development. This study examines the key drivers behind these changes, including population growth, economic incentives, cultural shifts, and regulatory gaps. Through surveys, interviews, historical analysis, and geospatial data, the research identifies both the positive impacts—such as enhanced local economies and improved access to goods—and the negative consequences, including traffic congestion, inadequate infrastructure, and environmental degradation. The study reveals a mismatch between planned intentions and reality, emphasizing the importance of adaptive urban planning frameworks. The paper recommends integrated land-use planning, zoning flexibility, infrastructure upgrades, community engagement, and sustainability initiatives as strategies for mitigating the adverse effects of uncontrolled commercialization. The findings underscore the necessity of resilient, flexible urban policies to address the complexities of fringe area development and ensure a balance between economic growth, environmental sustainability, and residents' quality of life.

Key Words: urban transformation, mixed-use development, informal zoning, infrastructure strain, fringe areas, adaptive planning

1. INTRODUCTION

Unplanned settlements in Madhya Pradesh, defined under the Madhya Pradesh Gandhi Basti Adhiniyam (1976), are areas unfit for habitation due to overcrowding, poor design, lack of sanitation, and health risks. The Real Estate Policy (2019) emphasizes upgrading these areas to improve living conditions and integrate them into urban planning frameworks. (1) Unplanned settlements areas often serve as the testing ground for a city's adaptability to growth and change. These zones, located at the interface of planned development and organic urban sprawl, are shaped by rapid population growth, economic activity, and shifting societal needs. In many cases, the original vision for these areas—as articulated in urban planning documents—fails to anticipate the dynamic forces that drive their transformation.

The evolution of '10 No. Market' and 'Bittan Market' provides a compelling example of this phenomenon. Initially designed as low-density residential neighbourhoods, these areas have become bustling commercial hubs, reflecting a mismatch between planned land use and real-world demands.

Understanding the drivers behind this transformation is crucial for developing adaptive and resilient urban planning frameworks

2. METHODOLOGY

2.1 Study Area

The research focuses on two prominent fringe areas:

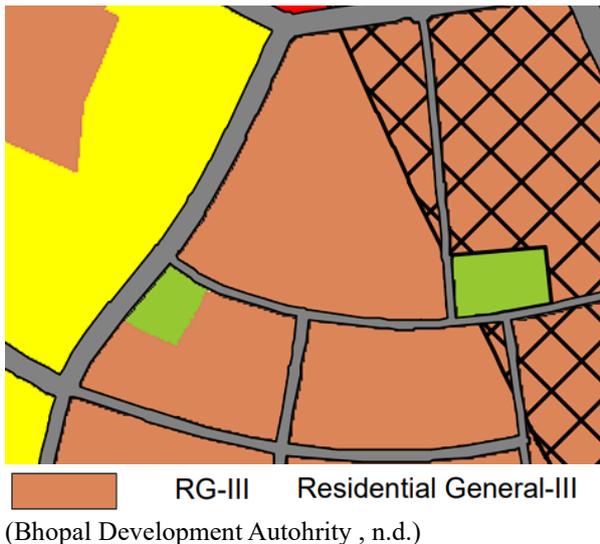
- **10 No. Market:** Located in the southern part of the city, this area was planned as a low-density residential neighborhood with independent houses and basic facilities. Over time, it has transformed into a bustling commercial center, characterized by retail shops, small businesses, and street vendors.
- **Bittan Market:** Situated to the east of '10 No. Market,' this area also began as a residential colony. It has evolved into a mixed-use hub with a significant presence of commercial establishments, including restaurants, boutiques, and offices.



Fig -1: Google map showing 'Bittan Market' & '10 No. Market' in orange and blue boundaries respectively

2.2 Physical Characteristics

1. **Land Use:** Predominantly commercial, with a few residual residential pockets.
2. **Building Typology:** A mix of converted residential structures and newly constructed commercial buildings.
3. **Infrastructure:** Roads, utilities, and parking spaces are under strain due to increased footfall and vehicular traffic.
4. **Environmental Features:** Limited green spaces and increased noise and air pollution due to high activity levels



3. **Cultural Shifts:** Changing lifestyles and consumer preferences have created a strong demand for mixed-use developments.
4. **Regulatory Gaps:** Ineffective enforcement of zoning laws allowed unchecked commercialization in residential zones.

5. IMPACTS ON THE URBAN ENVIRONMENT

1. Positive Impacts:

- Enhanced local economies with new business opportunities and employment.
- Improved access to goods and services for nearby residents.

2. Negative Impacts:

- Severe traffic congestion, particularly during peak hours.
- Inadequate parking infrastructure, leading to encroachment on public spaces.
- Overburdened utilities, such as water supply, sewage systems, and electricity.
- Noise and air pollution, negatively affecting residents' quality of life.
- Reduced availability of affordable housing due to rising property values.

2.3 Connections

1. **Transport Links:** Both areas are well-connected by major arterial roads, making them accessible from other parts of the city.
2. **Proximity to Key Areas:** Close to educational institutions, hospitals, and other commercial hubs, which has contributed to their growth.

Social Networks: These areas serve as focal points for community interactions, fostering a vibrant social and cultural environment.

2.4 Data Collection Methods

1. **Primary Data:** Surveys and in-depth interviews were conducted with residents, business owners, and urban planners to understand their perspectives on the transformation.
2. **Secondary Data:** Urban planning documents, zoning maps, and historical records were analyzed to trace the planned land-use intentions versus the current realities.
3. **Observational Data:** Multiple site visits were conducted to document land-use patterns, traffic flow, and infrastructure conditions.

2.5 Analytical Tools

- **Thematic Analysis:** Used for qualitative insights from interviews and surveys.
- **Geospatial Analysis:** Satellite imaging tools were employed to map land-use changes over time.
- **Statistical Analysis:** Correlations were drawn between population growth, economic factors, and infrastructure strain to quantify the impact of these transformations.

4. FINDINGS

Key Drivers of Transformation

1. **Population Growth:** Increasing urban population has amplified the demand for commercial spaces and essential services within proximity to residential areas.
2. **Economic Incentives:** High rental yields and business opportunities incentivized property owners to convert residential properties into commercial establishments.

6. INTERPRETATIONS

1. **Mismatch Between Planning and Reality:** The evolution of these areas highlights a significant gap between planned land-use policies and actual urban dynamics.
2. **Role of Informal Mechanisms:** The transformation was largely driven by informal adjustments to zoning and land use, reflecting a demand-driven adaptation.
3. **Community Perceptions:** While commercial growth is seen as beneficial for local economies, residents express concerns over declining quality of life and infrastructure challenges.

7. RECOMMENDATIONS

1. **Integrated Land-Use Planning:** Encourage mixed-use development to accommodate diverse urban functions while minimizing conflicts between residential and commercial needs.
2. **Zoning Flexibility:** Introduce adaptive zoning policies that allow for controlled commercialization while safeguarding residential quality of life.
3. **Infrastructure Upgrades:** Prioritize investments in transportation, parking, and utility infrastructure to meet the demands of increased activity.
4. **Participatory Planning:** Engage local communities in the planning process to ensure their needs and concerns are adequately addressed.
5. **Sustainability Initiatives:** Incorporate green infrastructure and eco-friendly practices to mitigate environmental impacts.

8. CONCLUSIONS

The transformation of '10 No. Market' and 'Bittan Market' serves as a microcosm of broader urban challenges. As cities

expand and evolve, the need for flexible and adaptive planning approaches becomes increasingly critical. By embracing mixed-use development and fostering community participation, urban planners can better navigate the complexities of fringe area development, ensuring a balance between economic growth, sustainability, and quality of life.

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