

Sustainable Land Use Policy Gaps in Rural-Urban Transition: A Case Study of Peri-Urban Gurugram

MUSKAN NANDAL

Department Of Geography, University of Delhi

Abstract- *The rapid transformation of Gurugram due to urbanization and infrastructural development have led significant impact to the villages situated near the city. The study examines how this transformation impacts land use and socio-economic aspects of people living in these peri-urban regions of Gurugram. The research is based on mixed-method approach. It analyses the patterns in land use change using LULC classification. Primary data is collected through field survey using questionnaire method in the peri-urban villages of Gurugram. The villages selected for the study area are Dhankot, Daulatabad and Bajghera due to their proximity to the rapid expansion and infrastructural development. Analysis of existing policy framework (Gurugram Master Plan 2031) is done to identify the policy gaps and challenges faced during the implementation. The findings revealed that the rapid conversion has taken place due to increasing urban demand and real estate development. The existing policy has not incorporated the current dynamics of the peri-urban areas and has not focused on sustainability which leads to unsustainable land use and unplanned growth. The study focuses on need for stronger policy framework and proper management of land use to ensure balanced development and sustainable land use in these rapidly growing peri-urban regions. Recommendations and suggestions based on the analysis of primary and secondary data are also mentioned.*

Index Terms- *Gurugram, Sustainability, Land use, Policy Gaps, Peri-Urban*

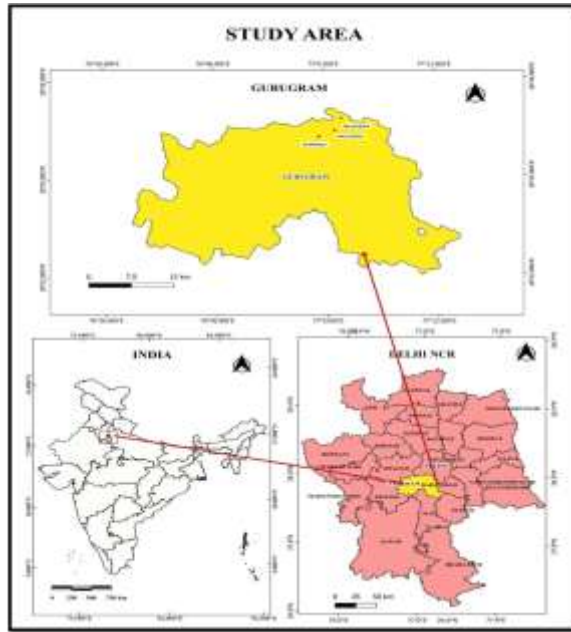
I. INTRODUCTION

Urbanization has been at a speedy pace since last few decades in India. Many areas have turned into cities and megacities within a span of few years. Similarly, Rapidly changing dynamics have also been seen in Gurugram. It comes under the National Capital Region (NCR). It is located in the southwest of Delhi. This easy access to the national capital made Gurugram an attractive residential and commercial location. Many international brands and companies have their head-offices in Gurugram. With

infrastructural development and the corporate base, Gurugram emerged as the Cyber-Hub of India. This rapid urbanization in Gurugram also affected the rural areas of the city. The on-going expansion is affecting the land use in the outer areas of Gurugram as well. The villages Dhankot, Daulatabad and Bajghera are now under rapid transformation due to new road networks like Dwarka Expressway and entry of private real-estate developers in this area. Major land conversion is going on in this area where large agricultural land is now being converted to commercial lands. Despite of many existing policies, these areas face challenges such as land conflicts, unplanned urbanization, forceful conversions, ecological degradation and sustainability challenges. This study focuses on analyzing the challenges faced for implementing existing policies and finding the policy gaps in these policies to ensure sustainable land use.

II. STUDY AREA AND METHODOLOGY

The study area comprises of three villages of the rural Gurugram fringe that has transformed themselves into the peri-urban zones of Gurugram. The three villages are Daulatabad, Dhankot and Bajghera. These three villages come under the rapidly transforming belt of Dwarka Expressway. These villages show clear evidence of rapid urbanization, formation of sectors around these peri-urban zones and patterns of unsustainable land use. There is lack of policy and planning for these zones. These all characteristics make these three villages highly suitable for this research.

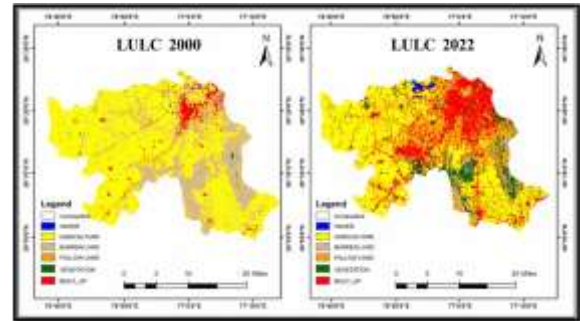


Methodology: This study adopts an empirical research design using a mixed-method approach combining qualitative and quantitative techniques. Primary data were collected through a questionnaire survey of 75 randomly selected respondents from the peri-urban villages of Dhankot, Daulatabad, and Bajghera, supplemented by interviews with local officials and real estate stakeholders. LULC analysis of satellite imagery was conducted using GIS to assess land use changes. The Gurugram Master Plan 2031 was critically compared with field observations and primary survey findings to identify policy gaps and formulate recommendations for sustainable land-use planning.

III. RESULTS AND DISCUSSIONS

A. LULC CHANGES

The Land Use and Land Cover (LULC) analysis reveals significant spatial transformation in the peri-urban villages of Dhankot, Daulatabad, and Bajghera between the selected study years. Rapid urban expansion has altered the land-use pattern, with agricultural land being progressively converted into built-up areas due to increasing residential, commercial, and infrastructural development



Key Findings from the LULC Map

- The study area has undergone rapid urban expansion during the study period.
- Built-up areas have expanded considerably, particularly along major transport corridors and newly developed residential sectors.
- Agricultural land has declined due to its conversion into urban land uses.
- Open land has been transformed into residential, commercial, and infrastructure projects.
- Vegetation and green spaces have experienced localized changes depending on development intensity.
- The spatial pattern indicates a gradual transition from a predominantly rural landscape to a peri-urban environment.

Change Summary

Change Type	Area (sq km)
Built-up Increased	162.45
Agriculture to Built-up	124.78
Fallow Land to Built-up	58.31
Barren Land to Built-up	31.27
Vegetation Increased	87.63
Barren Land to Vegetation	43.56
Fallow Land to Vegetation	25.49
Water Increased	10.82
No Change	684.61
Unclassified	5.08
Total Area	1,234.00

Note: Areas are approximate.

B. POLICY GAPS IN LAND MANAGEMENT

- Limited Sustainability Focus: Planning prioritizes urban growth over environmental conservation and agricultural land protection.

- Low Public Awareness: Many residents lack awareness of sustainable land-use practices and planning policies.
- Inadequate Environmental Safeguards: Rapid development has increased pressure on green spaces and natural resources.
- Weak Community Participation: Local communities have limited involvement in planning and decision-making.
- Institutional Fragmentation: Poor coordination among planning agencies affects effective land management.
- Weak Policy Implementation: Inadequate enforcement has encouraged unplanned and unauthorized development.
- Poor Grievance Redressal: Delayed response to public complaints reduces governance effectiveness.
- Policy-Practice Gap: The Gurugram Master Plan 2031 does not fully address the pace of peri-urban transformation.



IMAGE 1:ON GROUND EVIDENCE OF POOR IMPLEMENTATION

C.SOCIO-ECONOMIC IMPACTS

Rapid peri-urban transformation has significantly altered the socio-economic structure of the study area. The decline of agricultural land has encouraged a shift from farming to non-agricultural occupations, real estate activities, and rental-based income. While urban expansion has created new employment and economic opportunities, it has also increased land values, infrastructure pressure, and livelihood inequalities. These changes reflect the complex

socio-economic impacts of rapid rural-urban transition in peri-urban Gurugram.

IV. IMPLICATIONS FOR SUSTAINABLE LAND USE

- Integrated Land-Use Planning: Peri-urban growth requires coordinated planning of urban, agricultural, and environmental land uses.
- Protection of Agricultural Land: Rapid conversion highlights the need for stronger land conservation measures.
- Sustainable Urban Expansion: Future development should balance infrastructure growth with environmental sustainability.
- Improved Institutional Coordination: Better coordination among planning authorities and local bodies is essential.
- Community-Based Planning: Local participation should be strengthened in land-use decisions.
- GIS-Based Monitoring: Regular LULC monitoring can support timely planning and control unplanned development.
- Adaptive Planning Policies: Master plans should respond to rapidly changing peri-urban land-use patterns.

V. CONCLUSION

The study highlights the rapid transformation of peri-urban Gurugram from an agriculture-dominated landscape to an increasingly urbanized environment. The analysis reveals that existing land-use policies and planning mechanisms have not fully adapted to the pace of urban expansion, resulting in fragmented development and growing environmental and socio-economic pressures. Sustainable peri-urban development requires integrated planning, stronger policy implementation, institutional coordination, community participation, and regular GIS-based monitoring. The study emphasizes the need for adaptive land-use policies that balance urban growth with environmental conservation and long-term sustainability.

REFERENCES

- [1] Narain, V. (2009). Growing City, Shrinking Hinterland: Land Acquisition, Transition and Conflict in Peri-Urban Gurgaon, India. *Environment and Urbanization*, 21(2), 501–512.
- [2] Aijaz, R. U. M. I. "India's peri-urban regions: the need for policy and the challenges of governance." *ORF Issue Brief* 285 (2019).
- [3] Chauhan, Suman, and Sunil Kumar. "Urban Dynamics of Gurugram City over the Period 1990-2017: A Geospatial Approach."
- [4] Tanwar, Rashmi, and Sunil Kumar Singh. "Effect of Urbanization on Employment, Wages and Livelihood of Rural People in Haryana, India." *Asian Journal of Agricultural Extension, Economics & Sociology* 42.12 (2024): 325-336.