

# The concept of urban fringe and its transformation due to urbanization- A case of Jabalpur Fringe Area.

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**Abstract** - Understanding urbanization is based on a few important facts that demonstrate how populous expanding cities are. The area under investigation is influenced by the urban setting, which includes social, economic, and environmental issues. Uncontrolled expansion is a result of urbanization, which has caused residential, commercial, and industrial development outside the city's municipal boundaries. Due to this, settlements underwent a transition from being rural to urban, acquiring traits of both a village and a city. Being one of the most populous cities in MP, Jabalpur Corporation is constantly under pressure to develop, especially as the industrial and techno-centric fringe development in its periphery exhibits area. The study's objective is to evaluate the development plans for Jabalpur Panagar Urban Fringe area. and examine how different factors affect the rural-urban fringe area. Considering their requirements, significance, and individual traits, and creating a proper planning strategy and proposal for the Jabalpur fringe areas methodical development.

**Key Words:** Equitable development, Policy and Planning, Satellite Town, Inclusive, The growth of urbanization.

## 1.INTRODUCTION

Urbanization changes due to uncontrolled city expansion developed along industries, transport axes, people living along highways develop into easily built up colonies. Similar problem in Indian cities too.

As we approach the turn of the 20th century, analysts are worried, what should be done to limit the rapid urbanization of large cities. Many experts agree that a new approach to urban planning is necessary because the difficulties faced by the tremendous in comparison to earlier urban issues, urbanization and rise in population in the world's greatest cities are substantially distinct. Utilization of present resources keeping in mind the future social needs prevents depletion of resources. Natural cycles should not be tampered with to protect the environment. Land use and environmentally responsible construction should be planned to raise the standard of living.

### 1.1 AIM

The focus of the study is to prepare a planning strategy to facilitate the development of the outer fringes areas of the city of Jabalpur.

## 1.2 OBJECTIVE

The objectives of the study are:

- 1.To understand the concept of urban fringe and its transformation due to urbanization.
- 2.To analyses the character of development occurring on the outer fringes of Jabalpur City and the variables influencing it.
3. To understand the causes of change in land use and to study the edge pattern of the city fringes.
4. Analyzing indicators generated by site investigation and best practices.

## 2. METHODOLOGY

The methodology of the study, which was carried out in four phases, was derived from its objectives. For base map generation, it also uses the geospatial technology, Arc GIS, which is an essential tool for geospatial data analysis. Primary and secondary surveys, questionnaires and field surveys are used to collect data for the study in the frontier region. To analyze the nature of development in the fringe area, a literature review, spatial analysis of area of land use/land cover and basic infrastructure facilities was carried out. Demographic information for the study is based on the 2001, 2011 census and the study area was defined by extrapolating several criteria from various literature reviews. After reviewing the information collected and two case studies of US perimeter development, for the study area, from which suggestions were prepared for the planned development of urban outskirts for the study area.

## 3. IMPORTANCE OF URBAN FRINGES

The Demographic changes that many countries are currently experiencing and will experience in the coming decades are a major factor in the rising relevance of the urban periphery.

Long before urban expansion, the urban edge was a "temporary zone." However, it is no longer anticipated that this continuous expansion process would last for very long. This lends the urban periphery a far more lasting character and necessitates special consideration . The character of urban outskirts depends on the quantity of land that is available in various nations.

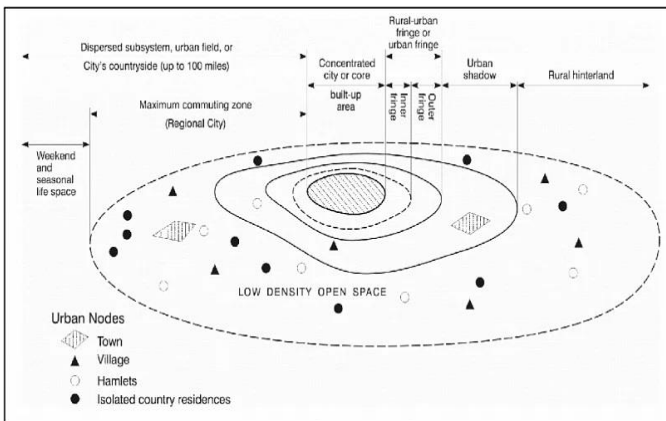


Fig -1: Schematic representation of Rural – Urban Fringe

Countries that struggle to absorb an increase in population do their best to relocate people to the outskirts of cities, which has a severe influence on the environment. The rural urban periphery took on FOUR forms over time: i) Relationship to space ii) Social aspects iii) Physical components iv) Financial factors.

### 3.1 THE PATTERN OF RURAL – URBAN FRINGE DEVELOPED.

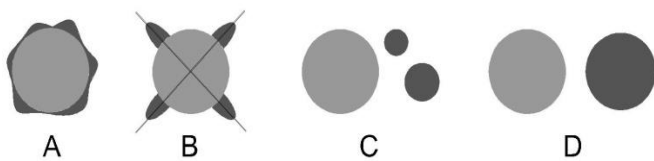


Fig -2: Growth of Urban Area

The patterns of A are Urban sprawl around periphery city expansion nearby municipal boundary. The development of this fringe area is unplanned manner. Urban sprawl around periphery development leads to decentralization

The patterns of B Growth along transportation axes are People living along highways easily develop into this type of settlement. Most of the land use is mixed land use where there are residential, commercial and industrial etc.

The Patterns of C is Satellite development nearby parent city linkage with each other. These are the places where people definitely live but employment is linked to big cities. The main reason for settlement is better quality of life.

The Patterns of D is Sometimes the population in big cities increases to a great extent. To reduce the pressure on the main city, the government has planned a new city. high density and well planned.

### 4. STUDY AREA-

The study area is 9 km range area taken from outside the municipal limits of Jabalpur city. Which is available

according to the 2011 census data. The outer fringe area is linked to the city and rural areas. In which nodes are being formed at some distance which follow different patterns.

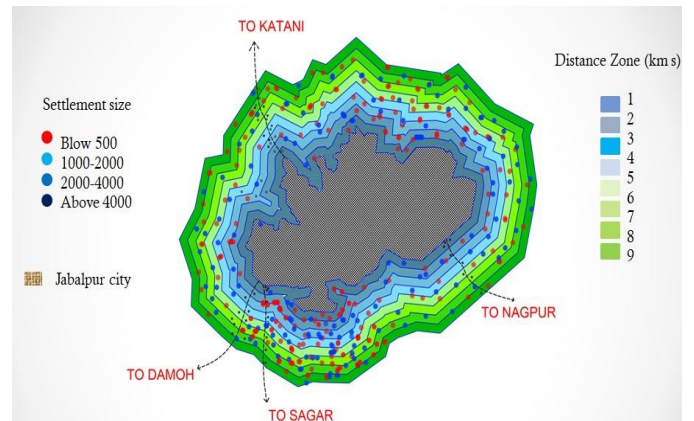


Fig -3: Delineation of Boundary of Jabalpur Rural- urban fringe.

It includes city, village, node colony etc. This is unplanned development as the land use is being shown as agricultural land use in the master plan but the development is of mixed type. in which the lack of infrastructure can be felt, Due to the lower cost of land in the marginal area as compared to the city, people have seen more interest in it.

### 4.1 UNDERSTANDING FRINGE AREA OF JABALPUR-

As of 2011 India census, Jabalpur district has a population of 24,63,289. Rural population 10,23,255 and urban population 14,40,034. The population of the city area is 10,55,525. Area 5211 Sq.Km. As per the 2011 census, The socioeconomic and demographic structure of a city is directly affected by urban development as it is undergoing significant changes. Urbanization has promoted residential, commercial and industrial development beyond the municipal limits of the city. Due to which uncontrolled growth is taking place. This shows that the effect of population has spread in the rural area in the last three decades. This also puts heavy pressure on the fringe areas of the city. In 2010, the limits of the corporation were expanded by adding surrounding panchayats, 127 villages are included in the Jabalpur municipality geographical area and administratively in the municipality ward.

### 5. URBANIZATION TREND

Jabalpur is located at 79°59' east longitude and 23°10' north latitudes. The city is located on NH-7 between Varanasi and Nagpur in the 'Mahakaushal' region of Madhya Pradesh. Varanasi, and Bengaluru are all accessible by road from Jabalpur. It is connected to Prayagraj, Lucknow, through National Highway 30. It and Kanpur are connected by National Highway 34. The 130 hectare (310 acre) Jabalpur Airport (JLR), also known as Dumna Airport, is situated around 20 kilometers from the city's center. The city's

Jabalpur Junction railway station serves as the West Central Railway's administrative center.

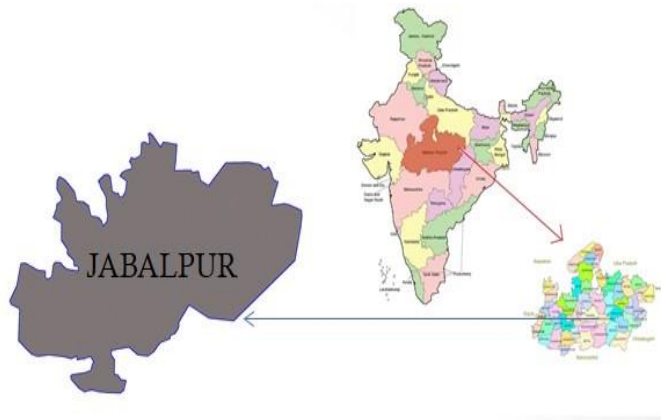


Fig -3: Location of site.

A prominent tourism hub is Jabalpur. A few of the well-known Jabalpur attractions are the Shiv Statue in Kachnar City, the Balancing Rock next to the Madan Mahal Fort, Chausta-Yogini, Gwarighat, and Marble Rocks and dhuandhar in Bhedaghat. The well-known tiger reserves including Pench National Park, Bandhavgarh National Park, and Kanha National Park are easily accessible from Jabalpur. The district's natural resources serve as the primary source for a variety of different sectors, despite the fact that the ready-made garment industry accounts for a sizable portion of Jabalpur's production.

### 5.1 LAND USE

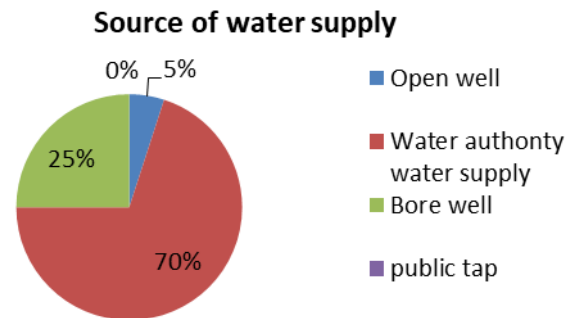
The area includes several mixed-use paddy and built-up areas. The area is mostly agricultural, residential, public and semi-public uses. This is 79% of the total land use due to increasing land reclamation and urbanization, the density of water bodies and wetlands has become very low. Farmers are under immense pressure as agricultural areas are rapidly being converted into mixed-use, densely populated residential areas. Less than 1.4% of comprises open spaces, parks and other recreational land uses. Over a period of 30 years, the area's wetlands decreased by 58.75%, while the built-up area increased by 59%. Additionally, the city has lost 17.82% of its greenery. In a dramatic way, the existing residential units were converted into mixed-use commercial and housing facilities.

### 5.2 INFRASTRUCTURE

#### 5.2.1 Water Supply and Sewerage System

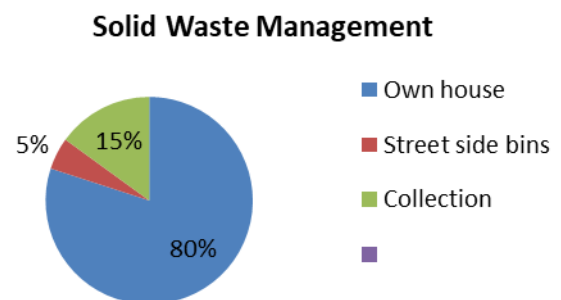
As per URDPFI norms, the level of water supply should be 135 LPCD once the piped water supply system and sewerage system are installed in the city, which would require 156.6 MLD of water for the entire city based on the current population, KWA water supplied to different wards. Is. Most of the wards depend on bore wells and other methods for

water supply. This appears to be a major problem, as many coastal homes do not have local storage tanks. Moreover, there is greater reliance on public taps than private water supply.



#### 5.2.2 Solid Waste Management

Current issues with solid waste management in the region are severe. In the Jabalpur Corporation, 49% of the wards have no rubbish collection. In these regions compared to other parts of the city, rubbish collection occurs less frequently. Of the 8 wards in the research region, have no waste collection and have waste pickup just once every two weeks. There are no secondary collection stations or facilities for the collection or processing of e-waste in the area. In wards, IMAGE (Indian Medical Association becomes Eco Friendly) collects and manages bio-medical waste.

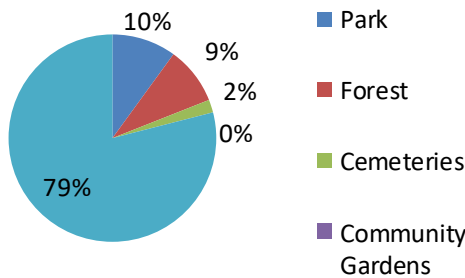


#### 5.2.3 Education and Health

The educational institutions of the urban area of Jabalpur are famous. There are many schools and universities in the area, which led to the development of parks and libraries. While the outskirts have inadequate health facilities, the area is fragmented due to the large number of educational institutions.

### 5.2.4 Parks and Open Spaces

#### Availability of parks and open Spaces



Parks, open spaces and other recreational land use account for less than 1% of the total percentage of land use. Space for recreation is found only in the core areas of the city, while other areas adjacent to the outskirts of Jabalpur like Khajri, Tilwara are entirely under residential and agricultural land use. There is also a lack of community participation in the area. Community building and other activities for community development are also absent.

### 5.2.5 Special Economic Zones

New populations of students and migrant workers have moved in due to technologically-oriented development and rapid growth of industrial parks such as the Khamaria Vehicle Factory, which constitute two special economic zones. This has accommodated the growth of eateries, banks, building sites, etc. along the highway. Presence of hospital staff and educational institutions at the municipal level.

## 6. CONCLUSION

There is a need to improve the infrastructure both physical and social in the entire research area. When it comes to physical infrastructure, the neighborhood lacks adequate water supply, proper sewage and proper solid waste management. The outskirts of Jabalpur do not have enough open spaces, parks and other recreational facilities for the growing population. Another important issue of the local people is the lack of bus stations. Farmers are under more stress as the area's land use continues to shift towards built-up urban use. This is because there are no land use zoning regulations in the research area. The high land values of the study area also preclude the possibility of additional industrial development, which would have an impact on the local economy.

## 7. RECOMMENDATIONS

Three goals conservation, enhancement, and development are the starting point of the guidelines for marginal area development. It needs to be done to make recommendations for four parameters: land use, infrastructure, transportation, and economy based on the study presented above.

- Regulate residential developments in agricultural areas to preserve land use zoning.
- Plan for appropriate public infrastructure to support the expected expansion, such as wastewater treatment facilities, storm water management systems, street lighting, parks, trails, and other recreational facilities.
- To promote community participation and development through community awareness programs to create a sense of belonging among the public.

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