

Transitional Concern: A Study of the Periphery

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Abstract—The rapid urban growth is leading to urban sprawl and ultimately towards the formation of urban agglomeration. Most of the times the process involved takes time and meanwhile numerous issues are raised in the regions undergoing such transitions i.e. areas lying between the urban and the rural settlements. Many socio economic factors force people to reside on the periphery, the most significant one being financial inability to afford a house in the city or to make a living in the rural areas. Occupational opportunities and other facilities that compel people to become a part of this development can be termed under one head, namely “Transitional Concern”

A case study of Bhopal, a town in the heart of India has been taken to support the study wherein one such transition zone is analyzed on various socio economic factors and also with the tools used in GIS(Geographic Information System) to emphasize on the change in landuse pattern over the years along with the environmental impact created by such landuses. This would help in obtaining desired solution to facilitate development as well as to reduce the burden on the core city thereby creating a self sustainable environment and simultaneously providing urban facilities to rural areas to curb unnecessary development.

1. INTRODUCTION

Peri Urban areas in India require attention and proper urban planning. These areas are either turning into Urban Villages or Slums. In either of the two situations the threat on our social as well as environmental environment remains the same. In the recent decades, the concern for peri urban areas in India has been felt. These peri urban areas cause urban sprawls which lead to the formation of urban agglomerations. Of the 35 metropolitan cities in 2001 with a population of over a million, only three, Jaipur, Ludhiana and Faridabad did not have such outgrowths. Comparing the rates of growth of the UA and the city proper for the 35 cities with a million-plus population, it was found that in the largest cities, that is, the ‘primary metros’, the UA was growing faster than the city proper. In the smaller million-plus population cities, ‘the secondary metros’, for instance, Meerut, Nasik, Dhanbad, Allahabad, Faridabad and Rajkot, the reverse was true with higher growth rates in the city proper.[3]

If planned well, these areas have the potential to become as efficient as Delhi NCR region or can just end up being a burden on the core cities. The Socio Economic characters of the residing population helps us to understand their needs and hence find possible solutions to tackle with this problem.

Bhopal, being the capital city is experiencing urban sprawl. The surrounding towns of Hoshangabad, Vidisha, Seoni, Berasia are incapable of providing higher education facilities and generating employment. Therefore a major portion of population from these areas and the neighboring villages surround Bhopal. These settlements have developed along the major National highways and State highways.

The transitional concern increases as the coming decades are expected to bring further profound changes to the size and spatial distribution of the global population. Urban living is often associated with higher levels of literacy, education, better health and quality of life, greater access to social services, and enhanced opportunities for cultural and political participation. This statement is like a myth which is the root cause of all evil. However, the reason which brings out this statement is another urban and rural planning issue. Inequality has become a major emerging urban issue, as the gap between the rich and the poor in most countries is at its peak since last few decades. [4]

This issue, however can be taken up as a challenge by dealing with urban areas at micro as well as macro level. In this study, an effort has been made to understand and analyze the characteristics of a peri urban area on the outskirts of Bhopal, after which the recommendations have been given.

2. LITERATURE STUDY

Terminology

Peri Urban Areas. An area between consolidated urban and rural regions. [1]

City Proper. The population living within the administrative boundaries of a city, e.g., Washington, D.C. [1]

Urban Sprawl. Also ‘horizontal spreading’ or ‘dispersed urbanization’. The uncontrolled and disproportionate expansion of an urban area into the surrounding countryside, forming low-density, poorly planned patterns of development. [2]

Urban Agglomeration. An urban agglomeration is a continuous urban spread constituting a town and its adjoining outgrowths, or two or more physically contiguous towns together with or without outgrowths of such towns. [1]

3. SOCIO ECONOMIC FACTORS

Financial

People tend to settle in peri urban areas due to their inability to afford the houses in the core areas. Core areas are in demand due to the presence of facilities like proximity to the market place, distance from the city sub center, and presence of basic services and utilities provided by the Municipal Corporation; These include proper road network and hence increased accessibility, infrastructure facilities like water supply, electricity, sanitation and timely collection of solid waste.

Migration.

Mass migration can be due to either of the two reasons: Presence of employment opportunities and/ or Migrations due to regional conflicts, wars, etc..

Employment Opportunities.

Since, no space is left for industries and because of the rules and regulations, big factories tend to come up in the outskirts of the city or the peri urban areas. This has been discussed in reference to our case study later in this paper.

Facilities.

These facilities might include presence of hospitals, schools, and colleges. If we consider Lucknow, a medical college named Sanjay Gandhi Post Graduate Institute of Medical Science is situated on the outskirts of the city on Raebareilly Road. Many patients taking long term treatment have settled on permanent basis in the Kalli Paschim area present near the hospital campus.

Other reasons include people wanting to live in a peaceful environment away from the traffic, congestion and the problems of the city. These people can either be very rich so that they can afford a decent bungalow and most of the times, a farm house as per the theory given by Earnest Burgess.

4. CASE STUDY: BHOPAL

Scope of Study

National Highway 12, Hoshangabad Road, zone 11, area on either side of the road leading to Misrod. All the aspects inducing the development in Peri Urban areas will be considered in this paper. The site is at a distance of 3.5 km from Railway station, 2.6 km from ISBT, 24.1 km from Raja Bhoj Airport.

5. DEMOGRAPHIC PROFILE

Total population of the zone is 175329. zone is divided in 5 wards as per census 2011. A study of the population has been carried on using the census data of Zone 11. There are 971 Females for every 1000 Males. In zone total population of 131150 is literate among which 55% are male literate and 45% female. Nearly 25% people living in zone are illiterate.

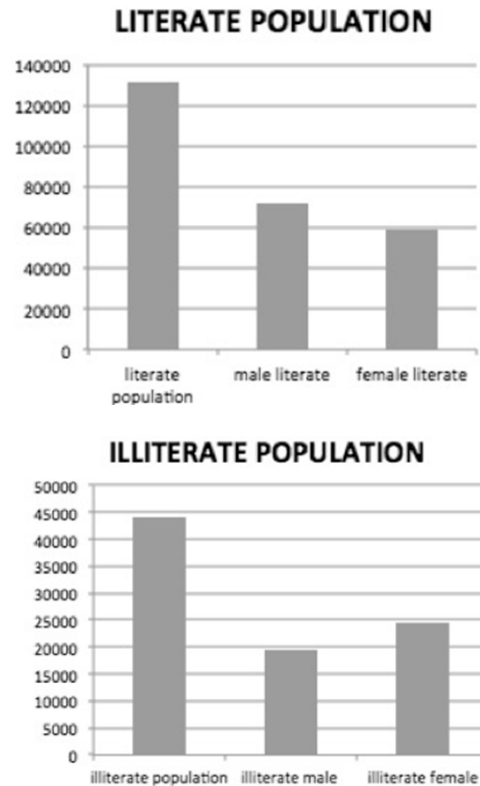


Fig. 1: Analysis of Literacy Rate

6. FACTORS INDUCING GROWTH

The growth registered in 2001 was low due to Population migrating outside the BMC boundaries for employment, housing and social purpose and hence the population growth within the city is decreasing. Re-organization of the state by formation of New State Chattisgarh is also one of the reasons in declining Growth Rate of 14% of the Growth of population is from the migration, mainly due to the industrial development in the nearby industrial area of Mandideep and Pilukhedi. This will come under the category of Macro level migration.

Apart from the major highway, presence of institutes viz. AIIMS, BSS Rukmani Devi Institute of Science And Technology, and Berkhatula university and industries like BHEL, many urban villages and notified Slums have come up in this area due to the presence of these hospitals and factories. Durganagar, Puranibagh, Bagh Sevaniya, Laharpura, New Jat Khedi, Ganesh Nagar, Misrod, Ahmed majar. etc.. The major residential areas which cater the maximum population of the zone i.e., Alkapuri, Saket nagar, Baghmugaliya, Danish Nagar, Chinar fortune city. The restaurants are Vrindavan Garden, Ranjit's Golden Oak and The mark. Due to the malls and the bypass road in the northeastern side a major residential development has taken place. However, the development is

restricted because of lesser connectivity with NH12 and because the area comes under the catchment of Kaliasot River.

Increasing accessibility has led to increasing residential area and conversion of private vacant land/ residential area for commercial use/mixed use to gain maximum profit. The NH12 and railway line divides the area into two, making it independent of each other. A base map of the area has been prepared using ArcGIS wherein slums have been marked as per their area. Projection has been done using Geometric Mean Method because it gives higher values and hence should be applied for a new industrial town. Also, ample of area is available for Greenfield development considering the growth rate of Bhopal, which is 28%.

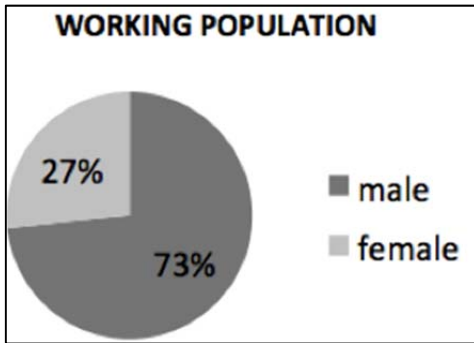


Fig. 2. Working Population

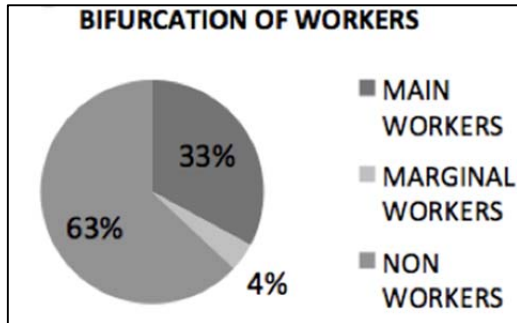


Fig. 3. Bifurcation of types of workers

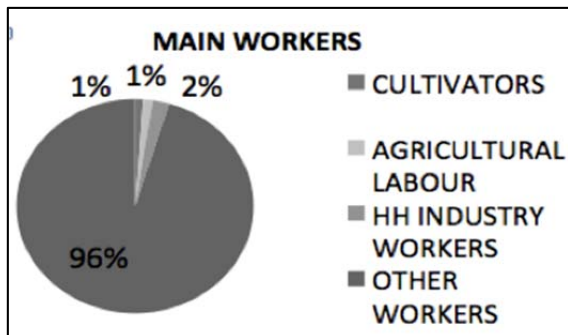


Fig. 4. Types of Main Workers

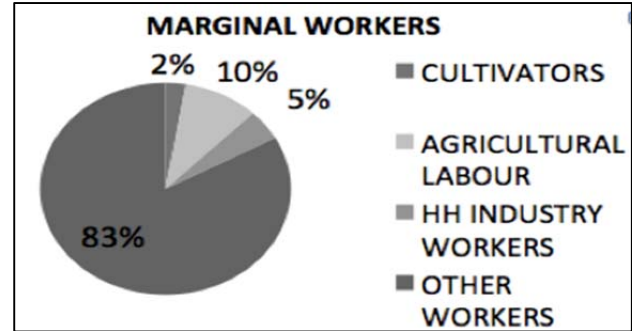


Fig. 5. Types of Marginal Workers

This shows that a major fraction of the population is dependent on other sources for their income. These sources are the industries that tend to employ them as labours on contractual or permanent basis. This also indicates that some people are either self employed or earn their living through agriculture.

7. COMPARISON OF LANDUSE CHANGE

The change in Landuse is inevitable in this area. Comparison of four years viz., 2003, 2005, 2013, 2015, has been made to mark the changes in the built up area. Due to the national highway, presence of railway station, and the above mentioned institutes and industries, a rapid growth has taken place.

In 2006, the landuse break up as given in the City Development Plan of Bhopal was as follows:

Table 1. Existing Landuse 2006

Type Residential	Percentage 46
Commercial	4
PSP	10
Industrial	8
Recreational	17
Transport	15

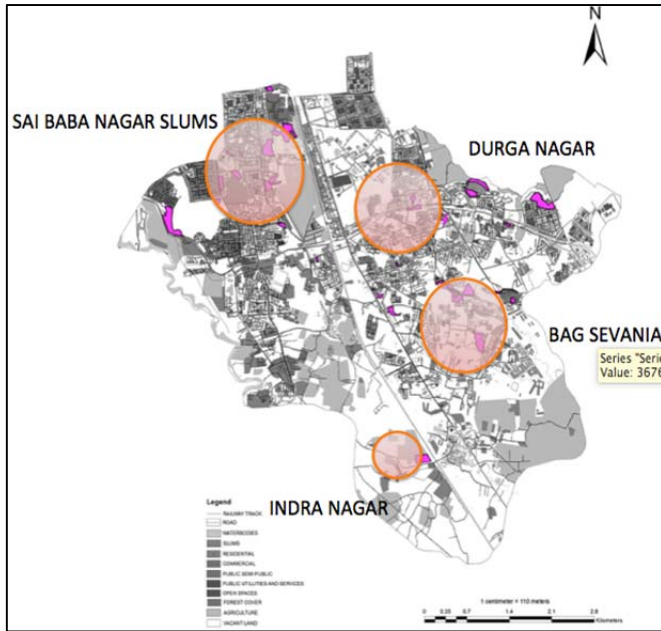


Fig. 6: Map Showing Location of Slums

The existing scenario, as per the year 2016 is as follows:

Table 2. Existing Landuse 2016

Type	Percentage
Residential	10
Commercial	1
PSP	1
Utilities and Services	15
Recreation	2
Agricultural	4
Vacant Land	66
Water Body	1

This shows that more than half of the land is available for development and out of that most of the land is plotted for future development and for sale.

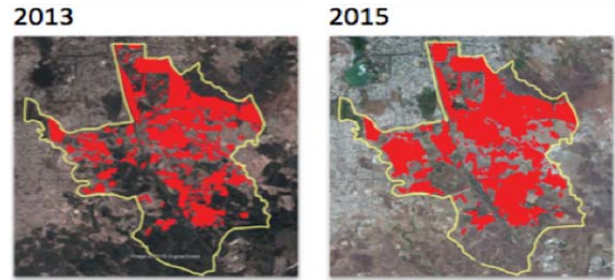
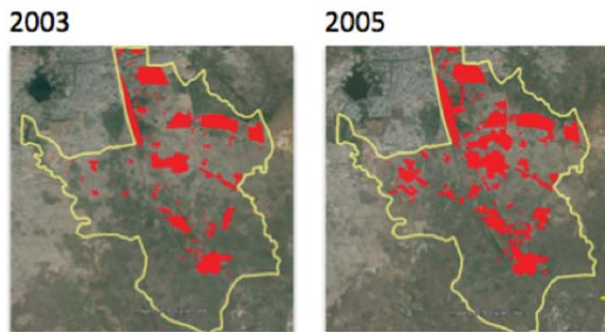
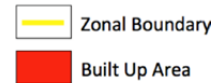


Fig. 7. Maps showing change in built up /plotted area



The source for the map is Google Earth imagery and using Google Earth Pro, polygon tool, area is demarcated. The area considered for the study is Zone 11 of Bhopal.

8. CONCLUSION AND RECOMMENDATIONS

Conclusion

Many high-income group township projects are already present in this area and many new projects are going to be introduced. The area has the potential to be developed as a high-class residential hub along with a small Sub City Center. This will not only make the suburb self-sufficient but will also reduce the burden on Bhopal.

Recommendation: Land Pooling

Keeping in mind the municipal limits of the area, facilities like access roads can be provided through land pooling which is a technique wherein stakeholders share a fraction of their lands with the government to make way for basic infrastructure facilities including roads, sewage system, etc.. This technique has proved to be a successful example of land pooling in Magarpatta village situated near Pune in Maharashtra, India.

Selling of land to individual owners who retain the greenery of the land by using the land as their farm houses can help maintain a balance between green area and built up area.

9. REFERENCES

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- [3] Annapurna Shaw,” Peri-Urban Interface of Indian Cities Growth, Governance and Local Initiatives”,in Economic and Political weekly, January-08 2005, pp129.
- [4] United Nations, Department of Economic and Social Awareness,“World Urbanizing Prospects”, ISBN 978-92-1-151517-6,2014, pp 3-10.