

Study of growth pattern at peri-urban areas and identifying challenges: A case study

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Abstract - Peri urban areas are the area situated between rural and urban area and adjacent to the municipal boundary of the area considering the outgrowth of the municipal boundary and the census town within the range of connectivity to the core city it can be distance of 5 to 25 km (distance variable), peri urban area have mixed characteristic of the urban and rural area, environment of rural area and some facility of urban area. These are the areas which are in process of urbanization and land use continuously changes from rural to urban areas.

Peri urban areas are developed due to urbanization of the area and urbanization take place because of the population growth and population grow because of the opportunities like economy, Employment generation and connectivity and because of the opportunities people migrate from the nearby places or from different states also. This paper is focused on study of growth and changes in peri urban areas in a comparative study methodology.

Key Words: Peri-urban, Outgrowth, Transformation, Decentralization, Connectivity.

1.INTRODUCTION

Peri-urban areas are the areas in process of transformation from rural to urban land use, located between urban and rural area and predominantly these are the places adjacent to urban municipal boundaries. Considering the outgrowth of the municipal boundary and the census town within the range of connectivity to the core city and urbanity value, at the distance of 5 to 25 km (distance is variable) from the urban boundary, the peri urban areas are identified. These areas have mixed characteristic of the urban and rural area. They have environment of rural area with some facilities of urban areas.

In India urban agglomeration plan is prepared for maximum cities, considering out growth and census towns. It is impossible to define the city limit of any urban area in India, no one can define where will city grow and in what shape, city boundaries are endless (Bandyopadhyay). The expansion of city limit is considered as the urban sprawl of peri-urban area. Peri urban areas showed in upcoming residential townships and commercial, new towns, smart cities, infrastructure projects, city extensions, special

economic zones, transportation corridors and this are the new challenges for government now.

The aim of the paper is to study the growth and changes in peri-urban areas. A comparative study methodology is been used for the study. For the comparative study two case studies of Raipur and Jamshedpur. The approach of satellite map study along with the time line, population growth, growth of census town near by Municipal Corporation of the area.

2.PERI-URBAN GROWTH IN INDIAN SCENARIO

India has a growing trend of the urbanization, namely - growing trend of share of urban inhabitants, expansion of geographical boundaries of present urban centers, and regular emergence of new cities and urban economic progress in India. For instance, urban population as a percent of national population has increased from 19.91 % in 1971 to 31.16 % in 2011 as shown in census data (Manita Saxena, 09, September-2015).

The number of new towns enlarged from 5161 in 2001 to 7935 in 2011; increase is primarily due to rise in the number of Census to the area of evolution between well recognized urban land uses and area devoted to the agriculture are Peri-urban areas.

3.CHARACTERISTICS OF PERI-URBAN AREAS

Peri-urban growth was primarily due to decentralization of the urban population the variation of land use from farm (Agriculture) to non-farm (residential, public & semi-public) ones as the core cause for such decentralization (Fang, 2008).

The features may vary from town to town on basis of the physical and cultural status of town

- Arterial & sub-arterial Roads and other roads, particularly motorways.
- Airports
- Hospitals in large scale
- Small and Large Industries.
- Out-of-town shopping facilities on large scale.
- Changes in economics, encompassing a change from an agriculturally based to a production dominated economy.

- Structural changes in employment, shifting from agriculture to industrial.
- Spatial development patterns change and land costs rising
- Changes of Land Use -Land use is thus influenced by location of the land, which is controlled by transport & communication.
- Scattered settlements, (Michael B Griffiths, September 1, 2010)

4.REASONS FOR GROWTH

- Transport is the main reason of the growth like –
- Road junctions, Railway junctions, airports
- Industries are also playing main role because it increases population through create opportunity of employment and also grow the economy of the area.
- Geographical features are also important
- Institutions location and commercial activities

5.MAJOR CHANGES IN PERI-URBAN AREAS

When peri urbanization take place the area between rural and urban fringe area the area facing substantial changes like-

- Changes in the Housing and infrastructure
- Change due to Factories settlement
- Change by the Transportation system
- Changes in Cultural aspects
- Natural features

6.CASE STUDY

Peri-urban areas are located considering the outgrowth of the municipal boundary and the census town within the range of connectivity to the core city and urbanity value, at the distance of 5-25 km from the urban boundary. In the case study, the limits of the peri urban areas are considered according to one of the delineation methods, which is urban index method. In the delineated areas, the case study is done over 4 factors. The factors are overall growth of the city, significant pulling factors, changes in peri-urban areas and satellite map study. The comparison is done in a tabular format.

Table -1: Shown the Case Study of Peri-urban Area in various aspect.

Topics	Case Study-1	Case Study-2
Growth of the city and the Peri-urban areas	Jamshedpur is a industrial city in 1951 there in only Jamshedpur industrial town after that numbers of census town are existing - 1951-3 census town 1961-4 census town 1971-7 census town 1981-10 census town 2001-14 census town Maximum distance of influence is 85 km for the district head quarter and minimum is 4, but consider maximum area the influence distance is 4 km to 15 km for the Jamshedpur urban agglomeration.	Raipur is capital of Chhattisgarh and in 1951 there is only Raipur municipal corporation 1971-1991-out growth near municipal corporation 2001- there is 1 census town 2011- 4 census town 2021 – 2 census towns- Mana (distance from district head quarter 12 km.) and Siltara (distance from district head quarter 15 km.)
Factor of growth of any city	Jamshedpur is an industrial city and has industrial settlement with significant industry growth increasing year by year It has a well connectivity with other places, NH-33 is connecting Ranchi and Calcutta and one state highway connecting Adityapur. Rail connectivity and flight connectivity There is Dalma hills on one side of the city and two rivers Subarnarekha and Kharkai as natural boundaries	Raipur is major economical hub of the region. It has large and small industries, wholesale markets etc. It has a well connectivity with other places, NH-43 – connecting Abhanpur and Atal nagar and airport and NH-200- is connecting old Dhamtari road and Bilaspur. State highway-9 is connecting to Vidhansabha. Rail connectivity. Nearest Airport, Swami Vivekananda airport is 15 km from Raipur Natural boundaries
Changes in peri-urban areas -	Aadityapur area is growing faster because of the real estate investments and Population growth due to nearby industries. The demand of infrastructure facilities is also increasing for this urban agglomeration areas. Migration from Calcutta and nearby areas because of the industries.	Raipur has major industrial growth at Birgaon and along the National highway, Moreover the city growth is seen towards the Abhanpur and Dhamtari road because of the atal nagar, patan and land availability of the area. The main reason is the Kharun river and ring road connectivity, people migrate from nearby villages. Atal nagar is just

	City is growing towards the National highway and state highway as well as along railway line according to the satellite map study and site survey Mango area is the major centre of growth	15 kms. away from the Raipur so the entire stretch between these two areas growing very rapidly, Opportunity of future growth attract population, Major Mumbai - Calcutta rail line is also there
Satellite map study-	Satellite map study explain the growth scenario of the area, in the starting the mango area has the maximum land of barren land so that the it is suitable for housing growth , near Adityapur and near Rail lines continuously land use changes from the agriculture to residential	Satellite map study explains that the growth is taking place towards the industrial area and changes continuously the land use from cultivated land to the other and major land use changes can seen on the abhanpur and dhamtari road and also on the area of raipura to patan
Policies by government	There is urban agglomeration plan 2027 for Jamshedpur - which includes the outgrowth of municipal boundaries and 13 census towns as a part of planning.	There is master plan of Raipur 2021 which is considering the birgaon area in planning area and outgrowth of the municipal corporation AMRUT AND JNNURM is also working for the development of the area

and need immediate attention. All the above studied factors are helping growth of the urban agglomeration. The industries are becoming the pulling factors of the urban agglomerations. People from other areas are being displaced for the employment opportunities, which is clear from the land use study. The land use is constantly changing and the demand of land is also changing.

8.CONCLUSIONS

In this paper the growth and changes of peri-urban areas are studied on the basis of two case studies. It is clear that due to various factors the peri urban areas are growing at faster rate. The growth along the road and railway connectivity and industrial areas are faster. Due to unplanned growth it is putting extra pressure on the area as well as the city. The major problem is because of the lack of administrative status of that type of area this area. Master plans are not been considered these census towns as it is beyond the limit of planning area. These factors of growth need major attention in planning. Urban agglomeration plan for any city must include the nearby potential growth areas and their future growth; the policies should work on the same level of field of development. The Government is needed to provide clear identification for these types of areas so the growth would take in proper shape. Individual planning committee and polices in the lines of JNNURM, SMART CITY, AMRUT are recommended. These policies would help overall developments like infrastructure, transport, economy, revenue generation etc.

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7.ANALYSIS AND DISCUSSIONS

There is a continuous growth in peri-urban areas as it is clear from both the cases. Growth along the road and railway connectivity and industrial areas the extra pressure on the existing infrastructure noted , due to extra pressure on the infrastructure there is problem created like- traffic congestion, lake of green areas and haphazard growth, problem of water supply , congestion on one place without any planned layout roads ,problems related to the housing and infrastructure , slum generation , problem of proper waste disposal and sanitation, continuously changes into land use and it can be very hazardous. Peri-urban areas are the area where the land price is comparatively low, naturally becomes the place for the middle-class population of the core area of the city. The real estate keeps an eye on this type of areas for investment purpose and develops Highrise buildings. These are the main reasons of the faster growth. The major problem in these areas is the lack of administrative status of that type of area this area is in the process of urbanization and the administrative status is not cleared and also very week in this area we can see the both type of settlement village and town and also facility of urban areas and seen the both culture urban and rural.

These areas need a proper planning by keeping in a mind the urban agglomeration. These census towns are growing fast