

SPATIAL-DEVELOPMENT AT RURAL-URBAN FRINGE: PLANNING ON THE EDGE FOR SUSTAINABILITY

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Abstract

The rapid urbanization leads to expansion of cities and development of sub-urbs at their periphery, which is often referred to as 'rural-urban fringe'. The cities keep relations with the fringe and rural countryside in order to meet the demands of its people as well as to provide goods and services to them. The input-output system of interaction between city and its urban-rural fringe has emerged to be more prominent than earlier and so is the need of Sustainable development. The rural-urban fringe and sustainable development has often been studied from urban, regional perspective focusing on planning and problem approach. The social-spatial sustainable development at this zone of transition has not been given much emphasis, thus requires attention of geographers. Fringe areas have enormous potential in enhancing urban sustainability at regional, national and global level. The urbanization will continue to rise in developing nations like India and associated challenges will continue to grow as well. The fringe areas face varied challenges with the expansion of territory of cities but it could be seen as a geographical space with immense potentialities for further development. This paper aims at examining the issues related to changing landscape and sustainable development, dynamism of fringe as a space and to analyse the needs and opportunities for sustainable development at rural-urban fringe. It requires concurrent and directed actions both at local and regional level to attain goal of sustainable development at rural-urban fringe, as it is 'city of tomorrow'.

Keywords: Rural-urban fringe, Sustainable development, Transitional Space, Suburbs, Peri-urban



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INTRODUCTION

Urbanization is a global phenomenon happening for well-being of a society but transformation from rural to urban is changing the entire landscape very quickly. Although cities capture just 4% of the total geographical space of the world but encompasses more than half of the global population (Redman and Jones, 2005). The urban population share 55.7 percent of the world's population, which is projected to increase up to 68% by the year 2050 (UNPD, 2018). As per report of OECD/EU, 2020, "metropolitan cities will emerge more in African nations and South Asia including India." The share of urban population living in cities is increasing in all regions of Asia including India. Number of Metropolitan cities are expected to grow in developing nations like India (UN, 2018). The increase in number of cities, exponential increase in

population along with rapid urbanization creates several constraints in socio-economic development of a nation or any region. One among the major issues associated with urbanization and growth of cities is emergence of peri-urban areas surrounding cities. The peripheral areas of cities, also termed as rural-urban fringe shows characters resembling both rural and urban.

The term 'Urban fringe' was first used in 1937 to describe "the built-up area just outside the corporate limits of the city" by T.L. Smith. The 'rural-urban fringe' is known by terms such as 'Peri-urban', 'periphery', 'Suburb', etc. The fringes are often developed in haphazard and unplanned manner. The fringe of a city accommodates within it a large migrant population from rural areas, nearby small towns and also from the Central Business District (Sinha & Bala,2016). It's a matter of time and space that a fringe would get engulfed into a city. The rural-urban fringe of a city undergoes transformation with time and the changes varies in different regions of the world. The rapid rural to urban transformation in fringes threatens the ecology, social setting, culture, economic structure and also influences the political orientation of fringe communities.

The focus of attaining Sustainability is devoted either on urban or rural areas particularly but then a question arises, does the urban or rural sustainable developments plans include development of fringe areas? Or it remains a neglected zone of transition between the rural and urban? As described in literature, rural-urban fringe is a neglected zone of transition which is far from the idea of sustainable development and lacks governance in handling the "*transformation and urbanization issues*" (Saxena & Sharma,2015).

OBJECTIVE OF THE STUDY:

This paper aims at examining the geographical dynamism of rural-urban fringe and need of mess-management for sustainable development from several perspectives. To study fringe as space with immense scope for development as well as finding ways to achieve sustainable development goals for this transitional geographical region.

Rural-Urban Fringe as a dynamic landscape:

Dynamism of rural-fringe is not new to scholars specially to the social geographers of today's era. It has often been defined as a 'transition zone' with its landscape varying with time and space (Smith,1937; Pryor,1968). The rural-urban fringe is a spatial entity that reflects ambiguity (Bunce,1981) too. It is neither truly rural nor truly urban but rurality with sparkle of

urban features. The rurality and urbanity of a fringe zone could be explained by adopting varied approaches and perspectives of studying its characteristics.

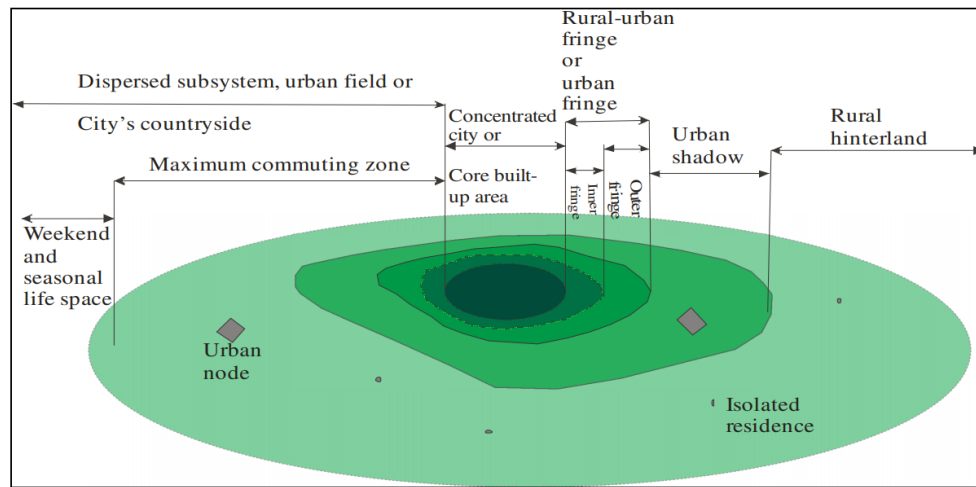
The rural-urban fringe and sustainable development could be studied broadly from rural and urban perspective. In rural perspective, productive natural rural resources including agriculture and fringe communities, linkage with city and fringe, and fringe-rural hinterland are chief concern. Interactions between urbanization process and agricultural activities, to and from migration, conflict among social groups are also examined (Beesley&Russwurm,1981; Beesley,1993).

The urban-regional approach presents the idea of core-periphery development, density of built-ups, population structure and utilisation of resources. The way in which physical expansion of city towards the rural countryside takes place, determines the sustainability at rural-urban fringe. The de-concentration of built-ups from core of a city towards its suburban areas with maximum density of built-up at centre, declining from inner fringe to outer fringe. This type of suburban development provides the city to make best use of resources. It also leaves scope to achieve sustainable development at the city centre as well as at the rural-urban fringe (IBI group,1990; Beesley,1993). So, it involves trends and pattern of natural- physical expansion of urban area, growth-development of peri-urban areas, decentralisation of industries from city centre to its peripheral areas, growth of market and residential built-ups in the fringe.

The regional form of a city constitutes a core built-up area having dense population surrounded by rural-urban fringe, urban shadow area and rural countryside or hinterland. Several scholars delineated the fringe; Wissink (1962) divided fringe into 'Inner fringe Area' and 'Outer Fringe Area' while Pryor (1968) defined it as 'Urban Fringe' and 'Rural fringe'.

1. Inner Fringe: an area surrounding a city centre extending rarely more than 10 kilometres from the CBD (McCuaig& Manning,1982; Lyon,1983). The 'Inner city Fringe' zone is often located within Corporation limits during initial phase of fringe development but with the passage of time it incorporates outer areas having basic infrastructure.
2. Outer Fringe: the region shows fewer urban characters as approaches urban shadow area and commuting zone. It is about 10-20 kilometres from the city centre (Kumar & Sinha,2019).
3. Urban shadow and countryside: This is the zone often known as 'Rural Fringe' extending 20 kilometres from the city centre with less frequent transportation (Kumar

& Sinha,2019). City's countryside is rural area providing agricultural resources to the fringe and city.



Source: Bryant, et. al. 1982 (*The regional form of a city*).

The multi-functionality of a fringe area cannot be denied with the fact that it provides a range of services to the city since this phenomenon has been observed by scholars and planners all across the globe. The developed nations as well as in developing countries the fringes are known for its interdependency with the core of the city or Central Business District. The interdependency is of wide range of socio-economic services. The inner fringe or urban fringe shows more urban character in land use, economic activities and other social roles while the outer fringe reflects rurality and has closer relationship with the rural hinterland. However, the rural-urban fringe holds strong relationship with the city in comparison to surrounding rural countryside (Beesley & Walker, 1990a).

Mess- management of fringe for sustainable development:

Messiness of the rural-urban fringe or the periphery of cities is well-known to administrative bodies, scholars and regional planners. Mess surrounding city centre is because of its dynamic nature as change remains associated with it at any point of time and in any space. 'Messiness and Multi-facetedness' of fringe comes in way of sustainable development as it is difficult to implement any policy and management strategies designed for either urban or rural area. So, as suggested by Veeman(1989) & Beesley(1993), "*projects and policies that simultaneously encourage economic growth*" and cater social and environmental evils, by progressively improving the condition should be developed.

Considering the rural-urban fringe of city Patna, the recent migrants to suburbs have shifted from the centre of the city to its periphery because they were living in rented house and couldn't afford own house there as land price is quite high. So, they moved to the fringe and bought their own house or land at cheaper rate. A large proportion of them have shifted from surrounding rural areas for better living and for services provided by cities like education, employment, recreational facilities, and better basic infrastructure than their previous place of residence. Elite class of surrounding towns like Hajipur and Muzaffarpur have taken plight to periphery of Patna to experience the living of a capital city. The recent migrants perceive their place which is currently an urban fringe as part of city Patna (Primary Survey,2020). This continuous increase in population at the periphery indicate that soon these areas are going to be a part of the central city and Corporation Limits. So, Planning for sustainable development of these areas should be given preference in the Metropolitan Planning and Policy making for further well-planned growth and development of the rural-urban fringe.

Sustainability and rural-urban fringe:

Sustainable development is driven by social actors like structure, formal and informal institutions, decision makers, human rights, identity, social norms and values (UNRISD,2014) as well as economic actors and regional physical actors. Course of action for removing the constraints lies in the idea of sustainable development.

Sustainability lies basically within these three spheres: Social, Economic and Environmental and three sub-spheres: Social-Environmental, Environmental- Economic and Economic-Social (Sustainability,2002). The standard of living, education, fringe community relations are part of social sphere. Social sustainability is inclusive development of well-being of human, including their health, education, security, dignity, life-satisfaction, cohesive community relations, human-ecology relationship altogether. Human empowerment and social policies would be a step forward in attaining development at the fringe.

“*Satisfaction with life and communities*” is another important aspect of sustainable development in the rural-urban fringe. The studies reveal that the fringe people are more or less satisfied with their quality of life as found out by Beesley and walker (1990). However, the haphazard growth at city's fringe put pressure on the resources available at the periphery and threaten it. So, main aim of Sustainability from social perspective is to preserve culture, maintain human right facility with provision of equal opportunity to marginalized sections as

well as to elites of the society, healthcare facilities, improvement in quality of life, management of social conflicts in the society and life satisfaction of fringe communities.

The Environmental Sustainability in fringe areas would concern about maintaining the land, air and water quality. Expansion of city shrinks the green spaces and disturbs the ecological sustainability (Saxena & Sharma,2015), water and air quality deteriorate while the rural to urban transformation of the fringe land needs proper governance and planning for development in sustainable manner. Population explosion in cities either due to natural increase or due to migration crowds a city, it becomes difficult to provide all the public amenities and maintain the quality of life of people in cities. The shifting to population towards the rural-urban fringe of a city leads people to live with minimum standard of living with minimum Purchasing Power Parity (PPP) thus, pointing towards the need of the economic sustainability. Economical-social Sub-sphere aims towards maintaining equity for generations, environmental justice, environmental balance and pollution control, marketing and human well-being in the fringe. The attainment of sustainability requires political stability and assistance because it rules and regulates the economic, social spheres directly while the environmental one in directly and thus it is the determining factor in attaining sustainability at rural-urban fringe of a city.

So, taking into consideration all these aspects of sustainability at rural-urban fringe it is very clear that *“today’s Peri-urban is tomorrow’s big cities. Therefore, we have to catch them young & groom them before it is too late”* (Saxena & Sharma,2015). It could be achieved only if the geographical zone is seen as a zone of possibilities despite of several constraints.



Fig: The Spheres of Sustainability for Rural-Urban Fringe

Fringe as space of problems and opportunities:

Human is perceived to have better quality of life in cities because of several facilities, but food and raw materials are made available by the rural countryside. The fringe with mixed urban and rural characters (Pryor,1968) acts as a haven for both the city centre and the rural farmland. Fringe area provide services to the city mainly agricultural produce and dairy products (Sinha& Bala,2016). However, it also gets benefited by the city in terms of employment and market but the dynamic nature of fringe makes it able to handle the urban-centred pressures and thrive.

Fringe as space of problems	Fringe as space of opportunities
de jure ‘Rural’, de facto ‘urban’: governance issues	Essential service provider to city.
Untidy landscape with problem in delineation	Dynamic environment, adaptable to changes.
Zone of social conflicts	Diversified economic activities
Zone of Informal land development	Potential area for industrial de-concentration
Dumping zone of urban centre	Rich in bio-diversity
Poor public and social infrastructure	Vacant space for creating green corridors
Unplanned and unregulated expansion	Permeable boundary for development
Social, political, economic and environmental uncertainty	Transitory space for residential complexes, tourism, transport and recreational development
Land transitions lead to environmental pollution and loss of natural resources such as water, soil, arable land.	Haven for natural and agricultural resources and raw materials for industries.

Steps Toward Sustainable Development

Short-Term Goals	Long-Term Goals
Preservation of existing small patches of green land in built-up area	Reducing pollution.
Preservation of existing bio-diversity	Creation of green belts and green corridors
Creation of green parks in vacant patches	Management of dumping grounds sustainably.
Prevention of new construction near river and over water bodies, e.g.: Ganga in Patna.	Controlled and planned built-ups.
Prevention of new construction over water bodies or waste lands	Integrated urban space development approach should be promoted for sustainable development

CONCLUSION

The rural-urban fringe is a zone of problems as well as opportunities. Urban civic amenities are hardly available and agricultural traits predominate but is preferred location of settlement for middle class population (Saxena&Sharma,2015). Residential and Industrial de-concentration, land distribution and values must be managed well. Along with these, prevention of social conflicts should be a goal in attainment of sustainability. It is a zone under governance of panchayat but reflects characteristics of urban, it clearly lacks local governance which leads to poor infrastructure and spoiled landscape. Despite several challenges and problems related to rural-urban fringe it should be seen as zone of immense potentialities because social and economic growth relies on planned sustainable development. It requires contemporaneous and directed exertions both at local and regional level to attain goal of sustainable development at rural-urban fringe.

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