

URBAN FRINGE TRANSFORMATION AND COMMERCIALISATION – A CASE STUDY OF AHMEDABAD

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Abstract

Urban fringe or periphery is the boundary of the city where there is the new expansion of the urban area is taking place. These new environs of the suburb are developing also because of commercialization. Urbanization is a procedure of urban fringe agglomeration. This paper suggests a deliberate framework for delineation of urbanization in developing countries and their urban agglomerated regions. It explains the inescapable features of spatial changes in the built-up area and the rural-urban economic structure. This paper consists the secondary data which explain that the structural changes can be taking place mainly due to commercialization. As the expansion of the market, residential and road density are the result of urban transformation. Agricultural activities are reduced with the passage of time and the urban spatial structure is developing rapidly thus this can be a commercial enhancement of the city. According to “Cobbinah, Erdiaw-Kwasie, and Amoatang (2015)” urbanization is not only applicable up to the built-up but also the growth and development of the areas in respect of demographic, ecological, social, and the economic aspects of the areas. Although urbanization and phenomena of commercial activities are the important structure of the region penurious urban management and planning are an insubstantial part of the economic structure of the city region. Land use land cover changes are analysed of Ahmedabad urban agglomeration. This shows that built-up increases when the road density increase and the roads are density or indirectly related to the commercialization. In 1995, when agricultural activities are a more intense part of the economy but when there is the arrival of commercialization it change the scenario of the economy which can convert from agriculture to urbanization and marketization which lead to an increase in the transport and built-up area of the region.

Keywords- rural Urban Fringe, Commercialisation, spatial and structural changes, road development, built-up growth.

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Introduction-

Urban growth and development in the rural fringe area make the expansion of "Urban Sprawl", it is called "sprawl" because its outcomes and quality of urbanization have the characteristics of both urban and rural both. The commercial geographical appraisal is those which show the relationship between the commercial activities and transformation of land use land cover areas of the region. Ahmedabad urban agglomeration is those where these activities are shown because as the commercial activities or the trading and money venture are spreading towards the outer boundary of the city thus the land use land cover area is going to change.

As the market and the related business or enterprises move towards the urban sprawl thus the road networks are also developed according to it and through the road network development, the built-up is taking place based on the availability of transport and market nearby their residential areas. The environs of the urban area(urban periphery) are going to be changing scenario of the land use land cover of the region, agricultural land is transformed into the commercial land where there the roads, market, and any other urban development are taking place.

Study Area-

Ahmedabad urban fringe includes three boundary such as - Ahmedabad Municipality Corporation (AMC) Ahmedabad Urban Development Authority (AUDA) and the village boundary (buffer zone). The commercial activities are pursued from the central part of the city towards the AUDA boundary because of the congestion of the area and the hub of the market in a particular region.

The map of the location area is designed according to the growth of population and then towards the village area. This map covers 5456km² which includes the wards, fringe, and villages of the Ahmedabad urban agglomeration.

The location map explains the expansion of Ahmedabad towards the Mehsana, Gandhinagar, Kheda, and Sabarkantha which shows that urban settlements are going to be expanded towards the fringe area of Ahmedabad and covers the villages of these regions.

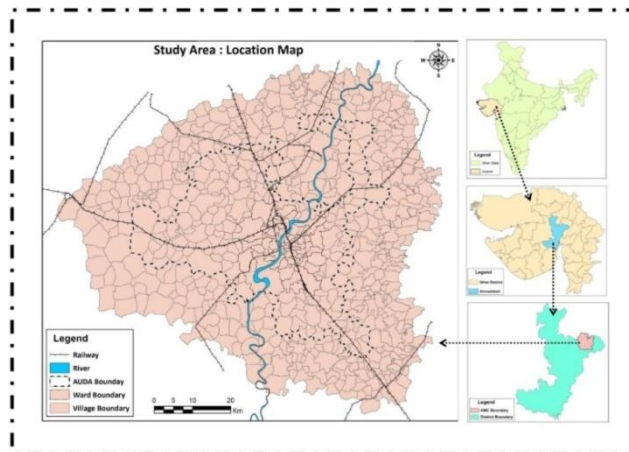


Figure1: Location Map of urban fringe expansion of Ahmedabad urban agglomeration

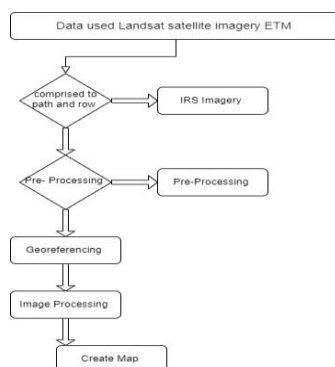
Source: Authors creation and compilation

Objectives:-

The paper mainly concerns the process, types, and consequences of the commercialization in the fringe of the Ahmedabad urban agglomeration.

- To evaluate the commercialization and their relation with land use land cover changes.
- To appraise the geographical challenges with the venture of commerce in the city region.

Methodology:



The data set of the paper relate to the landsat satellite imagery from which the map and the tabulation can be created which include the growth and expansion of built up area in the Ahmedabad urban agglomeration.

Complication of Periphery:-

Urban sprawl is the region where the urban and rural activities are identified such as agriculture and market with underdeveloped or developing road networks. Although urbanization is favorable for the development of the city region the adverse impact on the agricultural land area is giving negative on the transformation of land use and cover category of the region.

Agriculture is important not only for the rural areas but also for the sustainable growth of the urban agglomerated region. Commercial venture expansion towards rural areas can make the transformation of agricultural land into urban land use purposes which causes the threat to the agricultural and productive land. With this there is also a lack of management and planning for the use of land for residential purposes and also for the development of industries and localization of factories over there. The relationship between agricultural land and built-up area growth are "Inverse" with each other which shows that when settlement increases the agricultural land area decreases and vice versa.

Commercialization can make the city highly congested and through this geographical (land use and cover) factor are affected and transformed.

Solution for Urban Periphery:-

An urban agglomeration is one where the expansion of a city is significant because of its Commercialisation, Industrialisation, and Urbanisation in the city region. Urban periphery has the characteristics of both rural and urban areas thus the agricultural and productive land are used for commercial purposes but if these transformations are taking place with economic and political planning through which the unused or barren land comes under construction whereas the agricultural land should not be used for this purpose. The expansion of urban sprawl cannot be made limited but this spreading of the city can also be made systematic and managed with some criteria. Urban built-up expansion also is taking place due to commercialization towards the urban sprawl. As in the AMC, boundary consists very congested market area with also old built-up region due to this market are expanding beyond the limit of AUDA where there the localization

of market area are being cheap and providing a large part of the land for also market and other commercial venture development. The proper planning and regulations for sustainable growth makes the systematic localization of Market, Industries, and Transport and also for the built-up area without threatening the regional natural resources.

Result and Discussion:-

The outcome of this study is related to the commercialization from which the urban fringe or the urban periphery are developed towards the outer area of the urban region along with the road development and the market growth from the AMC boundary towards the AUDA and village boundary.

Delineation of urbanisation and commercial activities

Urbanization leads to urban expansion which includes the rural boundary having the characteristics of the rural and urban region which expand from the interior boundary to the village boundary. Market and transport are the two main factors that make the commercial activities forward for the growth and development of the urban region.

Table: Growth of urban fringe area towards the sprawl

Year	Area (sq.-km)
1995	144
2000	165.79
2005	198.19
2010	245.07
2015	301.56
2020	354.96
2025	415.27

Source: Land use land cover calculation in ArcGIS through change detection method

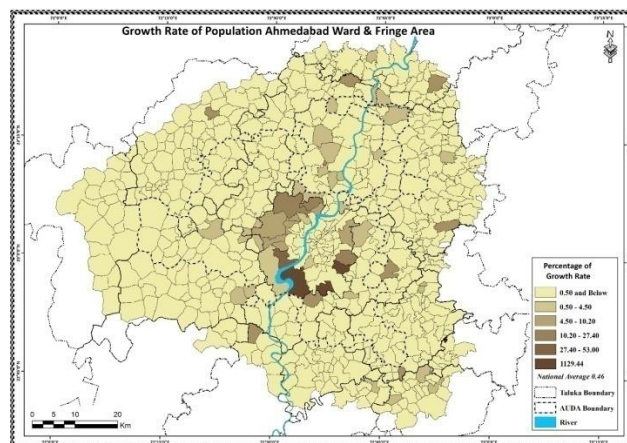


Figure 2: Growth of population of Ahmedabad ward and fringe area

Source: Authors creation and compilation

Mode of changes of built up area with capitalisation

Built-up is the most important factor of urbanization which makes the rural area the urban region because of the quality of settlement and increases the density of population from AMC boundary towards the rural areas. Capitalization is the process of transformation of traditional factors into a modernized form. Agriculture is the main source of economy in rural areas but due to expansion of built-up areas and the modification of transport system of the urban region. Built-up and transport systems are being capitalized by urban sources and get transformed into the developed form thus the region should be called “urbanized” or “urban sprawl”. When the land use land cover changes with capitalization and urban system thus the region is developing with commercial activities such as market, industries, and transport.

Conclusion

Commercialization and urbanization are interrelated factors that can be developed with the same relationship to each other. Urban sprawl is the outer boundary of the urban region which has both rural and urban characteristics but with the commercialization such as the expansion of market towards the rural boundary, localization of industries, and the road infrastructure. Ahmedabad is the metropolitan city where the commercialization is proceeding and the city expands towards the Kheda, Sabarkantha, Mehsana, and Gandhinagar.

References

- Tewelde Gebrea Dr. Berhanu Gebremedhinb, [2019](#), The mutual benefits of promoting rural-urban interdependence through linked ecosystem services, DOI: [10.1016/j.gecco.2019.e00707](#)
- Shukla Anugya Kamal Jain, January [2019](#), Critical analysis of rural-urban transitions and transformations in Lucknow city, India, Remote Sensing Applications: Society and Environment, Volume 13, pp 445-456
- Konka Prakash R. Avinash V. Talmale Manjunath P. Mankari, URBAN SPRAWL OF URBAN AGGLOMERATION OF AANAND-VALLABH VIDYA NAGAR-KARAMSAD USING GEOSPATIAL TECHNOLOGY”, Maharashtra Bhugol shastra Sanshodhan Patrika, 2018, ISSN : 0971-6785 {Impact Factor 3.687 (IIFS)} Vol. 35, No.1, pp 61-76
- Konka Prakash R. Avinash V. Talmale Manjunath P. Mankari, URBAN SPRAWL OF URBAN AGGLOMERATION OF AANAND-VALLABH VIDYA NAGAR-KARAMSAD USING GEOSPATIAL TECHNOLOGY”, Maharashtra Bhugol shastra Sanshodhan Patrika, 2018, ISSN : 0971-6785 {Impact Factor 3.687 (IIFS)} Vol. 35, No.1, pp 61-76
- Jain Gaurav V. & Shashikant A. Sharma, Spatio - temporal analysis of urban growth in selected small, medium and large Indian cities, Geocarto International, [2018](#), 34:8, 887-908, DOI: [10.1080/10106049.2018](#)
- Nath Biswajit 1 , Zhihua Wang 2,3,* , Yong Ge 2,3, Kamrul Islam 4 , Ramesh P. Singh 5 and Zheng Niu 3,6, [2020](#), Land Use and Land Cover Change Modeling and Future Potential Landscape Risk Assessment Using Markov-CA Model and Analytical Hierarchy Process , <http://www.mdpi.com/journal/ijgi>
- Zhao Pengjun, Bin Lu, Johan Woltjer, [2009](#), Conflicts in urban fringe in the transformation era: An examination of performance of the metropolitan growth management in Beijing, Habitat International journal homepage: www.elsevier.com/locate/habitatint.
- Swaffield Simon, Jørgen Primdahl, [2006](#), spatial concepts in landscape analysis and policy: some implications of globalisation, DOI. [10.1007/s10980-004-4414-6](#)

- Pandya Anand G, Sejal S Bhagat ,[2015](#), Planning Strategies for Development of Urban Fringe of Surat City, Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org.JETIR (ISSN-2349-5162)
- Coline Perrin 1,*, Camille Clément 1, Romain Melot 2 and Brigitte Nougareddes,[2020](#), Preserving Farmland on the Urban Fringe: A Literature Review on Land Policies in Developed Countries, <http://www.mdpi.com/journal/land,doi.org/10.3390/land9070223>
- Ready Richard and Charles Abdalla, [2003](#),GIS Analysis of Land Use on the Rural-Urban Fringe: The Impact of Land Use and Potential Local Disamenities on Residential Property Values and on the Location of Residential Development in Berks County, Pennsylvania, Rural Development Paper No. 18, : <http://www.cas.nercrd.psu.edu>