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**Geographical Analysis Of Ausa Urban Area (Maharashtra State, India) Using Remote Sensing And Geographical Information System Techniques**

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**Abstract:**

*Food, clothing and shelter are the three basic needs of human to survive. All human activities are around to fulfill these basic needs. For shelter, develop the small rural settlement (Basti) and with increasing different activities and population of the Basti; the cities are formed. Urban geography is a branch of human geography concerned with various aspects of cities. An urban geographer's main role is to emphasize location and space and study the spatial processes that create patterns observed in urban areas. To analyse these phenomena's they study site, evolution and growth and classification of villages, towns and cities as well as their location and importance in relation to different regions and cities is carried out. Economic, political and social aspects within cities are also important in urban geography.*

**Introduction:**

Defining what a city or urban area actually is a difficult task within urban geography, although, urban geographers generally define city as a concentration of people with a similar way of life based on job type, cultural preferences, political views and lifestyle. Specialized land uses, a variety of different institutions and use of resources also help in distinguishing one city from another. In the census of India 2011, the definition of urban area is as follows;

1. All places with a municipality, corporation, cantonment board or notified town area committee, etc.

2. All other places which satisfied the following criteria:

- A minimum population 5,000;
- At least 75% of the male main working population engaged in non-agricultural pursuits; and
- A density of population of at least 400 persons per sq.km.

An urban area is characterized by higher population density and vast human activities in comparison to areas surrounding it. Urban areas may be cities, towns or conurbations. Urban areas are created and further developed by the process of urbanization. Cities are the engines of growth at both regional and national level. To facilitate and sustain this growth, cities have to provide both high quality of life and an efficient infrastructure for economic activities. Cities and towns are emerging as centers of domestic and international investments where most of the commercial activities take place. The present contribution of cities and towns in country's Gross Domestic Product (GDP) is 63% and it is estimated that cities and towns / urban areas will contribute to about 70% of GDP by 2031 (HPEC report, 2011).

Urban area builds diversified and dynamic economy in the country, its raise productivity, create job and wealth and provide essential services. With this importance of the urban has some issue that really needed to great notice to urban study. Such as absence of information about rapid changing urban areas, absence of spatial database, non-uniformity of database, differences in attribute, interpretation of information. Today our cities are reeling under high pressures of rapid growth and struggling to provide the most basic facilities necessary for urban life. However, awareness regarding city-planning issues has to be improved and this is reflected in the study.

Today, availability of Remote Sensing and GIS techniques used to solve urban issue. Remote sensing techniques which gather data earth surface in raster form on a periodic basic and GIS which helps in analysis and integration of relation database containing both spatial and non-spatial details through automated machine processing system provides an alternative means of mapping of dynamic features at regular interval. By such integrated study it is possible to take relevant decisions at the appropriate time by the urban planners.

Over the years, satellite based remote sensing data have been successfully utilized for mapping, monitoring, planning and development of urban sprawl, urban land use and urban environment. Today, with the availability of IRS 1D data, it is not only possible to generate map on 1:25,000 scales using LISS IV, but with CartoSAT data it is possible to generate to the desire scales of 1:5000, which is useful for urban planning. Using satellite data, different urban features can be identified and mapped using a false color composite (FCC) of three bands or single band data wherever applicable. Also, the digital data can be enhanced or merged with high resolution data for better feature identification and mapping. Earlier studies have proven the usefulness of visible and near infrared multispectral bands for urban feature identification and mapping. Also, the use of thermal band data available from Landsat (TM) data has also been demonstrated in mapping 'urban heat is land'.

Study regarding the urban development of any region provides the information about the imbalances in the urban issues with their causes. Hence such type of study is helpful in the development planning process of the region.

### **Choice Of The Region And Topic:**

The AUSA is a Class-III town located in the south-west part of the study area and it is a tahsil head quarter of AUSA tahsil. The latitudinal extension of the town is  $18^{\circ} 14'$  to  $18^{\circ} 16'$  north and longitudinal extension is  $76^{\circ} 0'$  to  $76^{\circ} 2'$  east. This is the absolute location of the study town.

In this town also site is reflected in its morphology and drainage channels. The AUSA town is located on relatively plain area of the Balaghat plateau on the Latur-Bidar State highway. Thus it is a road site urban settlement. As Balaghat plateau is the part of Deccan plateau, geology and rock structure of the ground occupied by the town is suitable for the foundation of the buildings, construction of roads etc. The height from the mean sea level of the land actually occupied by the town is ranging from 620 to 660 meters. Relatively high area is located in the southern part and low area is in the northern part of the town. The land is sloping towards north. Small stream is flowing towards north on the western side of the town and joins to the Tawarja River on right bank.

**Significance Of The Study:**

**National and International Status :**

Urban area of any country depends on changes of people's status. It plays a vital role in progress of any region. The development of urban area condition is significant for identification of progress of any region.

At an international level, urban development is intended to expand community's productive power and to provide the environment in which there is scope for the expression, application of diverse faculties and urges. The task before an underdeveloped country is not merely to get better results within existing framework of urban institutions, but to mould and refashion those so that they contribute effectively to the realization of wider and deeper social values. These values have been summed-up in the phrase 'socialist pattern of society'. The development is a multi-dimensional phenomenon.

One of the most important aspects of India's development progress is its remarkable regional disparity in eliminating basic deprivations. The social economic condition suffers from large and incessant inequalities. In India, majority of the poor people live in rural areas which belong to category of landless labours and the land continues to be highly inequality distributed. Various factors such as the level of literacy, female education, nutritional standards, infant mortality, morbidity, employment, income distribution, public distribution system, political commitments etc. and their corresponding interactions, contribute to these striking variations among states in the livelihood of common people. So it will be beneficial for identify the progress of regions in India.

**Objectives Of The Study:**

“Geographical analysis of AUSA urban area using remote sensing and geographical information system techniques” this aim of the study is completed by following objectives;

- To prepare urban land use maps using high spatial resolution IRS satellite data depicting level-II and Level-III urban land uses such as residential, industrial, commercial, public and semi-public i.e. recreational, transportation etc.

- Population study of the AUSA urban area and the population dynamics.
- To study the transportation network, traffic and parking in AUSA urban area.
- To identify suitable areas for urban development as well as areas to be conserved.

**Hypothesis:**

Following hypothesis put forward for the geographical analysis of AUSA urban area.

- Stable/explosive growth of city population and area.
- Development trend along with the major roads.
- Transportation impacts on the landuse / land cover in the city.

**Data Base And Methodology:**

Methodology is one of the important part of analysis. Output or result of analysis highly depends on the methodology will be used for the data processing or analysis purpose. To achieve the above objectives following methodology adopted.

For the study spatial as well as non-spatial data will be collected from Census of India (1901-2011), Municipal Corporation, Town and Country Planning, National Remote Sensing Centre (Hyderabad), Survey of India, Pune.

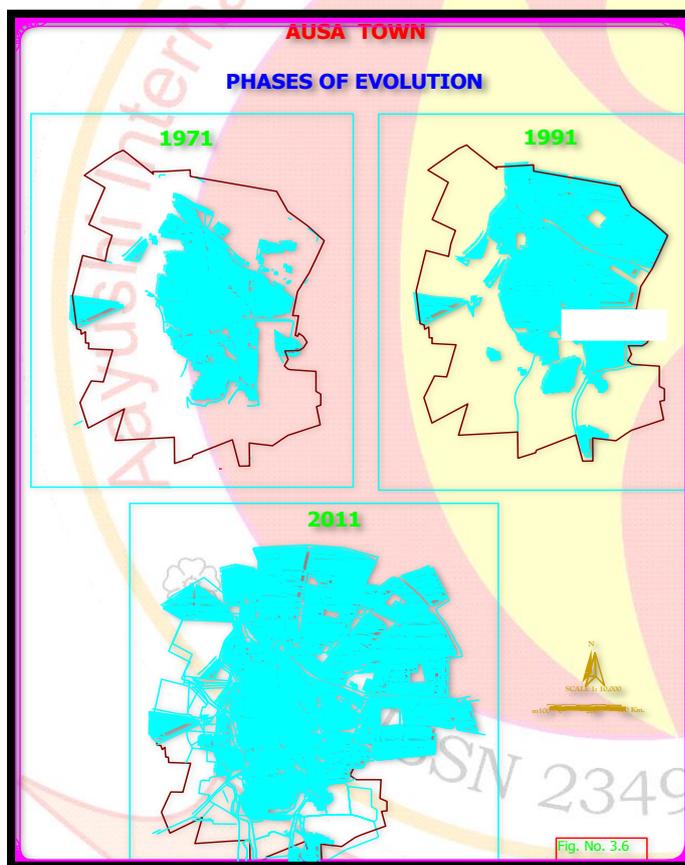
The 1: 50000 scale base maps will be prepared using SOI toposheets and old development plan of the AUSA city. A basic layers generated by using remote sensing satellite data, existing maps and google earth such as road, railway, parcels, trees, drainage, river, waterbody on 1:2000 scale with GIS environment.

To understand the complexity of a dynamic phenomenon such as urban sprawl, landuse change, urban facilities identify by field survey. Commercial, educational, industrial, residential, administrative structure of the city note by field survey. Health, sewerage, garbage, flag, pole, hording, cable, tower located on the map. This phase indicated visit to the study area with the base map.

**Ausa Town - Origin And Evolution:**

The Ausa town has glorious historical background and is known for a well-built fort of pre-Bahamani age and the nearly 800 years of Muslim rule under the Sultans and the Mughals over the region. The town remained a part of the Hyderabad State under the ruler ship of the Nizam until the invasion by the Indian forces in 1948. Thereafter it became a part of the independent Republic of India. Until 1956 the town remained a part of Hyderabad State within India. Under the administrative reforms and the breakup of the State of Hyderabad, Ausa and the adjacent towns were transferred to Maharashtra State and became a part of Osmanabad district.

On August 15, 1982, a separate Latur district was carved out of [Osmanabad](#) district and Ausa town has a tahsil headquarter became a part of Latur district.



Ausa might be the most ancient cities of Latur district. According to Kankamar’s composition ‘Karkandchariyu’.

According to copperplate found at Borgaon of the king a Vijayadatta of Badami, Ausa was an administratively head town for forty little villages and known as ‘Uchiva’ during 7<sup>th</sup> & 8<sup>th</sup> century. Thus present name Ausa is a derivate form of

‘Uchiva’. In Jain literature this village was known as ‘Auccha’ while in one of the sculpture of ‘Yadava’ the village known as “Aus” which is a acute match with the present name.

We have ultimate knowledge of this village in Jain literature. The Jain Master Muni Jinsen who was the master of Rashtrakuta king Amoghvarsh who have counted this village as one of the important holy place of Jai religion. We can surely accept the fact of Jain

importance of this village due to the close of intimate relationship between Rashtrakuta king (Samrat) AmoghVarsh& Jain master Jinsen.

Ausa was constantly a well-forwarded urban place in politics and administration right from Chalukya of Badami and Mughal of medieval period. Ausa was known as a 'Murumb' in the administration of 'Rashtrakuta.' Same town was a part of 'Gajje 700' in period of Chalukya of Kalyani and during the Yadavas, Ausa was known as 'Desh' a prior important centre of administration. Again it was a permanent soldier's training centre in the period of Yadav. Headquarter of this 'Deshvibhag' would be at Ausa and its fort area.

The importance of Ausa was increased at a great high by politically and Administrative during the 'Bahamani'. It became powerful due to 'KasimBarid' who was a native ruler of Ausa and whose impression on the Bahamani was great. He lived there in today's fort and its stony construction was held in his period. Bidar was the capital city for Bahamani and later on for Baridshahi. Ausa was in the west side of Bidar and near to it, due to this it was an important station for protection of capital city, for this purpose this Ausa was became more important town during this time. Again another important issue regarding this town was different rulers were always in great competition to have centre over the town. The major were Baridshahi, Nizamshahi and Adilshahi. Due to which plenty of struggles were taken place among them.

The fort of Ausa located in the southern part of town, stands in all its glory speaking volumes about the Muslim history and culture of the Deccan. The fort is bounded by a deep trench as the fort is built at the ground level (Bhuikot fort). The fort has some rare inscriptions written in Arabic and Persian which testify to the promotion of knowledge and culture by the Muslim rulers over the centuries.

Today Ausa town is a tahsil headquarter of Latur district, located in the south-west part of study area. It is 16 km. away from the district headquarter. Latur railway station serves the Ausa for rail transportation. Town is connected by state highways and district roads to the surrounding villages and towns of the study area and districts places. It is important commercial as well as educational centre in study area. The real development of Ausa town took place after post-independence period. Phases of evolution of the Ausa town<sup>19</sup> for the year 1971, 1991 and 2011 are shown in the Fig. No. 1.1.

**Residential Area:**

In the existing landuse, area under residential use is 104.78 hectares i.e. 19.70 percent of the total municipal area. By considering the future growth of the town, in proposed landuse 197.89 hectares area is allocated to residential use which is 37.20 percent to total municipal area.

**Commercial Area:**

In the existing landuse, area under commercial use is 6.09 hectares i.e. 1.14 percent of the total municipal area. By considering the future growth of the town, in proposed landuse 7.45 hectares area is allocated to commercial use which is 1.40 percent to total municipal area.

**Industrial Area:**

In the existing landuse, area under industrial use is 2.22 ha. i.e. 0.41 percent of the total municipal area. By considering the future growth of the town, in proposed landuse 2.22 hectares area is allocated to residential use which is 0.42 percent to total municipal area.

**Transport & Communication:**

In the existing landuse, area under transport & communication use is 55.25 hectares i.e. 10.39 percent of the total municipal area. By considering the future growth of the town, in proposed landuse 64.49 hectares area is allocated to transport and communication use which is 12.12 percent to total municipal area.

**Public & Semi Public Amenities Area:**

In the existing area under public & semipublic amenities use is 20.18 hectares i.e. 3.79 percent of the total municipal area. By considering the future growth of the town, in

proposed land use 42.70 hectares area is allocated to public & semipublic amenities use which is 8.03 percent to total municipal area.

### **Conclusions:**

The study of the study area reveals that physical factors which play an important role in the location of urban area to develop health resorts, recreation centres, collection centres and defense centres. The economic factors give rise of the origin and development of market centres, ports, transport town and service centres. Such commercial and trade centres are the places through which goods, commodities and ideas are exchanged. Social and cultural factors give rise to the development of religious, cultural, arts, administrative and educational centres. The manufacturing and industrial towns are the product of technological innovations and exploitation of economic resources.

During the ancient and medieval period in the study area several sites offers strategic location. Several forts were constructed at such locations in this area. Many of them have lost their importance in the new socio-economic environmental conditions.

From the evolutionary account of towns in the study region one can conclude that town of the study area are developed either because of their administrative importance or because of strategic location in the past. The real growth of the town took place in post-independence period. On the other hand land under residential use was highest and lowest area under commercial use in this town i.e. only 2.99 percent.

### **Reference:**

1. Dickinson, R. E. (1945): 'The Morphology of the Median German Towns: Geographical Review, Vol. 35-I, P.75.
2. Conzen, M. R. G. (1962): 'The Plan Analysis of English City Centre in K. Norborg' (ed.) Proceeding of IGU Symposium in Urban Geog. PP-383-414.
3. Brush, J. E. (1968): 'Spatial Pattern of Population in Indian Cities.' Geographical Review, Vol. 58, PP.362-391.
4. District Town Planning Maps- Ausa Town, District Town Planning Office, Latur District.