Trends of Urbanization in Sangli District Using Geospatial Technology (1901 To 2011)

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Abstract:

Urbanization is a significant socio-economic aspect of modern society, closely tied to industrial and multinational commercial development. The shift of population from rural to urban areas has resulted in the proliferation of slums and squatters across the urban landscape. G. Trewartha defines the level of urbanization as the proportion of the urban population to the total population residing in urban areas. Urbanization encompasses the process of population migration from villages to cities and the transformation of villages into urban centres. Understanding the disparities in levels of urbanization and their causes is an important topic for geographers. Urbanization is intricately linked with industrialization and modernization, often working in conjunction. However, the interplay of urbanization, industrialization, and modernization in developing countries may not align exactly as observed in industrialized developed nations during their corresponding levels of urbanization.

Keywords: Urbanization, Growth Rate

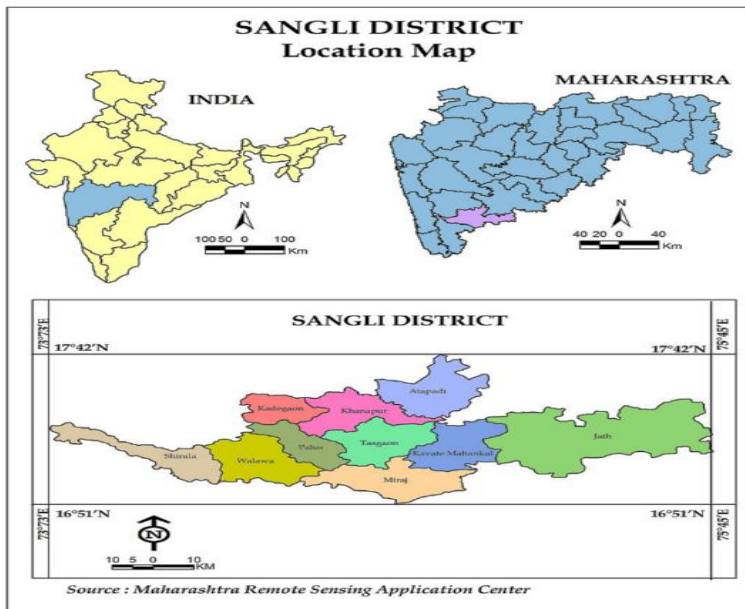
Introduction:

Urbanization is an index of transformation from traditional rural economies to modern industrial one. It is a progressive concentration of population in urban units (Davis, 1965). Kingsley Davis has explained urbanization as a process of switch from a spread-out pattern of human settlements to one of concentration in urban centres (Davis, 1962). It is a finite process-a cycle through which a nation passes as it evolved from an agrarian to industrial society (Davis and Golden, 1954). He has mentioned three stages in the process of urbanization. Stage one is the initial stage characterized by rural traditional society with predominance in agriculture and a dispersed pattern of settlements. Stage two refers to the acceleration stage where basic restructuring of the economy and investments in social overhead capitals including transportation, and communication take place. Third stage is known as terminal stage where urban population exceeds 70% or more. At this stage level of urbanization remains more or less same or constant (Davis, 1965). The growth Rate of urban population and total population becomes same at this terminal stage.

Study Area:

The Sangli District is one of the most Politically dominated district of Maharashtra state, It is lies between the 16°45' N and 17°33' N latitude and of 73°41 'East and 75°41 'East longitude. The geographical area of the district is 8572 Sq km as per 2011 census. The district is bounded by Satara district on the North western side, Southern is boarded by Belgaum and Bijapur district of Karnataka State, At the Centers and East Kolhapur district and the Ratnagiri district touches western part of Sangli district. According to 2011 census the population was 2581835 and the literacy rate was 76.6 %. The district is divided in to Five Administrative sub division mainly Khanapur, Walwa, Miraj, Tasgaon, Palus. The Shirala and Walwa Taluka was included in Walwa Sub. Division The Miraj Subdivision includes Atpadi and Khanapur and Palus Subdivision Include Kadegaon and Palus.

In the Sangli district, Sangli-Miraj-Kupwad, Ashta, Uran Islampur, Jat, Tasgaon, Vita, Palus, Kavathe Mahankal, Kadegaon, Khanapur, Shirala are the urban centers and emerging new industries in this urban area of the districts. Therefore, Sangli district is chosen for investigation.

Objectives:

1. To Study the Geographical Urbanization In The Sangli District 1901 To 2011.

Database and Methodology:

The primary data related to industrialization and urbanization is obtained through schedule techniques, interviews, discussions, and personal correspondence, etc.

The secondary data was collected from the following sources:

1. Data published by Government and Non-Government agencies.

2. Research Organizations, Articles.

3. Vital Statistics from various centers records, a town directly etc.

4. Published and unpublished thesis of records.

5. Some information has been taken from certain dissertations, books, journals and newspapers.

6. Various websites, related to urbanization.

The following formulas are used for the data processing

1) The Decadal Growth Rate:

$$GR = \frac{(Vp1 - Vp2)}{Vp2} \, x100/N$$

Where, GR = Growth Rate, Vp1= Present Value, Vp2= Past Value,

       N = Number of years

2) Average Number of Urban Centers:

$$Anj = \frac{NJ}{AJ} \, x \, 1000 \text{ sq. km.}$$

Where,

       Anj = the average number of urban centers of the tehsil.

       NJ = the number of urban centers in f* tehsil.

       Aj = the area of the j tehsil.

The Trend of Urbanization (1901 to 2011)

       The trend of Urbanization in Sangli District is shown in Table 1.1. The population living in urban areas and the percentage of the urban population in the Sangli district's total population has gradually increased since 1901. In 1901 total of 70191 populations lived in urban areas which increased up to 806343 populations in 2011 of Sangli district. At the time of the first Census after independence i.e., 1951, the population living in the urban areas was 141205. After the 1961 census, the urban population was increased steadily up to 1991 after 1991 growth of the urban population is decreases decade by decade during the study period.
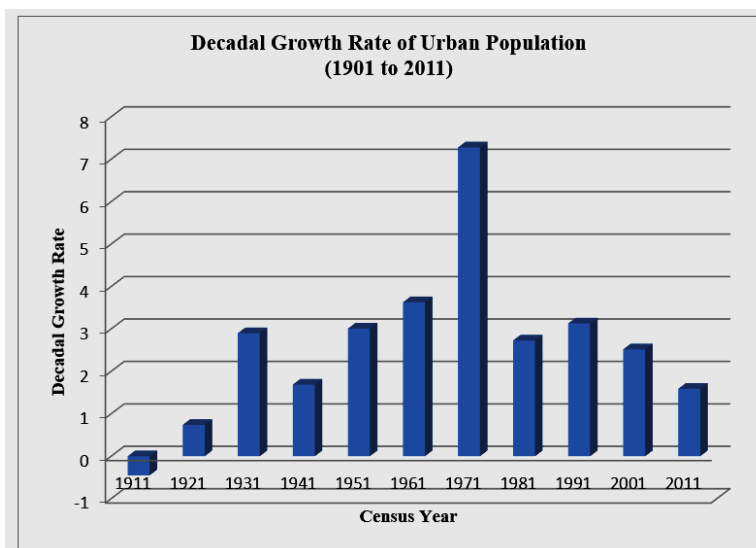
       The growth of the urban population in Sangli district is shown in Table 1.1 where it was clearly indicated that urban population has almost increased two-fold during 1991 to 1951 but in this period 1911 census data about urban population shows negative growth by -0.45 and this is only one census year where the urban population shows a negative trend. This negative trend was largely attributed to the devastating low intensity of disease, epidemic, and high intensity of drought in 1901 - 1911. After 1951, urban population in study region doubled during next 20 years i.e. in 1971 with total urban population of 332463. In 2001 total urban population is increased up to 695970 which is twofold as compared to the 1971 urban population but the time of doubling was 30 years so rate of increasing urban population is slower than in 1971. During the last two decades i.e. 2001 & 2011 urban population growth has declined. In the census

year 1991, the growth rate of the urban population is 3.13, which decreased by 0.61 in 2001 and the urban population growth rate is registered by 2.52 percent whereas again in 2011, this growth rate decreased by 0.93 and registered by 1.59 percent.

Table 1.1 Decadal Growth Rate of Urban Population
In Sangli District (1901 to 2011)

Sr. No.	Census Year	Urban Population	Decadal Growth Rate
1	1901	70191	---
2	1911	67051	-0.45
3	1921	72012	0.74
4	1931	92861	2.90
5	1941	108554	1.69
6	1951	141205	3.01
7	1961	192430	3.63
8	1971	332463	7.28
9	1981	423352	2.73
10	1991	555958	3.13
11	2001	695970	2.52
12	2011	832494	1.59

Source: District Census Handbook of Sangli District, 2011

**Decadal Growth Rate of Urban Population
(1901 to 2011)**

In Sangli district the highest growth rate of urban population is registered in 1971 with 7.28 growth rate and change in the urban population is 140033 as compared to last census year i.e., 1961. In the study region lowest growth rate of urban population is recorded in 1911 with -0.45 growth rate and this was only one year where growth of urban population is negative whereas in other all census year growth rate of urban population is positive which indicates urban population in Sangli district is increases during 1921 to 2011.

The Levels of Urbanization:

The analysis of the spatial distribution of various urbanization indices in Sangli district reveals a contrasting picture. However, it is important to note that this study alone does not provide a comprehensive understanding of the overall urbanization process in the district. To address this limitation, a composite measure of urbanization development has been constructed using six indicators.
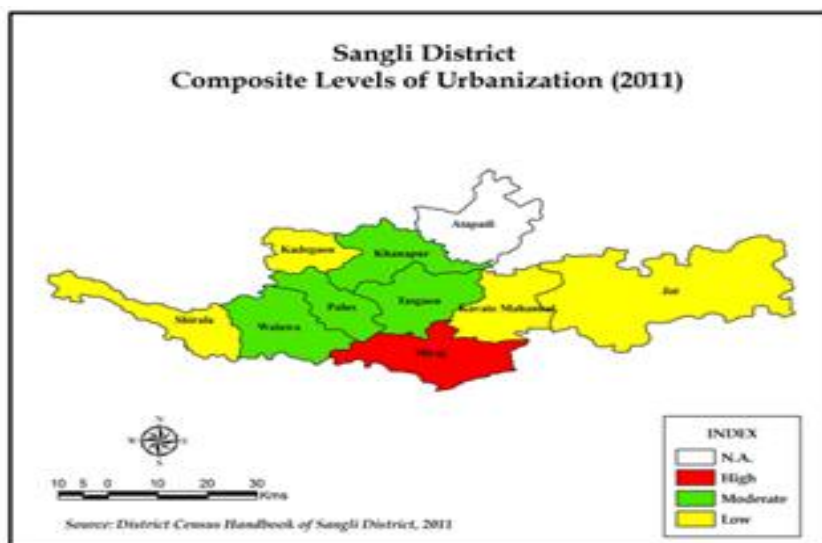
In order to highlight the inequalities of urbanization in Sangli district, a combined rank score has been calculated. This score takes into account the aforementioned indicators and enables a comparative assessment of urban centers within the district. Based on this score, the urban centers have been categorized into three types: high, medium, and low levels of urbanization.

It is worth noting that in this context, a lower index value indicates a higher level of urbanization, while a higher index value suggests a lower level of urbanization. This inverse relationship facilitates a clear understanding of the disparities in urban development across the district. By grouping the urban centers into different categories, the analysis aims to provide insights into the varying degrees of urbanization and highlight areas that require attention in terms of development and planning.

Table 1.2
Sangli District Levels of Urbanization (2011)

Sr. No.	Levels of Urbanization	Combined Rank Score	Number of tehsils & Urban population	Name of Tehsils
1	High	Below 15	1 (**62.35 %**)	Miraj
2	Medium	16 to 30	4 (**24.45 %**)	Khanapur, Palus, Walwa, Tasgaon
3	Low	Above 30	4 (**13.20 %**)	Kavathe - Mahankal, Jat, Shirala, Kadegaon

Source: District Census Handbook of Sangli District, 2011

Source: District Census Handbook of Sangli District, 2011

Conclusion:

The High Urbanized Region: Table 1.2 shows the Levels of Urbanization in Sangli District (2011). In this high urbanized region include one tehsil of the study region i.e. Miraj which has a 62.35 percent urban population. In this tehsil 1 municipal corporation, as well as it, is a district headquarter are located i.e. Sangli-Miraj-Kupwad. Sangli-Miraj-Kupwad is Municipal Corporation which has more than 5 lakh population. In these three tehsils located most of population. These three tehsils are

developed in Sangli district, where there are job opportunities available and the number of workers is also very large. Therefore, these three tehsils are the most urbanized. The composite value of Miraj tehsil is 11 which indicates high urbanization.

The Medium Urbanized Region: Khanapur, Palus, Walwa and Tasgaon tehsils of the study region have a composite index value ranging between 17 to 28, which indicates a moderate level of urbanization. In this category, Walwa and Khanapur tehsil has two towns namely Uran-Islampur, Ashta and Vita, Khanapur respectively. It is noticed that the towns in this category are small in size as well as has medium urban population concentration. In this medium urbanized region of the Sangli district total 24.45 present urban populations are lived.

The Low Urbanized Region: The low urbanized region includes four tehsils of the study region i.e., Kavathe - Mahankal, Jat, Shirala and Kadegaon which has a composite value of more than 30 which indicate low level of urbanization. These tehsils have only 13.20 percent of urban population because these tehsils most of the population are engaged in the agriculture sector therefore the rate of industrialization is low as compared to other urban tehsils in the Sangli district.

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