



An Analytical Study of Urbanization and Population Concentration in Karad Tehsil, Satara District, Maharashtra

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DOI - 10.5281/zenodo.18656004

Abstract:

Urbanization is a significant demographic process influencing population distribution, economic activities, and spatial development patterns. Karad Tehsil, located in Satara District of Maharashtra, has experienced rapid urban growth in recent decades due to its strategic location, educational institutions, transport connectivity, and expanding service sector. The present research paper analytically examines trends of urbanization and population concentration in Karad Tehsil from 1971 to 2021. Using secondary census data, the study evaluates temporal changes in total population, decadal growth rates, gender composition, and sex ratio. Statistical analysis and trend interpretation reveal an accelerated pace of urbanization after 2001, indicating increasing population concentration in urban areas. The study highlights key drivers of urban growth and discusses emerging demographic concerns such as pressure on infrastructure, housing, and civic amenities. The findings aim to support local-level urban planning and sustainable development strategies.

Keywords: Urbanization, Population Concentration, Karad Tehsil, Census Data, Satara District.

Introduction:

Urbanization is one of the most prominent socio-spatial processes shaping regional development in India. It involves a transformation of rural settlements into urban centers accompanied by population concentration, occupational shifts, and infrastructural expansion. Medium towns like Karad play a crucial role in regional urban systems by acting as growth poles for surrounding rural areas. Karad Tehsil has emerged as an important educational, medical, commercial, and transport hub in western Maharashtra. Rapid urban expansion and increasing population density have significantly altered its demographic structure. An analytical understanding of population concentration patterns is essential for effective urban governance, infrastructure planning, and

sustainable development. This study attempts to analyze the nature and pace of urbanization in Karad Tehsil over five decades.

Study Area:

Karad Tehsil is situated in the southern part of Satara District, Maharashtra. It lies at the confluence of the Krishna and Koyna rivers and enjoys a favorable geographical location with well-developed road and rail connectivity. The tahsil includes Karad city as the major urban center along with several rural settlements.

Fig 1: Location Map of Karad taluka

Its physical setting, availability of educational institutions, medical facilities, and industrial activities have encouraged population inflow from nearby rural regions.

Karad Tahsil is an important administrative and urban unit located in the southern part of Satara District of Maharashtra State. Geographically, the tahsil lies between 17°05' North to 17°25' North latitudes and 74°05' East to 74°25' East longitudes.

This latitudinal and longitudinal extension places Karad Tahsil within the Krishna river basin, making it a region of significant agricultural, economic, and urban importance. The tahsil occupies a strategic location in western Maharashtra and acts as a transitional zone between the Western Ghats (Sahyadri ranges) and the Deccan Plateau. Karad Tahsil is bounded by Patan Tahsil to the west, Satara Tahsil to the north, Kadegaon Tahsil of Sangli District to the east, and Koregaon Tahsil to the northeast. The total geographical area of the tahsil is approximately 1,040 sq. km (approximate), comprising both urban and rural settlements. Karad city, the tahsil headquarters, is centrally located and serves as a major urban nucleus for surrounding villages.

Objectives of the Study:

1. To examine decadal population growth trends.
2. To study gender-wise population distribution and sex ratio.
3. To assess the extent of population concentration and urbanization.
4. To identify major population-related urban concerns.

Database and Methodology:

The study is based on secondary data collected from Census of India publications for the years 1971 to 2011. Statistical techniques such as decadal growth rate calculation, percentage analysis, and comparative trend analysis have been used. The data have been interpreted to understand temporal changes in population concentration and urban growth patterns.

Population Growth Trends, Decadal Growth and Population Concentration in Karad Tahsil:

The total population of Karad Tahsil has shown a continuous increase during the study period. In 1971, the population was 50,190, which increased to 54,364 in 1981 and 56,819 in 1991. Moderate growth was observed during these decades. However, a sharp increase occurred after 2001, when the population rose to 60,103 and then dramatically increased to 1,29,256 in 2011 and 2,01,693 in 2021. This rapid growth reflects accelerated urbanization, expansion of municipal limits, and increased migration. The decadal growth rate remained relatively low between 1971 and 1991, indicating stable demographic conditions. A sudden rise in growth after 2001 suggests a phase of intense urban expansion and population concentration in Karad city and its peri-urban areas. The growth after 2011 further

confirms Karad's transformation into a prominent urban center within Satara District.

Table 1: Population Growth and Sex Ratio in Karad Tahsil (1971–2021)

Year	Total Population	Male	Female	Sex Ratio
1971	50,190	26,840	23,350	863
1981	54,364	29,040	25,324	872
1991	56,819	29,322	27,497	938
2001	60,103	30,963	29,140	950
2011	1,29,256	65,781	63,475	965
2021(Projected)	2,01,693	1,02,240	99,453	970

Source: Census of India (1971–2011)

Gender Composition and Sex Ratio:

Gender-wise population data reveal a balanced growth of male and female populations. The sex ratio has shown gradual improvement over time, increasing from 863 in 1971 to 970 in 2021. This positive trend indicates improving social conditions, better healthcare facilities, and rising awareness regarding gender equality in urban areas. Temporal Growth of Urban Area and Towns 1971–2021

represents the decadal growth of urban area and number of towns over a period of 50 years, reflecting the urbanisation process in the study region

Urban Area and Number of Town Growth:

In 1971, the urban area was only 2.30 sq. km, indicating a small and compact urban settlement. From 1971 to 1991, urban expansion was very slow, with the area increasing marginally to 2.56 sq. km. A noticeable change occurred after 1991, when the urban area expanded to 6.8 sq. km by 2001. The most rapid growth took place between 2001 and 2011, during which the urban area increased sharply to 37.81 sq. km. From 2011 to 2021, the urban area remained unchanged, suggesting a stage of urban stability or saturation. Growth of Number of Towns Only one town existed from 1971 to 1991, showing limited urban development. By 2001, the number of towns increased to two, indicating emergence of new urban centers. In 2011, towns increased to

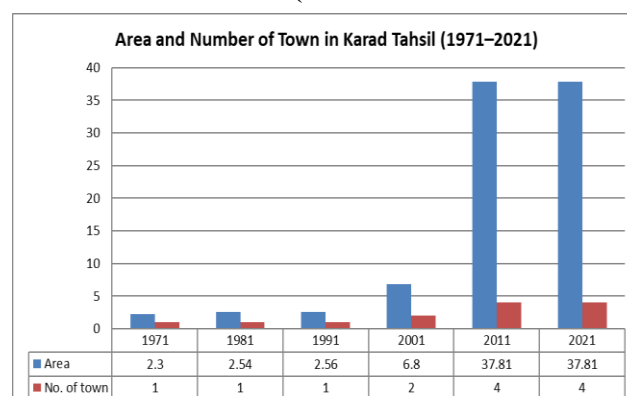
four, reflecting urban sprawl and administrative up gradation. No increase was recorded after 2011, showing controlled or planned urban growth.

Table 2: Area and Number of Town in Karad Tahsil (1971–2021)

Year	Area	No. of town
1971	2.30	1
1981	2.54	1
1991	2.56	1
2001	6.8	2
2011	37.81	4
2021(Projected)	37.81	4

Source: Census of India (1971–2011)

Fig:1 Area and Number of Town in Karad Tahsil (1971–2021)



Factors Responsible for Urbanization in Karad Tehsil:

- 1) Major factors contributing to urbanization and population concentration include:
- 2) Strategic location and transport connectivity

- 3) Growth of educational institutions and medical facilities
- 4) Expansion of trade, commerce, and service sector
- 5) Rural-to-urban migration from surrounding villages
- 6) Administrative importance and infrastructural development

Urban Population Concerns:

Rapid urbanization has also created several challenges such as:

- Pressure on housing and basic amenities
- Traffic congestion and environmental pollution
- Strain on water supply and sanitation systems
- Growth of informal settlements
- Increasing demand for employment opportunities

Conclusion:

The analytical study reveals that Karad Tahsil has undergone rapid urbanization and population concentration, particularly after 2001. While urban growth has contributed to economic development and improved services, it has also generated multiple demographic and infrastructural concerns. Sustainable urban

planning, decentralization of services, and balanced regional development are essential to manage future population growth effectively. The study provides valuable insights for planners and policymakers at the tahsil and district levels.

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