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A Geographical Study on Distribution of Rural Settlements in Chhatrapati Sambhajinagar District of Maharashtra

Dr. Sandeep R. Pathrikar

Abstract

This geographical study provides a comprehensive analysis of the spatial distribution and density of rural settlements in the Chhatrapati Sambhajinagar (formerly Aurangabad) district of Maharashtra. Positioned within the Godavari basin and characterized by the Deccan Trap basalt, the region's habitation patterns are a product of complex interactions between physical topography and historical socio-economic evolution. Utilizing secondary data from the 2001 and 2011 Census reports and District Socio-economic Reviews, the research employs quantitative geographical indices to evaluate settlement patterns across the district's nine tehsils. The empirical findings reveal that as of 2011, the district comprised 1,372 rural settlements, marking a decadal increase of 28 units. However, this growth is non-uniform; Gangapur Tehsil exhibits the highest settlement concentration (16.47%) and density (15.75 per 100 sq. km), attributed to the fertile alluvial plains and superior irrigation coverage from the Jayakwadi project. Conversely, the rugged terrain of the Satmala-Ajanta ranges in the north results in more dispersed, low-density settlements in tehsils like Soegaon. A significant trend identified is the emergence of "rurbanization" near the district headquarters, where traditional agrarian settlements are transitioning into satellite dormitories. The study concludes that while hydro-geological factors like water availability in the semi-arid climate remain foundational, proximity to urban industrial hubs is becoming a primary driver of settlement expansion. The research advocates for localized "counter-magnet" infrastructural development in peripheral tehsils to rectify regional imbalances and manage the accelerating pace of rural-to-urban migration.

Keywords: *Rural Settlement Geography, Spatial Distribution, Settlement Density, Godavari Basin Habitation, Rurbanization, Deccan Plateau Topography, Regional Planning*

Introduction

The geographical study of rural settlements in Chhatrapati Sambhajinagar (formerly Aurangabad) district offers a fascinating insight into how physical environment and cultural history shape human habitation. As a region primarily located in the Godavari basin with a heritage spanning from the Satavahana to the Mughal eras, the distribution of its 1362 villages is heavily influenced by water availability, fertile basaltic soils, and the rugged terrain of the Ajanta and Sahyadri ranges.

The term 'human settlement' also describes the arrangement of people and homes. The place where individuals establish their permanent residence is called a settlement. Human settlements are divided into two primary categories based on factors such as population size, lifestyle, employment structure, and socioeconomic features. They are settlements, both rural and urban. Urban towns are home to people who work in non-agricultural pursuits, while rural communities are mostly inhabited by those involved in agriculture and related industries (R. L. Singn, 2002). Many other geographers have provided explanations of the different kinds of rural communities using a range of standards and statistical techniques. In contrast to its urban cousin, a rural community is a small, straightforward collection of houses situated in a convenient location (Singh and Kumar, 2018).

'A rural settlement is a sparsely populated community far away from densely populated urban areas.' It is mostly made up of families that live in small homes on large plots of land. A rural settlement is a sparsely populated community in the countryside, characterized by low population density, close ties to land, and economies based on primary activities like farming, fishing, and forestry, differing from dense, service-oriented urban areas with complex infrastructure. These settlements, including villages, hamlets, and farms, vary in size and pattern.

Objectives:

The main objective of present study is to analyses geographical impact on distribution of rural settlements in Chhatrapati Sambhajinagar District of Maharashtra.

- To analyze spatial distribution of rural settlements.

- To understand physical and socio-economic determinants.
- To study changes spatial density of rural settlements changes.

Study Area:

Chhatrapati Sambhajinagar district, situated in the Marathwada region of Maharashtra, is a land of geographical and historical transitions. Aurangabad district is lies in between 19°23'43" N to 20°39"36" N latitude and 74°36'46" E to 75°57'03" E longitudes. District consists total 9 tehsils with total population of the district is 3701282, whereas 1924469 are male and 1776813 are female according to the year 2011 census. The district lies on the Deccan Plateau, characterized by Deccan Trap basalt. It features the Ajanta mountain range in the north and the Godavari river basin in the south. The Godavari is the principal river of this region with supported by tributaries like the Purna, Shivna, Kham and Dudhana. Climate of study region is semi-arid with an average rainfall of 734 mm. Water scarcity is a significant factor in settlement clustering. The total geographical area approximately 10,442 sq. km, the district is predominantly rural (approx. supporting a diverse network of settlements. This study explores the spatial distribution of these rural settlements and the physical and socio-economic factors that govern their placement and growth.

Database and Methodology:

Present discussion is based on the secondary data. Data collected from Census Report Aurangabad District (2001 and 2011) and Socioeconomic Review of Aurangabad District. Distribution of rural settlements and density of rural settlement calculates using formulas.

$$\text{Density of Rural Settlement} = \frac{\text{Total No. of Rural Settlements}}{\text{Total Geographical area}} \text{ X 100}$$

Distribution of Rural Settlements:

According to Table No. 1, in Chhatrapati Sambhajinagar district total 1344 rural settlements observed in 2001 and 1372 rural settlements noted in 2011, it means in last decade 28 rural settlements added in district. But this growth is not uniform in all tehsil.

Table No.1 - Chhatrapati Sambhajinagar District: Distribution of Rural Settlements

Sr. No.	Name of Tehsil	No. of Rural Settlements		% of Rural Settlements to Total Rural Settlements		Changes in % of Rural Settlements to Total Rural Settlements
		2001	2011	2001	2011	
1	Kannad	201	212	14.96	15.45	0.50
2	Soygaon	83	85	6.18	6.20	0.02
3	Sillod	131	132	9.75	9.62	-0.13
4	Phulambri	88	92	6.55	6.71	0.16
5	Aurangabad	187	190	13.91	13.85	-0.07
6	Khultabad	76	77	5.65	5.61	-0.04
7	Vaijapur	165	167	12.28	12.17	-0.10
8	Gangapur	225	226	16.74	16.47	-0.27
9	Paithan	188	191	13.99	13.92	-0.07
Chhatrapati Sambhajinagar District		1344	1372	100.00	100.00	0.00

*(**Source of Data**- District Census Handbook 2001 and 2011)*

Table No. 1, reveal distribution of rural settlements of Chhatrapati Sambhajinagar District. In 2001, highest numbers of rural settlements were observed in Gangapur tehsil by 225 while it's slightly increased by one settlement and noted 226 in 2011. Other hand lowest numbers of rural settlements were detected in Khultabad tehsil with 76 rural settlements. In Khultabad tehsil also increased one rural settlement during 2001 to 2011. Highest percentage of rural settlement to total rural settlement of district observed in Gangapur tehsil by 16.74 and 16.47 percents respectively in 2001 and 2011 because of fertile plains of Gangapur. While lowest percentage of rural settlement to total rural settlement of district noted in Khultabad tehsil with 5.65 and 5.61 percents correspondingly. Positive changes in percentage of rural settlement to total rural settlement of district noted in Kannad, Soygaon and Phulambri tehsils and negative changes in percentage of rural settlement to total rural settlement of district observed in Sillod, Aurangabad, Khultabad, Vaijapur, Gangapur and Paithan tehsils.

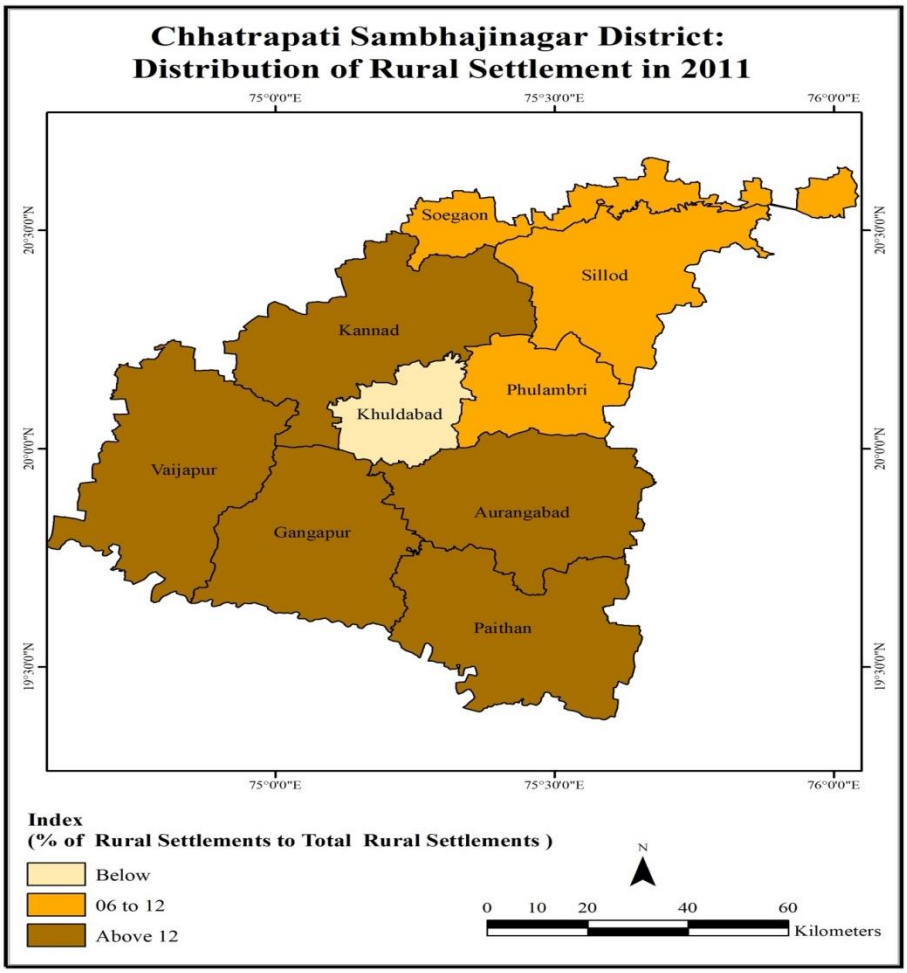

Fig. No. 1

Figure No. 1 illustrates the Distribution of Rural Settlements in the Chhatrapati Sambhajinagar (formerly Aurangabad) District based on 2011 data. It categorizes different tehsils (sub-districts) based on their percentage of rural settlements relative to the district's total.

High Concentration (Above 12%): This category includes the western and southern tehsils of Kannad, Vaijapur, Gangapur, Aurangabad, and Paithan.

Moderate Concentration (06 to 12%): This category includes the northern and central-eastern tehsils of Soegaon, Sillod, and Phulambri.

Low Concentration (Below 6%): This category consists solely of the Khuldabad tehsil, located in the central-western part of the district.

Table No. 2 - Chhatrapati Sambhajinagar District: Density of Rural Settlement in 2011

Sr. No.	Name of Tehsil	Total Geographical Area in Sq. Km.	No. of Rural Settlements	Density of Rural Settlements per 100 Sq. Km.
1	Kannad	1637	212	12.95
2	Soygaon	652	85	13.04
3	Sillod	1233	132	10.71
4	Phulambri	695	92	13.24
5	Aurangabad	1354	190	14.03
6	Khultabad	494	77	15.59
7	Vaijapur	1586	167	10.53
8	Gangapur	1435	226	15.75
9	Paithan	1356	191	14.09
Chhatrapati Sambhajinagar District		10442	1372	13.14

*(**Source of Data**- District Census Handbook 2001 and 2011)*

Table No. 2 and Fig. No. 2 illustrates the Density of Rural Settlements across nine different tehsils in the Chhatrapati Sambhajinagar District (formerly Aurangabad) based on 2011 Census data. Gangapur and Khultabad exhibit the highest density of rural settlements, both appearing to exceed 15 settlements per 100 sq. km. Vaijapur and Sillod show the lowest density in the district, hovering just above 10 settlements per 100 sq. km. Most tahsils (such as Kannad, Soygaon, Phulambri, and Paithan) maintain a relatively consistent density between 13 and 14 settlements per 100 sq. km. The distribution is fairly uniform across the district, with only minor variations (ranging roughly from 10 to 16), suggesting a relatively balanced rural development pattern during that period.

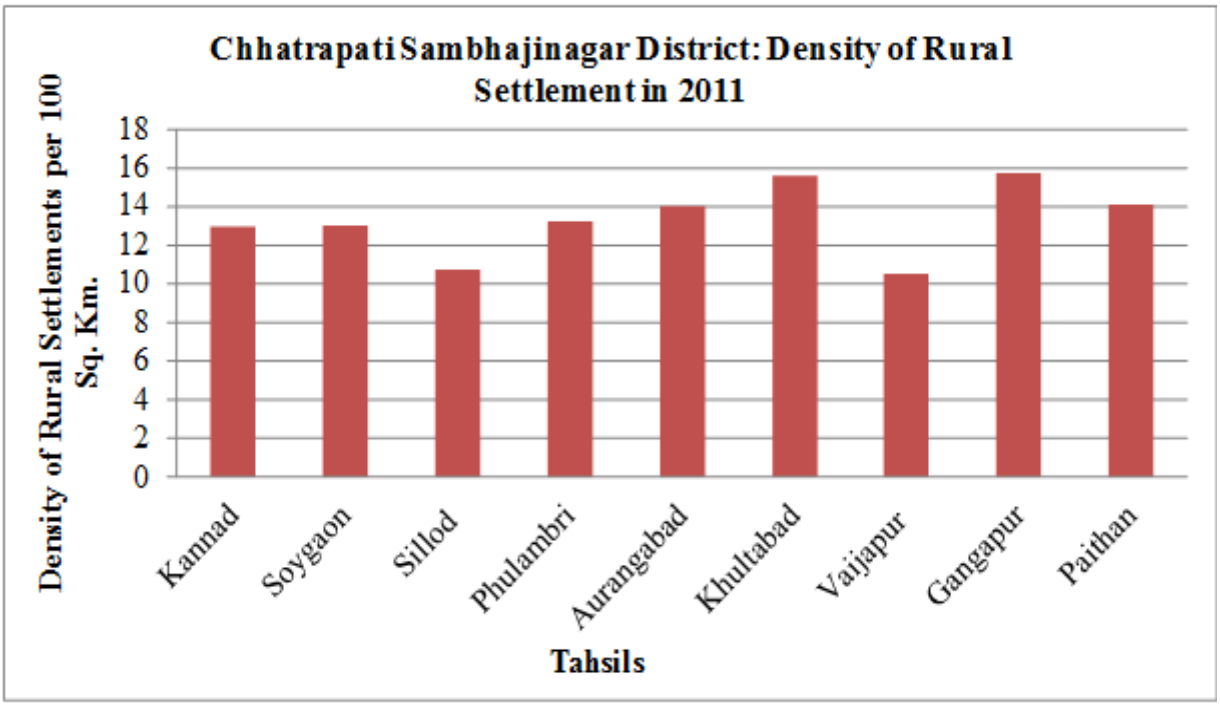

Fig. No. 2

Conclusion:

The geographical study reveals that while physical factors (water and terrain) historically dictated where people lived in Chhatrapati Sambhajinagar, economic drivers are now reshaping the map. The highest concentration of rural settlements is found in the south and west, where irrigation from the Jayakwadi Dam (Nathsagar) supports intensive agriculture. The northern tehsils like Soegaon remain relatively sparsely populated with dispersed settlements due to the rugged Satmala-Ajanta hills. Rural settlements adjacent to the city of Chhatrapati Sambhajinagar are undergoing "rurbanization," losing their agricultural character and becoming satellite dormitories for the urban workforce. The study concludes that regional planning must focus on providing ‘counter-magnet’ facilities in peripheral tehsils like Soegaon and Kannad to reduce the imbalance in infrastructure and prevent excessive rural-to-urban migration.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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