

Spatial Patterns of Scheduled Caste Population in Deoghar District, Jharkhand

Srikant Kumar

Research Scholar, University Department of Geography, Ranchi University, Ranchi, India

Email: [srikantkumar4\[at\]gmail.com](mailto:srikantkumar4[at]gmail.com)

Ph No:8789766964

Abstract: *Scheduled castes and scheduled tribes form a fundamental component of the population. These groups are recognized as socio-economically backward and deprived groups in India. In the Indian Constitution, special preferences should be given to these dejected groups. Still, these communities remained backward not only in economic terms but also in terms of literacy, health, etc. The spatial patterns of distribution and growth of the Scheduled Castes would be essential to understanding the causes of lack and discrimination. The SCs are mostly intensely found in the alluvial plains and live by working on the land, that belongs to others. This research article investigates the spatial patterns of Scheduled Caste (SC) population distribution in Deoghar district, Jharkhand. The study aims to provide a comprehensive understanding of the geographic distribution of SC communities within the district, exploring factors influencing their settlement patterns and potential implications for social development and policy interventions. Utilizing geographic information systems (GIS) and statistical analysis, the research analyzes demographic data to identify clusters, trends, and disparities in the spatial distribution of SC populations.*

Keywords: Scheduled Caste, Spatial Distribution, GIS Mapping, Jharkhand, Demographic Analysis, Inclusive Development

1. Introduction

Indian society is still largely structured based on caste and religion, which involve the social, economic, and political structure of the society and thereby influence the course of population change (Abha, 1992). A social aspect in Indian cities, which is very peculiar in the society, is the distribution of scheduled castes and scheduled tribes. The scheduled castes and scheduled tribes encompass the 'core' among the weaker sections in India (Ranade, 1990). The spatial distribution of population is one of the most significant topics of human geography (Husain, 2011). It is notably important because man has brought unbelievable change to the earth's surface. The term distribution refers to the way the people are spaced over the earth's surface; the stress is that, on the pattern of actual place locations of a population (Chandana and Sidhu, 1980). The President of India by Gazette notification, under article 341(1) of the Indian Constitution, has declared some castes, races, or tribes as scheduled castes as there is no standard definition of scheduled castes. The term "Scheduled Castes" appeared for the first time in the Government of India Act 1935. Before this date they were generally known as "Depressed Castes", which were systematically categorized by Hutton, the Census Commissioner of India in 1931. The spatial patterns of distribution and growth of the Scheduled Castes would be essential to understanding the causes of poverty and inequity. The SCs are mostly concentrated in the alluvial plains and live by working on the land, which belongs to others. Gosal and Mukherjee (1972) in their all-India study have mentioned that people belonging to the Scheduled Caste community are mostly concentrated in those areas where the feudal system has persisted over a long period and where cash crop farming has gained importance. In such a system Scheduled Caste persons cultivate the land either as tenants or agricultural laborers apart from doing their traditional vocations.

The most important factor of spatial distribution and concentration of Scheduled Castes in different areas is the

service they provide to upper castes. Their distribution pattern is also determined by socioeconomic attributes of agriculture, religious alteration, and the presence of other population groups such as Scheduled Tribes.

Population and natural resources are the most vital aspects of regional development. In this context distribution of tribal population is a significant aspect. India is having the second largest concentration of tribal population in the world. There are several tribal communities in India, known by different names such as the Adivasis- the original inhabitants, Vanya Jati (who live in the forest), Adim Jati- primitive people, etc. The tribal community is very primitive and backward in India. Only those who have gone to urban centers to earn their livelihood have to some amount got expenditure on modern culture and civilization. The Indian tribes display a very high degree of ethnic variety both in their racial composition and dialectal and linguistic affinity. There are 285 different tribal communities, which show an important index of their ethnic diversity. No less impressive is the pattern of their spatial distribution, it has been commonly observed that the tribes reveal strong tendencies of clustering and concentration in the hilly, forested, and geographically inaccessible tracts of the country (Ahmad, 2001).

Deoghar district, located in the state of Jharkhand, is characterized by a diverse demographic landscape. The Scheduled Caste communities play a significant role in the social fabric of the region. Understanding the spatial distribution of these communities is crucial for effective policymaking, resource allocation, and targeted development initiatives.

2. Study Area

The Deoghar district is located in the western portion of Santhal Parganas. It shares its boundary with the Banka and Jamui districts in the north, the Dumka district in the east, the Jamtara district in the south, and the Giridih

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district in the west. The district extends from 24.0.03' N to 23.0.38' N and from 86.0.28' E to 87.0.04' E; (Fig.1) it has an area of 2481 km². It had a population of 1,491,879 people according to the 2011 Census of India.

3. Objectives

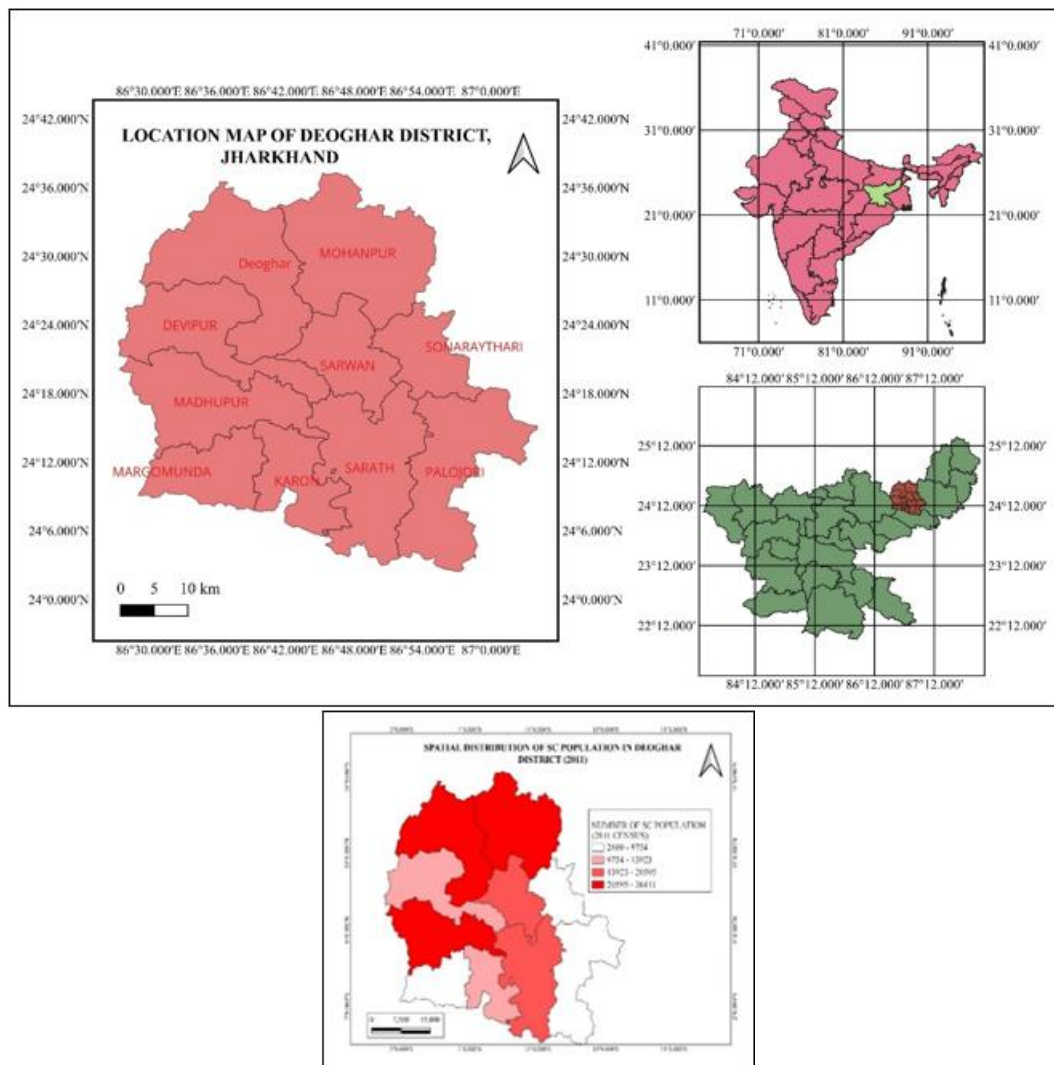


Figure 1: Location map of the study area, prepared by Author through Qgis Software.

- 1) To analyze the spatial distribution of Scheduled Caste populations in Deoghar district.
- 2) To identify clusters or concentrations of SC communities and assess the factors contributing to their settlement patterns.
- 3) To explore the socio-economic and infrastructural aspects of the areas with a high concentration of SC populations.
- 4) To provide recommendations for inclusive development and targeted interventions based on the spatial analysis.

4. Data Base & Methodology

Utilizing census data, demographic surveys, and other relevant sources, demographic information on the Scheduled Caste population will be collected. Geographic Information Systems will be employed to create spatial maps illustrating the distribution patterns of SC communities. Statistical methods, such as spatial autocorrelation and cluster analysis, will be applied to identify significant spatial patterns and hotspots. Factors influencing the settlement patterns of SC populations, including socio-economic indicators and infrastructure development, will be examined.

5. Results & Discussion

The presented research focuses on understanding the spatial patterns of Scheduled Caste (SC) population distribution in Deoghar district, Jharkhand. The study aims to provide insights into the geographic distribution of SC communities, factors influencing their settlement patterns, and implications for social development and policy interventions. The research utilizes GIS mapping, statistical analysis, and socio-economic evaluation to achieve its objectives.

5.1 Population Distribution in the Block

The table presents the population distribution of SCs in different blocks of Deoghar district for the years 2001 and 2011. The data reveals changes in population over the decade.

Table 1: Block wise total and SC population of Deoghar District, (2001 & 2011 Census)

S. No	Block Name	Total Population (2001)	SC Population (2001)	Total Population (2011)	SC Population (2011)
1	DEOGHAR	256063	36411	346089	26535
2	MADHUPUR	167773	22023	190748	20671
3	MARGOMUNDA	73580	2600	86733	3221
4	DEVIPUR	84658	11005	107015	14290
5	SARATH	136950	19772	169238	25366
6	SONARAI TARAH	55693	6234	76116	7291
7	MOHANPUR	143479	20869	175845	23976
8	SARWAN	128938	16841	90757	14932
9	PALJORI	128032	9537	161281	11778
10	KARON	119497	10405	88251	11017
	TOTAL	1294663	155697	1492073	159077

Spatio-Temporal Change of SC Population in Deoghar District

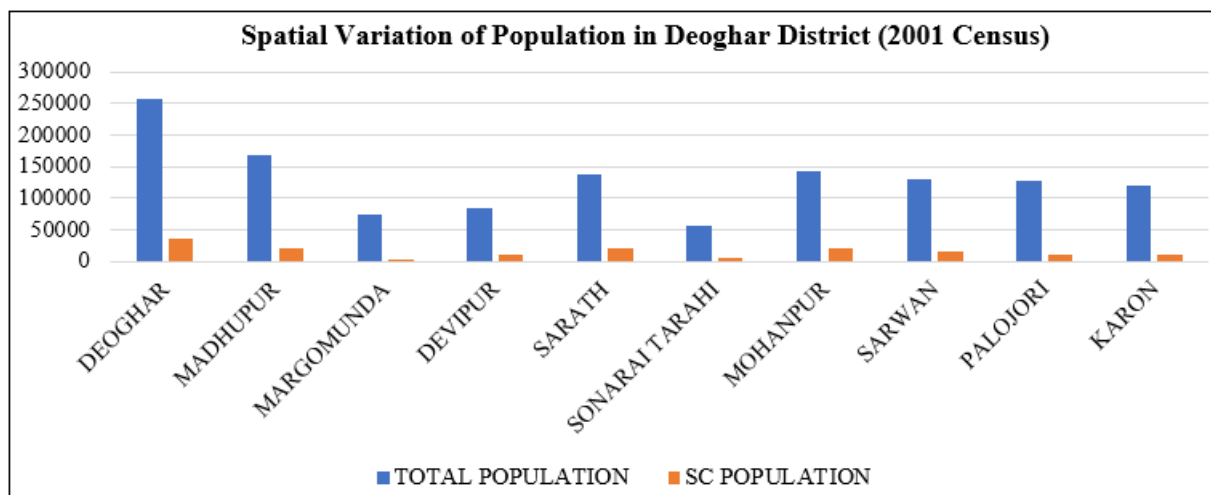


Figure 2: Sources: Prepared By author (QGIS) Software)

From the above figure, it is clear that Schedule caste population in Deoghar district is not static.

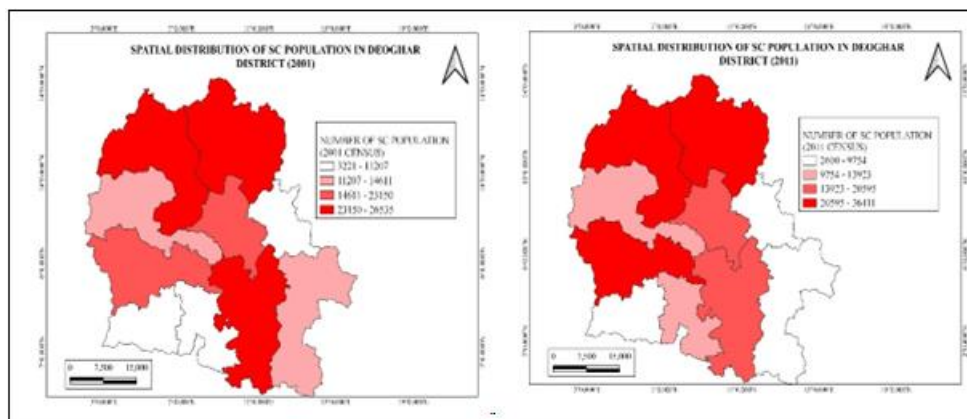


Figure 3: Spatial Variation of Population in Deoghar District (2001 Census)

Sources: Census of India

Decadal growth rate of schedule caste population is 2.17% and intricate relationship between Schedule caste and Total population of Deoghar district is very positive. Highest Schedule caste population Holds of Deoghar block (16.68%) to total population and with this Madhupur Block holds second highest Schedule caste population in the Deoghar District. In the same mean decadal growth rate of the total population is 15.24 % therefore yearly growth rate of the total population is 1.524%. so comparatively the growth rate of the SC population in the Deoghar district is lower than the average growth rate of the Scheduled Caste population.

Education Facilities, D improvement of Income facilities, and government initiatives are very effective works for developing the different social groups, such as the scheduled caste population of Deoghar District. The sex ratio of Deoghar District is 933 (2011 Census) but the entire Jharkhand state sex ratio is 948 and the particularly the Sex ratio of Male female ratio of Schedule caste population of Deoghar District is 938 this number indicates that the male-female ratio among the scheduled caste population of Deoghar district is not an alarming position because is not very much Higher variation among national and also regional.

Decadal Growth rate of Population:

$$t \sqrt{\left(\frac{P_i}{P_o} - 1\right) * 100}$$

P_i= Number of Last census population,

P_o= Number of before population, and

t= time interval between two censuses.

The spatial distribution of the Schedule caste population is also changing. (Fig-2) the above figure shows three classification zones of the Schedule caste population in Deoghar District, High Concentration, Moderate Concentration, and low concentration. According to the 2011 census, the highest concentration of the Schedule caste population of the Deoghar district encompasses the blocks of Deoghar, Saharanpur & Madhupur and whereas the according to census 2001 it was some Deoghar, Madhapur & Sarath. The Deoghar district encompasses the highest concentration of Schedule caste population than the rest blocks, which indicates that the Deoghar block is much more developed than any other Blocks of the Deoghar District. the lowest concentration of the Schedule caste population had Sarwan and Sarath and the lower SC population had the

5.2 Gender-wise Population Distribution in Blocks:

The table provides a breakdown of SC population in Deoghar district by gender for the year 2011

Table 2: Gender-wise SC Population in the Block (2011 Census)

S. No.	Blocks	Male	Female	Total
1	Deoghar	13739	12796	26535
2	Mohanpur	12357	11619	23976
3	Devipur	7390	6900	14290
4	Madhupur	10741	9930	20671
5	Sarath	13049	12317	25366
6	Sarwan	7776	7156	14932
7	Sona rai Tarhi	3796	3495	7291
8	Margo Munda	1627	1594	3221
9	Palo Jori	5954	5824	11778
10	Karon	5621	5396	11017
	Total	82050	77027	159077

The presented research investigates the spatial patterns of Scheduled Caste (SC) population distribution in Deoghar district, Jharkhand, utilizing data from the 2001 and 2011 Censuses. The study aims to understand the geographic distribution of SC communities, factors influencing their settlement patterns, and the implications for social development and policy interventions.

The SC population in Deoghar district increased from 155,697 in 2001 to 159,077 in 2011. The blocks with notable SC populations include Deoghar, Mohanpur, Sarath, and Madhupur. Deoghar block experienced a decrease in SC population, from 36,411 in 2001 to 26,535 in 2011. Mohanpur, Sarath, and Madhupur blocks showed an increase in SC population over the decade. Margomunda and Sonarai Tarahi blocks also witnessed growth, though with smaller absolute numbers. (Table.1 & Table 2)

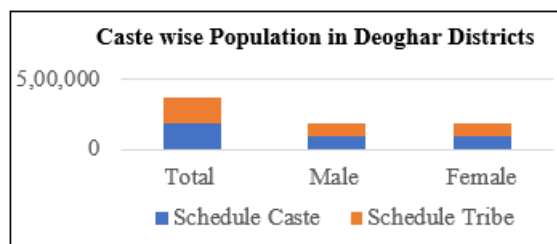


Figure 4: Caste wise Population in Deoghar Districts

The gender distribution among SC populations in different blocks is relatively balanced. In the Deoghar block, for instance, there were 13,739 males and 12,796 females among the SC population in 2011.

The spatial distribution of SC populations is influenced by socio-economic attributes, with areas where the feudal system persists and cash crop farming is prominent having higher SC concentrations. The service provided by SCs to upper castes plays a significant role in their distribution patterns. (Fig.5)

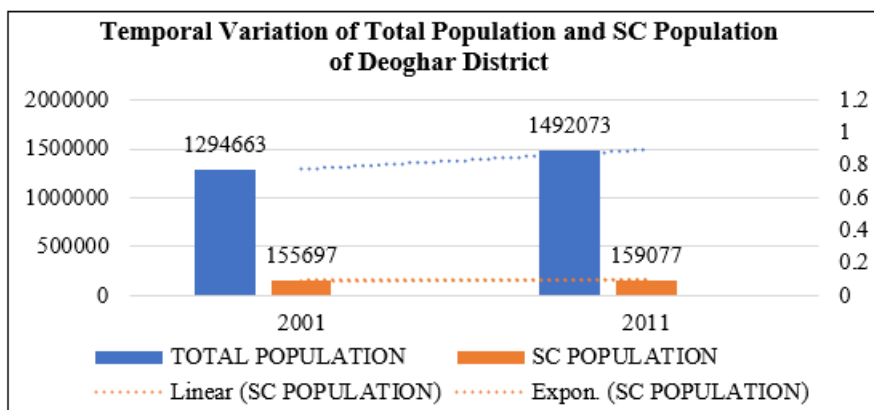


Figure 5: Temporal Variation of Total Population and SC Population of Deoghar District

The study recommends targeted development initiatives in areas with higher SC concentrations to address socioeconomic disparities. Education and skill development programs are suggested to uplift SC communities and reduce literacy gaps. Prioritizing infrastructure development in SC-

dominant areas can improve living conditions and facilitate economic activities.

6. Conclusion

The analysis of population distribution in Deoghar district reveals varying concentrations of Scheduled Caste communities across different blocks. The gender-wise breakdown shows a balanced distribution between males and females within the SC population. The changes in population over the decade highlight dynamic demographic patterns. The analysis of the spatial patterns of Scheduled Caste (SC) population distribution in Deoghar district, Jharkhand, sheds light on the dynamics of demographic changes and their implications for social development. The study, utilizing GIS mapping, statistical analysis, and socio-economic evaluation, aimed to understand the geographic distribution of SC communities, factors influencing their settlement patterns, and the potential implications for policy interventions.

The findings reveal that the SC population in Deoghar district increased from 155,697 in 2001 to 159,077 in 2011. Notable blocks with significant SC populations include Deoghar, Mohanpur, Sarath, and Madhupur. However, the distribution patterns vary across different blocks, suggesting the influence of socioeconomic factors and infrastructure development. The gender-wise distribution among SC populations in different blocks is relatively balanced, with a comparable number of males and females. This indicates a more equitable distribution of the SC population in terms of gender.

The spatial distribution of SC populations is closely linked to socio-economic attributes, particularly in areas where the feudal system persists and cash crop farming is prominent. The role of SCs in providing services to upper castes significantly influences their distribution patterns. The study recommends targeted development initiatives in areas with higher SC concentrations to address socioeconomic disparities. Education and skill development programs are suggested to uplift SC communities and bridge literacy gaps. Prioritizing infrastructure development in SC-dominant areas can improve living conditions and facilitate economic activities.

In conclusion, understanding the spatial patterns of the SC population in the Deoghar district is essential for formulating effective policies, allocating resources, and implementing development programs that cater to the specific needs of these communities. The recommendations provided aim to contribute to inclusive development and bridge the existing socio-economic gaps within the district.

7. Recommendations

7.1 Targeted Development Initiatives:

Implementing development programs in areas with higher SC concentrations to address socio-economic disparities.

7.2 Education and Skill Development:

Focusing on educational and skill development initiatives to uplift the SC communities and reduce literacy gaps.

7.3 Infrastructure Development:

Prioritizing infrastructure development in SC-dominant areas to improve living conditions and facilitate economic activities.

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