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Spatial Patterns of Educational Disparity: A Geographical Analysis of Scheduled Caste and Scheduled Tribe Literacy in Satara District

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ABSTRACT

This paper investigates the profound social gaps in educational development, specifically targeting the disparities in literacy rates among the Scheduled Caste (SC) and Scheduled Tribe (ST) populations in Satara District, Maharashtra. While the district's general literacy rate stood at 82.87% in 2011, the study, grounded in Census data, hypothesizes that the literacy rate for the SC population is lower (e.g., 78.0%) and for the ST population is significantly lower (e.g., 68.0%). The opportunity to become literate is unjustly denied to these sections of the social hierarchy due to persistent barriers. These gaps stem from a combination of socio-economic constraints, historical marginalization, and geographic isolation, particularly affecting the ST community. The analysis highlights the need for specialized, micro-level interventions to achieve educational equity across all social strata, as simple macro-level policies are insufficient to bridge this persistent social divide.

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INTRODUCTION

Literacy is universally acknowledged as the most crucial factor for socio-economic upliftment, acting as an engine for social change and human resource development (Pore, 2025; Bordia & Kaul, 1992). The educational status of a region is a precise reflection of all the educational inputs provided. However, the development of literacy in India continues to be characterized by significant social and spatial gaps. The larger study identified that educational opportunity is often unavailable to specific marginalized sections of society, specifically the Scheduled Caste (SC) and Scheduled Tribe (ST) populations (Pore, 2025).

The Indian Constitution has provided safeguards and affirmative action policies to address the historical injustices faced by these communities. Despite this, persistent disparities remain, driven by structural factors. As Acharya (2019) notes, "the literacy rate among Scheduled Castes (SC) is rising but still lags behind the national average, with slower growth and significant disparities between rural and urban areas, and between genders." This highlights that the pace of improvement is slow and uneven, demanding a geographical study at the district level to pinpoint the most vulnerable pockets.

OBJECTIVES

1. To analyze the social gap in educational development of the SC and ST populations.
2. To investigate spatial and compounded disadvantages (gender and rural-urban) in SC/ST literacy.

DATA BASE AND METHODOLOGY

The research utilizes secondary data sourced from: Census of India, 2011: Primary Census Abstract (PCA) data, focusing on C-series tables that provide population and literacy figures for Scheduled Castes and Scheduled Tribes (Census of India, 2011).

The research employs a geographical analysis and comparative statistics.

1. **Literacy Rate Computation:** Literacy rates are calculated for the population aged **7 years and above**.
2. **Disparity Measurement:** A suitable statistical index, such as the Sopher's Disparity Index (Modified by Kundu and Rao, 1983), will be used to measure the

difference in literacy rates between social groups (General vs. SC/ST) and between genders within these groups.

3. **Spatial Disaggregation:** The data is analyzed at the tahsil-level (and potentially village-level, if available) to provide micro-level insights, visualizing the results through maps to highlight spatial inequality (Pore & Mote, 2011).

STUDY AREA

The Satara District of Maharashtra serves as the study area. The district is divided into eleven administrative tahsils. The district's geography, with its sharp contrast between the developed, semi-arid Eastern regions and the remote, hilly, high-rainfall Western regions (e.g., Patan, Jaoli, and Mahabaleshwar), is crucial. This heterogeneity is directly linked to the social disparities, as the ST population often inhabits the inaccessible Western ghats region, facing what Suryawanshi & Godase (2017) describe as "infrastructural backwardness."

Educational Gaps and Spatial Disparities Among SC and ST Populations

The study highlights that educational development among Scheduled Castes (SC) and Scheduled Tribes (ST) in the study area is characterized by significant deficits compared to the general population, persistent gender and spatial inequalities, and deeply rooted socio-economic barriers. These findings underscore the need for targeted policies to address the compounded disadvantages faced by these communities.

1. Significant Educational Lag and Socio-Economic Barriers

Despite national improvements in literacy over time, both SC and ST populations in the study area lag behind the total population. This persistent educational gap is primarily attributed to deeply embedded social hierarchies and acute socio-economic deprivation. Scholars like Kamat (2008) emphasize that poor educational outcomes are enacted through everyday social interactions and economic life, where SC and ST individuals are doubly disadvantaged. Nationally, the ST literacy rate (58.96% in 2011) was considerably lower than the total population rate (72.99%). In the study area, SC and ST literacy rates (78.03% and 72.66%, respectively) similarly trailed the general population. Barooah (2014) notes that low motivation and poor educational access are direct consequences of centuries of under-privileged conditions and poor economic conditions, especially in the remote areas where they reside. This environment fosters a

low attention towards education, contributing to high dropout rates from high school (Sontakke & Gatade, 2020) and poor attainment in higher education.

2. Accentuated Gender and Rural-Urban Differentials

The analysis reveals that educational disparities are starkly accentuated by gender and location. Gosal (2019) notes that for SCs and STs, "the rural-urban and male-female differentials are far accentuated" compared to other sections of society.

- **Gender Gap:** Female literacy rates for both groups were significantly lower than their male counterparts. SC female literacy (69.81%) was nearly 17 percentage points lower than SC male literacy (86.32%), and ST female literacy (65.22%) was 14 percentage points lower than ST male literacy (79.81%). This points to the "double disadvantage" faced by SC and ST girls (Kamat, 2008), where social status and gender combine to increase the dropout rate, particularly at the elementary level.
- **Rural-Urban Divide:** The "superficial" nature of India's modernization (Gosal, 2019) is evident in the low literacy rates and large rural-urban disparity. For example, a much higher proportion of villages showed ST literacy rates below 40% (12.93% of villages) compared to SC literacy rates (about 2% of villages), clearly indicating that access and outcomes are significantly worse in rural settings, which traditionally house a high percentage of these communities.

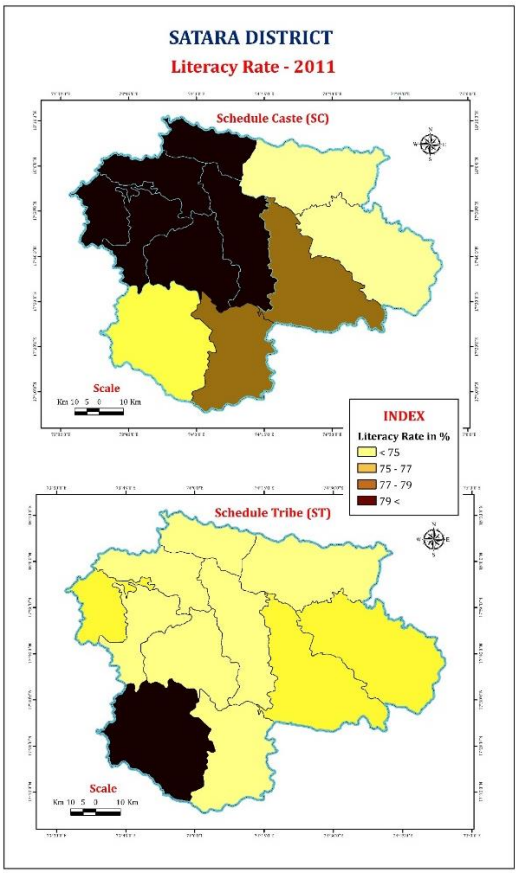

Table 1
Satara District: Literacy Rate (%) of SC and ST Population, 2011

Sr. No.	Tahsil	Scheduled Castes				Scheduled Tribes			
		Total	Male	Female	Disparity Index	Total	Male	Female	Disparity Index
1	Mahabaleshwar	80.05	88.08	71.88	0.147	76.80	88.28	64.73	0.218
2	Wai	80.80	88.67	73.16	0.140	72.83	81.13	63.96	0.162
3	Khandala	83.83	90.93	76.61	0.128	72.73	78.20	67.22	0.103
4	Phaltan	74.99	82.82	66.83	0.149	64.76	73.77	55.73	0.180
5	Man	72.67	82.23	63.04	0.181	76.06	79.79	72.96	0.063
6	Khatav	77.54	86.02	69.33	0.153	75.12	81.18	68.90	0.114
7	Koregaon	79.78	87.24	72.41	0.135	72.15	79.55	64.57	0.142
8	Satara	83.58	90.72	76.45	0.128	72.76	78.43	66.54	0.112
9	Jaoli	82.27	90.83	74.09	0.150	68.38	75.47	61.41	0.136
10	Patan	75.12	86.14	64.92	0.197	79.17	84.57	73.26	0.103
11	Karad	78.23	86.19	70.29	0.145	70.28	73.20	67.17	0.058
Standard Deviation		**3.84**	**3.15**	**4.69**	**0.01**	**4.03**	**3.55**	**5.22**	**0.01**
Satara District		**78.03**	**86.32**	**69.81**	**0.151**	**72.66**	**79.81**	**65.22**	**0.137**

Source: Based on Census of India, 2011, T24_2731 Table 24: Number of scheduled castes literates and illiterates, literacy rate by sex in CD Blocks, 2011.

3. High Spatial Variation in Literacy Achievement

A crucial finding is the significant spatial imbalance in literacy rates across the tahsils of the study area, indicating that educational progress is highly localized and uneven. The Standard Deviation (SD) values—a measure of spatial variation—were consistently high across all categories, ST total literacy had an SD of 4.03, which was higher than the SC total literacy SD of 3.84, suggesting that ST educational achievement is more spatially fragmented.

The highest SD was recorded for ST female literacy (5.22), highlighting that the combined disadvantage of gender and tribal status results in the most volatile and unequal spatial distribution of educational outcomes. The disparity index for male-female literacy also showed extreme variations, such as the ST gap being very high in Mahabaleshwar (0.218) but very low in Karad (0.058). This high spatial heterogeneity implies that a uniform approach to educational intervention is insufficient; instead, planning must be customized to address the unique local challenges and historical

contexts, like the impact of strong SC liberation movements that boosted educational status in certain regions (Kamat, 2008).

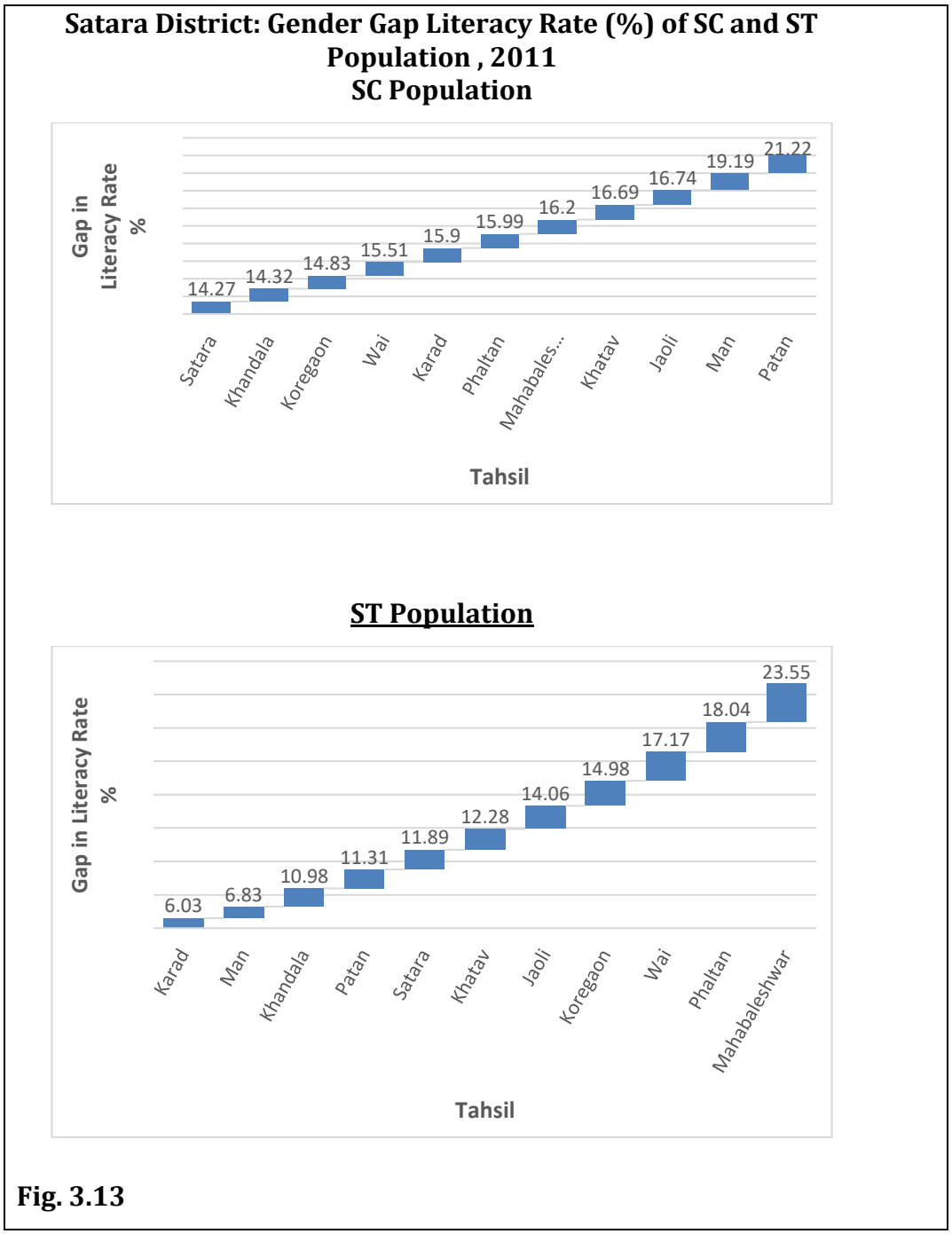

Fig. 3.13

Conclusion

The educational development among Scheduled Castes and Scheduled Tribes in the study area, as revealed by Census 2011 data, presents a critical challenge characterized by persistent educational backwardness, severe gender inequality, and marked spatial imbalances. While a closing of the national literacy gap between STs and the general population is noted over time, the figures within the study area confirm that

SC and ST groups remain significantly underachieving relative to the total population. The analysis strongly underscores that the issues are intersectional: educational disadvantage is a cumulative result of caste/tribe status, gender, and rural residence. The high Standard Deviation in female literacy, especially for STs, indicates that interventions must move beyond a uniform approach and be geographically tailored to address the acute spatial variations and localized pockets of extreme deprivation, thereby fulfilling the constitutional mandate for equitable educational access and attainment.

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