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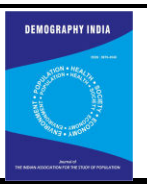

Urbanization and Residential segregation of Tribal population in Indian urban centres

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Abstract

This paper investigates the dynamics of urbanization and residential segregation among tribal populations in Indian urban areas. Using Census data (2001 and 2011), the study examines levels of urbanization, decadal growth rates, and migration patterns influencing urban tribal demographics. It highlights the disproportionate urbanization rates between the overall national population and tribal populations, with tribal urbanization showing notable increases in certain states while declining in others. The analysis emphasizes intra-state migration's role, revealing its significant contribution to tribal urbanization in regions like Mizoram, Jharkhand, and Assam. Additionally, the study explores the residential segregation of tribal populations across urban hierarchies using the Index of Dissimilarity. The findings demonstrate a trend of higher segregation in smaller urban centres compared to metropolitan areas, reflecting socio-cultural homogeneity preferences among tribal communities. The research also underscores the evolving urban landscape for tribal populations, marked by shifts towards census towns and municipal corporations. These trends suggest the influence of rural-to-urban migration and changing administrative classifications. The paper concludes by emphasizing the need for inclusive urban planning that addresses the socio-economic challenges of tribal populations, promoting equitable access to resources and integration into urban settings. The findings offer valuable insights into the complexities of tribal urbanization, with implications for policy formulation and sustainable urban development in India.

Keywords

India, Migration, Residential Segregation, Tribal Urbanization, Urban growth.

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Introduction

Urbanization is a transforming process from a traditional agricultural society to a modern industrial society (Long et al., 2009). The phenomenon of population concentration within urban units, as delineated by Davis (1965), represents a progressive trend. Quantifying urbanization poses considerable challenges due to its multifaceted nature. As articulated by Davis and Golden (1954), this process is inherently finite, constituting a cyclical trajectory traversed by nations as they transition from agrarian to industrial societies. Developed and developing countries have an unequal urbanization pattern (Bhagat & Mohanty, 2009). Despite being the world's most populous country, India shares the least urban population (Ritchie & Roser, 2018). After the independence of India, different socio-economic developments play a great role in the country's urbanization (Nath, 2007). In the last two decades, India's urbanization pattern has been a positive influence due to 1991's economic reforms (Bhagat, 2018). According to the census 2011, India has a 377 million urban population, which comprises 31.1% of the total population. However, aggregate accounts of Indian urbanization often obscure how urban growth is distributed across social groups and regions. In particular, the Scheduled Tribe (ST) population remains under-discussed in mainstream urbanization narratives, even though their urban transition is shaped by distinct constraints (e.g., historical marginalization, development-induced displacement, and segmented labour markets). This study therefore uses Census-based measures to foreground the group-specific trajectories of tribal urbanization alongside the overall pattern.

The degree of urbanization in India exhibits significant disparities in distribution across states and districts, reflecting pronounced levels of inequality. Moreover, within the urban landscape, distinctive patterns of urbanization, trends, and spatial configurations exist, specifically among scheduled tribe populations (Census of India, 2001-2011). According to the Imperial Gazetteer of India from 1911, a tribe is delineated as a group of families sharing a common appellation, language, and territorial occupation, often without strict endogamous practices. However, such customs might have been prevalent in its original formation. Generally, tribal people live in geographically well-demarcated territory like forests and hill areas (Ghurye, 1969). The change in sociocultural, economic, and political factors among tribal people has played an important role in bringing them to modern urban society from their traditionally isolated areas (Shah, 1979). The development project also contributes to tribal urbanization in the tribal areas (Mallick, 2009).

Another aspect of this paper is that residential segregation denotes the extent to which multiple demographic groups inhabit distinct spatial regions within an urban setting, thus residing separately (Massey & Denton, 1988). The spatial segregation of population groups is routinely acknowledged as a hallmark of urban centres, reflecting the prevailing social paradigm within a given city (Greenstein et al., 2000).

As early as the 1920s, scholars from the Chicago School of Urban Theory contended that spatial arrangements indicate the social distances between various groups (Burgess, 1925), delineating the city's character into distinct natural, economic, and cultural

groupings. Research conducted on Indian urban centres revealed pronounced levels of residential segregation based on socio-economic status, religion, and caste (Vithayathil & Singh, 2012; Bharathi et al., 2018; Haque et al., 2018; Singh et al., 2019; Choudhary et al., 2020). In their analysis, Desai and Dubey (2012) revealed that disparities rooted in caste were more pronounced in affluent rural settlements and smaller urban locales, contrasting with diminished levels observed in larger metropolitan areas. While these studies convincingly show that segregation in Indian cities is structured by caste, religion, and class, they offer comparatively limited empirical attention to tribal residential patterns, especially across the different urban hierarchy.

The study investigates the phenomenon of urbanization within tribal populations, explicitly focusing on metrics such as the level and growth rate of urbanization, the variations in tribal urbanization by urban administrative status and size class of urban centres, the role of migration in driving urban growth among tribal communities and concomitantly analyses residential segregation patterns within tribal populations across varying urban centres.

The theoretical foundations of the relationship between factors affecting tribal migration and urbanization

An interplay between theoretical and structural factors influences the relationship between tribal migration and urbanization. From a theoretical standpoint, Lee's (1966) Push-Pull theory provides a basic foundational framework. According to this theory, migration occurs due to "push" factors, for example, lack of employment, extreme poverty, displacement, and inadequate basic services throughout areas, and "pull" factors such as much better economic opportunities, improved education, wide-ranging healthcare, and improved infrastructure within areas (Lee, 1966; Parkins, 2010; Urbański, 2022). supporting this framework, Kujur and Minz (2021) demonstrate that persistent rural poverty, chronic food insecurity, limited employment opportunities, pervasive social inequalities, and inadequate access to social protection systems are major push factors driving tribal households toward migration. At the same time, the prospect of securing employment in sectors such as construction, manufacturing, domestic services, and fish farming in urban centers like Goa, Kerala, Mumbai, Surat, and Delhi serves as a significant pull factor attracting these migrants. Taken together, these studies are useful for identifying proximate drivers of mobility; however, they can understate how urban labour markets are stratified, informality, and insecure housing can limit the realised benefits of migration for tribal migrants. In this paper, I therefore treat push–pull explanations as necessary but not sufficient, and complement them with evidence on where tribal urbanization concentrates across the urban hierarchy.

Additionally, Harris-Todaro's model of rural-urban migration suggests that migrants make rational choices(Harris & Todaro, 1970). They base these choices on perceived income differentials and expected urban employment, which is relevant in explaining people's movement toward urban centers (Harris & Todaro, 1970). Socially, tribal populations are often subjected to marginalization as well as exclusion, which can be a push factor, while urban anonymity, along with the potential for upward mobility, may attract them to urban centers (Cass et al., 2005; Thakur, 2012; B. Kumar & Baraik, 2021). Chandra

and Paswan (2020) observed that limited agricultural employment opportunities in rural areas, compared to better job prospects in urban centers, drive tribal migration, which improves household economic conditions, facilitates educational attainment, and fosters broader socio-economic development. Migration decisions are influenced by exhibits of different socio-economic disparities(Dzieciuchowicz, 2009). These frameworks together explain the socio-economic dynamics supporting complex tribal migration and urbanization. While the expected-income logic is influential, its assumptions may not fully hold for tribal migrants who often face segmented access to formal employment and rely on short-term, network-mediated jobs. Accordingly, I interpret migration as shaped by both economic incentives and constrained opportunities, which motivates my focus on intra-state migration and its contribution to tribal urban population change.

Beyond Lee's Push-Pull Theory and the Harris-Todaro Model, several other relevant theories and frameworks can help explain tribal migration and urbanization from social, structural, and political-economic perspectives.

According to World -Systems theory (Wallerstein, 1974), migration is one of the finest results of the expansion of global capitalise activities. Peripheral areas (like tribal regions) are integrated into the global economy as sources of raw labor or resources(Meher, 2009; Sharma, 1973). In India, tribal areas are often affected by resource extraction (e.g., mining, dams), leading to displacement and forced migration to urban areas(Meher, 2009; Narasimham & Subbarao, 2018). Migration here is not an individual choice but a structural outcome of development-induced displacement and uneven capitalist development(V. Kumar, 2015). The cumulative Causation Theory of Migration strongly influences individual to societal-level migration (Massey, 1990). Here, migration becomes self-perpetuating due to feedback mechanisms—such as remittances, social networks, and cultural change(De Haas, 2009; Constant, 2021). So early tribal migrants and their diffusion of social remittance help others migrate to urban centers (De Haas, 2007; Mosse et al., 2002). Urbanization among tribal communities may grow through network effects and chain migration(Munshi, 2014). Social Capital Theory by Bourdieu in 1986 helps to understand how social bonding and community ties directly impact migration decisions (Bourdieu, 2018). In India, where most urban centres have shown cluster residential locations among particular community populations(Brush, 1968; Dupont, 2004; B. Kumar & Baraik, 2021). This kind of residential pattern often links with social networks and kinship ties among communities in urban centres (Dupont, 2004). Together, these theories demonstrate that tribal migration is shaped not only by economic and social factors but also by structural inequalities and development-induced displacement, resulting in complex patterns of urban integration. This strand of work shifts attention from 'choice' to structural compulsion, which is particularly relevant for mineral- and dam-affected regions where tribals displacement is concentrated. However, macro-structural accounts often lack comparable measures to show how such pressures translate into observed urban settlement patterns across states and town sizes. By using Census-based urbanization and segregation indicators, my

analysis provides an empirical bridge between these structural arguments and measurable urban outcomes for tribal population. Network-based explanations also imply that tribal urbanization may be path-dependent: once a foothold is established in particular towns or occupational niches, subsequent flows can reinforce spatial clustering. This theoretical expectation aligns with our examination of residential segregation, where clustering may reflect both supportive social capital and limited access to mainstream housing markets. Critically, community clustering can be simultaneously protective and exclusionary: it may lower settlement risk for newcomers, but it can also entrench spatial disadvantage if clusters coincide with poorer services or peripheral locations. I therefore interpret segregation metrics in this paper as capturing both cohesion and constraint, rather than treating clustering as purely voluntary.

Data and methodology

The study utilizes data from Census of India, 2001 and 2011. A detailed description of the data sources and extracted information given in Table 1.

Table 1 Extracted information and its sources

Extracted information	Data Source
Level of urbanization and urban growth	PCA SD: Primary census abstract (PCA) data, India & States/UTs - State and district level – (2001 & 2011).
Urban administrative status, size and class of urban centre and residential segregation	Town Directory (2001 &2011)
Tribal migration	D-02 (ST): Migrants from scheduled tribes are classified by place of last residence, sex, and duration of residence in place of enumeration (2001 & 2011).

Source: Census of India, 2001 and 2011

In this research, the methodology has been systematically outlined and structured according to the specific objectives delineated for the study. This approach enables a comprehensive understanding of the research process and facilitates achieving precise, targeted outcomes. Figure 1 presents a detailed methodological flowchart that visually maps the entire research process, including data selection, town/city filtering criteria, analytical methods (quantitative and spatial), and outcome derivation steps. This visual representation aims to improve reader comprehension and transparency in methodological execution.

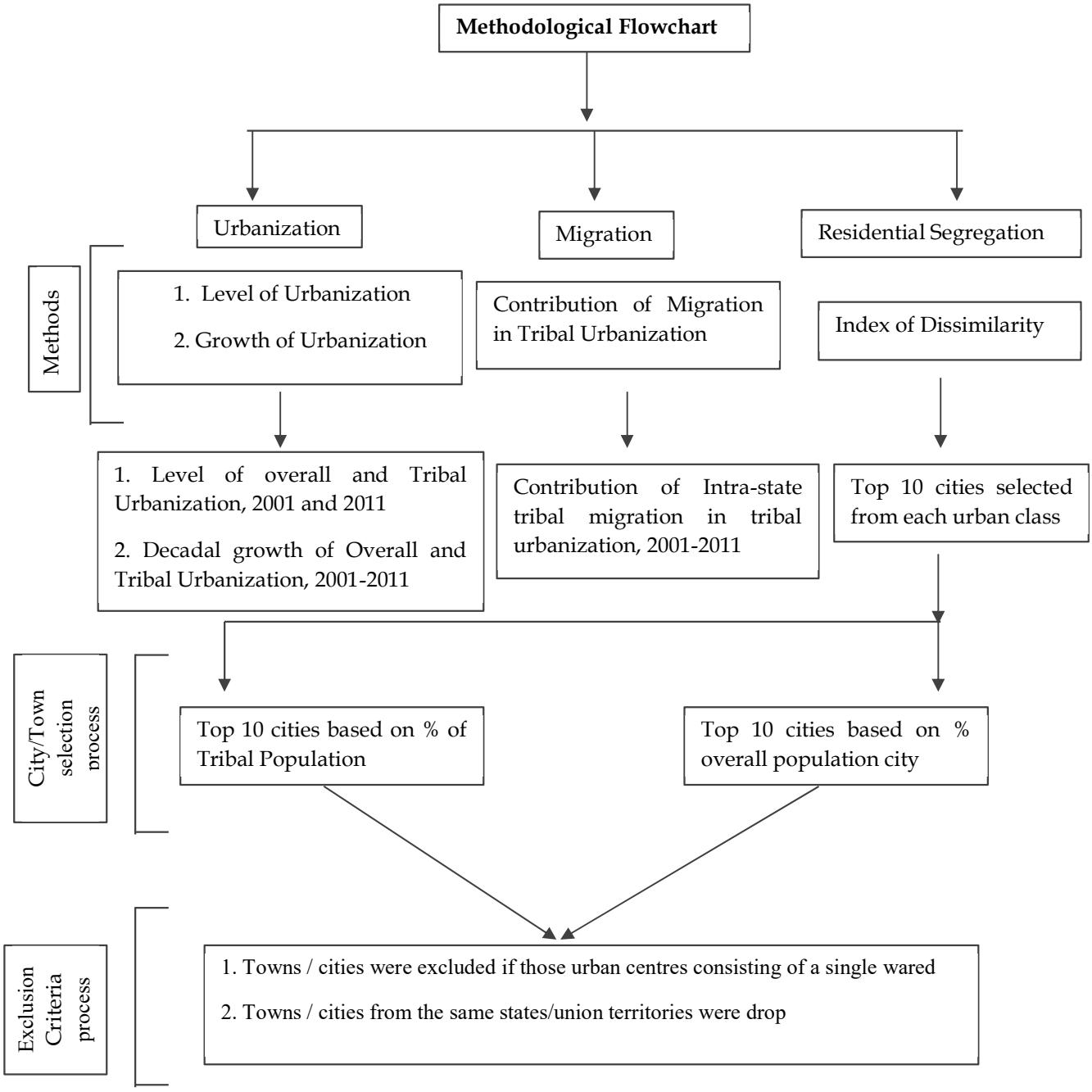

Figure 1 Methodological Flowchart

1. Level of Urbanization

The methodology employed for quantifying the degree of urbanization within the entirety of India and specifically within the scheduled tribe population for the census years 2001 and 2011 in this study.

$$U = \frac{P_{\{u\}}}{P} \times 100$$

$$U_{\{ST\}} = \frac{P_{\{u,ST\}}}{P_{\{ST\}}} \times 100$$

Where,
U = Level of Urbanization
$U_{\{ST\}}$= Level of Tribal Urbanization
$P_{\{u\}}$ =Urban population
P=Total population
$P_{\{u,ST\}}$=Urban Tribal population
$P_{\{ST\}}$=Total Tribal population

2. Growth of Urbanization

The prescribed methodology assesses the growth of urbanization in both the overall population and the scheduled tribe population

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$$G_{\{U\}} = \frac{P_{\{u,2011\}} - P_{\{u,2001\}}}{P_{\{u,2001\}}} \times 100$$

$$G_{\{U,ST\}} = \frac{P_{\{u,ST,2011\}} - P_{\{u,ST,2001\}}}{P_{\{u,ST,2001\}}} \times 100$$

Where,
$G_{\{U\}}$= Total Urban Growth
$G_{\{U,ST\}}$= Tribal Urban Growth
$P_{\{u,2011\}}$ = Urban Population in 2011
$P_{\{u,2001\}}$ = Urban Population in 2001
$P_{\{u,ST,2011\}}$ = Urban Tribal Population in 2011
$P_{\{u,ST,2001\}}$ = Urban Tribal Population in 2001

3. Contribution of migration in tribal urbanization in the state

For measuring tribal migration and its contribution to tribal urbanization, only intra-state migration has been considered because the delineation of inter-state migration patterns among tribal population is complicated by legislative jargon(Mistri & Sardar, 2023).

$$C_{\{mig\}} = \frac{(R - U) - (U - R)}{P_{\{u,ST\}}} \times 100$$

Here,

$C_{\{mig\}}$= Contribution of intra-state migration to tribal urbanization
R-U = Rural to Urban migration (Scheduled Tribes) within a state.
U-R = Urban to Rural Migration (Scheduled Tribes) within a state.

$$P_{\{u,ST\}} = P_{\{u,ST,2011\}} - P_{\{u,ST,2001\}}$$

4. Simple Linear Regression Formula for overall urbanization and Tribal Urbanization:

$$y = a + bx$$

Where:

y = Dependent variable (e.g., Level of Tribal Urbanization)
x = Independent variable (e.g., Level of Overall Urbanization)
a = Intercept (value of y when x = 0)
b = Slope (change in y for a one-unit increase in x)

5. Formula for Rural-Urban (R-U) Migration among Tribal Population

Let the dependent variable be:

RU_i = Rural-Urban Migration Rate among tribal population in state i

The regression model can be written as:

$RUi=\beta0+\beta1(UrbanSTPop_i)+\beta2(Literacy_i)+\beta3(WorkPart_i)+\beta4(MarginalWorkers_i)+\beta5(SCSTShare_i)+\beta6(PopDensity_i)+\beta7(MunicipalShare_i)+\beta8(Amenities_i)+\varepsilon i$

Where,

UrbanSTPop = Urban Tribal Population

Literacy = Literacy Rate of Tribal Population

WorkPart = Work Participation Rate

MarginalWorkers = Share of Marginal Workers

SCSTShare = Combined scheduled caste / scheduled tribe (SC/ST) Share in Population

PopDensity = Population Density

MunicipalShare = Share in Municipal Corporation Population

Amenities = Amenities Index

ε_i = Error term

6. Formula for Urbanization among tribal population

Let the dependent variable be:

$U\_P\_ST_i$ = Urbanization level among tribal population in state i

The regression equation is:

$U\_P\_STi=\beta0+\beta1(Literacy_i)+\beta2(FemaleWork_i)+\beta3(SCSTShare_i)+\beta4(SexRatio_i)+\beta5(MarginalWorkers_i)+\beta6(NonAgriWorkers_i)+\beta7(PopDensity_i)+\beta8(Amenities_i)+\beta9(CensusTownShare_i)+\varepsilon i$

Where,

FemaleWork = Female Work Participation Rate

SexRatio = Sex Ratio of tribal population

NonAgriWorkers = Share of Non-Agricultural Main Workers

CensusTownShare = Share in Census Town Population

ε_i = Error term

7. Residential segregation among tribal populations in different urban class

Two criteria were employed to identify residential segregation among tribal populations in different urban classes and select the top 10 cities from each urban classification. First, the top 10 cities based on % percentage of tribal population in the city, and the second criterion is the top 10 cities based on the overall total urban population in the city. Those towns and cities were excluded if the towns consisting of a single ward were excluded from consideration. To ensure diversity, cities from the same state were dropped, thereby allowing for representation from various states in the final selection.

Classification of Town

The Census of India categorizes towns based on population size into six tiers: Class I (10,0000 and above), Class II (50,000 to 99,999), Class III (20,000 to 49,999), Class IV (10,000 to 19,999), Class V (5,000 to 9,999), and Class VI (less than 5,000). Upon analysis, it is found that over half of the population resides in Class I towns. This underscores the importance of categorizing towns (table 2) into specific tiers for meaningful analysis, as observed in the study by Bhagat (2018).

Table 2 Shows the classification of towns and cities in India based on different sizes of urban population.

Type of Town/Cities	Population Size
Million Cities	(1000000 & above)
Cities	(100000 to <1000000)
Large Towns	(50000 to <100000)
Medium Towns	(20000 to <50000)
Small Towns	(<20000)

Source: Bhagat, (2018)

Index of Dissimilarity

The index of Dissimilarity (D) was introduced initially by Shevky and Williams (1949) and Bell (1954). This widely utilized segregation index represents the proportion of minority group members who would need to relocate within the city to achieve an even distribution and integration with the majority population (Cortese et al., 1976; Cutler et al., 1999; Hess, 2021). The index formulation is mentioned below,

$$D = \frac{1}{2}\sum_{i=1}^{n}\left|\frac{x_i}{X} - \frac{y_i}{Y}\right|$$

where n denotes the total number of wards; x_i denotes the total population of Tribal in the i^{th} ward; X denotes the total population of tribal in the city; y_i denotes the total population of Non-Tribal in the i^{th} ward; Y denotes the total non-tribal population in the city.

The value varies between 0 and 1 and is interpreted as the proportion of minority members that would have to change their area of residence to achieve an even population distribution.

Result

Level of urbanization among the overall population and scheduled tribe population in India, 2001-2011

In this study, the two most recent census data sets from 2001 and 2011 were utilized to assess the levels of urbanization among both the overall population and the scheduled tribe population at the state level.

At the national level, the degree of urbanization in 2001 stood at 27.8%, exhibiting a consistent upward trend to reach 31.1% by 2011 (table 3). Similarly, within the tribal population, urbanization witnessed an increase from 8.3% in 2001 to 10.0% in 2011 during the intercensal period of 2001-2011. Tribal communities are distributed across various regions of India, except the states of Punjab and Haryana, as well as the Union Territory of Chandigarh, Delhi, and Puducherry.

Table 3 Level of overall urbanization and tribal urbanization in India, 2001 & 2011

State Code	Name of States & Union Territories	% Overall Urban Population		% Urban Tribal Population		Percentage Change in between 2001-2011	
		2001	2011	2001	2011	Overall Population	Tribal Population
1	Jammu & Kashmir	24.8	27.4	4.7	5.8	2.6	1.1
2	Himachal Pradesh	9.8	10	3.1	4.5	0.2	1.4
3	Punjab	33.9	37.5	0	0	3.6	0
4	Chandigarh	89.8	97.3	0	0	7.5	0
5	Uttarakhand	25.7	30.2	6.2	9.3	4.5	3.1
6	Haryana	28.9	34.9	0	0	6	0
7	Delhi	93.2	97.5	0	0	4.3	0
8	Rajasthan	23.4	24.9	5.4	5.9	1.5	0.5
9	Uttar Pradesh	20.8	22.3	11.2	9.1	1.5	-2.1
10	Bihar	10.5	11.3	5.4	4.9	0.8	-0.5
11	Sikkim	11.1	25.2	8.5	19	14.1	10.5
12	Arunachal Pradesh	20.8	22.9	14	17	2.1	3
13	Nagaland	17.2	28.9	13	23.6	11.7	10.6
14	Manipur	26.6	29.2	4.8	9.6	2.6	4.8
15	Mizoram	49.6	52.1	48.7	51	2.5	2.3
16	Tripura	17.1	26.2	2.6	4.2	9.1	1.6
17	Meghalaya	19.6	20.1	15.6	16.4	0.5	0.8
18	Assam	12.9	14.1	4.7	5.6	1.2	0.9
19	West Bengal	28	31.9	6.1	8.3	3.9	2.2
20	Jharkhand	22.2	24	8.3	9	1.8	0.7
21	Orissa	15	16.7	5.5	6.2	1.7	0.7
22	Chhattisgarh	20.1	23.2	5.3	7.6	3.1	2.3
23	Madhya Pradesh	26.5	27.6	6.4	6.8	1.1	0.4
24	Gujarat	37.4	42.6	8.2	10	5.2	1.8
25	Daman & Diu	36.2	75.2	20.1	50.4	39	30.3
26	Dadra & Nagar haveli	22.9	46.7	7.2	15.5	23.8	8.3
27	Maharashtra	42.4	45.2	12.7	14.3	2.8	1.6
28	Andhra Pradesh	27.3	33.4	7.5	11.6	6.1	4.1
29	Karnataka	34	38.7	15.3	19.3	4.7	4
30	Goa	49.8	62.2	66.4	41.3	12.4	-25.1
31	Lakshadweep	44.5	78.1	43.8	78	33.6	34.2
32	Kerala	26	47.7	3.9	10.7	21.7	6.8
33	Tamil Nadu	44	48.4	15.4	16.9	4.4	1.5
34	Pondicherry	66.6	68.3	0	0	1.7	0
35	Andaman & Nicobar Islands	32.6	37.7	3.4	6.4	5.1	3
	India	27.8	31.1	8.3	10	3.3	1.7

Source: Census of India, 2001 and 2011

In the context of the overall urbanization scenario, several states and union territories exhibit significant urbanization shifts between the 2001 and 2011 census periods. Notably, states such as Sikkim (14.1%), Nagaland (11.7%), Tripura (9.1%), Goa (12.4%), and Kerala (21.7%) demonstrate substantial increases in urbanization during this timeframe (table 3). Additionally, three union territories, namely Daman and Diu,

Dadra and Nagar Haveli, and Lakshadweep has experienced notably heightened levels of urbanization compared to the preceding census in 2001. Several states, including Himachal Pradesh, Rajasthan, Uttar Pradesh, Bihar, Meghalaya, Assam, Jharkhand, and Odisha, have shown minimal increases in urbanization levels between census years 2001 and 2011 (table 3).

Within the framework of tribal urbanization in India, certain states and union territories have demonstrated significant increases in tribal urbanization levels between the 2001 and 2011 censuses. Notably, Daman and Diu (30.3), Lakshadweep (34.2), Nagaland (10.6), and Sikkim (10.5) are notable examples of regions experiencing pronounced rises in tribal urbanization during this period. The remaining states and union territories exhibit varying degrees of urbanization, ranging from low to moderate levels during the intercensal period spanning from 2001 to 2011. However, it is noteworthy that certain states, namely Goa (-25.1%), Uttar Pradesh (-2.1%), and Bihar (-0.5%), have experienced negative shifts in urbanization during this timeframe, indicating a decrease in urban population proportions compared to the preceding census (table 3).

An examination of the relationship between the levels of overall urbanization and tribal urbanization at the district level in India was conducted through scatter plot visualization and regression analysis (figure. 2). The independent variable was defined as the level of Overall urbanization, while the dependent variable was identified as the level of tribal urbanization. The analysis yielded an R^2 value of 0.217, suggesting a modest degree of association between overall urbanization and tribal urbanization. This finding indicates that while there is a discernible relationship between these variables, it is relatively weak in nature within the context of Indian districts.

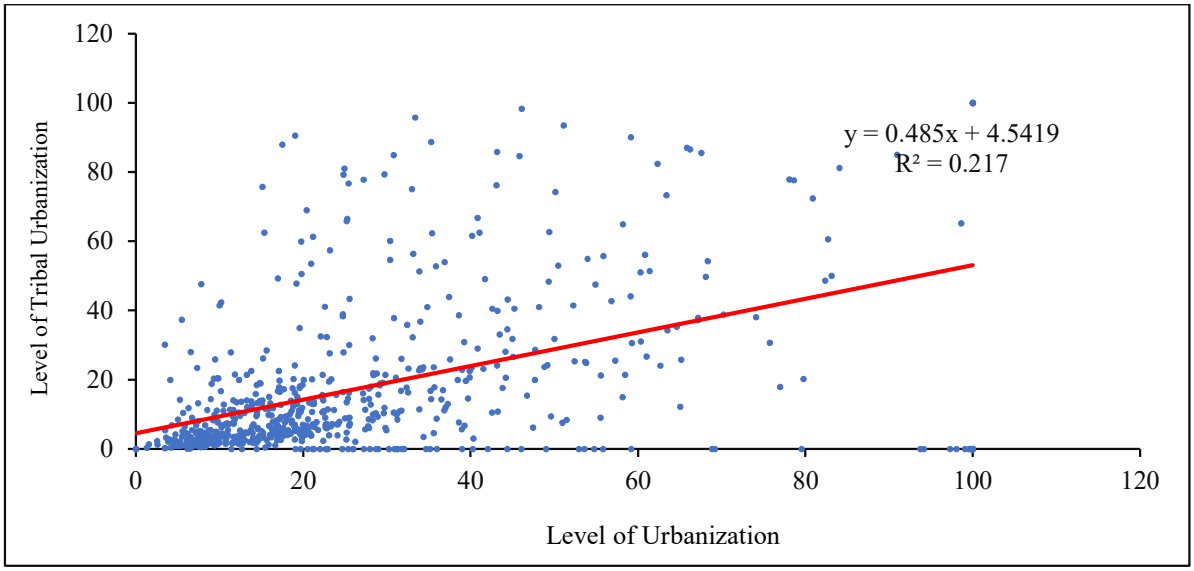

Figure 2 Regression analysis shows the relationship between the level of overall and tribal urbanization at the district level, India, 2011

Source: census of India, 2011

Overall urban growth and urban tribal growth

In assessing decadal urban growth, the utilization of census data from two distinct periods is crucial. By examining the decadal growth rates of both the Overall urban population and urban tribal populations, insights can be gleaned regarding the fluctuations and transformations in urban demographics between the specified census interval (supplementary tables 1 & 2).

The decadal overall urban growth in 2011 amounted to 31.8%, while the corresponding urban tribal growth reached 49.7%. Notably, between 2001 and 2011, a pronounced increase in urban tribal growth was observed among tribal populations. Specifically, states and union territories such as Goa, Uttar Pradesh, Sikkim, Kerala, Manipur, Dadra & Nagar Haveli, Daman & Diu, and Himachal Pradesh exhibited notably high rates of decadal urban tribal growth (figure. 3.a & figure. 3.b).

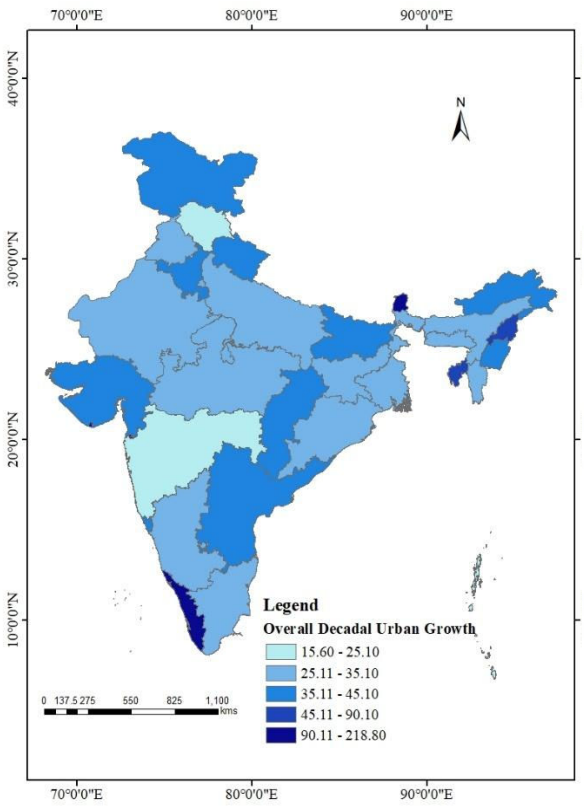

Figure 3.a Decadal overall urban population growth (2001-2011)

Source: Census of India, 2001 and 2011

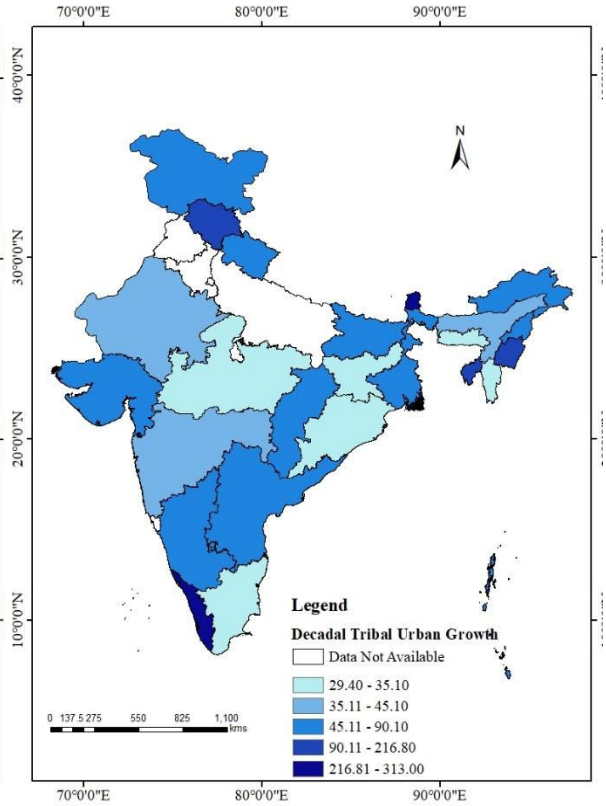

Figure 3.b Decadal tribal urban population growth (2001-2011)

** Punjab, Haryana, Delhi, Chandigarh, Puducherry are excluded due to absence of tribal population

**Goa and Uttar Pradesh also excluded due to abnormal urban tribal growth.

Source: Census of India, 2001 and 2011

Share of urban tribal population by administrative status

Table 4 Share of overall urban population and tribal population by administrative status

Type of Town	%Overall Urban Population		%Tribal Population	
	2001	2011	2001	2011
Census Town	7.3	14.4	13.9	18.7
Statutory Town	92.7	85.6	86.1	81.3

Source: Census of India, 2001 and 2011

Between 2001 and 2011, there was a notable increase in the overall urban population, particularly in Census Towns, rising from 7.3% to 14.4%. Concurrently, the percentage of tribal population in Census Towns also surged from 13.9% to 18.7%. However, Statutory Towns experienced a decline in both overall urban population (92.7% to 85.6%) and tribal population (86.1% to 81.3%), indicating a shift towards urbanization in Census Towns and a relative decrease in urban population in Statutory Towns (table 4).

Table 5 Share of the overall urban population and tribal population by urban civic status (for statutory town)

Urban Civic status	% Overall Urban Population		% Tribal Population	
	2001	2011	2001	2011
Municipal Corporation (M. Corp.)	43.7	50.8	28.7	34.8
Municipal Committee (MC)	1.1	0.8	0.2	2.2
Municipal Council (M Cl)	9.5	7.9	9.5	7.2
City Municipal Council (CMC)	2.1	1.6	3.1	2.2
Town Municipal Council (TMC)	1.1	1.1	1.8	1.9
Municipal Board (MB)	1.0	0.6	1.2	1.9
Municipality(M)	23.5	19.4	28.3	22.8
Notified Area (NA)	1.3	0.1	2.1	0.2
Notified Area Council (NAC)	0.9	0.7	2.7	2.0
Nagar Panchayat (NP)	4.5	5.4	5.9	8.0
Notified Town (NT)	0.2	0.3	6.8	8.1
Town Committee (TC)	0.6	0.4	5.8	4.4
Town Panchayat (TP)	4.3	3.1	2.5	1.5
Others civic status	6.3	7.9	1.4	2.8
Total	100	100	100	100

Source: Census of India, town directory, 2001 and 2011

Table 5 presents significant changes in urban civic statuses and their respective impacts on the overall urban and tribal populations between 2001 and 2011. Municipal Corporations (M. Corp.) experienced the most notable increase in both the overall urban population (from 43.7% to 50.8%) and tribal population (from 28.7% to 34.8%). This suggests a trend of urbanization and possibly migration towards larger administrative units. Conversely, Municipalities (M) witnessed a decline in both overall urban population (from 23.5% to 19.4%) and tribal population (from 28.3% to 22.8%), indicating a possible shift away from these administrative units. Within the realms of Notified Areas, Notified Area Councils, and Notified Towns, the tribal population share manifests a significantly greater proportion compared to the aggregate urban population.

Share of urban tribal population by different classes of urban centres

Table 6 illustrates changes in overall urban population distribution in India from 2001 to 2011 across different town classifications based on population size, along with the corresponding percentage of tribal population. It shows an increase in the proportion of the overall urban population residing in a million cities (1 million and above) from 27.3% in 2001 to 30.9% in 2011, accompanied by a rise in the percentage of tribal population within these cities from 13.3% to 18.8%. Conversely, there is a decrease in the percentage of the overall urban population in cities (100000 to <1000000) and large towns (50000 to <100000), while medium towns (20000 to <50000) and small towns (<20000) experienced a slight increase. Conversely, the tribal population witnessed declines in its percentage within cities, large towns, and medium towns. Additionally, there is a notable increase in the percentage of tribal population within small towns over the same period.

Table 6 Share of overall urban population and urban tribal population by class of town and cities

Classification of Urban (population Size)	%Overall Urban Population		%Tribal Population	
	2001	2011	2001	2011
Million Cities (1000000 & above)	27.31	30.9	13.3	18.8
Cities (100000 to <1000000)	34.95	29.5	30.6	25.4
Large Towns (50000 to <100000)	12.07	11.0	14.1	12.5
Medium Towns (20000 to <50000)	14.72	15.4	22.3	19.6
Small Towns (<20000)	10.95	13.2	19.8	23.7

Source: Census of India, town directory, 2001 and 2011

Contribution of migration to tribal urbanization

In the realm of urban demographic dynamics, urban growth is typically delineated into four primary components, as identified by Bhagat and Mohanty (2009), i.e., natural population increase; net migration influx into urban regions; the reclassification of settlements, either elevating them to town status or reverting their classification due to shifts in economic activities and acquisition of urban attributes; and the expansion of urban boundaries and territorial reach of cities and towns.

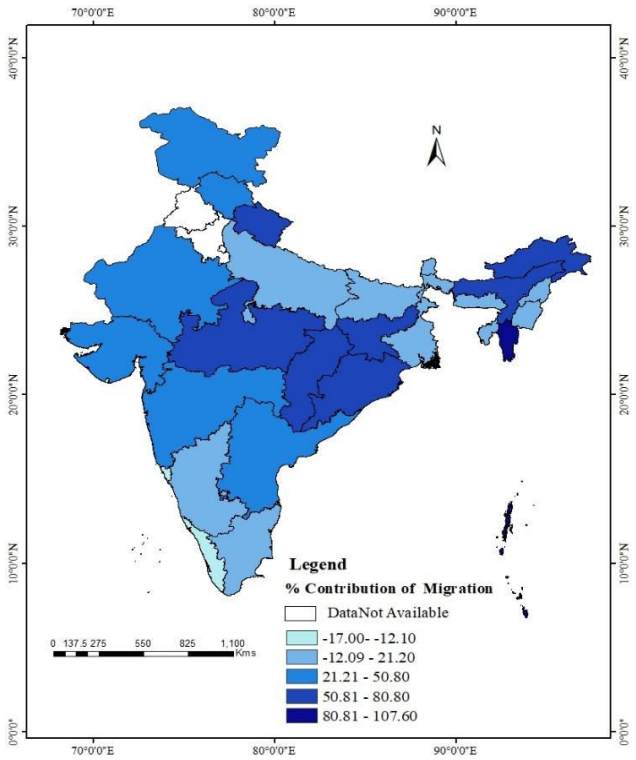

Figure 4 Contribution of migration to tribal urbanization,2011

Source: Census of India, 2001 and 2011

Figure 4 presents the contribution of intra-state migration to tribal urbanization across various states and union territories. States such as Mizoram (86.5%), Jharkhand (80.8%), Assam (75.2%), Madhya Pradesh (71.4%), Odisha (70.1%), Uttarakhand (64.7%) and Chhattisgarh (64%) show substantial internal migration contributing to tribal urbanization, indicative of significant movement within these states. Conversely, states like Kerala (-13.7%), Goa (-12.1%), and Daman & Diu (-17%) display negative contributions, indicating a net outflow of tribal populations from urban areas within these regions (supplementary table 3).

Determinants of Tribal Rural-to-Urban Migration and Tribal Urbanization: A Regression-Based Analysis

The regression model examines the key socio-economic and demographic determinants of influence upon rural-to-urban (R-U) migration among tribal population across states and union territories. The model explains a significant portion of the variance, with an R-squared value of 0.82, indicating that the independent variables explain approximately 82% of the variation in rural-urban migration rates. Urban tribal Population shows a positive and highly significant association with rural-urban migration rates (Coefficient = 0.16, $p < 0.001$). A higher proportion of tribal residing in urban areas is strongly associated with higher rural-urban migration. Scheduled caste/Scheduled tribe Share in total Population exhibits a negative and statistically significant effect (Coefficient = -0.03, $p < 0.05$). In areas where the combined share of Scheduled Castes and Scheduled Tribes is higher, rural-urban migration among tribal tends to be lower. Population density has a strong negative association

(Coefficient = -0.003, p < 0.001). Higher population density areas experience reduced rural-urban migration among scheduled tribes. Other variables, such as literacy rate, work participation rate, marginal workers, population share in municipal corporations, and amenities index, do not show statistically significant effects. However, their signs provide valuable directional insights. Higher literacy rates slightly encourage migration (positive coefficient) but not significantly. Work participation rates and Marginal worker percentages are negatively associated. Surprisingly, the amenities Index and share in municipal corporations also have negative but insignificant effects. Overall, the findings emphasize that existing urban tribal presence, social composition of the population, and urban density are critical factors influencing rural-urban migration dynamics among tribal population (table 7).

Table 7 Ordinary Least Squares (OLS) Regression Results for Factors Influencing Rural-Urban Migration Among Scheduled Tribes

Variable	Coefficient	t-Statistic	95% Confidence Interval
Urban Tribal Population	0.16 ***	5.41	[0.10 - 0.23]
Literacy Rate	0.02	0.81	[-0.04 - 0.08]
Work Participate Rate	-0.01	-0.26	[-0.13 - 0.11]
Marginal Workers	-0.03	-1.04	[-0.08 - 0.03]
SC/ST Share in Total Population	-0.03*	-2.11	[-0.06 - -0.00]
Population Density	-0.003***	-5.53	[-0.005 - -0.002]
Population Share in Municipal corporation	-0.01	-0.95	[-0.04 - 0.02]
Amenities Index	-0.01	-0.34	[-0.05 - 0.03]
Constant (_cons)	4.00	1.00	[-4.35 - 12.35]

R-squared =0.8232

*Note *** p<0.001, ** p<0.01, * p<0.05*

The regression model examines the key socio-economic and demographic determinants influencing urbanization among tribal population across states and union territories. The model explains a large portion of the variance, with an R-squared value of 0.82, indicating that the included independent variables account for approximately 82% of the variation in urbanization rates among scheduled tribes. Scheduled caste/ Scheduled tribes Share in the total population shows a positive and statistically significant association with urbanization (Coefficient = 0.28, p < 0.01). It is suggested that tribal urbanization levels are greater in areas with a higher proportion of the Scheduled caste/ Scheduled tribe population. Population density is also positively and significantly associated with urbanization (Coefficient = 0.01, p < 0.05). Other variables, including literacy rate, female work participation rate, sex ratio, marginal workers, non-agricultural main workers, and share in Census town population, do not show significant relationships with tribal urbanization. The literacy rate and the female work participation exhibit coefficients of an insignificant nature. Non-agricultural main workers and sex ratio experience positive but non-significant associations. Marginal workers are negatively associated with urbanization, although not statistically significant. The findings, in general, reveal

that the composition of the population (specifically the Scheduled caste/ Scheduled tribe share) and the level of urban density play key roles in shaping the rate and extent of urbanization among tribal population (table 8).

Table 8 Ordinary Least Squares (OLS) Regression Results for Factors Influencing Urbanization Among Scheduled Tribes

Variable	Coefficient	t-Statistic	95% Confidence Interval
Literacy Rate	-0.01	-0.06	[-0.49 – 0.46]
Female Work Participation Rate	-0.24	-0.76	[-0.90 – 0.42]
SC/ST Share in Total Population	0.28 **	3.48	[0.11 – 0.46]
Sex Ratio	0.03	0.36	[-0.12 – 0.18]
Marginal Workers	-0.25	-1.22	[-0.68 – 0.18]
Non-Agricultural Main Workers	0.13	0.88	[-0.18 – 0.44]
Population Density	0.01 *	2.51	[0.002 – 0.021]
Amenities Index	0.24	1.66	[-0.06 – 0.55]
Share in Census Town Population	0.04	0.33	[-0.19 – 0.26]
Constant (_cons)	-24.64	-0.33	[-182.39 – 133.11]

R-squared = 0.8246
*Note: ***p < 0.001, **p < 0.01, *p < 0.05*

Residential Segregation among tribal population in different sizes of Indian urban centres

Here, the Dissimilarity Index (DI) was computed for the top 10 cities/towns from each urban class using the specified criteria. The DI values consistently decrease as we move from lower-order to higher-order urban classes. Notably, most of the cities with populations of a million or more exhibit lower DI values compared to other categories of towns/cities. Conversely, the subsequent order of urban classes tends to have higher DI values than the preceding one. Furthermore, among the top 10 cities, those based on total urban population generally exhibit higher DI values compared to those based on the percentage of tribal population in each urban class.

Residential segregation in selected cities/towns based on the overall total urban Population

At times, the number of wards and the percentage of the tribal population play crucial roles in determining the Dissimilarity Index (DI) value within a city. Generally, cities or towns belonging to higher urban stratifications tend to exhibit lower DI values. However, there are exceptions, such as Lucknow (0.53), Bareilly (0.68), and Bikaner (0.49), which have higher DI values. Conversely, some towns from lower urban orders demonstrate low DI values, such as Itarsi (0.22), Kalimpong (0.17), and Anuppur (0.21) (supplementary table 4).

Residential segregation in selected cities/towns based on urban tribal population

Similarly, cities generally exhibit lower DI values in this context than towns. Among higher strata cities, the majority have lower DI values, with exceptions such as Srinagar (0.57) and Dohad (0.57). However, towns also display higher DI values overall. Nonetheless, certain towns have notably lower DI values, as seen in examples like Khawzawl (0.15) and Hamren (0.21) (supplementary table 5).

Discussion

Several factors may contribute to the observed increases in urbanization rates in the region. Economic opportunities, infrastructural development, and changing lifestyles are among the primary drivers of rural-to-urban migration (Kumari, 2014). In states like Kerala, Goa, Sikkim, Nagaland, and Tripura, where urbanization has surged notably, factors such as high literacy rates, urban-centric employment opportunities, and improved healthcare facilities may play significant roles. Union territories like Daman and Diu, Dadra and Nagar Haveli, and Lakshadweep may have witnessed rapid infrastructure expansion, attracting more people to urban areas (Jain & Korzhenevych, 2020). Conversely, states with minimal urbanization increases might have faced challenges like inadequate infrastructure or slower economic growth (Sadashivam & Tabassu, 2016). It is important to note that much of this explanatory literature is developed for the general population and tends to treat migration responses as broadly similar across groups. For tribal households, however, the same 'push' factors (e.g., agrarian distress) often interact with group-specific constraints such as spatial isolation, discrimination in urban labour markets, and weaker access to formal housing. We therefore interpret these drivers cautiously and use the Census evidence in this paper to situate tribal urbanization as both an economic process and a socially stratified transition.

Various demographic, geographic, socio-economic, and other factors contribute to the phenomenon of tribal urbanization. In the scholarly investigation conducted by (Ayemi & Kar, 2020), it was discerned that infrastructural development significantly augments urbanization increase within the context of Nagaland. The augmentation of pre-existing infrastructural amenities and the implementation of numerous developmental initiatives aimed at town advancement have markedly propelled the level of urbanization within Sikkim (Kalosona & Sharma, 2016). From 2001 to 2011, specific states, such as Goa, Uttar Pradesh, and Bihar, witnessed a decline in tribal urbanization, signifying a reduction in urban population proportions compared to the previous census, possibly attributed to outmigration from urban to rural areas among the tribal population. These state-level accounts are valuable in identifying proximate mechanisms (infrastructure upgrades, town promotion, and administrative expansion), but they are largely descriptive and do not systematically disaggregate outcomes for tribal population relative to the total population. Our contribution is to place these narratives within a comparable, all-India framework using the 2001–2011 Census to quantify tribal-specific urbanization change across states, which helps distinguish where tribal urbanization reflects broader urban expansion versus where it diverges due to migration and settlement dynamics.

In 2011, the urban growth rate within the tribal population exceeded that of the overall urban population, suggesting a greater incidence of rural-to-urban migration among tribal communities during the period spanning from 2001 to 2011. Certain states and union territories have shown a higher level of urban growth among tribal populations. Tribal communities in India face pronounced impoverishment and unemployment, enduring heightened marginalization compared to other disadvantaged groups

(Mistri & Sardar, 2023). The migration of tribal populations to urban centres in pursuit of employment opportunities has contributed to an increase in urban growth rates.

Between 2001 and 2011, there was a rise in both the overall population and the tribal population residing in census towns compared to statutory towns. This observation may be attributed to various factors such as rural-to-urban migration, changes in administrative classifications, or economic opportunities in census towns (Mitra & Murayama, 2009). Following Mitra and Murayama's emphasis on the dual role of migration and reclassification, my results suggest that the rising share of tribal population in census towns is not only a by-product of administrative change but may also indicate that tribal mobility is increasingly channelled into smaller urban labour markets where entry costs are lower than large metropolitan cores. This reading is consistent with the observed concentration of tribal urbanization in medium and small towns.

As per the Census of India, census towns are characterized by three key criteria: first, a population exceeding 5000 individuals; second, a minimum population density of 400 people per square kilometer; and third, at least 75% of males engaged in non-agricultural activities. This definition of the census town has a great role in increasing urbanization levels in census towns among both overall and tribal populations.

The significant population growth observed in municipal corporations, encompassing both the overall population and tribal population from 2001 to 2011, suggests a discernible trend towards migration to these administrative units. This phenomenon may be attributed to enhanced accessibility to basic amenities and various urban services provided within municipal corporation jurisdictions.

The comprehension of the urbanization transition across different sizes of Indian cities plays a pivotal role in shaping future urban demographic dynamics. In 2011, a significant trend in the urbanization transition was observed towards million-plus cities among the overall urban population (Shaban et al., 2020). Primarily, urbanization within the tribal population is exhibited predominantly in medium and small towns. The tribal population is largely engaged in temporary or seasonal labour activities, as discussed (Keshri & Bhagat, 2012). Temporary labor migrants typically undertake short-distance travel for employment purposes, as noted by (Rajan et al., 2023). This phenomenon may emerge as a potential driver of tribal urbanization in small and medium-sized towns.

Distress-induced factors predominantly characterize the movement of tribal populations within India and have displayed an upward trend over time (Mahapatra, 2018). According to census reports, states characterized by a greater contribution of intra-state migration in the process of urbanization concurrently exhibit higher proportions of tribal populations within their respective states. The phenomenon of intra-state tribal migration significantly contributes to the process of tribal urbanization, primarily observed within states encompassing the Fifth and Sixth Scheduled Areas, as noted by Mistri and Sardar (2023).

The findings showed that residential segregation among tribes continuously increased from higher order urban class to

lower order urban class. This kind of result aligns with previous research from the Indian context that shows caste-based spatial segregation is greater in small and medium cities compared to metropolises, possibly from greater intermingling of sociocultural identities in larger urban locales that lower caste barriers (Vithayathil & Singh, 2012; Haque et al., 2018). This study examines the residential settlement patterns of tribal communities, drawing from census data and scholarly research. The analysis reveals that tribal populations primarily inhabit small to medium-sized urban areas, indicative of prevailing urbanization trends. Based on census data, tribal communities predominantly settle in small to medium-sized urban areas, as evidenced by patterns of urbanization. In tribal communities, there is a greater propensity for settlement in compacted patterns owing to a preference for sociocultural homogeneity (Kumar & Baraik, 2021). Some cities within the Million Plus category exhibit pronounced residential segregation, largely attributed to the notably low proportion of tribal population residing within their boundaries (Bharathi et al., 2018). At times, certain towns categorized based on the percentage of tribal population within lower urban strata exhibit reduced levels of residential segregation, often attributed to the limited number of wards. Conversely, in other instances, towns classified based on overall population within lower strata urban areas also display diminished residential segregation, attributable to a higher proportion of tribal population residing within these municipalities (Bharathi et al., 2019). Importantly, the mechanisms proposed in that literature- greater social surveillance, tighter local networks, and fewer anonymous labour/housing options in smaller cities may operate differently for tribal population because many urban tribal settlements also emerge through kin-based chain migration and occupational clustering. Thus, rather than treating tribal clustering only as 'preference', we interpret higher segregation in smaller towns as potentially reflecting both socio-cultural cohesion and structural constraints in access to affordable housing and formal neighbourhoods.

Policies Recommendations

Since a higher urban tribal population has an influence on rural-urban migration, policies need to focus on strengthening urban tribal communities when they are developing some tribal-focused residential zones, providing some cultural centers, and ensuring social services. This will create a supportive environment for new migrants, fostering social capital and easing urban integration. The adverse effect of the scheduled caste / Scheduled tribe share on rural-urban migration suggests that areas with larger marginalized populations may have systemic barriers limiting mobility. This area aims to provide specific programs like improving education, skill development, and employment generation in these regions, which can empower tribal populations to access better urban opportunities. Population density has a substantial negative impact on rural-urban migration rates, indicating congested cities attract fewer migrating tribals or allow them reduced access. Urban planning strategies that are decentralized are consequently needed. Developing medium-sized and census towns with adequate employment opportunities and basic amenities could relieve pressure on large metros while providing viable alternatives for tribal migrants. Although literacy and work

participation rates were not statistically significant predictors, their directional effects suggest potential benefits if improved. Investment in vocational training programs and urban-oriented education tailored to tribal youth could enhance their capacity to migrate and integrate successfully into urban economies. Specifically, reforms regarding urban governance must be prioritized in these urban centers, targeting the inclusive provision of services for tribal communities (e.g., healthcare, sanitation, and access to education) because growth concerning tribal urbanization is occurring more so in the municipal corporations and census town regions. Migration remains a key driver of tribal urbanization. States like Jharkhand, Assam, Odisha, and Madhya Pradesh—where intra-state migration significantly contributes to tribal urbanization—should formalize rural-to-urban migration pathways through skill certification, pre-departure orientation programs, and legal support systems for tribal workers moving into urban labor markets. Urban policies should encourage mixed housing projects and affordable rental schemes to prevent the concentration of tribal migrants in segregated areas. Inclusive zoning regulations and housing reservations for tribal population in urban projects can help achieve this goal. Theoretical insights from world-systems theory and development-induced displacement highlight that some tribal migration results from forced displacement. Policies should ensure strict adherence to rehabilitation and resettlement laws when displacement occurs and facilitates livelihood restoration programs to ensure voluntary, beneficial migration choices.

Conclusion

The findings of this research shed light on the multifaceted dynamics of tribal urbanization in India, highlighting the various factors influencing migration patterns, settlement preferences, and spatial distribution within urban areas. The observed increases in urbanization rates are driven by a combination of economic, infrastructural, and social factors, which vary across states and union territories. Economic opportunities emerge as a primary driver of rural-to-urban migration among tribal communities, with urban-centric employment prospects attracting individuals and families to urban centres. Additionally, infrastructural development and improvements in healthcare facilities contribute to the allure of urban areas, particularly in regions witnessing rapid urbanization like Kerala, Goa, Sikkim, and Nagaland.

However, challenges persist, including the pronounced impoverishment and unemployment faced by tribal populations, leading to heightened marginalization. Despite these challenges, the research highlights the resilience of tribal communities, as evidenced by their adaptability to urban environments and their contribution to urban growth rates.

The analysis of census data reveals notable trends, including the preference of tribal populations for settlement in small to medium-sized urban areas. Residential segregation patterns further underscore the sociocultural dynamics shaping urban landscapes, with tribal communities often clustering in compacted patterns within urban areas. Understanding these trends is crucial for informing policy interventions to promote inclusive urban development and address the specific needs of tribal populations. Initiatives focusing on

improving access to housing, education, healthcare, and economic opportunities can help mitigate the challenges faced by tribal communities in urban areas.

Overall, this research contributes to a deeper understanding of tribal urbanization dynamics in India and underscores the importance of incorporating sociocultural factors into urban planning and development strategies to ensure inclusive and sustainable growth. Further research in this area can help refine policy interventions and foster greater socio-economic empowerment among tribal populations in urban settings.

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Supplementary Information

Supplementary Table 1 Calculation for overall urban growth (2001-2011)

State Code	Name of States and Union Territories	Urban Population (2011)	Urban Population (2001)	Urban Growth
01	Jammu & Kashmir	3433242	2516638	36.4
02	Himachal Pradesh	688552	595581	15.6
03	Punjab	10399146	8262511	25.9
04	Chandigarh	1026459	808515	27.0
05	Uttarakhand	3049338	2179074	39.9
06	Haryana	8842103	6115304	44.6
07	NCT of Delhi	16368899	12905780	26.8
08	Rajasthan	17048085	13214375	29.0
09	Uttar Pradesh	44495063	34539582	28.8
10	Bihar	11758016	8681800	35.4
11	Sikkim	153578	59870	156.5
12	Arunachal Pradesh	317369	227881	39.3
13	Nagaland	570966	342787	66.6
14	Manipur	834154	575968	44.8
15	Mizoram	571771	441006	29.7
16	Tripura	961453	545750	76.2
17	Meghalaya	595450	454111	31.1
18	Assam	4398542	3439240	27.9
19	West Bengal	29093002	22427251	29.7
20	Jharkhand	7933061	5993741	32.4
21	Odisha	7003656	5517238	26.9
22	Chhattisgarh	5937237	4185747	41.8
23	Madhya Pradesh	20069405	15967145	25.7
24	Gujarat	25745083	18930250	36.0
25	Daman & Diu	182851	57348	218.8
26	Dadra & Nagar haveli	160595	50463	218.2
27	Maharashtra	50818259	41100980	23.6
28	Andhra Pradesh	28219075	20808940	35.6
29	Karnataka	23625962	17961529	31.5
30	Goa	906814	670577	35.2
31	Lakshadweep	50332	26967	86.6
32	Kerala	15934926	8266925	92.8
33	Tamil Nadu	34917440	27483998	27.0
34	Puducherry	852753	648619	31.5
35	Andaman & Nicobar Islands	143488	116198	23.5
	India	377106125	286119689	31.8

Source: Census of India, 2001 and 2011

Supplementary Table 2 Calculation for urban tribal growth (2001-2011)

State Code	Name of States and Union Territories	Urban Tribal Population (2011)	Urban Tribal Population (2001)	Urban Tribal Growth
01	Jammu & Kashmir	86466	51491	67.9
02	Himachal Pradesh	17734	7527	135.6
05	Uttarakhand	27084	15920	70.1
08	Rajasthan	545411	379876	43.6
09	Uttar Pradesh	103197	12135	750.4
10	Bihar	65722	40649	61.7
11	Sikkim	39214	9496	313.0
12	Arunachal Pradesh	161975	98880	63.8
13	Nagaland	404135	230004	75.7
14	Manipur	111614	35229	216.8
15	Mizoram	528648	408427	29.4
16	Tripura	49247	25429	93.7
17	Meghalaya	418970	310192	35.1
18	Assam	218966	154024	42.2
19	West Bengal	441838	270428	63.4
20	Jharkhand	776892	587054	32.3
21	Odisha	595789	446723	33.4
22	Chhattisgarh	591820	351761	68.2
23	Madhya Pradesh	1039910	787026	32.1
24	Gujarat	895326	614523	45.7
25	Daman & Diu	7746	2809	175.8
26	Dadra & Nagar haveli	27620	9815	181.4
27	Maharashtra	1504136	1090739	37.9
28	Andhra Pradesh	685944	377181	81.9
29	Karnataka	819196	529456	54.7
30	Goa	61636	376	16292.6
31	Lakshadweep	47657	25112	89.8
32	Kerala	51747	14170	265.2
33	Tamil Nadu	134417	100178	34.2
35	Andaman & Nicobar Islands	1815	1013	79.2
	India	10461872	6987643	49.7

Source : Census of India, 2001 and 2011

****Punjab, Haryana, Chandigarh, Delhi and Puducherry – absence of tribal population in both 2001 & 2011 census*

Supplementary Table 3 Contribution of tribal migration in urbanization at the intra-state level (2011)

State Code	Name of States and Union Territories	R-U	U-R	(R-U)-(U-R)	Urban Tribal Popl. Change	% Contribution of Migration
1	Jammu & Kashmir	24466	11663	12803	34975	36.6
2	Himachal Pradesh	7757	3784	3973	10207	38.9
5	Uttarakhand	9618	2398	7220	11164	64.7
8	Rajasthan	142052	57975	84077	165535	50.8
9	Uttar Pradesh	15375	8342	7033	91062	7.7
10	Bihar	12033	7753	4280	25073	17.1
11	Sikkim	9526	4012	5514	29718	18.6
12	Arunachal Pradesh	62364	25180	37184	63095	58.9
13	Nagaland	106767	74319	32448	174131	18.6
14	Manipur	28746	21647	7099	76385	9.3
15	Mizoram	122338	18386	103952	120221	86.5
16	Tripura	17815	13049	4766	23818	20.0
17	Meghalaya	56756	48112	8644	108778	7.9
18	Assam	70984	22180	48804	64942	75.2
19	West Bengal	76583	73458	3125	171410	1.8
20	Jharkhand	194136	40698	153438	189838	80.8
21	Odisha	179741	75192	104549	149066	70.1
22	Chhattisgarh	206804	53072	153732	240059	64.0
23	Madhya Pradesh	307852	127240	180612	252884	71.4
24	Gujarat	237688	104982	132706	280803	47.3
25	Daman & Diu	675	1514	-839	4937	-17.0
26	Dadra & Nagar haveli	3005	425	2580	17805	14.5
27	Maharashtra	377554	188178	189376	413397	45.8
28	Andhra Pradesh	189429	100822	88607	308763	28.7
29	Karnataka	143885	82491	61394	289740	21.2
30	Goa	14639	22076	-7437	61260	-12.1
31	Lakshadweep	2648	2026	622	22545	2.8
32	Kerala	14995	20160	-5165	37577	-13.7
33	Tamil Nadu	21040	17299	3741	34239	10.9
35	Andaman & Nicobar Islands	1219	356	863	802	107.6

Source : Census of India, 2001 and 2011

*** Punjab, Haryana, Chandigarh, Delhi and Puducherry are excluded due to absence of tribal population

Residential Segregation

Supplementary Table 4 Top 10 cities based on total urban population from each classified category of towns and cities

Million Cities (1000000 & above)			Cities (100000 to < 1000000)		
State Code	Town/City Name	Dissimilarity Index	State Code	Town/City Name	Dissimilarity Index
27	Greater Mumbai (M Corp.)	0.19	18	Guwahati (M Corp. + OG)	0.32
29	BBMP (M Corp. + OG)	0.17	27	Solapur (M Corp.)	0.32
28	GHMC (M Corp. + OG)	0.32	29	Hubli-Dharwad (M Corp.)	0.28
24	Ahmadabad (M Corp. + OG)	0.23	09	Bareilly (M Corp. + OG)	0.68
33	Chennai (M Corp.)	0.35	21	Bhubaneswar (M Corp. + OG)	0.44
19	Kolkata (M Corp.)	0.40	33	Tiruchirappalli (M Corp.)	0.50
08	Jaipur (M Corp.)	0.33	32	Thiruvananthapuram (M Corp. + OG)	0.35
09	Lucknow (M Corp.)	0.53	28	Warangal (M.Corp. + OG)	0.27
23	Indore (M Corp. + OG)	0.34	20	Jamshedpur (NAC + OG)	0.44
10	Patna (M Corp. + OG)	0.37	08	Bikaner (M Corp.)	0.49

Large Towns (50000 to <100000)			Medium Towns (20000 to <50000)		
State Code	Town/City Name	Dissimilarity Index	State Code	Town/City Name	Dissimilarity Index
10	Lakhisarai (Nagar Parishad)	0.77	20	Chatra (Nagar Parishad)	0.63
23	Itarsi (M + OG)	0.22	08	Phalodi (M + OG)	0.66
24	Khambhat (M + OG)	0.47	27	Gangakhed (M Cl)	0.33
13	Kohima (MC)	0.26	28	Bhainsa (M)	0.37
27	Pandharpur (M Cl)	0.45	09	Padrauna (NPP)	0.56
26	Silvassa (M CI)	0.42	32	Perinthalmanna (M)	0.49
21	Balangir (M)	0.27	33	Perambalur (M)	0.54
22	Bhilai Charoda (M)	0.30	10	Narkatiaganj (Nagar Parishad)	0.62
32	Manjeri (M)	0.37	19	Kalimpong (M)	0.17
33	Viluppuram (M)	0.65	24	Kapadvanj (M)	0.68

Small town (<20000)		
State Code	Town/City Name	Dissimilarity Index
16	Belonia (NP)	0.37
09	Bahadurganj (NP)	0.65
22	Takhatpur (NP)	0.28
29	Sulya (TP)	0.24
08	Bhusawar (M)	0.65
02	Chamba (M Cl)	0.34
10	Birpur (NP)	0.58
23	Anuppur (M)	0.21
14	Moirang (MCI)	0.69
18	Bokajan (TC)	0.46

Source: Census of India, 2011

Supplementary Table 5 Top 10 cities based on percentage of ST population from each classified category of towns and cities

Million Cities (1000000 & above)			Cities (100000 to < 1000000)		
State Code	Town/City Name	Dissimilarity Index	State Code	Town/City Name	Dissimilarity Index
20	Ranchi (M Corp.)	0.30	15	Aizawl (NT)	0.37
27	Nagpur (M Corp.)	0.37	17	Shillong (MB)	0.50
08	Kota (M Corp.)	0.32	13	Dimapur (MC)	0.41
23	Jabalpur (M Corp. + OG)	0.35	24	Dohad (M + OG)	0.58
22	Raipur (M Corp. + OG)	0.19	11	Gangtok (M Corp.)	0.15
24	Vadodara (M Corp. + OG)	0.19	19	Darjiling (M)	0.24
29	BBMP (M Corp. + OG)	0.17	22	Ambikapur (M Corp. + OG)	0.44
28	Vijayawada (M Corp. + OG)	0.30	21	Raurkela (ITS + OG)	0.24
09	Varanasi (M Corp.)	0.41	20	Adityapur (Nagar Parishad)	0.49
01	Srinagar (M Corp. + OG)	0.57	29	Hospet (CMC)	0.40

Large Towns (50000 to <100000)			Medium Towns (20000 to <50000)		
State Code	Town/City Name	Dissimilarity Index	State Code	Town/City Name	Dissimilarity Index
15	Lunglei (NT)	0.43	17	Nongstoin (TC)	0.28
13	Kohima (MC)	0.26	15	Champhai (NT)	0.38
17	Tura (M)	0.56	13	Mon (TC)	0.28
18	Diphu (TC)	0.41	18	Haflong (TC)	0.44
20	Gumla (NP)	0.52	01	Leh Ladakh (MC)	0.68
29	Challakere (TMC)	0.41	22	Narayanpur (NP)	0.35
21	Barbil (M)	0.24	24	Dharampur (M)	0.35
23	Barwani (M)	0.44	20	Simdega (NP)	0.45
24	Bilimora (M)	0.26	21	Biramitrapur (M)	0.36
27	Dahanu (M Cl)	0.34	23	Malajkhand (M)	0.37

Small town (<20000)		
State Code	Town/City Name	Dissimilarity Index
15	Khawzawl (NT)	0.15
13	Tseminyu (TC)	0.36
17	Resubelpara (MB)	0.62
23	Mandav (NP)	0.76
18	Hamren (TC)	0.21
01	Kargil (MC)	0.39
22	Dornapal (NP)	0.42
14	Moreh (ST)	0.48
29	Yelandur (TP)	0.56
27	Trimbak (M Cl)	0.43

Source : Census of India, 2011

List of Abbreviations

M. Corp.	Municipal Corporation
MC	Municipal Committee
M Cl	Municipal Council
CMC	City Municipal Council
TMC	Town Municipal Council
MB	Municipal Board
M	Municipality
NA	Notified Area
NAC	Notified Area Council
NP	Nagar Panchayat
NPP	Nagar Palika Parishad
NT	Notified Town
TC	Town Committee
TP	Town Panchayat
ST	Small Town Committee
ITS	Industrial Township
OG	Out Growth