

# Geo- Environmental Setting and Urban Morphology of Capital Cities in Northeast India: A Focus on Agartala, Tripura.

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## **Abstract**

*The capitals of Northeast India exhibit diverse configurations due to their distinct histories, geographical locations, and socio-political contexts. Agartala is a lowland capital city situated on the boundary of India and Bangladesh. The capital city of Tripura state differs from most hilltop capitals such as Shillong, Kohima, and Aizawl, sharing commonalities with Dispur-Guwahati and Imphal in terms of landforms and accompanying geo-environmental issues. However, Agartala exposes its uniqueness in relation to its geopolitical circumstances and historical princely heritage. The paper examines the evolution of Agartala's urban morphology by analyzing its historical origins, governmental transformations, and ward-level development across census years since its inception, specifically highlighting significant changes from 1961 to 2011 and extending to the present in 2025. The study indicates that Agartala's palace-centric origin, its proximity to the international boundary, and subsequent peri-urban development influence its form. Furthermore, it elucidates the various ways in which the capital cities of Northeast India have evolved throughout time regarding area and size, and it investigates how these capitals have developed from main settlement units, market centers, administrative hubs, and historical legacies.*

**Keywords:** *Urban morphology; Spatial growth; Geo-environmental setting, Agartala; Capital cities.*

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## **1. INTRODUCTION:**

Urban morphology, as a field of inquiry, examines the spatial form, structure, and evolution of cities, thereby offering a lens to understand how history, geography, and socio-political processes become inscribed upon the built environment (Whitehand, 2001). In the context of Northeast India, the morphology of capital cities reflects striking regional diversity. Hill capitals such as Shillong, Kohima, and Aizawl are characterized by compact and ridge-aligned growth patterns, where terrain-induced constraints and colonial or tribal planning traditions have played decisive roles in shaping their physical layout (Singh, 2010; Tiwari, 2017). In contrast, Agartala, the capital of Tripura, presents a distinctive morphological trajectory: a plains-based city situated on fertile alluvial land along the Indo-Bangladesh border, whose expansionary tendencies diverge sharply from the terrain-locked urban forms of its hill counterparts.

Understanding these spatial and demographic transformations is essential for analysing patterns of ethnic settlement, enclave formation, and urban clustering at the ward and neighbourhood level. Comparative analysis with other Northeast capitals highlights the critical role of geo-environmental setting, population density, and administrative strategies in shaping urban form.

## **1.2. LITERATURE REVIEW:**

The origin and morphological evolution of Agartala city have been addressed by a limited number of scholarly and institutional sources. Foundational information on the city's spatial transformation has primarily been derived from official planning and policy documents. The Agartala Municipal Council (2006) City Development Plan under JNNURM and the Nagorbadoya: Nagor Unnayan Report provide essential data on urban planning, ward-level structures, and land use patterns. Supplementary insights are available through the Agartala Municipal Corporation (n.d.) website and the Urban Development Department, Government of Tripura (2019) report on Housing for All – Plan of Action (HFAPoA) under PMAY, which detail administrative divisions, ward maps, and planning interventions. These sources collectively offer a policy-oriented understanding of Agartala's urban structure, growth dynamics, and spatial planning initiatives.

Academic investigations into Agartala's geo-spatial dynamics have primarily employed geospatial techniques to analyze urban expansion and land use change. Santra, Mitra, and Debbarma (2018) examined the impact of urbanization on land use patterns, revealing significant transformation in peripheral areas. Similarly, Chettry (2023) utilized GIS-based methods to map urban sprawl in Agartala between 1991 and 2021. While these studies provide valuable insights into spatial expansion and settlement growth, they largely overlook the historical evolution of settlements, administrative boundaries, and ward-level development within the Agartala Municipal Corporation. Notably, detailed analysis of the expansion to 49–51 municipal wards, patterns of ward growth, and the series of ward renaming remains underexplored.

Historical sources provide essential context for understanding the foundational phases of Agartala's urban and demographic development. Hunter (1973) in *A Statistical Account of Bengal* offers early records on population and settlement patterns, while Long (1995) in his analysis of the Rajmala, the royal chronicle of Tripura, provides insights into the historical foundation of Agartala. Das Gupta (2011) examined urban growth in Tripura up to 1951, highlighting demographic trends and administrative structuring. Bhattacharyya (1974), in *Census of India 1971: Tripura: A Portrait of Population*, provides empirical population data crucial for understanding mid-20th-century urban dynamics. Earlier colonial-period records, such as Debbarma (1933) in *Census Biharani (in Bengali)*, further document administrative evolution, demographic changes, and early settlement patterns. Collectively, these historical and demographic studies underpin a comprehensive understanding of Agartala's urban morphology, bridging gaps between past settlement structures and contemporary urban expansion.

Although few papers have been published on evolution of Agartala city and its spatial growth, the historical administrative ward evolution, along with tracking and identification of wards through map representation is the speciality of study. The comparative study of Agartala in respects of geo-environmental setting, foundational bases and origin of city, population growth and size with other capital cities of North-East Region is the novelty of the paper.

### **1.3. Objectives:**

- (i) To investigate the geo-environmental factors and spatial development of capital cities in Northeast India.
- (ii) To analyze and compare Agartala's urban morphology, administrative evolution, and population growth with North-East regional capitals.

### **1.4. MATERIALS & METHODS:**

This study employs a mixed-method approach integrating historical, demographic, and spatial analyses to examine Agartala's urban morphology in a comparative Northeast Indian context. Historical Analysis involved reviewing archival and municipal records (1871–2013) and decennial Census data (1961–2011) to trace boundary expansions, ward evolution, and population trends up to 2025. Geospatial Analysis utilized Agartala shapefiles, GPS mapping, and field visits to track ward modifications and identify patterns in urban morphology. Comparative Framework compiled data on terrain, administration, population, and urban form of other Northeast capitals to contrast Agartala's plains-based expansion with hill-capital constraints (Shillong, Aizawl, Kohima). Finally, historical, demographic, and spatial findings were synthesized to highlight Agartala's unique morphology, growth patterns, and implications for sustainable borderland planning.

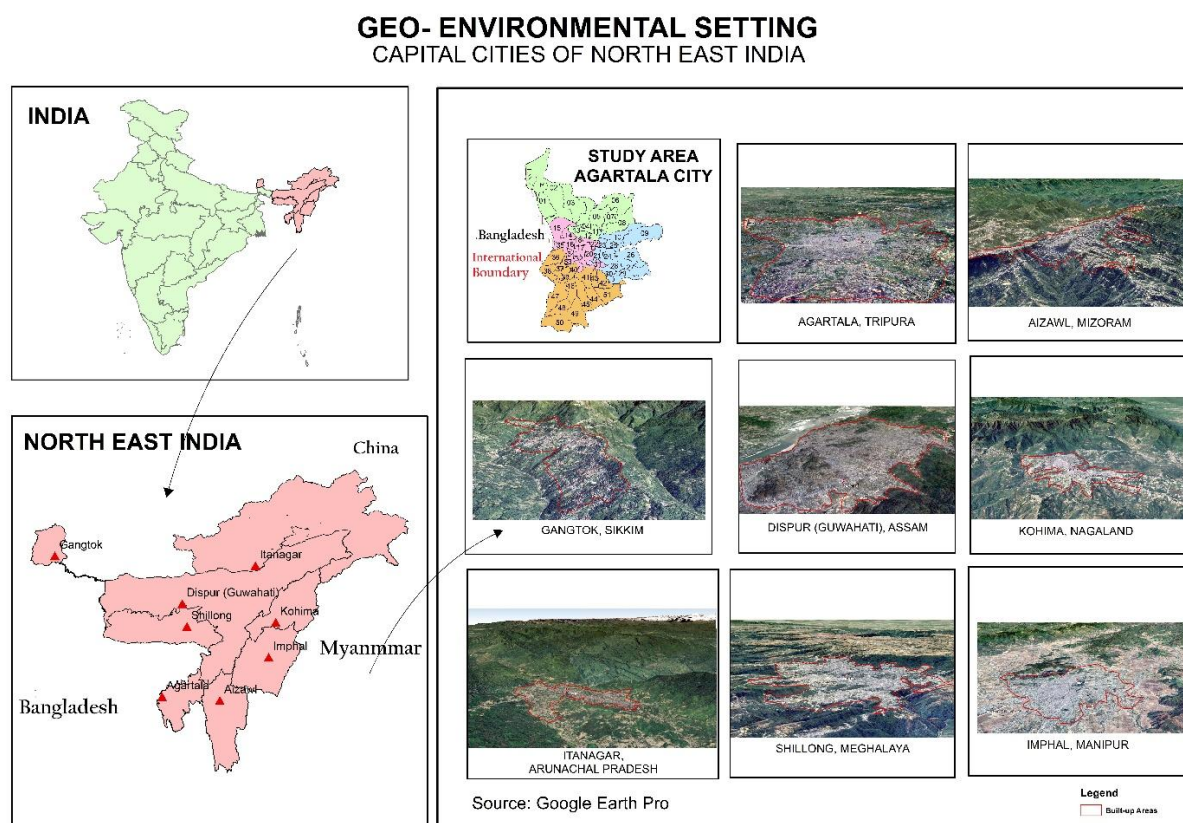
### **1.5. Significance of the Study:**

This study examines a persistent challenge in Agartala's urban history, where successive phases of municipal restructuring have resulted in the reshuffling and renumbering of wards, creating inconsistencies across censuses periods and complicating efforts to trace demographic and spatial changes. To address this, the research systematically maps and geotags wards by linking their past ward numbers with corresponding localities, thereby providing a coherent framework for interpreting ward-level data in present contexts. This methodological contribution enhances the accuracy of demographic analysis and supports urban planning and policy-making by offering clarity in population size, density, settlement distribution, and patterns of urban expansion. Beyond its administrative utility, the study situates ward evolution within Agartala's wider geographical and historical setting, highlighting how central growth zones and environmental features such as plains, hills, and valleys shaped the city's spatial configuration. A comparative perspective with other Northeast Indian state capitals further illustrates how geo-political positioning, migration flows, and environmental constraints influence regional urban morphology.

## 2. RESULTS & FINDINGS:

### 2.1. Geo- Environmental Setting of Agartala in North-East Region:

Agartala is one of the oldest capital centers in North-East India, having served as both a princely and administrative state capital of Tripura after the Indian Union was formed in 1949. As a result, the city has experienced a number of administrative transitions and urban planning phases, as evidenced by its changing municipal organization, geographical development, and population growth over time (Bhattacharya, 2005; Government of Tripura, 2004). Figure 1 depicts the geo-environmental context of the capital cities of North-East India. The research area's location and aerial photographs of the cities are gathered from Google Earth and presented using GIS programs.



**Figure 1** Geo-Environment Setting of Capital Cities of North-East India

Source: Prepared from Google earth and through GIS applications.

On the other hand, the geo-environmental setting of Agartala and its classifications based on situation types of landforms are presented through Table 1.

**Table 1** Geo- Environmental Setting of Agartala and capital cities of North-East India

City & Capital	Site & Location (with Latitude & Longitude)	Geo-environmental Setting	Type of Town (Topographical Classification)
Itanagar (Arunachal Pradesh)	Papum Pare district, Southern Arunachal Pradesh (27.1020° N, 93.6920° E)	Foothills of the Eastern Himalayas, Hilly terrain, tropical forests, high rainfall, landslide-prone	Hill Town
Dispur (Assam)	Near Guwahati, Kamrup Metropolitan district (26.1445° N, 91.7362° E)	Brahmaputra Valley, Riverine plain, alluvial soil, high flood risk	River Valley/Plain Town

Imphal (Manipur)	Imphal District, Central Manipur, (24.8170° N, 93.9368° E)	Valley Alluvial plain enclosed by hill ranges, moderate climate, river Imphal system	Valley Town
Shillong (Meghalaya)	Khasi Hills, East-Central Meghalaya (25.5788° N, 91.8933° E)	Rolling plateau, high rainfall, elevated (~1500 m), cool climate	Plateau/Hill Station
Aizawl (Mizoram)	Lushai Hills, Northern Mizoram (23.7271° N, 92.7176° E)	Steep hill slopes, landslide-prone, high rainfall	Hill Town
Kohima (Nagaland)	Naga Hills, Southern Nagaland (25.6701° N, 94.1077° E)	Hilly terrain, forested landscape, prone to soil erosion	Hill Town
Gangtok (Sikkim)	Eastern Himalayas, East Sikkim district (27.3314° N, 88.6138° E)	Mountainous temperate terrain, climate, located on a ridge	Mountain Town
Agartala (Tripura)	Western Tripura plains, near Bangladesh border (23.8315° N, 91.2868° E)	Structural plain, Fertile alluvial plain, riverine (Haora, Kata Khal), low elevation and gentle uplands	Plain/Border Town

**Source:** Information Compiled from Municipal Council/ Corporation & identification by Google Earth.

Tripura's capital, Agartala, stands out among Northeast India's capitals because of its unique geo-environmental location. Agartala, located on the international border with Bangladesh, is the only capital city in the region and the entire country. The city is mostly located on lush agricultural alluvial plains, which feature flat landscape mixed with moderate uplands known as tillas. These tillas contribute to the city's saucer-shaped terrain, which sets it apart from other northeastern capitals. Unlike Dispur and Imphal, which are located on vast riverine plains with large river systems impacting their landscapes, Agartala's plains are influenced by structural factors rather than extensive riverine processes. The Haora and Katakhal rivers run through the city, but their effect is insufficient to form huge riverine plains like those in Dispur-Guwahati and Imphal River Valley. This structural plain environment, along with the presence of tillas (uplands), lends a distinct character to Agartala's scenery.

Conversely, other northeastern capitals are primarily located in hilly or mountainous regions, each encountering distinct geo-environmental challenges. Itanagar, situated in the Eastern Himalayas, is vulnerable to landslides and flash floods owing to its mountainous topography. Dispur is situated in the Brahmaputra Valley, which experiences recurrent flooding. Imphal is located in a valley encircled by hills, rendering it prone to flooding. Shillong is located on a plateau characterized by substantial precipitation. Aizawl is situated on steep slopes which are prone to landslides and seismic activity. Kohima is situated in a mountainous region, experiencing soil erosion. Gangtok is situated on a ridge in the Himalayas, subject to landslides and seismic events. The low-lying center regions of Agartala are especially prone to flooding during the monsoon season, a susceptibility not common to most other northeastern capitals

## 2.2. Origin and Evolution of Agartala and other Capital cities of North-East India

Agartala and Imphal, capitals of Tripura and Manipur respectively, both reflect deep historical legacies as princely centers that later transitioned into modern administrative capitals. Agartala, founded in 1838 by Maharaja Krishna Kishore Manikya, served as the capital of Tripura and retained this role after the state's merger with India in 1949, symbolizing continuity from monarchy to democracy. It was further modernized under Maharaja Bir Chandra Manikya, who established the municipality in 1871 and introduced Western education. By contrast, many northeastern capitals emerged only in the post-independence period. Aizawl, for example, began as a British outpost (1871–72), became capital of the Union Territory of Mizoram in 1972, and retained this status after statehood in 1987. Itanagar, named after Ita Fort, was developed as Arunachal Pradesh's capital in 1987. Shillong, founded by the British in 1866 as Assam's administrative center, became Meghalaya's capital in 1972, while Kohima, the Naga Hills District headquarters since 1878, rose to prominence during World War II and was designated Nagaland's capital in 1963. Gangtok, declared the capital of Sikkim by the monarchy in 1894, retained

its position after integration into India in 1975. Dispur, in contrast, was created as Assam's capital in 1973 following Shillong's transfer to Meghalaya, reflecting administrative restructuring rather than historical continuity. In this comparative context, Agartala stands out for its uninterrupted role as an administrative nucleus, rooted in royal heritage and sustained governance. Table 2 charts the origins and foundational bases of Northeast Indian capitals, compiled from respective municipal body website sources.

**Table 2** History of Origin and Foundational Basis of Capital Cities of North-East India

S	Capital City & State	Year and Origin record	Before Independence 1947	Capital under Indian Union	Foundational Basis
1	Agartala (Tripura)	1838 Princely Capital of Manikya Dynasty	Princely Capital of Tripura	1949	Retained Historical Administrative Capital of Tripura Kingdom to capital of Tripura state.
2	Aizawl (Mizoram)	Rural Settlement- 1871-72	Rural Settlement	1987	Continuation of Administrative capital of Mizoram since Union territory in 1972 & After Full-fledged state of Mizoram
3	Imphal (Manipur)	Princely Capital, 1 <sup>st</sup> - 2 <sup>nd</sup> Century A. D	Princely Capital of Manipur or Mekheley	1949	Retained Historical Administrative Capital of Manipur
4	Shillong (Meghalaya)	Set up by British officials in 1866 as Hill station of Assam Province/ Bengal Province	Shillong cantonment in 1885. Capital of British Assam Province and Undivided Assam till 1972	1949	British headquarter of Assam province and undivided Assam state till 1972. Retained Administrative headquarter of Meghalaya after separation from Assam.
5	Kohima (Nagaland)	Head quarter of Naga Hills District - 1878, Rural settlements	Rural Settlement & District Headquarter of British India, War Memorial	1963	Retained administrative Headquarter of Naga Hill district and continuity of Capital of Nagaland State in 1963.
6	Itanagar (Arunachal Pradesh)	Ita Fort of Ahom Kingdom of 12 <sup>th</sup> Century, Rural Settlement	Rural Settlement of NEFA (North-East Frontier): 1978	1987	Established near Ita Fort for Capital of Arunachal Pradesh state after shifted administrative capital of NEFA from Naharlogun
7	Dispur (Assam)	Administrative center village outskirts of Guwahati before 1973	Rural market centre and outskirt of Guwahati	1973	Capital of Assam state after shifted administrative capital from Shillong in Meghalaya
8	Gangtok	Chogyal (King) capital under British protectorate of 1894	Princely capital of Sikkim	1975	Former royal capital; retained after accession to India.

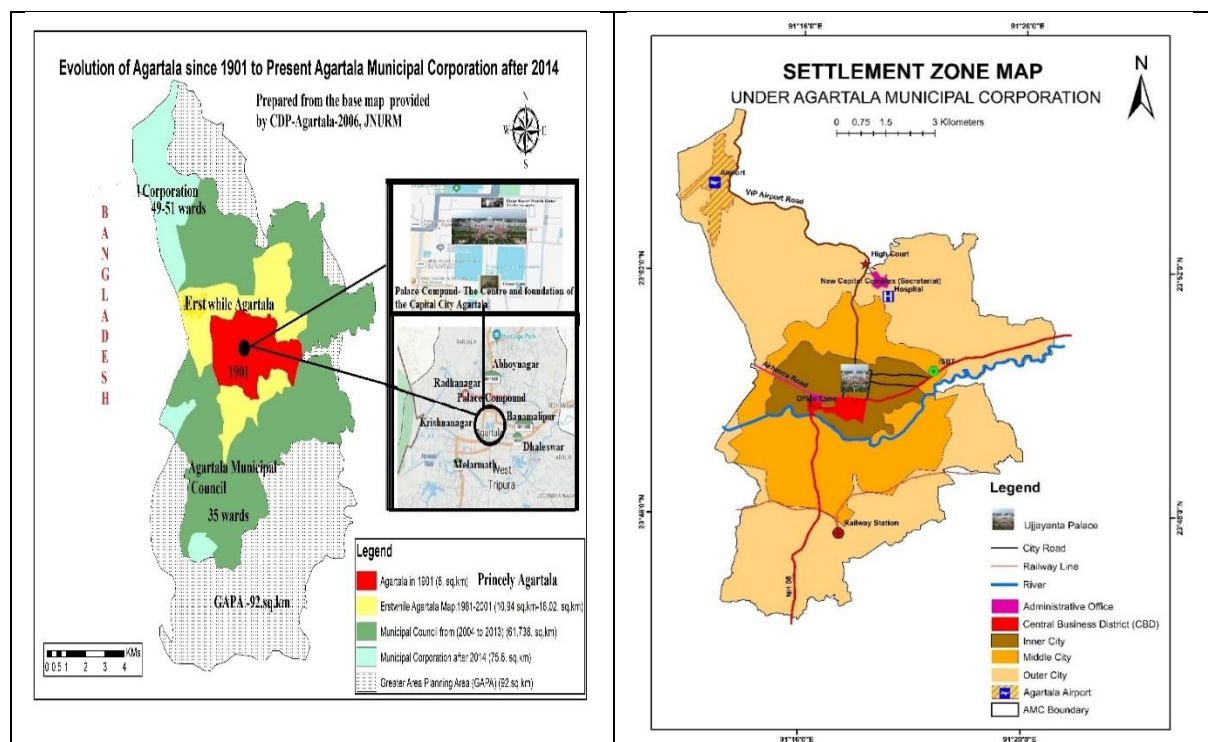
**Source:** Compilation from Municipal websites of Capital cities, North-East India.

Agartala is recognized as a historical city, rooted in its legacy as the capital of the Tripura kingdom. The present city was established in 1838 by Maharaja Krishna Kishore Manikya, who shifted the capital from Old Agartala (Haveli), itself a successor to Udaipur (Rangamati), the earlier royal seat on the Gomati River (Bhattacharya, 2006, pp. 41–43). Presently, the city encompasses both Old Haveli at Khayerpur and New Haveli, where the Ujjayanta Palace is located. Over successive phases, Agartala has expanded its area and population, reflecting its transition from a royal stronghold to a modern capital.

The etymology of “Agartala” is intertwined with local traditions. Some attribute it to the abundance of Agar trees in the region, while others trace it to Agar-Fa, son of Maharaja Dangar Fa, both explanations embedded in the cultural narratives of Tripura (Sur, 2010, pp. 13–14; Nath, 2020, p. 57). Among the indigenous Tripuri, the city is locally referred to as ‘Aguli’. From its beginnings as a modest village (Chaudhuri, 1995, p. 9), Agartala has evolved into a vibrant urban hub, symbolizing both historical continuity and adaptive resilience.

### 2.3. Urban Sprawl from Primary Ujjayanta Palace origin

Agartala, the capital of Tripura, has experienced urban expansion outward from its historic core, shaped by geographical constraints, infrastructural development, and administrative decisions. The central nucleus, established in 1871, includes Ujjayanta Palace, Ramnagar, Krishnanagar, and Banamalipur, functioning as the city’s administrative and commercial hub. Krishnanagar with its gridiron layout from the princely era, represents one of the earliest planned neighborhoods, while major markets such as Gol Bazar and Battala reinforced the central zone’s economic significance. Eastward expansion along the Assam–Agartala Road absorbed fringe villages like Dhaleswar, Khayerpur, Shibnagar, and Jogendranagar, transforming them into mixed residential and commercial areas connected by transport nodes. The southern extension, covering Bardowali, Arundhutinagar, Badarghat, and Siddhi Ashram, evolved from rural settlements into urban neighborhoods, stimulated by National Highway 44, the establishment of Tripura University at Suryamaninagar, and Agartala Railway Station at Badarghat. This zone is largely inhabited by the Bengali community, with limited tribal presence. The northern expansion, emerging prominently after 2004, includes Kunjaban, Nandannagar, Barjala, and Lichubagan, where the New Capital Complex and Maharaja Bir Bikram Airport have driven administrative and infrastructural growth. In contrast, westward expansion is sharply restricted by the international boundary with Bangladesh, leaving no distinct western zone and resulting in an elongated city structure. Overall, Agartala’s growth is constrained by the Bangladesh border to the west and TTAADC areas to the northeast, pushing urban expansion mainly towards the north, south, and selected eastern tracts, predominantly in Bengali-dominated localities. The Fig.2 display the evolution of Agartala since the foundation, their spread and zones of settlements.



**Figure 2** Evolution of Agartala since foundation and Settlement Zones map of the city  
 (Prepared by Authors, GIS applications)

### 2.6. History of Urban Governance body and Municipalities

The present-day city of Agartala was established as the new capital in 1838 by Maharaja Krishna Kishore Manikya, who ruled Tripura from 1830 to 1849. Later, in 1871, under the reign of Maharaja Bir Chandra Manikya (1862–1896), the Agartala Municipality was formally set up to provide structured civic governance. Within a 3 square mile area, the Agartala Municipality was founded in 1871 under the reign of Maharaja Bir Chandra Manikya. This was a significant turning point in the city's administrative history since it established the framework for organised growth and government (Chaudhuri, 1995, p. 9). By royal decree, the 3 square miles Agartala Municipality with 875 residents was created (CDP, Agartala-2005).

That same year, Mr. A.W.B. Power was appointed as the first British Political Agent for the hilly region of Tripura (then known as Hill Tippera) and was given the honorary role of Chairman of the Agartala Municipality. The formal framework of municipal administration in the city began functioning in 1874. In the 1940s, Maharaja Bir Bikram Manikya Bahadur undertook extensive urban planning initiatives to modernize Agartala into a well-structured and organized city. Eventually, this historic capital of the princely state of Tripura became part of the Indian Union on October 15, 1949, following Tripura's merger with independent India (Agartala Municipal Corporation, n.d.). The Table 3 presents the administrative evolution of capital cities in North-East India.

**Table 3** Administrative Evolution of Capital Cities, North-East India.

S	Capital City	Prior to Municipal body Institution	to First municipal ity instituted	First municipal ity	Municipal council/ Municipal Board	Present Status
1	Agartala	Princely Capital Town	1871	1871	1972 Municipal Council	Agartala Municipal Corporation from 2014
2	Aizawl	Urban Local Body after 1966	2008	2008	2008: Municipal Council	Aizawl Municipal Corporation from 2015
3	Imphal	Princely capital, Town Fund Board in 1915	1956	1956 Municipal Body	Municipal council 1992	Imphal municipal corporation from 2014
4	Shillong	Urban Local Body	1878	1878 Shillong Cantonment in 1885	Shillong Municipal Board (SMB) in 1973	Shillong Municipal Board & Cantonment
5	Kohima	KTC (Kohima Town Council) from 1957	2005	2005	2005 Municipal Council	Kohima Municipal Council
6	Itanagar	Urban Local Body	2007	2007	2007 Municipal Council	2013 Itanagar Municipal Corporation
7	Dispur	Outskirts of Guwahati	1973	1973	Under Metropolitan region	Under Guwahati Metropolitan Development Authority (GDMA)
8	Gangtok	Princely Capital Town	1975	1975	2007	2010 Gangtok Municipal corporation

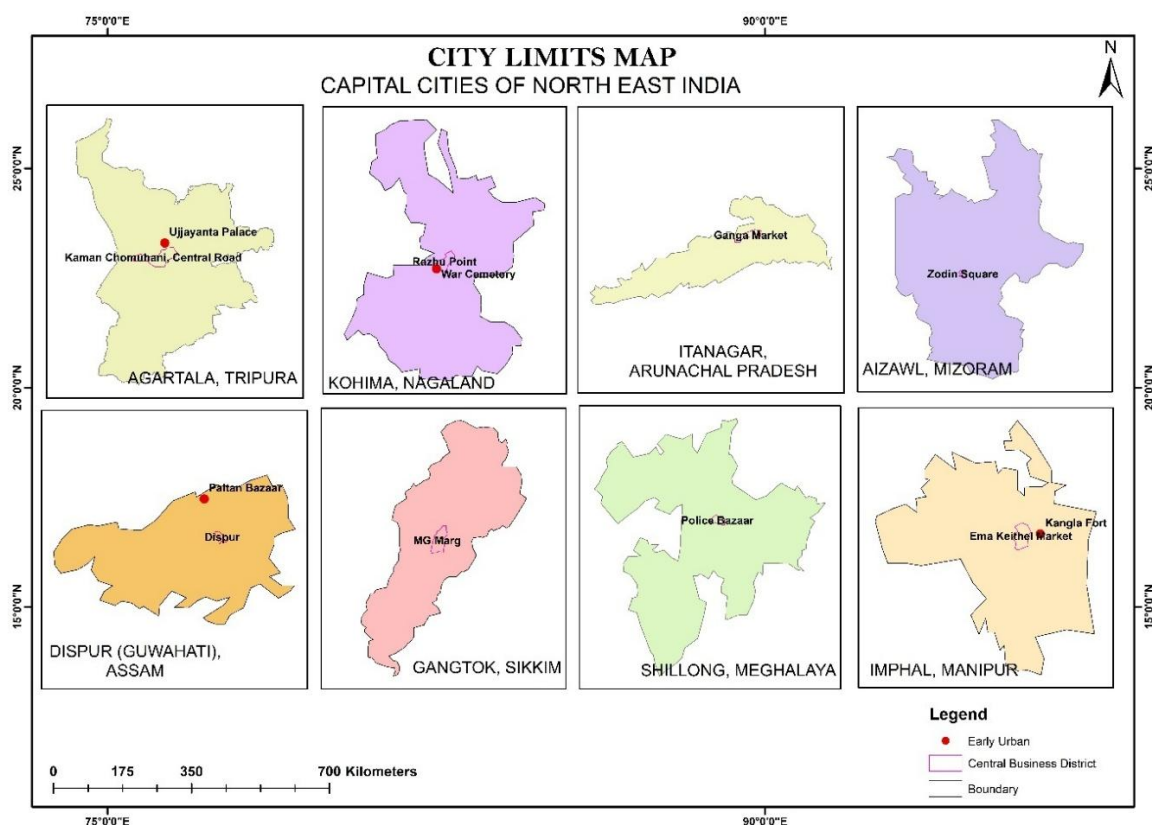
**Source:** Compiled by author from official municipal websites.

The evolution of municipal governance in the capital cities of Northeast India reflects their varied historical trajectories, transitioning from princely capitals, cantonments, and urban local bodies into formalized municipal institutions. Agartala, a former princely capital, instituted its first municipality in 1871, later becoming a municipal council in 1972, and was upgraded to a municipal corporation in 2014. Aizawl emerged as an urban local body after 1966, established a municipal council in 2008, and attained corporation status in 2015. Imphal, with its Town Fund Board of 1915, transitioned to a municipality in 1956, a municipal council in 1992, and a corporation in 2014. Shillong was administered under a municipal body from 1878 and a cantonment from 1885, formalized as the Shillong Municipal Board in 1973, and continues with both SMB and cantonment governance. Kohima, governed initially through the Kohima Town Council (1957), was upgraded to a municipal council in 2005 and remains under this status. Itanagar, established as a municipal council in 2007, attained corporation status in 2013. Dispur, as an administrative extension of Guwahati, falls under the Guwahati Metropolitan Development Authority (GDMA) since 1973, without a distinct municipal corporation of its own. Gangtok, a princely capital, was brought under municipal governance in 1975, formalized as a municipal body in 2007, and upgraded to a municipal corporation in 2010.

### 2.7. Morphology of Settlements zones and ward units' divisions

An evaluation of Agartala's growth reveals a gradual but significant spatial and demographic expansion. The city increased only marginally from 3 square miles in 1876 (Hunter, 1973, p. 496) to 4 square miles in the 1951 Census. In 1978, the municipality covered 10.94 sq. km with 10 wards, and by 1983 it extended to 15.81 sq. km with 13 wards. In 2000, the area reached 16.012 sq. km, but a major restructuring in 2004 expanded it to 62.02 sq. km under the Agartala Municipal Council (AMC), comprising 35 wards. As per the 2011 Census, Agartala had an area of 62.02 sq. km, 35 wards, and a population of 400,004. Today, the city spans approximately 75.6 sq. km with 49 wards, further increased to 51 in 2022 through ward reorganization. The AMC has divided these wards into four zones—Central, South, East, and North—for administrative efficiency. The current population is estimated at 609,670 (2023), while the Greater Agartala Planning Area (GAPA) extends over 92 sq. km.

Commercial activity continues to be anchored by Maharaj Ganj Bazar (Golbazar) in Dhaleswar, along with major market clusters at Melarmath, Shantipara, Jaynagar, and Shibnagar. The central zone retains the Royal Palace, its surrounding residential quarters, and older settlement areas, from which the city has gradually expanded southward and eastward, and more recently into the northern zone. The Fig.3 display the centre of origins for all the capital cities in North-East India.



**Figure 3** Layout map of Capitals of North-East India with their primary centre of origin and CBD zones. The spatial and functional evolution of the Northeastern capitals reflects their origins in political authority and commercial hubs. Agartala developed outward from the royal palace precincts, with its central business district (CBD) anchored at Kaman Chowmuhni and Maharaj Ganj market. Kohima expanded from Razhu Point, with its core significance shaped around the war memorial. Itanagar emerged with Ganga Market as its CBD, while Aizawl's focal point is Zodin Square. In Dispur-Guwahati, the commercial nucleus originated at Paltan Bazar, whereas Dispur's administrative capital area was established later in 1973 around the government secretariat complex. In Gangtok, the city core is defined by MG Marg and the adjoining royal precincts. Shillong, founded as the British headquarters of the Assam province, developed around the colonial governor's residence, with Police Bazar and Bara Bazar as its principal market spaces. Similarly, Imphal grew from the historic Kangla Fort, with Ema Keithel functioning as its central marketplace. The Table 4 present the status of Municipal administrative divisions in North-East India.

**Table 4** Status of Municipal administrative divisions in North East India

Capital City	Number of Wards	of Municipality Area (sq. km)	Greater Planning Area (sq. km)	District Name	Area Rank size
Aizawl	19	129.91	152.80	Aizawl District	1
Agartala	51	76.50	92.00	West Tripura	2
Shillong	27	60.00	64.36	East Khasi Hills	3
Itanagar	30	51.69	Unspecified	Papum Pare	4
Imphal	27	25.97	151.38	Imphal District	5
Kohima	19	20.00	35.00	Kohima District	6
Gangtok	19	19.02	Unspecified	Gangtok District	7
Dispur*	16 of 60 (Guwahati Metro region)	0.60	49 sq.km (216.79 - 262.00 Guwahati Metro)	Kamrup	8

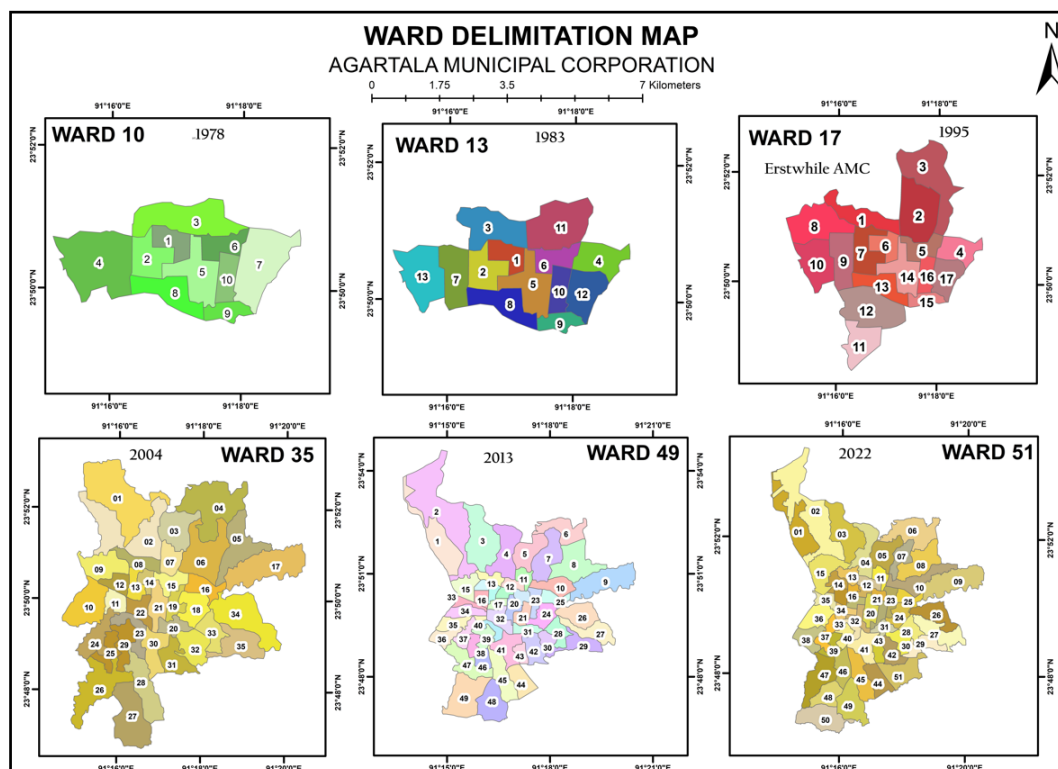
\*Dispur's standalone municipality is very small (0.60 km<sup>2</sup>); it lies within the larger Guwahati Metropolitan Area (216.79-262 km<sup>2</sup>). If Guwahati Metropolitan is included, it will be the largest in terms of Area span. The spatial growth of Northeastern capital cities reveals a marked contrast between plains-based and hill-based settlements. Agartala, situated on the fertile plains of Tripura, has expanded in a compact and continuous manner, with settlements extending linearly along roads and rivers. Imphal, located in the Manipur valley, also demonstrates radial and dispersed growth from Kangla Fort, with its small municipal area complemented by a much larger planning area across the fertile valley floor. Dispur-Guwahati presents a mixed pattern, where Guwahati's plains allow dense sprawl, while surrounding hillocks fragment urban form, creating uneven densities. In contrast, the hill capitals are shaped by rugged terrain and topographic constraints. Aizawl, despite its large municipal area, has sparse and fragmented settlements, as steep slopes limit habitation to ridge lines and narrow valleys. Shillong, established on an undulating plateau, spread radially from its colonial core but remains clustered around valleys and hilltops due to ridges and forested tracts. Itanagar shows a similar pattern, with pockets of settlement in valleys and gentle slopes, while much of its territory remains forested. Kohima is characterized by ridge-based linear growth constrained by escarpments, and Gangtok displays dense concentration around MG Marg with expansion restricted to ridges and accessible slopes. Overall, plains capitals exhibit compact, continuous settlement with wider spatial spread, while hill capitals remain fragmented and terrain-bound, with growth confined to ridges, valleys, and plateaus. The Table 5 Chronologically chart the evolution of Agartala Municipal area since institution.

**Table 5** Evolution of Agartala Area and Wards Since Municipality institution

Year	Area (km <sup>2</sup> )	Number of Wards	Key Developments
1871	3sq miles	Unspecified	Municipality established during the reign of Maharaja Chandra Manikya with 875 population.
1901	7.77 (8.6 Sq.km)	6	Population: 6,415; city area expanded to 7.7 km <sup>2</sup> .
1951	10.36 sq.km	6	City expanded from 7.7 sq.km to 10.36 sq.km
1978	10.94	10	Municipality enlarged to 10.94 km <sup>2</sup> ; divided into 10 wards for elections.
1983	15.81	13	Further extension to 15.81 km <sup>2</sup> ; number of wards increased to 13.
1995	16.012	17	Municipality extended to 16.012 km <sup>2</sup> ; 17 wards established.
2004	62.60	35	Major expansion to 62.60 km <sup>2</sup> ; 26 villages incorporated; 35 wards.
2013	76.50	49	Upgraded to Municipal Corporation; area increased to 76.50 km <sup>2</sup> ; 49 wards.
2022		51	Municipal corporation increased to 2 more Wards
GAPA	92.00	Unspecified	Proposed Greater Agartala Planning Area (GAPA) extended to 92 km <sup>2</sup> .

**Source:** Compiled by author from Municipality websites, AMC office and other information related to Agartala.

The explanation of the table is supported and displayed by map through Figure 4.



**Figure 4** Evolution of Agartala Ward Map delimitation at different phases and years.

The Figure displays the evolution of Agartala through different phases and years with delimitation wards numbers compiled map as introduced by Agartala municipal body from time to time. The Primary settlements and ward divisions zones are instituted by Municipality office, they are Central Zone, North Zone, South and East Zones. The Table 6 list out the identified locality and its division zones.

**Table 6:** Primary settlements areas and division of ward zones of Agartala

Sl	Phases of Growth	No. of Wards	Ward Zones	Identified Locality
1	Initial to 1951	Unspecified		
	1871			
	1951	6		Krishnanagar, Melarmath, Banamalipur, Dholeswar, Stantipara, Jaynagar
	1978	10		Krishnanagar, Melarmath, Dholeswar Banamalipur, Shantipara, Jaynagar, Dhaleswar, Ramnagar, Bardowali, MB Tilla
	After 1978	13		Krishnanagar, Melarmath, Dholeswar Banamalipur, Shantipara, Jaynagar, Dhaleswar, Ramnagar, Bardowali, Kunjaban, Abhaynagar, Ranjitnagar
	Erstwhile AMC	17		1.Krishnanagar 2. Paschim Krishnanagar 3. Dimsagar-Banamalipur 4. Melarmath, 5. Ramnagar 6. Jaynagar 7. Paschim Jaynagar 8. Rajnagar 9. Ranjit Nagar 10. Town Pratapgarh 11. Dhaleswar 12. Bardowali 13. Shantipara 14 Kunjaban, 15. Abhaynagar, 16. Radhanagar. 17. Arundhutinagar.
	2004( Agartala Municipal Council)	35	4 Ward Zones North, Central, East & South Zone	1.Barjala, 2. Chandinamura-Lichubagan, 3. Kunjaban, 4. Chandmari, 5. Indranagar, 6. Nandanagar, 7. Abhoynagar, 8. Radhanagar, 9. Ranjit Nagar, 10. Rajnagar, 11. Paschim Jaynagar, 12. Ramnagar, 13. Paschim Krishnanagar, 14. Krishnanagar, 15. Dimsagar-Banamalipur, 16. Dhaleswar, 17. Kashipur-Khayerpur, 18. Shibnagar, 19. Paschim Shibnagar, 20. Town Pratapgarh, 21. Shantipara, 22. Melarmath, 23. Bardowali, 24. Bhattapukur-Badharghat, 25. Arundhutinagar, 26. Dakkhin Badarghat, 27. Siddhi Ashram, 28. Rajlaxminagar, 29. Arundhutinagar, 30. Paschim Pratapgarh, 31. Purba Pratapgarh, 32. Jogendranagar, 33. Uttar Jogendranagar, 34. Aralia, 35. Purba Jogendranagar.
	2013 (Agartala Municipal Corporation)	49	4 Ward Zones North, Central, East & South Zone	Officially ward locality name has not been designated only ward number.
	2022 Agartala Municipal Corporation)	51	4 Ward Zones North, Central, East	2 new Wards has been incorporated

**Source:** Compiled from official website AMC, CDP-Report Agartala, 2006, JNURM and Agartala Municipal office and Field observation.

From the table given, the growth of Agartala in terms of area and its important milestone can be marked into four phases. They are as follows.

**(i). Erstwhile Agartala until 1995**

The earliest municipal framework of Agartala was established in 1871 by Maharaja Chandra Manikya, covering just 3 square miles with a population of 875. By 1901, it expanded to 7.77 km<sup>2</sup> with 6 wards—Krishnanagar, Melarmath, Banamalipur, Dhaleswar, and Shantipara—housing 6,415 people. Post-independence growth enlarged the area to 10.36 km<sup>2</sup> by 1951, still retaining 6 wards. A major restructuring in 1978 increased the area to 10.94 km<sup>2</sup> and doubled the wards to 10, incorporating Kunjaban, Ramnagar, Bardowali, Abhoynagar, and MB Tilla. Further extensions in 1983 raised the area to 15.81 km<sup>2</sup> with 13 wards, later adjusted to include Jaynagar, Kunjaban, and Shibnagar. By 1995, Agartala had become a well-defined municipal town of 16.012 km<sup>2</sup> with 17 wards, balancing historic neighborhoods such as Krishnanagar, Banamalipur, and Shantipara with newer areas like Paschim Krishnanagar, Rajnagar, Town Pratapgarh, and Kunjaban.

**(ii). Municipal Council (2004)**

In 2004, Agartala was upgraded to a Municipal Council with 35 wards spread over 62.60 km<sup>2</sup>, divided into four administrative zones for better governance. The North Zone (Wards 1-8) covered Barjala, Kunjaban, Indranagar, and Nandanagar; the Central Zone (Wards 9-15, 20-22) included Ramnagar, Krishnanagar, Banamalipur, and Shantipara; the East Zone (Wards 16-19, 32-35) incorporated Dhaleswar, Shibnagar, Jogendranagar, and Khayerpur; while the South Zone (Wards 23-31) included Bardowali, Arundhutinagar, Badarghat, Siddhi Ashram, and Pratapgarh. This restructuring reflected the city's rapid urbanization and expanded governance needs.

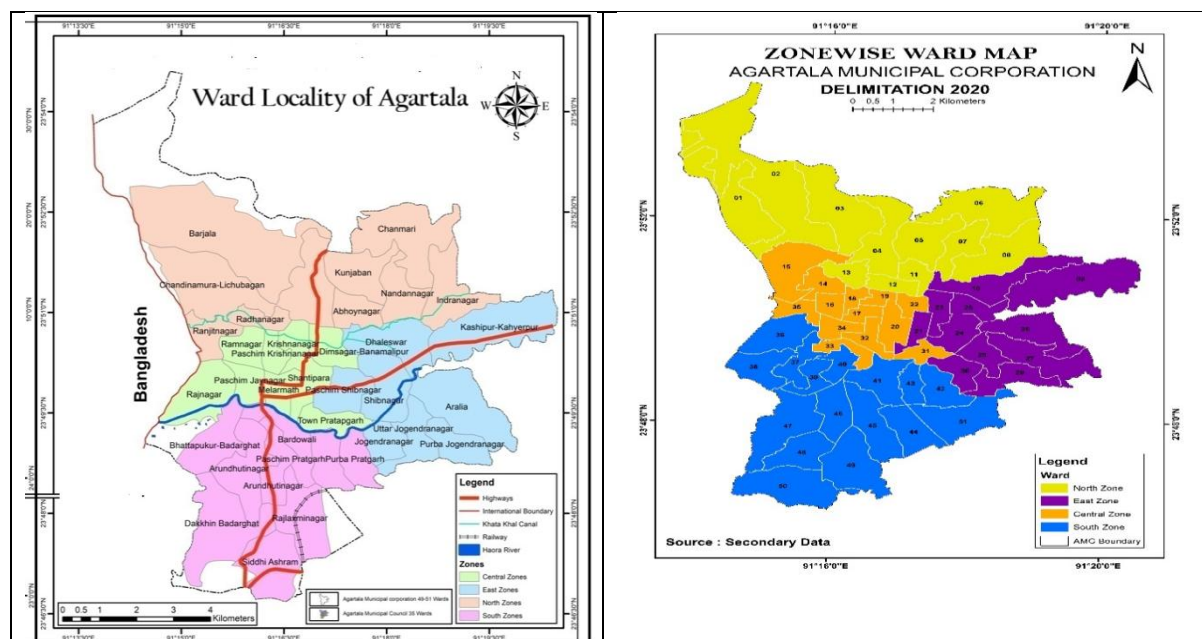
**(iii). Municipal Corporation (2013–Present):**

Agartala attained the status of a Municipal Corporation in 2013, initially with 35 wards covering 75.06 km<sup>2</sup>. Through subsequent delimitation, the wards were increased to 49 and later to 51 in 2022, expanding the area to 76.50 km<sup>2</sup>. This transformation marked Agartala's shift to a metropolitan-level governance structure capable of managing its growing population and services.

**(iv). Greater Agartala Planning Area (GAPA):**

Beyond the municipal limits, the Greater Agartala Planning Area (GAPA) was proposed under the City Development Plan (CDP) of the Jawaharlal Nehru National Urban Renewal Mission (2005). Envisioned to cover 92 km<sup>2</sup>, GAPA extended AMC's jurisdiction by incorporating Gandhigram, Singarbil, Anandnagar, Dukli, Charipara, Suryamaninagar, Madhupur, and Madhuban, thereby integrating peripheral settlements into the city's urban framework and ensuring coordinated future expansion.

The Agartala ward numbers during Municipal Councils and Municipal corporation are represented through map figures. The Figure 5 display the Ward zones divisions by Agartala municipal body for better governance and identification of the locality.



**Figure 5** Zone wise ward divisions of locality and ward composition of Agartala.

**2.8. Population Size growth and Density:**

Agartala, the capital of Tripura, has witnessed significant demographic expansion between 2011 and the projected estimates for 2025, marking it as one of the fastest-growing urban centers in Northeast India. With a population increase from 400,004 in 2011 to an estimated 584,000 in 2025—reflecting a 46% rise—and a corresponding surge in population density from 5,226 to 7,636 persons per km<sup>2</sup>, Agartala ranks among the top northeastern capitals in both population size and density, If Guwahati is excluded from Dispur Capital. It surpasses cities like Shillong, Aizawl, and Kohima in these metrics, while trailing only behind major centers like Imphal and Dispur in density. With the highest number of municipal wards (51) and a substantial area of 76.50 km<sup>2</sup>, the city faces growing urban pressures including increased demand for housing, infrastructure, transport, and public services. These trends underscore the urgent need for strategic urban planning, sustainable development policies, and efficient governance to manage its rising population and ensure balanced growth amidst its expanding urban footprint. The Table 7 gives the status of population and density of North-East Capitals.

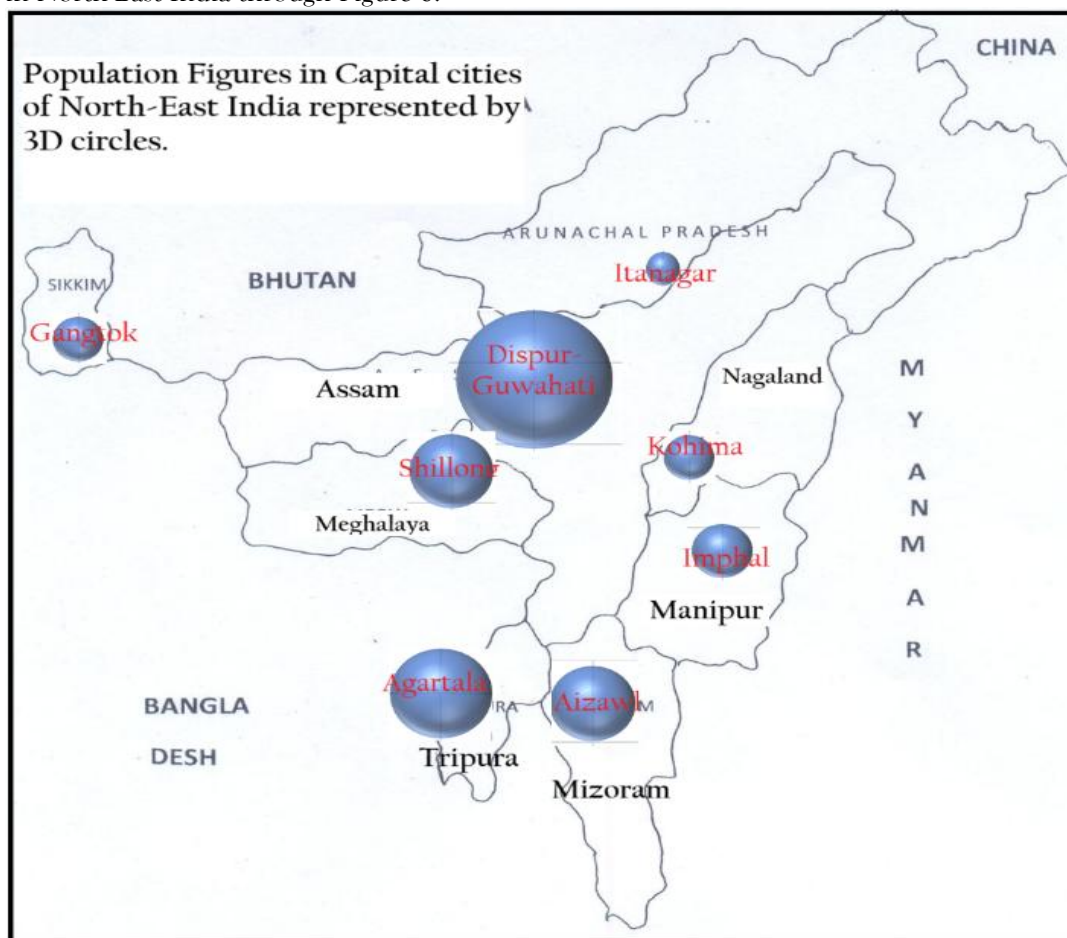
**Table 7** Status of Population and Density of Northeast Indian Capitals

Sl. No.	City (State)	Wards	Area (km <sup>2</sup> )	Pop. (2011)	Pop. Rank 2011	Density (2011)	Density Rank 2011	Pop. est. (2025)	Pop. Rank 2025	Density (2025)	Density Rank 2025
1	Itanagar (Arunachal Pradesh)	20	51.69	59,490	8	1,151	8	101,772	8	1,968	8
2	Dispur* (Assam)	31	216.00	957,352	1	4,433	5	1,398,000	1	6,472	5
3	Imphal (Manipur)	27	35.00	277,196	4	7,920	1	390,000	4	11,143	1

4	Shillong (Meghalaya)	27	64.36	143,229	5	2,226	7	207,000	5	3,216	6
5	Aizawl (Mizoram)	19	129.84	293,416	3	2,260	6	415,000	3	3,197	7
6	Kohima (Nagaland)	19	20.00	115,283	6	5,764	2	142,000	7	7,100	2
7	Agartala (Tripura)	51	76.50	400,004	2	5,226	4	584,000	2	7,636	4
8	Gangtok (Sikkim)	15	19.20	100,286	7	5,225	3	144,000	6	7,500	3

**Source:** Compiled by author from census years and up to date population is derived from projected trend, as available from authentic website.

The population figures are represented through 3-dimension circles in location map of the capital cities in North-East India through Figure 6.



**Figure 6** Population Figures and Capital Cities of North East India.

Agartala has transformed from a small town of just 876 people in 1876 into a major urban center with an estimated 615,000 residents by 2022. Its growth accelerated notably after 1978, when the population reached over 132,000, and continued as the city expanded in area and administrative structure. The Table 7 chart the population growth of Agartala and its area expansion stages since the municipal institution in 1876.

**Table 7** Population growth of Agartala Since Municipal institution

Year	Area (sq. km)	No. of Wards	Population	Density (persons/sq. km)
1876	7.77	Not specified	876	Not specified
1951	10.36	6 wards	Not specified	Not specified
1978	10.94	10	132,186	12,083
Post-1978	15.81	13	157,358	9,953
2000	16.012	Not specified	188,540	11,777
2004	62.02	35 (AMC expanded)	367,822	5,929
2010	62.02	Upgraded to Municipal Corporation	399,688	6,443
2013	75.5	49 (functional Corporation)	400,004	5,298
2022	75.6	51 (incl. 2 new wards added)	615,000	8,140

**Source:** Compiled and collected documents from Agartala AMC office

A major shift came in 2004, when the municipal limits were enlarged to 62.02 sq. km and 35 wards, nearly doubling the population to 367,822, which initially reduced density due to spatial expansion. The last official population count was recorded in the 2011 Census, showing 400,004 people—a crucial reference point, as no subsequent census has been conducted for over a decade. Since then, projections estimate substantial growth, with the population reaching 615,000 by 2022 across 51 wards and an area of 75.6 sq. km, pushing density to 8,140 persons/km<sup>2</sup>. This steady rise, based on estimates rather than updated census data, underscores the city’s mounting demographic pressure and highlights the urgent need for new official data to guide future urban planning and resource management.

### 3. DISCUSSIONS:

The Results and Findings give certain analysis and conclusive decision on the facts of Geo-setting and urban morphology of the capital cities with focus of Agartala and its uniqueness among them. The nature and characteristics are as follows: -

#### (i). Historical Continuity

Agartala, the capital of Tripura, is one of the oldest and most historically continuous capitals in Northeast India. Founded in 1838 by Maharaja Krishna Kishore Manikya, it retained its status after Tripura’s merger with India in 1949—unlike many other northeastern capitals that were designated only in the post-independence era. Its royal origins and uninterrupted administrative role give Agartala a unique legacy of governance, urban development, and cultural continuity.

#### (ii). Geographical Setting

The city occupies a distinctive geographical position. Located on the western plains of Tripura, directly along the international border with Bangladesh, it is the only Indian capital with such a frontier location. This restricts westward expansion, directing most urban growth to the north, east, and south. Agartala is largely built over fertile alluvial fields within a saucer-shaped basin, where the Haora (Saidra) River and the Khatta Khal stream cut across the city. These water systems not only provide natural drainage and fertile soils but also shaped the early settlement pattern in ways reminiscent of river valley civilizations. At the same time, their seasonal fluctuations make certain areas prone to flooding and waterlogging. Compared to hilly capitals like Aizawl, Shillong, Kohima, or Gangtok, Agartala benefits from easier terrain for infrastructure development, with slight uplands in the north and east offering modest relief and scope for expansion.

#### (iii). Urban Expansion

Agartala’s urban history is marked by early modernization. Maharaja Bir Chandra Manikya established a municipality in 1871 and introduced Western-style education, laying the foundations for civic governance. Starting from just 875 residents over 3 sq. km, the municipality has since expanded into a Municipal Corporation (2013) covering 76.5 sq. km with 51 wards. The Greater Agartala Planning Area (GAPA) further extends the planning horizon to 92 sq. km. Population growth has been rapid, from 400,004 in 2011 to an estimated 615,000 by 2022, making Agartala the second-largest northeastern

capital after Dispur (Guwahati). Excluding Guwahati, Agartala ranks first among the region's capitals in terms of population, infrastructure, and spatial expansion.

#### (iv). Comparative Context

When compared to other northeastern capitals, Agartala's distinctiveness becomes clear. Imphal, another princely capital, evolved from the ancient Meitei kingdom centered on Kangla Fort. Gangtok also retained continuity after Sikkim's merger in 1975. In contrast, Shillong and Kohima emerged through colonial and wartime designations, Dispur became Assam's capital after administrative reorganization in 1973, and Aizawl and Itanagar rose to prominence only with statehood in the 1970s and 1980s. While Agartala shares with Imphal and Dispur the advantages of a plain-based setting, it is set apart by its fertile agricultural origins, partial upland extensions, and international border adjacency—features absent in the other capitals.

#### (v). Contemporary Challenges

Agartala's development has also been shaped by migration and cross-border dynamics. Inflows from Bangladesh, particularly during Partition and the 1971 Liberation War, have left a lasting imprint on the city's demographic diversity and contributed to pressures on housing, infrastructure, and services. Today, with a population density exceeding 8,100 persons per sq. km, Agartala faces challenges of congestion and sustainability, even as it retains its historic role as a bridge between princely legacy and modern urban governance.

## 4. CONCLUSION:

This study traces Agartala's transformation from its foundation as the Manikya royal capital in 1838 to its present status as the largest state capital of Northeast India (excluding Guwahati from Dispur capital). Its historical continuity, unlike most other regional capitals that emerged during colonial or post-independence times, sets it apart. The city's plain-based geography, fertile alluvial soils, and proximity to the Bangladesh border have shaped its growth while also constraining expansion and exposing it to flooding risks. Migration, including cross-border flows, has diversified its population but increased pressure on infrastructure, housing, and services. The analysis of settlement patterns and ward restructuring shows how discontinuities in municipal record-keeping complicate demographic and spatial tracking. GIS-based mapping offers a way to overcome these gaps by aligning ward boundaries and localities across time. Yet, the absence of intensive spatial surveys and the unavailability of updated census data remain significant drawbacks in establishing precise population figures and urban dynamics.

Overall, Agartala's growth highlights both the uniqueness of its uninterrupted morphological trajectory and the urgent need for integrated planning to address environmental vulnerabilities, rapid population increase, and infrastructural demands. Sustaining its future as a dynamic and distinctive capital city will depend on more robust data, forward-looking governance, and spatially informed urban management. In summary, Agartala's strategic location, historical depth, and demographic trends set it apart in Northeast India. Its asymmetrical urban growth, influenced by physical and political borders, and its dense population highlight the need for better planning and updated data to guide its future development.

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### Availability of data and material

The data used in the study is available from the corresponding author upon reasonable request.

### Ethical Approval

The Ethical approval is not required as the study was based on secondary data and observation method of the study area.

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