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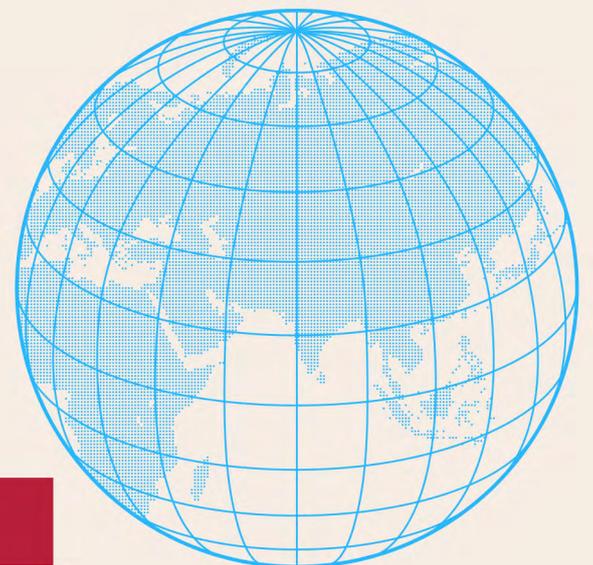
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# Enhancing Property Tax

Debarpita Roy



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Designed by Umesh Kumar

# Enhancing Property Tax

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## Table of Contents

Abbreviations .....	5
Executive Summary .....	6
1. Introduction .....	8
2. Property Tax Trends in Million-Plus Cities' Municipal Corporations.....	9
3. Examination of Property Tax System and Administration of Three Municipal Corporations—BBMP (Bengaluru), PMC (Pune), and GNN (Ghaziabad) .....	14
3.1 Enumeration .....	15
3.2 Valuation and Assessment .....	17
3.3 Billing and Collection.....	22
4. Summing Up and Recommendations .....	28
4.1 Recommendations .....	29
References .....	31
Appendix 1: 15 <sup>th</sup> Finance Commission Condition on Property Tax.....	33
Appendix 2: Key Legal Provisions for Property Tax in BBMP, PMC, and GNN.....	34
Appendix 3: Estimating GNN's Collection Efficiency—Based on the Methodology in Box 1 .....	36
Appendix 4: Tables Corresponding to Figures 1 to 6 of This Study .....	38
Appendix 5: Analysis Schematic of Property Tax System and Administration.....	41

## List of Figures

Illustration 1: Stages in Property Tax System and Administration .....	8
Figure 1: Property Tax (Nominal) .....	10
Figure 2: Per Capita Property Tax (Nominal) .....	11
Figure 3: Per Capita Property Tax (Inflation-adjusted) .....	12
Figure 4: Property Tax as a Percentage of GSDP .....	13
Figure 5: Property Tax as a Percentage of Own Source Revenue.....	13
Figure 6: Property Tax as a Percentage of Municipal Revenue .....	14
Figure 7: PMC's Collection Efficiency of Property Tax .....	24
Figure 8: PMC's Property Tax Arrears.....	24
Figure 9: PMC's Property Tax Write-Offs.....	25
Figure 10: BBMP's Collection Efficiency of Property Tax .....	25
Figure 11: BBMP's Property Tax Arrears .....	26
Figure 12: GNN's Collection Efficiency of Property Tax .....	26
Figure 13: GNN's Property Tax Arrears .....	27

## List of Tables

Table 1: BBMP, PMC and GNN Estimated Coverage Ratio in 2022–2023 .....	15
Table 2: Valuation and Assessment Framework of BBMP, PMC, and GNN .....	19
Table 3: Comparison Between BBMP and PMC .....	19
Table A1: Property Tax (Nominal as from Budgets) in Rs Crore .....	38
Table A2: Per Capita Property Tax (Nominal) in Rs .....	38
Table A3: Per Capita Property Tax (Inflation Adjusted) in Rs.....	39
Table A4: Property Tax as a Percentage of GSDP (per cent) .....	39
Table A5: Property Tax as a Percentage of Own Source Revenue (per cent).....	40
Table A6: Property Tax as a Percentage of Municipal Revenue (per cent).....	40

## Abbreviations

<b>AI</b>	Artificial Intelligence
<b>AMRUT</b>	Atal Mission for Rejuvenation and Urban Transformation
<b>ARV</b>	Annual Rental/Rateable Value
<b>ASICS</b>	Annual Survey of India's City Systems
<b>BBMP</b>	Bruhat Bengaluru Mahanagara Palike
<b>CAG</b>	Comptroller and Auditor General of India
<b>CAMA</b>	Computer Assisted Mass Appraisal
<b>CFC</b>	Central Finance Commission
<b>CNBC</b>	Consumer News and Business Channel
<b>CPI</b>	Consumer Price Index
<b>DBIE</b>	Database on Indian Economy (RBI)
<b>DCB</b>	Demand, Collection, and Balance
<b>FIG</b>	International Federation of Surveyors
<b>GBA</b>	Greater Bengaluru Authority
<b>GDP</b>	Gross Domestic Product
<b>GIS</b>	Geographic Information System
<b>GNN</b>	Ghaziabad Nagar Nigam
<b>GSDP</b>	Gross State Domestic Product
<b>GST</b>	Goods and Services Tax
<b>ICRIER</b>	Indian Council for Research on International Economic Relations
<b>IE</b>	Income Expenditure
<b>IT</b>	Information Technology
<b>JNNURM</b>	Jawaharlal Nehru National Urban Renewal Mission
<b>KARC-2</b>	Karnataka Administrative Reforms Commission-2
<b>MoHUA</b>	Ministry of Housing and Urban Affairs
<b>NIUA</b>	National Institute of Urban Affairs
<b>NMAM</b>	National Municipal Accounting Manual
<b>NRSC</b>	National Remote Sensing Centre
<b>PMC</b>	Pune Municipal Corporation
<b>RBI</b>	Reserve Bank of India
<b>RTI</b>	Right to Information
<b>SBM</b>	Swachh Bharat Mission
<b>SOP</b>	Standard Operating Procedure
<b>TOI</b>	Times of India
<b>UAV</b>	Unit Area Value
<b>ULB</b>	Urban Local Body

## Executive Summary

Cities are important for India's economic growth and need adequate investment for the provision of services and the development and maintenance of infrastructure. But urban local bodies (ULBs) governing cities are plagued by poor finances and subpar investment. Property tax has a key role to play in both. It is the most important source of own revenue for ULBs and impacts their creditworthiness. However, property tax across India as a percentage of India's Gross Domestic Product (GDP) has remained stagnant at 0.15 per cent of GDP for many decades, whereas it makes up 0.3 per cent of GDP in low-income countries and 0.6 per cent of GDP in middle-income countries. Million-plus cities are among the most important economic centres of India and its states, and have experienced significant real estate development in recent years. The expected robust property tax performance by the municipal corporations of million-plus cities is important not only for these cities, but also sets an example for smaller cities to follow.

The property tax system and administration encompass three stages: *enumeration*—identification of properties and maintenance of property records along with details; *valuation and assessment*; and *billing and collection*. There is a rich body of extant literature and policy discourse on the challenges associated with each stage, emphasising (i) technology-based mapping and Geographic Information System (GIS) surveys for bringing more properties into the tax net, (ii) regular revisions to the valuation base rate in case of area-based method as well as the adoption of capital value method for up-to-date valuations, and (iii) the need for embracing technology and robust enforcement mechanisms for enhancing collection efficiency, i.e., the share of the tax demand which is eventually collected. Yet, overall property tax levels have remained stagnant at 0.15 per cent of GDP. Given this context and the important role played by million-plus cities in India's economic growth, this study explores:

- How has property tax performed recently in India's million-plus cities?
- What does an examination of their property tax system and administration reveal in terms of the issues and how to address them?

## Property Tax Performance in Million-Plus Cities (2012–2013 to 2022–2023)

An analysis of 24 major municipal corporations reveals a complex picture. While property tax grew nominally, the analysis finds:

- **Nominal growth masks decline in real terms:** Many municipal corporations failed to achieve real per capita property tax growth, eroding their capacity to fund essential services.
- **Lagging economic growth:** Property tax has not kept pace with state GDP growth in many municipal corporations.
- **But it continues to be important:** Despite these shortcomings, property tax remains a critical revenue pillar for the municipal corporations.

## Examination of Property Tax System and Administration

This study analyses Bruhat Bengaluru Mahanagara Palike (BBMP), Pune Municipal Corporation (PMC), and Ghaziabad Nagar Nigam (GNN)—three corporations with markedly different per capita property tax revenues—across the stages of enumeration, valuation and assessment, and billing and collection. **Appendix 5** provides a quick understanding of the key findings and recommendations.

**Enumeration:** The three municipal corporations employ a hybrid approach for identifying and maintaining a record of properties and their details—combining GIS-based mapping, physical inspections, self-assessment data, and cross-verification of data with other departments and agencies. Key findings:

- **GIS mapping delivers significant gains:** One-time technology-driven GIS mapping interventions significantly expanded property coverage across all three municipal corporations, validating the policy emphasis on technology-led mapping.
- **Physical inspections are indispensable:** Despite technological advances, on-ground inspections by municipal assessors prove critical. Without them, coverage gaps and data quality issues persist—an aspect often overlooked in technology-centric policy thrusts.

- **Human resources are the missing piece:** Given widespread human resources challenges in municipal corporations, physical inspections warrant greater research and policy attention as an essential complement to technology.

**Valuation and Assessment:** Property valuation for property tax purposes in India's municipal corporations is estimated using methods falling into two categories: area-based method—formula-based method using a per sq ft per month “base rate” (rent or unit area basis) based on location and other factors; and capital value method—linked to the stamp duty's guidance value. The three municipal corporations follow variants of the area-based valuation method. Key findings:

- **Capital value is theoretically superior but faces resistance:** While capital value is recommended for better tax buoyancy, BBMP's experience highlights real-world obstacles to adoption due to pushback from citizens and the State government.
- **Regular base rate revisions sustain buoyancy:** Timely incremental revisions of the area-based “base rate” are essential to revenue growth. PMC's experience proves this—revisions every three to four years have driven tax buoyancy. Three enabling conditions support successful revisions: **legal provision** (present in all three), an **elected municipal council**, and **citizen receptivity**.
- **Assessment governance requires strengthening:** Robust cross-verification of self-declared property details and independent quasi-judicial bodies (property tax boards and appellate authorities) are needed for accurate tax assessment and quicker dispute resolution.

**Billing and Collection:** The advent of IT has made both billing and collection easier. Key findings:

- **Collection efficiency declines despite rising collections:** While property tax collections increased, **collection efficiency hasn't increased** across all three municipal corporations. As a result, arrears have been rising.
- **BBMP's arrears decline but there are serious data concerns:** BBMP's arrears appear to have declined on the back of aggressive enforcement. However, the absence of financial statements and data on tax write-offs limits confidence in conclusions. This transparency gap is a serious concern.
- **A new framework for measuring collection efficiency:** This study contributes a novel methodology using publicly available financial statements prepared following accrual-based accounting methods to estimate collection efficiency. Existing literature has depended on municipal corpo-

rations to voluntarily share detailed data on the demand, collection, and balance (DCB) of property taxes. But in the absence of such data, this new framework can be used.

## Recommendations for Enhancing Property Tax

The study reinforces existing research and policy discourse on property tax, particularly the importance of technology-based mapping for enumeration, legal provisions mandating regular updates of base value rates to sustain buoyancy, and stricter enforcement to improve collection. It also makes the important discovery that timely municipal elections are necessary for enabling revisions of base value rates and, therefore, for maintaining tax buoyancy.

### Reporting and Transparency

- Municipal corporations should publish, preferably as part of their annual budgets, disaggregated data on property tax demand and collection. This should include current demand, arrears demand, and the corresponding collection efficiencies for each. Greater transparency will enhance accountability within municipal corporations and foster stronger civic awareness among citizens.
- Given the centrality of regular base value revisions to tax buoyancy, municipal corporations' annual budgets should clearly state whether a revision was undertaken in the previous year, the magnitude of the change, and the criteria or methodology used.
- Municipal corporations' access to grants from Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM), the Central Finance Commission, and State government schemes can be made conditional on adherence to such reporting and transparency practices.

### Arrears Management

For effective arrears management, the existing provisions in Municipal Corporation Acts and property tax rules on attachment of properties and other assets should be backed by a state-level property tax arrears management policy. Such a policy should set out standard operating guidelines for all municipal corporations, with clearly defined responsibilities for show-cause procedures, recovery, attachment, and foreclosure of properties. It should also lay down clear principles for the design and use of amnesty schemes to ensure they are appropriate, consistent, and are not misused.

## 1. Introduction

Cities are important for India’s economic growth, and well-functioning urban local bodies (ULBs) are important for well-functioning cities. India’s ULBs are plagued by poor finances, resulting in low investment in infrastructure and poor delivery of services. At the India level, the gap between required and actual investment is substantial. According to recent World Bank (2022) estimates, 1.18 per cent of GDP should be spent as capital expenditure on urban infrastructure and municipal services over the next 15 years. But between 2011 and 2018, on average, only about 0.34 per cent of GDP was spent by ULBs as capital expenditure (Ahluwalia et al., 2019a). Own revenue of local governments is important for these cities not only as a source of funds but it also positively impacts their creditworthiness and hence their ability to attract investments.

Property tax is levied by a ULB on a property. It is the most important single source of own revenue for India’s ULBs<sup>1</sup> (Ahluwalia et al., 2019a). With other local government taxes like the octroi, local body tax, advertisement tax, and entertainment tax being subsumed in the Goods and Services Tax (GST), its importance has only increased over the years. However, total property tax across India as a percentage of India’s GDP has remained stagnant at 0.15 per cent of GDP for many decades (Ahluwalia et al., 2019a), whereas it makes up 0.3 per cent of GDP in low-income countries, 0.6 per cent of GDP in middle-income countries, and 1.1 per cent of GDP in high-income countries (World Bank, 2022).

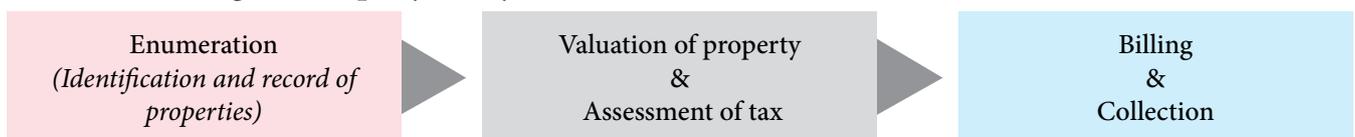
Not just in India, property tax is the key local tax across cities globally. It is an appropriate local tax as it is a benefit tax, i.e., taxpayers pay a tax linked to the value of the property which draws from the public services provided by the local government, and its administration requires local knowledge. It is

also a very visible tax, as it is not deducted at source like income tax nor included in the price of goods and services like GST and sales tax. Thus, taxpayers are better aware of how the tax is calculated, but at the same time, since the payment is not through an automatic channel, there is the possibility that a reticent taxpayer does not pay.

Its administration is complex, especially in the Indian context—the State government delineates the property tax system, leaving little maneuvering room for the local government, while the actual administration of the tax is carried out by the local governments. Property tax system includes the laws and rules defining which properties are liable to pay tax, how the properties are to be valued, including the factors to be considered for valuing it, tax rate, penalties for defaulters, etc. Administration of this system encompasses three critical functions—enumeration of properties, which results in the number of properties in the local government’s property registers; tax assessment which determines the tax demanded; and tax collection, which results in the amount collected. So, the property system and its administration across the three stages, enumeration—identification and recording of properties and details; valuation and assessment; billing and collection, varies across cities, leading to diverse property tax outcomes (Illustration 1).

Million-plus cities are India’s important economic centres. These cities contribute about 30 per cent of India’s GDP (Gupta & Sachdev, 2025). These cities are expanding further and simultaneously witnessing rising property prices and yet more construction. So, one would expect property taxes to be growing and be an important source of funds for these cities. Improvements in property taxes in million-plus cities are important not only for these cities themselves but sets an example for the smaller cities to follow.

### Illustration 1: Stages in Property Tax System and Administration



Source: Illustration created by author.

<sup>1</sup> Total property tax revenue as a percentage of total own revenue was 36 per cent, across all ULBs of India in 2017–2018.

Researchers and policymakers have been aware of property tax's importance, especially across its million-plus cities, for many years. Mohan (1974), Jha and Schroeder (1982), Bagchi (1997), Mohanty (2003), Lall and Deichmann (2006), Rao (2008), Mathur et al. (2009), Bandyopadhyay (2013), and Nallathiga and Sridhar (2025) focused on the challenges faced by million-plus cities' municipal corporations in matters of the property tax. Awasthi and Nagarajan (2020) took a broader approach and looked at property tax for India as a whole. Other broad-based studies, such as Mohanty et al. (2007), Ahluwalia et al. (2019a, b), Janaagraha (2019) looking at overall municipal finance of India, and Reserve Bank of India (RBI) (2022, 2024) looking at finances of municipal corporations, also examined property tax-related challenges and reforms. Interestingly, the challenges identified by the older and new studies are similar—subdued valuation with infrequently revised base rates, low tax rates, infrequent updation of the property register, significant exemptions, and poor collection efficiency, suggesting a stasis in the system and administration of the tax. Concomitantly, these studies also highlighted how technology-led mapping using remote sensing data and its capture onto GIS databases (post-2000 studies), the shift to area-based formula-driven method of valuation instead of ad hoc rental valuation of a property at the discretion of a tax assessor, and the use of technology in collection (post-2000 studies) enhanced property tax. These positive interventions were, in most cases, enabled through the policy push of Jawaharlal Nehru National Urban Renewal Mission (JNNURM), AMRUT, SBM, and by the successive Finance Commissions. Yet, overall property tax continues to be stagnant at 0.15 per cent of GDP, suggesting the need for further interventions backed by evidence-based research.

This study seeks to add to the rich extant literature by exploring the following:

1. How has property tax performed recently in India's million-plus cities?
2. What does an examination of their property tax system and administration reveal in terms of the issues and how to address them?

The answer to the first question signals the need to look beyond nominal property tax numbers, which have been consistently rising, since this increase has not translated to an increase in real terms and trails the state economic growth. The findings of the second question corroborate the positive impact of technology, regularly revised valuation base, and enhanced collection efforts. In addition, the study finds that timely municipal elections, transparent data disclosure practices, and greater attention to human resources can play a significant role in enhancing property tax outcomes for a municipal corporation. In addition, this is the first study to provide a framework for independently estimating the collection efficiency of property tax using data from audited financial statements of the municipal corporations.

Section 2 answers the first question and discusses the recent property tax trends across 24 million-plus cities' municipal corporations. Section 3 answers the second question and deep dives into the property tax system and administration of three of these municipal corporations, each having distinct property tax outcomes. Section 4 concludes and makes three recommendations related to property tax administration.

## 2. Property Tax Trends in Million-Plus Cities' Municipal Corporations

The objective of this section is to understand whether property tax performance has improved, stagnated, or worsened for million-plus cities' municipal corporations. It examines how property tax<sup>2</sup> has performed in nominal and real terms, in relation to the economy, and in terms of its importance in municipal finances over a recent decade.

- Why nominal terms? Property tax performance over time in the extant literature is usually examined only through the nominal lens. However, this is not enough to get a realistic picture of its performance.
- Why real terms? The primary role of property tax is as a source of funds for the municipal cor-

<sup>2</sup> Composition of property tax is defined by the applicable Municipal Corporation Act and hence differs across states and sometimes even across municipal corporations of a given state. The composition of property tax as per the respective acts varies from only property tax to including water tax, sewerage tax, sanitation tax, and cesses etc. However, we find that even in cases where property tax is defined as comprising of other taxes, the share of the other taxes is at most up to 20 per cent of the overall property tax. Moreover, the basis of their levy is not the amount of consumption of water or the presence and quality of sewerage facilities, but the property value. These are estimated using the same method and formula as the explicitly mentioned property tax. Also, in the financial statements, property tax is reported as defined in the Municipal Corporation Act. Hence, for the purpose of this study we gather the property tax amount data from various financial statements, as per its definition in respective Municipal Corporation acts.

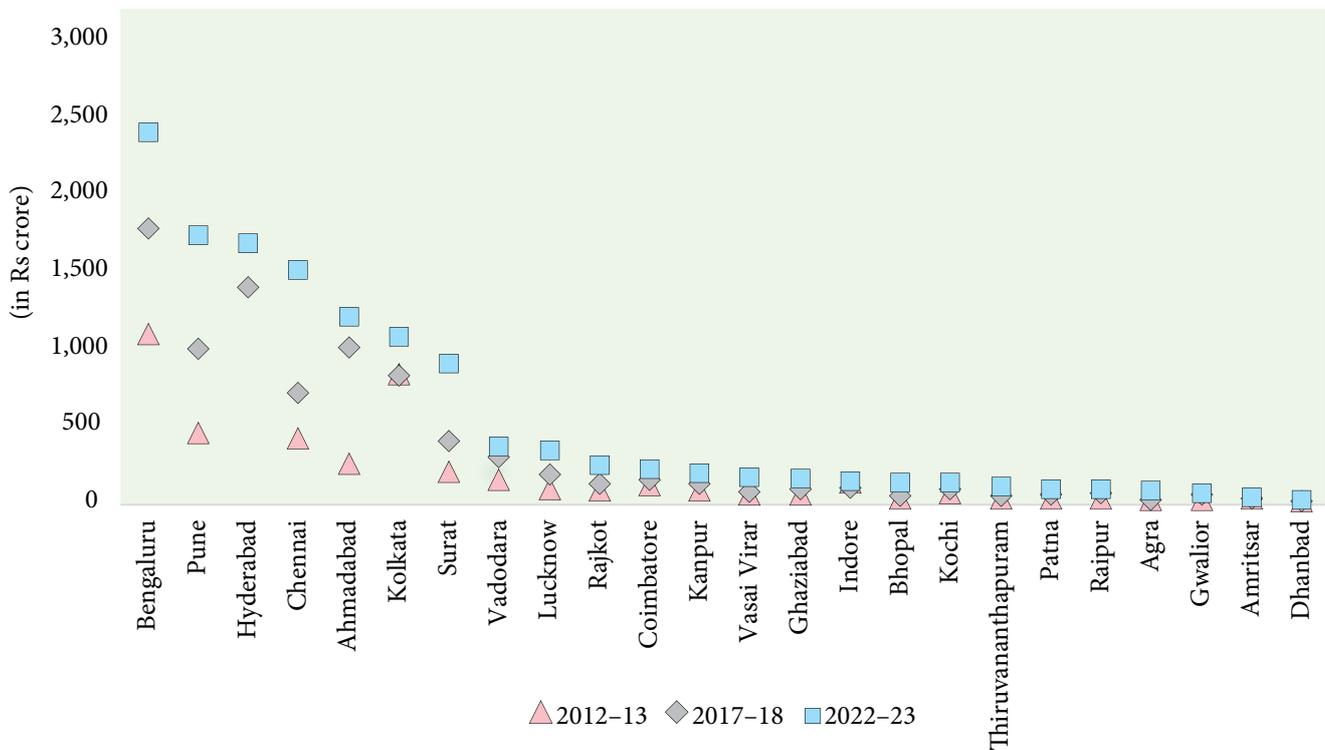
poration, helping in the provision of services to citizens, the cost of which rises with inflation. To get a sense of whether property tax is performing better in this aspect, this study examines changes in per capita property tax adjusted for inflation.

- Why in terms of the rest of the economy? Property tax collections, to be buoyant, should grow in tandem with the economy. So, property tax performance in relation to the state economy is examined.
- Why do we need to understand its importance in municipal finances? Policymakers should be cognisant of whether tax continues to be an important source of funds for the municipal corporations, to continue giving it the due policy attention.

At the start of this exercise, the availability of property tax receipts (actual) data of 51<sup>3</sup> municipal corporations for the years 2012–2013, 2017–2018, and 2022–2023 from their respective budgets<sup>4</sup> was considered. Based on the availability of budgets, data could be gathered for 24 municipal corporations.

**Property tax growth in nominal terms:** Property tax receipts increased for each of the 24 municipal corporations between 2012–2013 and 2017–2018, and between 2017–2018 and 2022–2023 (Figure 1). Concurrently, there was also an increase in property tax in nominal per capita<sup>5</sup> terms for almost all municipal corporations<sup>6</sup> (Figure 2). So, one will not be amiss in saying that property taxes have been increasing across cities.

**Figure 1: Property Tax (Nominal)**



Source: Actual amounts from municipal corporation budgets.

Note: Data tables corresponding to Figures 1 to 6 are in Appendix 4.

<sup>3</sup> India has 53 million-plus cities and urban agglomerations. We do not consider Mumbai and Delhi in our study, since Mumbai Municipal Corporation is the largest in terms of revenue which is many times of the revenue of other million-plus Municipal Corporations and hence not comparable. Municipal Corporation of Delhi was trifurcated and then merged into a single entity during our period of analysis, leading to serious data challenges, and hence not considered for this study.

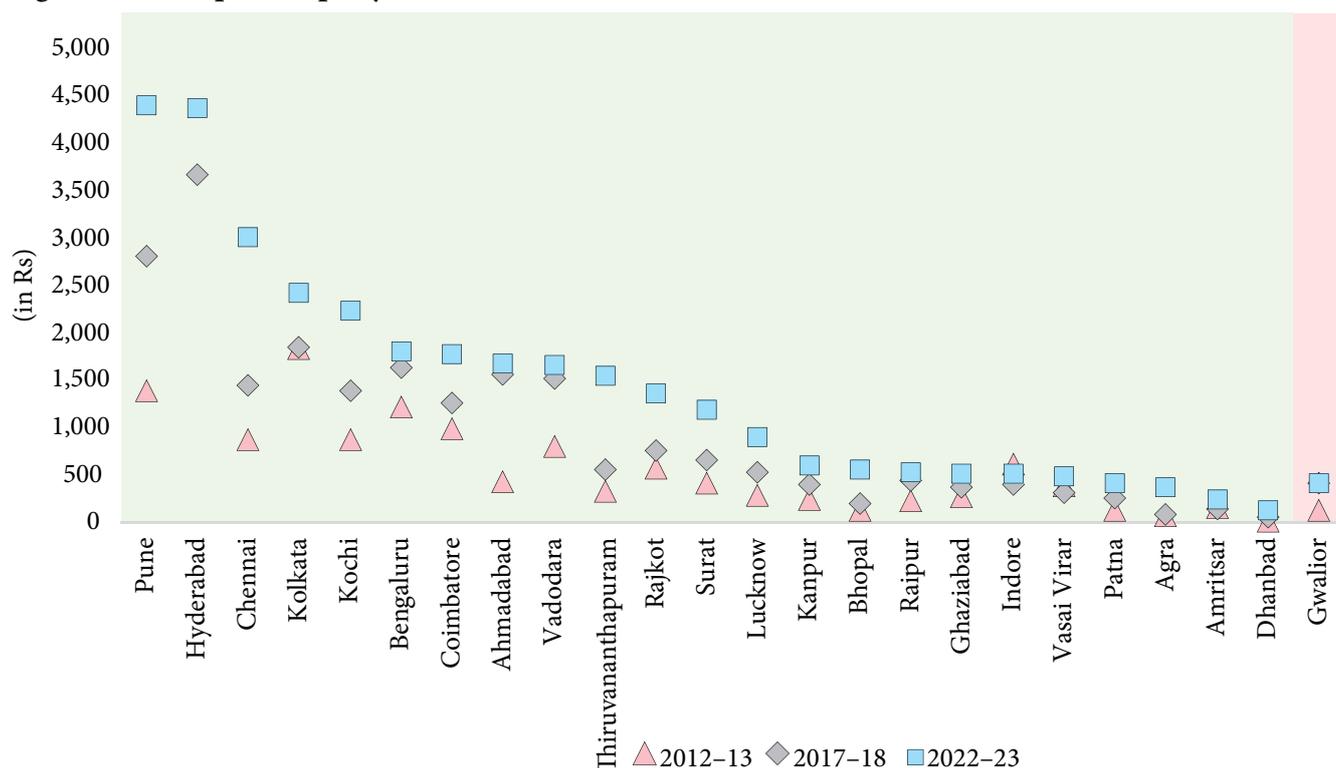
<sup>4</sup> In case of all municipal corporations, their budgets follow cash-based accounting and capture the property tax receipts collected in a fiscal year. But the audited income and expenditure statements (a few recent studies use these accounts) of some municipal corporations use accrual-based accounting while others follow cash-based accounting. Accrual based accounting captures the “billed” amount which put simply is the property tax demand, not receipts. Thus, using data from income and expenditure accounts for those municipal corporations which follow accrual-based accounting does not capture the property tax collections/receipts, and thus it is prudent to use the property tax collections data from the budgets to get a true picture of property tax performance.

In addition to the budgets, data from Praja Foundation and National Institute of Urban Affairs (NIUA) (2024) and telephonic interactions with respective municipal corporations were employed for cross-checking the data mined from budgets in a few cases.

<sup>5</sup> Municipal Corporation population for 2012–2013, 2017–2018, and 2022–2023 was projected based on Census 2011 population and annual average growth rate of population for the given Municipal Corporation between 2001 and 2011. This applies throughout the study.

<sup>6</sup> Gwalior Municipal Corporation was the only outlier, by a very small margin. Please see Appendix 4.

**Figure 2: Per Capita Property Tax (Nominal)**



Source: Municipal corporation budgets; author’s calculation.

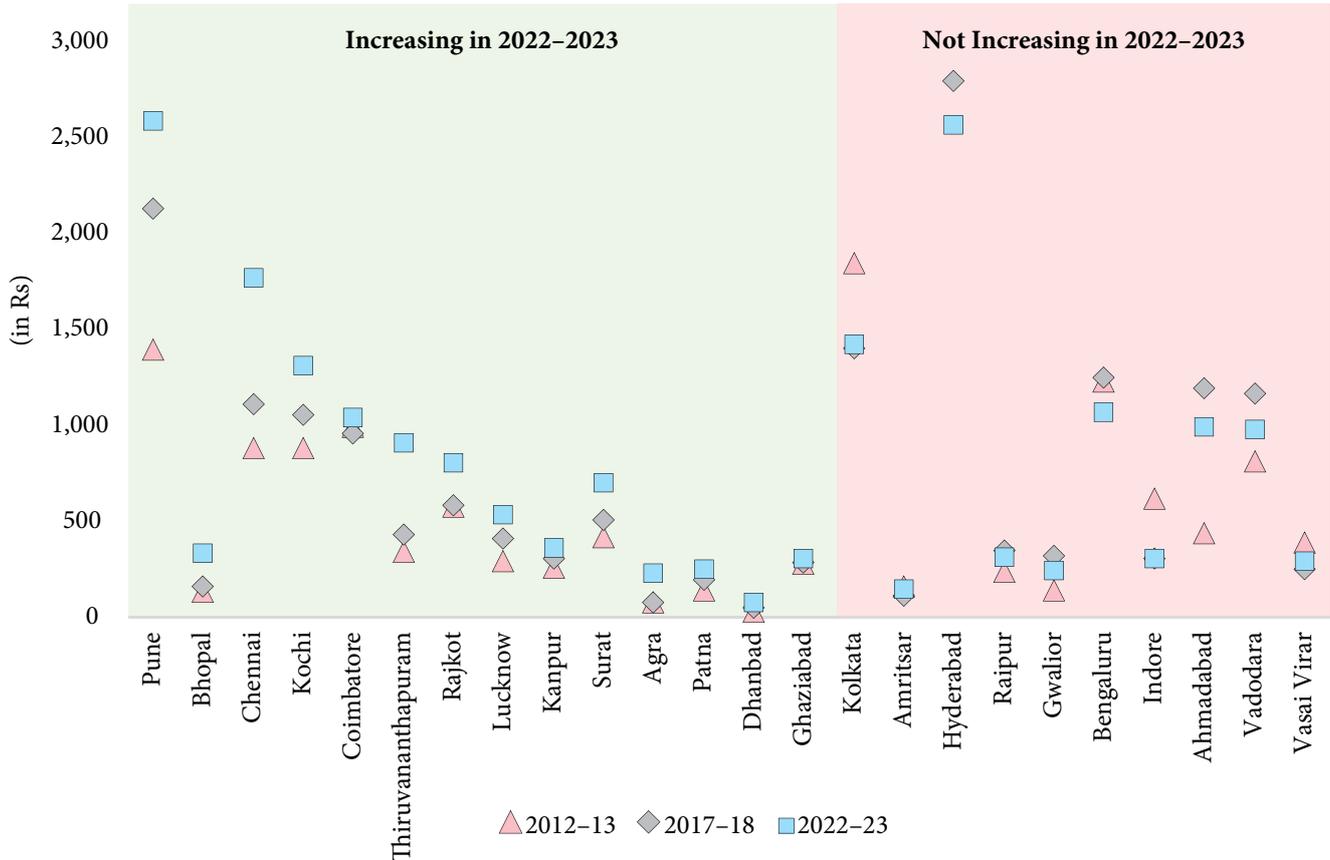
Note: Municipal corporation population for 2012–2013, 2017–2018, and 2022–2023 was projected based on the Census 2011 population and the annual average growth rate of population for the given municipal corporation between 2001 and 2011. This applies throughout the study.

**Property tax growth in real terms:** Unlike growth in nominal terms, property tax did not grow in real terms for all of the 24 municipal corporations, i.e., after adjusting for inflation based on Consumer Price Index (CPI).<sup>7</sup> Per capita property tax in real terms did

not increase in 10 municipal corporations (Figure 3). Declining per capita property tax in real terms reflects an erosion of its capacity to fund services provided by the municipal corporation. This is a matter of concern.

<sup>7</sup> CPI combined sourced from RBI Database on Indian Economy (DBIE).

**Figure 3: Per Capita Property Tax (Inflation-adjusted)**



Source: Municipal corporation budgets; author’s calculation.

**Property tax in relation to the economy:** Million-plus cities are important economic centres of their respective states. But the share of the municipal corporation’s property tax (nominal) in Gross State Domestic Product (GSDP) (nominal, i.e., current prices) has been declining for most of them. Property tax as a percentage of GSDP increased for only eight of the 24 municipal corporations in 2022–2023 compared to 2017–2018 and 2012–2013, an indication that the property tax of the municipal corporations is falling short of keeping pace with the economic growth of their states (Figure 4).

Moreover, one of the criteria laid down by the Fifteenth Finance Commission for ULBs to be eligible for the Central Finance Commission (CFC) grant between 2023–2024 and 2025–2026 was growth in property tax receipts of the previous year to be at least the average of the recent five years’ GSDP growth

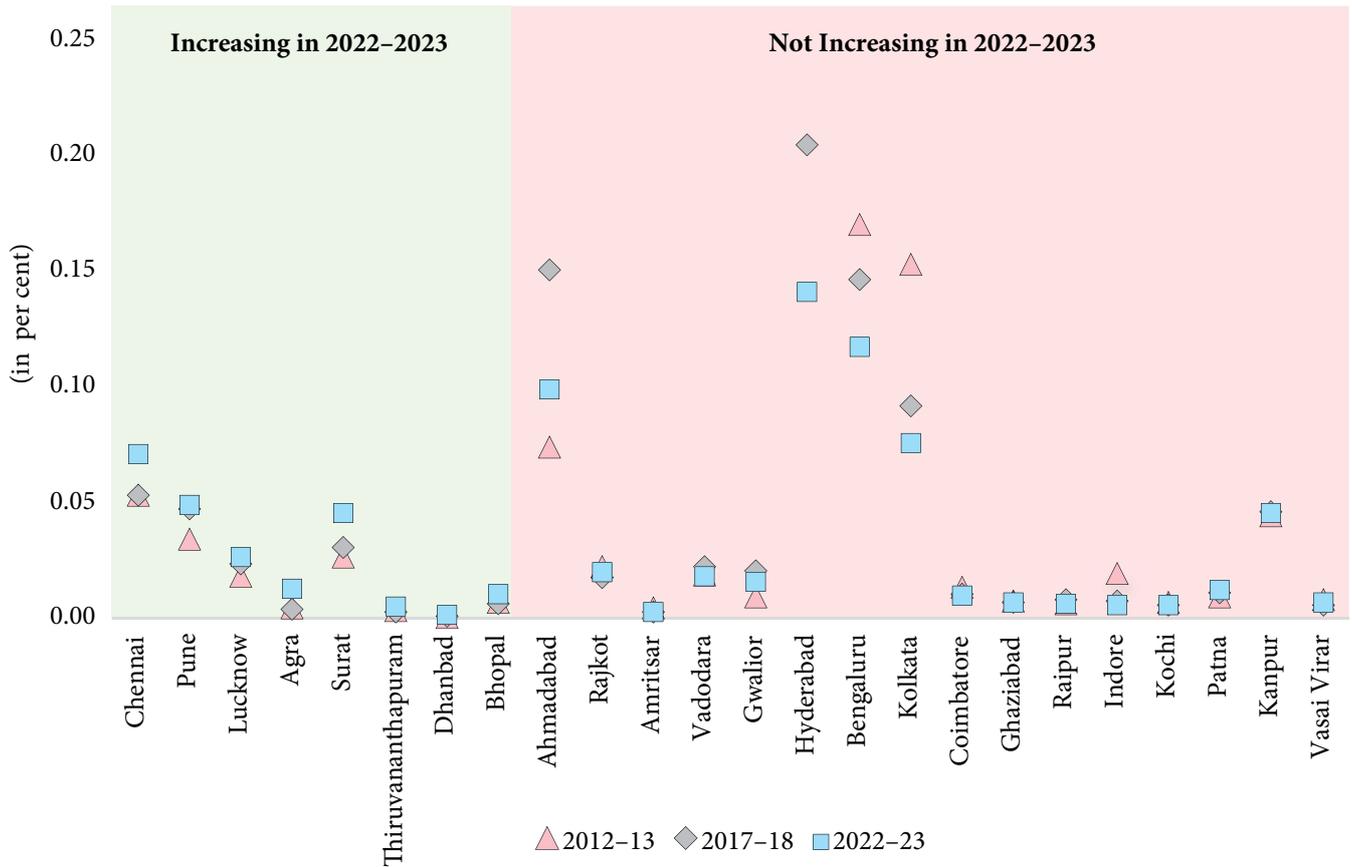
rate.<sup>8</sup> Based on this criterion and the property tax receipts for 2022–2023, only 14 of the 24 municipal corporations satisfy this criterion (Appendix 1).

**Property tax’s importance in municipal finance:** Property tax continues to be an important source of revenue for most municipal corporations. Share of property tax (nominal) in own source revenue (nominal) is more than the Ahluwalia et al. (2019b) India average of 33 per cent,<sup>9</sup> for a majority of the municipal corporations. This signals property taxes’ continued importance as a source of own revenue for the municipal corporations. Moreover, this share increased for 10 municipal corporations in recent years (Figure 5). Share of property tax in total municipal revenue also increased for a majority of the municipal corporations over this period, further highlighting its continuous importance as a source of revenue (Figure 6).

<sup>8</sup> “...the State will receive such total grants based on the ULBs meeting the condition of their property tax revenues in the previous year growing in tandem with the average growth rate of the State’s own GSDP in the most recent five years,” (Page 201, 15<sup>th</sup> Finance Commission, Volume 1, Main Report, October 2020).

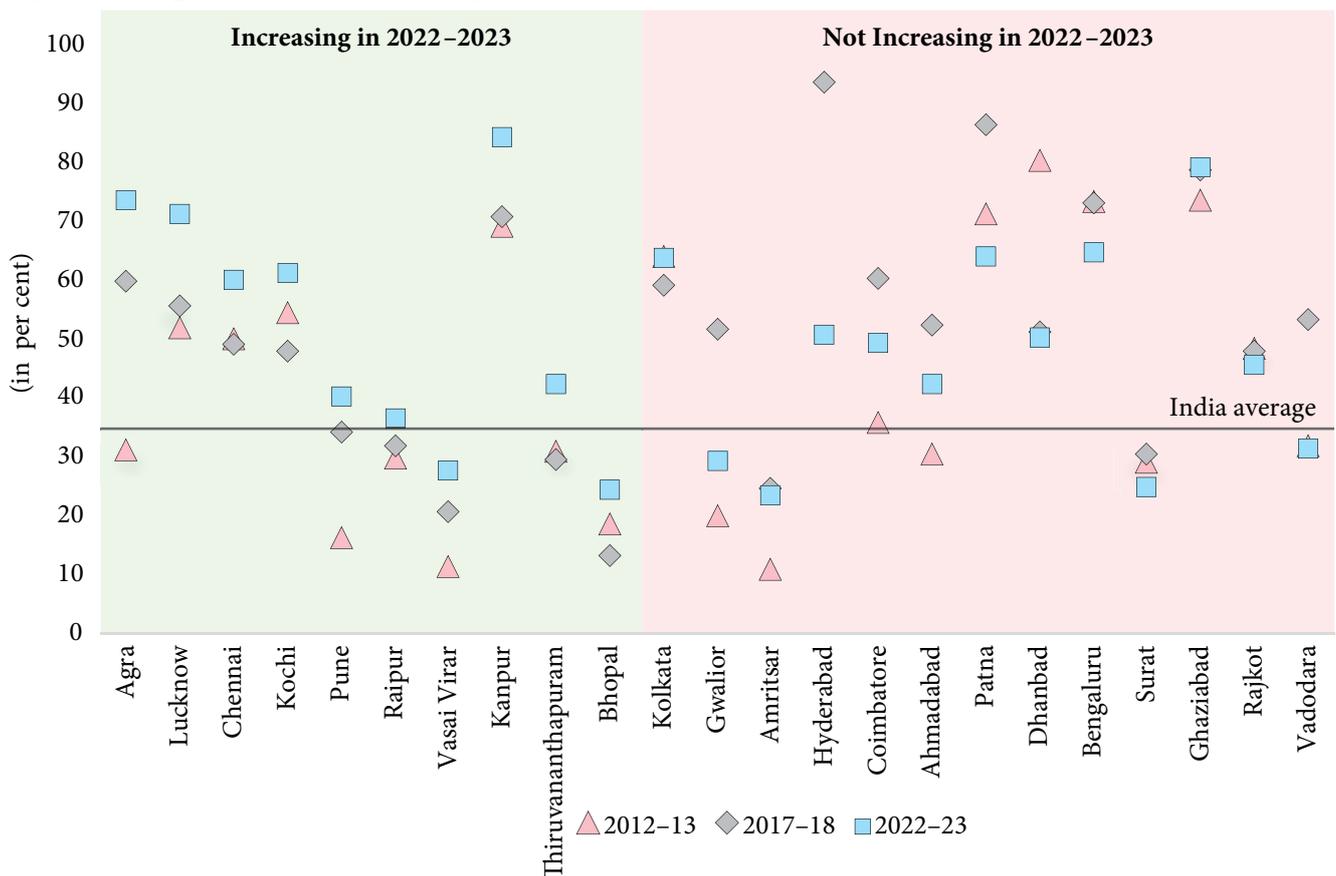
<sup>9</sup> For 37 million-plus cities’ municipal corporations.

**Figure 4: Property Tax as a Percentage of GSDP**



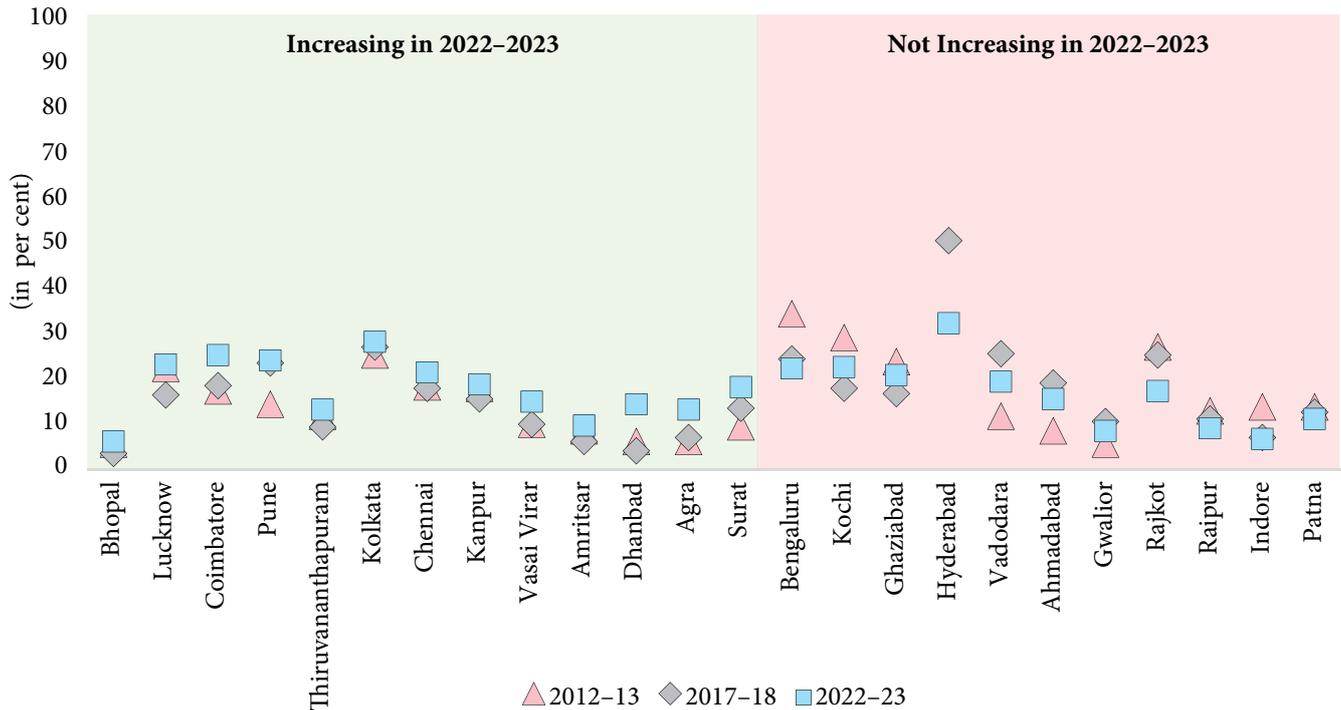
Source: Municipal corporation budgets; author's calculation.

**Figure 5: Property Tax as a Percentage of Own Source Revenue**



Source: Municipal corporation budgets; author's calculation.

**Figure 6: Property Tax as a Percentage of Municipal Revenue**



Source: Municipal corporation budgets; author’s calculation.

To sum up:

- (i) Property tax has not shown consistent holistic improvement.
- (ii) It continues to be an important source of revenue for a significant number of municipal corporations and has grown in nominal terms for all.
- (iii) But deeper analysis reveals all is not well as it looks:
  - a. For a large number of municipal corporations, property tax collections have declined in real per capita terms, eroding their capacity to fund essential services.
  - b. In most cases, it has also failed to keep pace with state-level economic growth.

These trends underscore the need for continued research and policy attention, and for future studies to look beyond the nominal lens when gauging property tax performance.

### 3. Examination of Property Tax System and Administration of Three Municipal Corporations—BBMP (Bengaluru), PMC (Pune), and GNN (Ghaziabad)

Keeping in mind the property tax performance in million-plus cities, this study takes a close look at their property tax system and administration, which spans three stages:

- **Enumeration:** This involves the identification of properties and maintenance of property records, including the required details. Taxable properties are identified from these records.
- **Valuation and assessment:** Valuation encompasses the laws, rules, and parameters for setting the value of the property. Assessment involves defining the framework for levying the tax, including the formula, rate, and applying these to calculate the tax due. So, valuation and assessment together determine the tax amount payable.
- **Billing and collection:** Billing is simply generating the bill based on the tax assessed and sharing it with the taxpayers. The municipal corporation’s collection efficiency of the amount billed translates to the tax collected.

For the analysis, three municipal corporations were selected from the 24 studied, representing distinct per capita property tax performance in inflation-adjusted terms for 2022–2023: **PMC** at Rs 2,589—well above the 24-city average of Rs 814; **BBMP** at Rs 1,065—near the average; and **GNN** at Rs 306—below the average.

PMC and BBMP have a rich legacy of property tax reforms, which adds depth to the analysis and learning. GNN had the best data availability among the below-average cases.<sup>10</sup> Moreover, BBMP<sup>11</sup> (741 sq km area, 84 lakh population as per Census 2011), PMC (484 sq km area, 31 lakh population), and GNN (210 sq km area, 16 lakh population) are distinct in terms of size and population, making the analysis richer. The deep dive into the three municipal corporations involved interaction with key stakeholders including municipal staff, officials, and urban experts, along with secondary research.

### 3.1 Enumeration

Enumeration's primary objectives are as follows: (i) Property tax records are complete and up-to-date in terms of the number of properties that are in the municipal corporation's jurisdiction, and (ii) the required property details such as address, owner, size, type of construction, use, occupancy, floor (if required), and year of construction of the property are accurate in the records so that tax assessment is accurate.

As extensively discussed in the literature, one-time initiatives (largely propelled by JNNURM grants) involving technology-based (remote sensing, drone) survey and GIS mapping had a significant positive impact (Mathur et al., 2009; Mohanty, 2016; Ministry of Housing and Urban Affairs [MoHUA], 2022; Rao, 2025; RBI, 2024). But India's fast-growing cities with the increasing number of properties require sustained efforts at enumeration; otherwise, the situation deteriorates. Mathur et al. (2009) report coverage ratio (ratio of properties on the municipal corporation's property rolls to the total number of properties under its jurisdiction) of 85 per cent or more in 20 of the 25 million-plus cities municipal corporations surveyed. In contrast, a more recent study, RBI (2024), reports only 9.4 per cent of the 205 municipal corporations surveyed having a coverage of 80 per cent or more.

This study also finds gaps in coverage. Based on the data gathered from multiple sources, estimated coverage ratios are BBMP: 49 per cent to 81 per cent; PMC: 78 per cent to 83 per cent; GNN: 79 per cent to 100 per cent (Table 1). BBMP's case is particularly concerning and needs urgent attention, given the significant difference between the estimated number of properties under its jurisdiction—42.2 lakh—and the number of properties according to BBMP—25 lakh. So, the recently constituted 5 Bengaluru ULBs, which earlier made up BBMP, need to urgently ramp up their enumeration efforts in identifying left-out properties.

**Table 1: BBMP, PMC and GNN Estimated Coverage Ratio in 2022–2023**

	Number of Properties on Property Rolls in Lakh (A)	Estimated Total Number of Properties in Lakh (B)	Total Number of Properties as per Municipal Corporation in Lakh (C)	Coverage Ratio	
				Estimated by Author (A/B) (per cent)	Based on Municipal Corporation Numbers (A/C) (per cent)
BBMP	20.2	42.2	25	49	81
PMC	12.3	15.9	14.8	78	83
GNN	6.2	7.9	6.2	79	100

Source: Column A—BBMP: Kumar (2023); GNN: Times Property (2023), corroborated by the municipal corporation.

Note:

1. **Number of Properties on Property Register (A)** for the respective municipal corporations are based on the data from the municipal corporation and on interactions with municipal officials, and corroborated with the numbers reported in popular media.

**Total Number of Properties Estimated by Author (B)** has been estimated by: (1) projecting the municipal corporation population for 2022 based on the Census 2011 population and the municipal corporation population growth rate between 2001 and 2011 from Census. (2) In 2011 at the India Label, there were 78.8 million urban households and 91 million urban houses, i.e., 1.15 house per household. This is due to 11 per cent of urban houses being vacant. (3) Also, about 80 per cent of properties are residential (77 per cent of properties taxed in BBMP are residential, while in PMC it is 85 per cent). So the estimated total number of properties in a given municipal corporation, this formula is applied = Number of households X (1.15/0.8).

**Total Number of Properties as per the municipal corporation in lakhs (C)** was shared by municipal officials with the author.

<sup>10</sup> This was so since GNN issued a municipal bond in 2021. Issuing a municipal bond requires public declaration of financial statements.

<sup>11</sup> Efforts are currently underway to split BBMP into five smaller ULBs under the Greater Bengaluru Governance Act, 2024.

A key reason for the gap in coverage for the three municipal corporations could be informal properties evading the tax net. As official records of informal properties across unauthorised settlements and slums are patchy—and since these properties may not be paying stamp duty, not procuring building permission certificates, or having illegal water and electricity connections—they are difficult to track. However, all properties, whether formal or informal, have to pay property tax unless legally exempted as per the municipal act. But bringing in all informal properties in the tax net is a challenge. BBMP, with the intention of bringing more informal properties into the tax net following its expansion in 2009, started the practice of maintaining *Khata*<sup>12</sup> A for formal properties and *Khata* B<sup>13</sup> for informal properties. However, based on recent newspaper reports (The New Indian Express, 2025; The Hindu Bureau, 2025), according to BBMP, about a quarter of properties in the tax net have *Khata* B certificates, while many properties under BBMP's jurisdiction remained without a *Khata* certificate and hence outside the tax net.

The three municipal corporations use a mix of technology-driven mapping involving satellite images from National Remote Sensing Centre (NRSC) and drone surveys (MoHUA Property Tax Toolkit, 2020) used for creation of GIS maps and database; physical survey; data from self-assessment; and linking with data from other departments and agencies—property registration, building permission, electricity, water connections database—for enumeration. Information from each of these sources is used in parallel to supplement and cross-check property details. For example, BBMP and PMC's property tax register is integrated with the property registration portal. BBMP taxpayers also declare their electricity connection number and water connection number in their self-assessment forms, thus enabling a check regarding the purpose for which the property is used—residential, commercial, or any other. GNN also cross-checked the list of properties with the electricity department and Ghaziabad Development Authority building permissions data.

### **Technology-based Survey and Mapping**

Technology-based mapping intervention plays a significant role in improving enumeration. Data gathered through interaction with municipal officials revealed that the average annual growth rate in the number of properties on the rolls of PMC increased significantly between 2017–2018 and 2022–2023—seven per cent, compared to the growth between 2012–2013 and 2017–2018—two per cent,<sup>14</sup> propelled by the technology-driven GIS mapping exercise undertaken since 2016–2017. In the case of BBMP, although the growth rate in the number of properties on the property register remained stable between these two periods, a similar sharp annual growth rate of 13 per cent in the number of properties covered in BBMP's rolls was noted between 2007–2008 and 2012–2013, indicating the positive effect of GIS-based mapping which had taken place 2009 onwards (Rao, 2025). Technology-driven surveys conducted since 2019 have brought an additional 1.7 lakh properties onto the rolls of GNN, as per municipal officials. Thus, across all three municipal corporations, technology-driven mapping played a key role in identifying properties not on property rolls, more so if the municipal corporation boundaries underwent expansion (BBMP in 2007; PMC in 2018, 2022) and if some areas underwent a real estate development boom as has been the case for all three.

To supplement technology-driven GIS-based mapping, Pune undertook a Google Maps-based Artificial Intelligence (AI) exercise to identify any under-assessments. For instance, by analysing the data on the number of footfalls for a building, it was ascertained whether it is a residential or a commercial building, thus helping in addressing the issue of under-assessment for about a quarter of its properties.

The need to repeat technology-based mapping at regular intervals is highlighted in BBMP's case. The last remote-sensing-supported aerial mapping was undertaken for BBMP more than a decade ago. So as of 2022–2023, the difference between the number of properties on Bengaluru's property tax rolls and the number of estimated properties is significant (Table 1); to start with, to get an accurate sense of the gap, it is essential to carry out another such

<sup>12</sup> Record of property ownership (referred to as *Khata*) with BBMP, with a certificate issued which is called *Khata* certificate.

<sup>13</sup> Issuance of *Khata* B certificate did not make a property legal, but just recognised the owner as the legal owner of the property while including the property into the property register.

<sup>14</sup> Number of properties on property rolls: PMC: 2012–2013: 7.5 lakh, 2017–2018: 8.7 lakh, 2022–2023: 12.3 lakh; BBMP: 2007–2008: 7 lakh, 2012–2013: 11.6 lakh, 2017–2018: 16.05 lakh, 2022–2023: 20.2 lakh; GNN: 2014–2015: 2.8 lakh, 2022–2023: 4.8 lakh (6.2 lakh identified through remote sensing survey); this data has been sourced from Rao (2025) for BBMP, and from officials of PMC and GNN.

survey at the earliest under newly formed Greater Bengaluru Authority (GBA) for the five constituent municipal corporations. Ideally, GIS mapping should be repeated within five years in dynamic urban areas (International Federation of Surveyors [FIG], 2014) with informal property growth which cannot be captured from other property data sources.

### **Role of Physical Inspections**

Physical inspections are tacitly acknowledged to be a part and parcel of the overall enumeration process by practitioners and policymakers. Our interactions with municipal officials reveal that, irrespective of the source through which property data are captured, physical inspections involving door-to-door visits by the municipal assessors are the foolproof way for accurate capture of property details.<sup>15</sup> It is the same in developed countries' cities as well. The author's research reveals that in the US and UK, physical checks by property tax assessors are a standard practice for capturing property specifications (Valuation Office UK, n.d.; Ohio Department of Taxation, n.d.; New York State Department of Taxation and Finance, n.d.; Washington State Office of the Attorney General, n.d.).

Even with regard to technology-based mapping interventions, a recurring point which kept emerging from our interactions was the need for physical inspections to supplement and cross-check the findings.<sup>16</sup> This is not surprising, as the design of technology-driven survey processes, whether through satellite imagery mapping or drone-based mapping, involves physical inspections.<sup>17</sup> Surveys are usually carried out in tandem by the hired agency<sup>18</sup> and the municipal assessors. Similarly, physical inspections by municipal assessors are required for validating the details furnished through self-assessment (BBMP, PMC, and GNN property tax rules) (Rao, 2025). Thus, without robust physical inspections, there will be gaps in coverage and in the property details data.

But in the Indian context, there are challenges for physical inspections: the perennial shortage of municipal staff (Janaagraha, 2019), lack of requisite skills and inadequate capacity building (Janaagraha, 2019; Janaagraha & Annual Survey of India's City Systems [ASICS], 2015; Rao, 2013), and the absence of

well-defined performance appraisal guidelines, which is an issue in effective human resource management, as flagged by municipal officials in interactions with the author. It is important to mention that the Karnataka Administrative Reforms Commission-2 (KARC-2) has suggested increasing the BBMP's revenue department (property tax department) staff strength by 40 per cent (KARC-2, 2023).

To conclude, enumeration-related issues are significant, as cities grow spatially and in terms of the number of buildings:

- Along with periodic technology-enabled mapping interventions, the tacitly recognised physical inspections by municipal assessors are critical for comprehensive coverage and accurate tax assessments across cities.
- With rapid advances in AI, interventions using existing resources, such as using Google Maps and AI as employed by PMC, should be explored and harnessed for improving coverage and quality of data on property details.
- The legal mandate for periodic updation of the assessment list mentioned in the municipal acts and property tax rules, as in the case of PMC and GNN (Appendix 2) should be leveraged as enablers. Inclusion of provisions on periodic revisions of the assessment list/book every two to three years backed by enumeration updates in respective municipal acts and property tax rules is a good practice to follow.

### **3.2 Valuation and Assessment**

Valuation refers to the framework/provisions for estimating the property value as embodied in the applicable municipal acts and property tax rules, and thereby practised. Assessment refers to the process of assessing the tax due. Once the property has been identified and included in the tax rolls with its required details, the next step is assessing the due property tax. The tax is assessed by applying the tax rate on the property value.

*Assessed tax = (Value of property or Annual Rateable Value) × Property Tax Rate*

<sup>15</sup> This is underscored by Rao (2008)'s observation—Total Station Surveys i.e. onsite surveying using high precision equipment conducted for commercial properties in BBMP alongside the mapping of remote sensing data were critical in improved property tax collections in BBMP.

<sup>16</sup> This is supported by newspaper reports such as Khandelwal (2025), HT Correspondent (2022).

<sup>17</sup> (i) Marking the exact location of the property on the digital map through hand held device and (ii) then the final verification/ground truthing, both require physical inspections.

<sup>18</sup> Physical surveys by external agencies or outsourced labour usually takes place during technology driven enumeration drives, not as a part and parcel of daily municipal tasks which is in the remit of the municipal staff who are assessors.

## Valuation of Properties

Ideally, the property value used for taxation should be the market value of the property. In principle, property tax is a benefit tax, as it is a quasi-charge being paid by property owners for the public services that affect the value of their properties (Bahl et al., 2008). Property values in localities with cleaner roads will most likely be higher compared to those in localities that do not have clean roads. With property transactions being infrequent, property valuations are undertaken through Computer Assisted Mass Appraisal (CAMA) statistical models based on the comparable sales value method in most developed countries. In CAMA, the property value of a large number of properties is estimated using the sales price of a few properties. This method is dependent on the availability of accurate property details for all properties whose value has to be ascertained and credible sale price of the transacted properties (World Bank, 2020). But credible information on sales value of a property is not easy to come by in developing countries. In India, in most cases, sales of informal properties are not registered officially, and in case of formal properties, the registered sales price can be lower than the transacted price in order to lessen the stamp duty.<sup>19</sup> So, for property tax, other methods are used for valuation in India and other developing countries.

At present, property valuation methods followed by India's municipal corporations can be broadly categorised into area-based method and capital value method.

**Area-based methods:** Annual Rental/Rateable Value (ARV) and Unit Area Value (UAV) are two common area-based methods. Although the theoretical underpinnings are different (rent for ARV and expected return on property for UAV), both methods are formula-based. For both, locations within a municipal corporation are grouped into zones depending on the level of property prices. Many times, the zones are the same as defined for guidance values/ready reckoner rates/circle rates for stamp duty purposes or are defined based on the level of physical infrastructure and level of prosperity of the locality. The “base rate” (different from guidance value/circle rate) expressed

in Rs per sq ft per month is set for properties in a given zone, differentiated on the basis of parameters like use, type of construction, occupancy,<sup>20</sup> and road width,<sup>21</sup> with the parameters varying across ULBs (Table 2). In ARV, the “base rate” is usually referred to as the rent/expected rent in Rs per sq ft per month, and in UAV, the “base rate” is referred to as the unit area in Rs per sq ft per month. For both ARV and UAV, the base rate is multiplied by the area,<sup>22</sup> and, in most cases, depreciated by age to arrive at the property value (Table 2). Most municipal corporations publish the base rates in the public domain. Although the base rates in both cases are set keeping in mind the expected rents/returns from the properties, the process followed in doing so is not clearly explained in the public domain.

**Capital Value method:** This is understood across the world as the method wherein property is valued at its sale value. Since data on credible sale prices are hard to come by in India, the practice is to use the guidance values/ready reckoner rates/circle rates, which are also used for stamp duty purposes and determined by the State government's revenue or registration department. The guidance values are specified for either land or built-up area. In case these are specified for land, cost of construction as per the government's schedule of rates are employed to value the built-up area, and the sum of land value and built-up area value is the “base value” per square feet. If the guidance value is for the built-up area, it is taken to be the “base value” per square feet. This base value is then multiplied by the area of the property and weights pertaining to use, occupancy, type of construction, and age of the building. Since the guidance values are usually revised more frequently than base rates under the area-based method, the capital value method is expected to ensure greater tax buoyancy and hence remains the recommended method (MoHUA Property Tax Toolkit, 2020; Rao, 2008).

BBMP follows the area-based method—UAV—while PMC and GNN follow the area-based method—ARV—with differences in the factors defining the base rate (Table 2, Appendix 2). The prime concern with the area-based method is that the base rate is not linked to market value, and base rate revisions happen at the discretion of the municipal corporation. For

<sup>19</sup> In a developing country like India valuing properties using the comparable sales method requires expert valuers, and is cost intensive. Such services are usually used by banks, financial entities and developers for the purposes of financial transactions involving real estate.

<sup>20</sup> Usually, occupancy is a factor for setting the base rate in case of UAV. In case of ARV a discounting factor for owner occupied properties is used in the tax formula.

<sup>21</sup> Road width features as a factor in case of GNN's ARV method.

<sup>22</sup> Built up area or carpet area.

**Table 2: Valuation and Assessment Framework of BBMP, PMC, and GNN**

	BBMP	PMC	GNN
<b>Valuation method</b>	Area-based—UAV	Area-based—ARV	Area-based—ARV
<b>Factors defining base rate</b>	Zone (6), Type of building (residential, commercial, other), Occupancy, Type of construction	Peth/Ward, Type of building, Type of construction	Zone (3), Width of road, Type of property, Type of construction
<b>Zones Demarcated Basis</b>	Stamp duty guidance values	–	By affluence of the locality
<b>Base Rate is referred to as</b>	Unit area value per sq ft per month	Tax Ready rate per sq ft per month	Rate per sq ft per month
<b>Base Rate Range (per sq ft per month)</b>	Rs 0.4 to Rs 20	Rs 3 to Rs 12	Residential—Rs 0.3 to Rs 4 Commercial and industrial—Rates are multiples of residential
<b>Tax Rate Range</b>	20 per cent to 25 per cent	66.75 per cent to 90.75 per cent	24 per cent
<b>Tax Formula = ARV*PT Rate</b>	((Built Up Area*UA value*10 months) - Depreciation) *PT rate + Cess - rebate for early payment	((Carpet Area*Estimated rent*12) *PT Rate) – Rebate	(Carpet area*monthly rent*12*rebate depending on occupation and age) *PT rate

Source: Property tax rules of respective municipal corporations.

Note: Occupancy is not a criterion for base rate setting. In case of PMC 40 per cent of discount on assessed tax for owner-occupied properties is given as rebate.

tax buoyancy, experts stress on the need for regular revisions to the base rate and recommend eventual adoption of capital value method, i.e., linking to the guidance value, such that the revisions are no longer discretionary.

### **Impact of Valuation on BBMP, PMC, and GNN's Property Tax**

Examining the valuation system and its administration in the overall context of BBMP, PMC, and GNN's property tax system and administration offers useful insights regarding tax buoyancy and the critical role of base rate revisions. We attempt a simple comparison across time for municipal corporations.

Property tax revenue at a given point in time is a function of the number of properties covered, property values, tax rate, and collection efficiency. Collection efficiency is the share of the tax demand which is eventually collected.

*Property Tax Revenue = f (number of properties on municipal rolls, property values/base rate, tax rate, collection efficiency)*

So, *Change in Property Tax Revenue = f (change in number of properties on municipal rolls, change in base rate, change in Tax Rate, change in collection efficiency) (1)*

We attempt a comparison of the change in LHS and RHS variables of (1) between 2012–2013 and 2022–2023 for BBMP and PMC (Table 3).<sup>23</sup>

**Table 3: Comparison Between BBMP and PMC**

Change between 2012–2013 and 2022–2023	BBMP	PMC
Property tax revenue	121 per cent	290 per cent
Number of properties on municipal rolls	77 per cent	64 per cent
Base rate	1 revision to base rate and re-classification of zones	5 revisions (revision applicable only to new properties)
Tax rate	1 revision	1 revision
Collection Efficiency	10 per cent	-20 per cent

Source: Data for BBMP has been sourced from Rao (2025), BBMP budgets and audited financial statements, newspaper reports, and official documents; Data for PMC has been sourced from PMC itself.

Note: Change in the tax rate were similar in magnitude for BBMP and PMC.

<sup>23</sup> We are unable to compare with Ghaziabad due to lack of credible data on number of properties covered and property tax collection data for 2012–2013.

Between 2012–2013 and 2022–2023, BBMP's increase in the number of properties and positive change in collection efficiency were more than that of PMC. Yet, PMC's property tax receipt growth rate was much higher than that of BBMP. The only plausible explanation for the same is the regular revisions to PMC's base rate.<sup>24</sup> It is important to point out that even though the revised base rates are applicable only to new properties in PMC and do not affect older properties, which make up the a significant portion of the total properties, the property tax revenue growth rate difference between BBMP and PMC is substantial. This highlights the impact that regular revisions to the base rate can have on property tax.<sup>25</sup> Delving deeper, this study finds such revisions usually take place in the presence of three conditions.

- **Legal provision for revision:** A necessary condition for revision of base rates is the provision for such revision in the applicable municipal act and rules. Revisions were allowed for in the acts and rules of all three municipal corporations (Serial No. 3, Appendix 2). In the case of BBMP and GNN, revisions can automatically take place under the existing laws and rules.
- **Elected municipal council in office:** Another condition that emerges as necessary for revisions in the base rate is the presence of an elected municipal government, even though the same is not mandated by law. In PMC, base rate revisions (for new properties) took place in 2012–2013, 2016–2017, 2018–2019, 2020–2021, and 2021–2022; during this period, regular municipal elections were held, and an elected government was in office. Revision has not taken place since 2022, as municipal elections have been on hold since 2022. In BBMP, the last municipal election was conducted in 2015, post which there was a reclassification of zones and revisions in the base rate in 2017. Elections were supposed to take place in 2020, but have not happened, and the base rates remain unchanged. **This link between elections and base rate revisions signals the importance of effective governance for effective property tax administration.** On the flip side, revisions usually do not take place just before elections, be it local, state, or Union.

- (3) **Receptivity of citizens to base rate revisions:** Citizens are likely to be more receptive to frequent but smaller revisions than one-time large revisions. For example, GNN proposed a base rate value revision (an increase of two to three times) in 2021,<sup>26</sup> it was passed by the Municipal Standing Committee in 2023 and was supposed to come into effect from 2024. But citizens protested, and the revision is yet to come into effect. This resistance to base rate increase from citizens, according to some stakeholders<sup>27</sup> is due to the one-time big revision. The prevailing base rates in GNN were set in 2000, when the unit area method came into effect. Similar to GNN, in PMC's newly merged villages there was a large increase (up to five times) in property tax after the merger with PMC, leading to protests from the citizens and subsequent rollbacks.

In addition, PMC's experience with revisions offers another perspective that citizens' receptivity also depends on the services provided. From interactions with municipal officials, civil society, and a few Pune citizens, it emerged that citizens are well aware that PMC provides most of the basic services and hence are as such receptive to revisions as well as the high tax rate.

However, it is important to keep in mind that while these conditions emerge as necessary for revisions, they may not be sufficient.

### *Adoption of Capital Value Method*

Over the years, a much-advocated change in property tax valuation is the adoption of the capital value method (MoHUA Property Tax Toolkit, 2020; Rao, 2008). The pros are:

- Since revisions in base rate will be directly linked to the regularly revised stamp duty guidance values, the basis of the increase in base rate will be transparent for the taxpayer.
- Moreover, it will also lighten the load of the municipal corporation staff in terms of designing base rate revisions.

The provision of the capital value system exists in the respective municipal corporation Acts of BBMP and PMC. However, adoption of the capital value method

<sup>24</sup> Source: Interactions with PMC officials.

<sup>25</sup> However, it is important to mention that the practice of base rate revisions only applicable for new properties, has led to wide differences in tax for new and older properties in the same locality. For an equitable tax system, all properties should be subjected to revisions (could be varying in degree by property's age) in base rate.

<sup>26</sup> An elected municipal council was in office.

<sup>27</sup> Municipal officials, previous councillors, citizens.

is not an easy exercise, as BBMP's experience indicates. BBMP had been dabbling with the idea of adoption of the capital value system for many years. A committee was constituted to look into this matter, and BBMP had also officially released the draft capital value guidelines including capping the extent of increase in tax. But citizens protested in apprehension of a jump in the tax payable, hence the State government did not lend its support. Like BBMP, provisions for the implementation of the capital value system have been made under the municipal act for PMC,<sup>28</sup> but PMC has not officially considered adopting capital value, although Mumbai<sup>29</sup> follows the same. State government support will be required when it does so. Unlike BBMP and PMC, there are no provisions for the implementation of the capital value system in GNN. Moreover, GNN is still in the early stages of property tax reform and grappling with implementing its first-time revisions to its unit area base rate in more than two decades. To start with, the Uttar Pradesh Municipal Corporation Act should be amended to include the provision for capital value system for property valuation.

Regardless of when municipal corporations are able to move to a capital value system of valuation, regular small revisions in the base rate for all properties are required for an equitable and buoyant property tax.

### **Assessment of Property Tax**

The physical process of assessing the property value and tax payable is assessment. The aspects it encompasses are (i) the method followed for assessment—self-assessment or otherwise, (ii) exempted properties, and (iii) dispute resolution (MoHUA Property Tax Toolkit, 2020).

- **Method followed for assessment:** BBMP, PMC, and GNN follow the self-assessment method, i.e., self-declaration of property details by the taxpayer. Taxpayers fill in their property details online, and the software calculates the tax payable. Self-assessment enhances transparency for the taxpayer and lessens the load on municipal staff.<sup>30</sup> But without cross-checks, there remains the possibility of under-assessments. Rao (2025) finds several instances of under-assessments due to misreporting to evade tax in BBMP's self-assessed properties, thus highlighting the need for good enumeration practices underpinned

by physical surveys and cross-checks with other department data for accurate tax assessment.

Experts recommend legal provisions mandating random scrutiny of a fixed percentage of properties in a given zone. At present, there are gaps in the legal provisions of the three municipal corporations with regard to this. BBMP mentions a random scrutiny but does not mention the proportion of properties that should be scrutinised in its property tax rules. PMC's online self-assessment form mentions follow-up physical assessment by surveyors, but there is no mention of regular random checks. GNN property tax rules or the Uttar Pradesh municipal corporation Act does not mention such checks.

- **Exemptions:** Union government and State government offices, religious buildings, non-profit educational institutes and hospitals, and buildings generally used for public service are exempted from property tax. Mathur et al. (2009) estimate that such buildings usually make up about 10 per cent of all buildings and 11 per cent of assessed properties for 36 municipal corporations. With the rapid growth of private commercial and residential real estate, the share of exempted buildings may have declined over the last decade. In 2019, there were only 840 exempted buildings out of the 17.7 lakh properties on BBMP's rolls (Rao, 2025).

The type of exemption that excludes a significant number of properties from property tax is size-based exemption. BBMP and PMC do not have broad-based exemption like size-based residential properties like Mumbai, which excludes about 46 per cent of residential units involving a significant loss in revenue (Consumer News and Business Channel [CNBC], 2024). Unlike BBMP and PMC, for GNN, as per the Uttar Pradesh Municipal Corporation Property Tax Rules 2000, any building constructed on a plot measuring 30 sq m or less or having a carpet area of less than 15 sqm was exempt from property tax. This would exclude any one-room house or small commercial establishment. As per the Census 2011, about 41 per cent of houses were one-room houses in GNN. But GNN, to boost its property tax collections, has brought these properties into the tax net in recent years.<sup>31</sup>

<sup>28</sup> Section 129-2A, Maharashtra Municipal Corporation Act, 2014.

<sup>29</sup> Brihan Mumbai Municipal Corporation.

<sup>30</sup> Self-assessment is usually practiced in the developing countries of Asia and Africa which face similar challenges of constrained municipal capacity and challenges in procuring accurate property details (Property Tax in Asia, Property Tax in Africa; Lincoln Institute of Land Policy). Cross-checks are important to curb under-assessments in these countries as well.

<sup>31</sup> Based on interactions with GNN officials and Uttar Pradesh Urban Development Department officials.

- **Dispute resolution:** Quick resolution of disputes will lead to quick clearing of property tax dues. So, it is encouraging to note that most of the disputes regarding tax assessment are resolved by the respective property tax departments of the three municipal corporations.<sup>32</sup> If the resolution does not work to the taxpayer's satisfaction, then, according to the respective municipal acts, the citizen can approach the Maharashtra Property Tax Board<sup>33</sup> and the District Court for PMC, the Karnataka Appellate Tribunal for BBMP, and the small sessions court in case of GNN.

With the Maharashtra Property Tax Board yet to be formed, PMC dispute cases end up in district courts and subsequently the High Court. The efficacy of the Karnataka Appellate Tribunal has to be ascertained through further research. Existing research indicates about half of all tax (not just property tax) related resolutions by the Karnataka Appellate Tribunal were overturned by the High Court (Purushothama & Baruah, 2018). An internet search of legal databases<sup>34</sup> reveals that most of BBMP's property tax-related matters are with the High Court.

Given that India's judicial system is already overloaded, cases get stretched and property tax dues remain pending, it is imperative for quasi-judicial bodies like municipal tax boards to be instituted and empowered.

To sum up the key findings on valuation and assessment:

- Regular revisions to the valuation base rate are key for tax buoyancy. It emerges that under the existing area-based valuation methods three necessary conditions—**legal provision, an elected municipal council, and receptivity of the citizens**—need to be in place for revision to take place.
- In matters of assessment, robust cross-checks supported by random physical inspections are required to curb tax evasion, and quasi-judicial bodies will speed up the resolution of disputes.

### 3.3 Billing and Collection

The process of billing and collection has become easier over time with the advent of information technol-

ogy (IT). Once the tax is assessed, bills are generated by the software and then sent through SMS, email, and post. Ease of payment is increasing with more available methods for paying and the increasing popularity of online modes of payment, which means one can pay from anywhere. About 65 to 70 per cent of tax collections are online for PMC and GNN.<sup>35</sup> About 88 per cent of collections were online in BBMP (Times of India [TOI], 2024b). The popularity of online payments has contributed to the increase in property tax collections (World Bank, 2020).

#### Collection Efficiency

Property tax receipts, i.e., collections (nominal) for the three municipal corporations, grew by 290 per cent for PMC, 223 per cent for GNN, and 121 per cent for BBMP between 2012–2013 and 2022–2023. But a crucial question presents itself: **how are these municipal corporations performing with regard to collecting the tax that is due to them?** Answering this question is straightforward for PMC but a challenge for BBMP and GNN due to data availability issues. But piecing together an answer is important to get a true picture of collection performance.

**Data availability** is best for PMC as year-on-year data on current demand, arrears and collection (also referred to as DCB) was shared by PMC with the author, which made calculating collection efficiency straightforward. It is second-best for GNN—consistent availability of audited financial statements prepared on accrual-based (as property tax becomes due) accounting norms which allows the author to arrive at an estimate of the collection efficiency (Box 1). It is worse for BBMP—inconsistent availability of audited financial statements which, for the recent years, are prepared on cash-based (as property tax payment is received) accounting norms, rendering it impossible to estimate collection efficiency.

It is important to mention at this juncture that, to our knowledge, this is the **first study to arrive at an estimate of collection efficiency using financial statements**. In future, this method, as explained in Box 1, and employed to estimate GNN's collection efficiency, can be used to arrive at an estimate of collection efficiency if DCB data cannot be procured from the municipal corporation directly.

<sup>32</sup> Based on interactions with PMC and GNN officials.

<sup>33</sup> The Maharashtra Municipal Property Tax Board Act, 2011. Section 12 pertains to dispute resolution on matters of tax assessed.

<sup>34</sup> Casemine, Indian Kanoon.

<sup>35</sup> Interaction with municipal officials. This is in line with the share of online collection (68 per cent) across the more than 200 municipal corporations as per RBI (2024).

**Box 1: Estimating Collection Efficiency—A New Method in Absence of DCB Data**

Collection efficiency can be estimated in three steps using audited financial statements (income statement, balance sheet) capturing property tax revenue on an accrual basis, i.e., as the tax becomes due.

**Step 1: Estimating total property tax demand**

Items required from financial statements:

- *Current demand, i.e., property tax demand in the year “t”*: Property tax revenue from income statement for a given year (t) is the demand that has originated in that year. This is so since as per the explanatory notes of GNN’s income-expenditure statements—“Revenue in respect of property tax shall be recognised in the period in which they become due and demands are ascertainable.”
- *Arrears demand, i.e., property tax arrears demand in year “t”*: The balance sheet of the previous year (t-1) captures the arrear (uncollected) amount termed as “receivables” as at the end of the previous year which is the same as the arrear at the start of the year (t) or the arrear demand in year t.
- *Property tax write-offs in year “t”*: The balance sheet of the year “t” captures the amount of property tax dues that are deemed as uncollectable or written off and hence are no longer a part of the property tax demand of year “t.”

By adding the income from property tax for a given year (t) and arrear amount as at the end of the previous year (t-1) and subtracting the written-off amount as at end of “t,” one arrives at an estimate of the total demand for a given year (t).

***Estimated Total Demand<sub>(t)</sub> = Property tax from income statement<sub>(t)</sub> + Property tax arrears from balance sheet<sub>(t-1)</sub> - Property Tax Write-Off<sub>(t)</sub>.....(Equation 1)***

**Step 2: Estimating property tax collection**

Item required from financial statements:

- *Arrears or uncollected property tax at end of year “t”*: The balance sheet of year “t” captures the arrear amount or the uncollected demand as at the end of the current year under the line item “receivables.”

Deducting the arrears at end of year “t” from the estimated total demand for year “t” gives one an estimate of the property tax receipts/collections.<sup>36</sup>

***Estimated Collection from Total Demand<sub>(t)</sub> = Estimated Total Demand<sub>(t)</sub> - Property tax arrears from balance sheet<sub>(t)</sub>.....(Equation 2)***

**Step 3: Estimating property tax collection efficiency**

Finally, the ratio of estimated collection from total demand for year (t) and the estimated total demand for year “t” gives us an estimate of the collection efficiency of total demand in the year (t).

***Estimated Collection Efficiency<sub>(t)</sub> = Estimated Collection from Total Demand<sub>(t)</sub>/Estimated Total Demand<sub>(t)</sub>..... (Equation***

In case of GNN, the accrual-based system of accounting is followed for property tax as mentioned in various GNN audited financial statements. For an example of the actual workings of estimating GNN’s collection efficiency, refer to Appendix 3.

It is important to mention that this method cannot be applied in BBMP’s case since it follows the cash-based method of accounting for capturing property tax revenue in the income-expenditure statement. Property tax revenue on cash basis is the amount of property tax collected in the current year and not the demand for property tax as under the accrual-based method. As a result, neither the demand nor the collection efficiency can be estimated for BBMP.

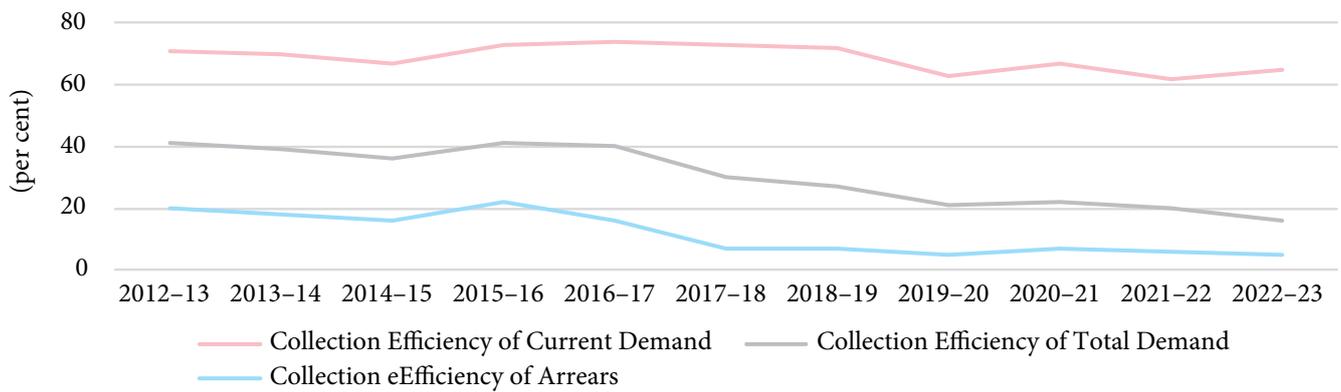
Source: Author’s estimation.

<sup>36</sup> Actual property tax receipts or collections can also be taken from the Municipal Corporation budgets, but to avoid any potential discrepancies that could arise since the budget and the financial statements (income expenditure (IE) statement and balance sheet) are drawn up on different basis and at different points in time, we estimate the property tax collection from the audited financial statements.

**PMC:** PMC’s collection efficiency declined for current demand and arrears between 2012–2013 and 2022–2023 (Figure 7). As a result, arrears have increased (Figure 8). High penalty rates compounding monthly at two per cent<sup>37</sup> have led to huge penalty amounts, which in many cases are multiples of the original tax dues, and keep adding to the arrears. With increasing arrears, there was also an increase in the amount of arrears that were being written off since their recovery was unlikely (Figure 9). Given the poor and declining collection efficiency of arrears, the quantum of such

write-offs is likely to increase even further in the near future. Declining collection efficiency, increasing arrears, and write-offs are a matter of grave concern for PMC. But the fact that this information is available from the data shared by PMC with the author and from PMC’s annual balance sheets is in itself encouraging. As it allows for a true picture of PMC’s collection performance to emerge and indicates the practice of data transparency by PMC, which is rare among India’s municipal corporations.

**Figure 7: PMC’s Collection Efficiency of Property Tax**



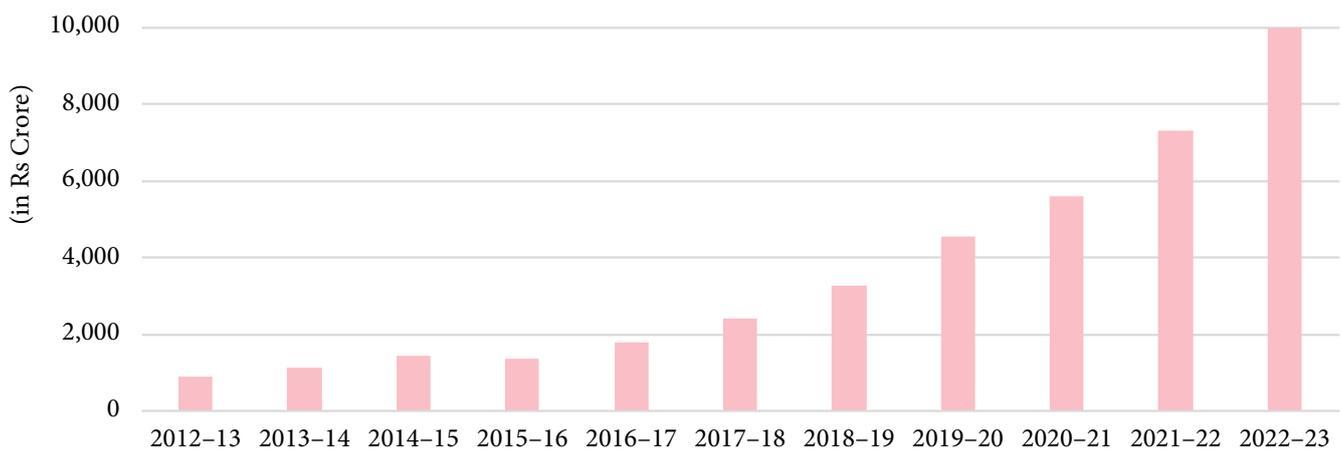
Source: Data from PMC; author’s calculation.

Note:  $Collection\ Efficiency\ of\ Total\ Demand_{(t)} = Collection\ from\ Total\ Demand_{(t)} / Total\ Demand_{(t)}$

$Collection\ Efficiency\ of\ Current\ Demand_{(t)} = Collection\ from\ Current\ Demand_{(t)} / Current\ Demand_{(t)}$

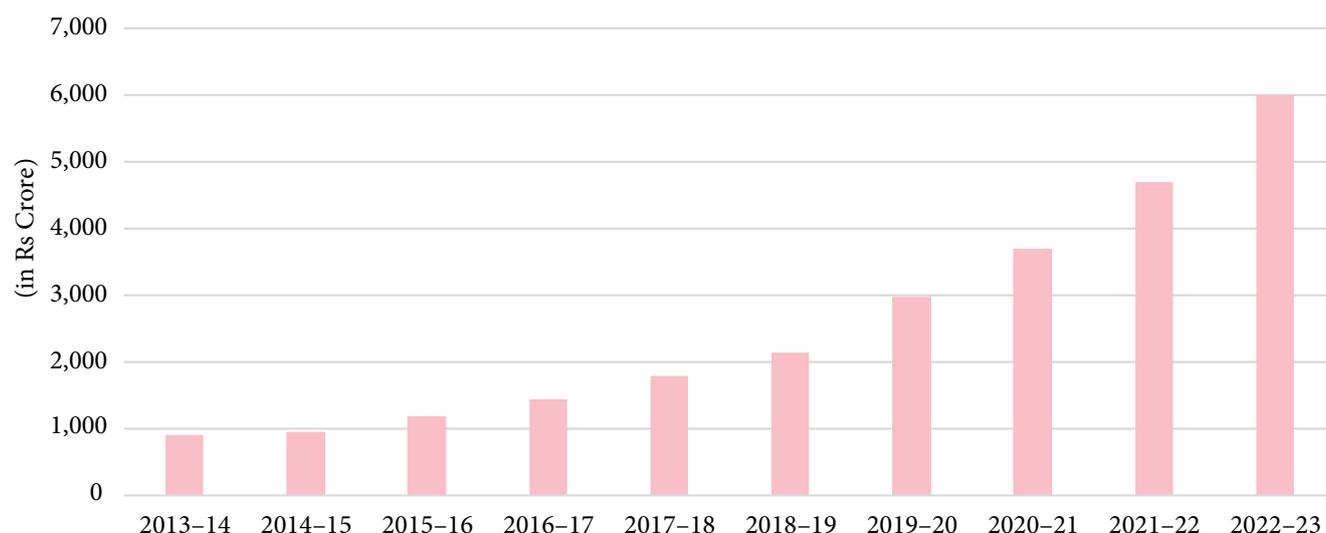
$Collection\ Efficiency\ of\ Arrears_{(t)} = Collection\ from\ Arrears_{(t)} / Arrears_{(t-1)}$ ;  $Arrears_{(t-1)}$  is the amount of arrears at the end of the previous year.

**Figure 8: PMC’s Property Tax Arrears**



Source: Data from PMC.

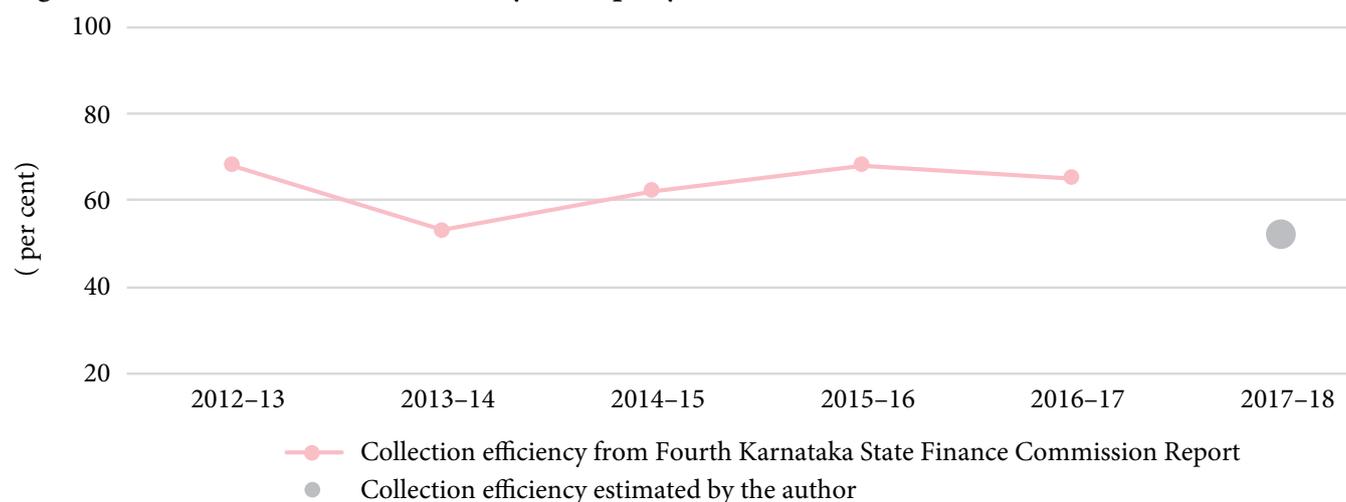
<sup>37</sup> Appendix 2.

**Figure 9: PMC's Property Tax Write-Offs**

Source: Data from PMC's audited balance sheet.

**BBMP:** Unlike PMC, the availability of data for gauging BBMP's collection performance is a serious challenge. It does not allow for estimating its collection efficiency beyond 2017-2018. Even though BBMP's property tax reforms have been widely discussed in the policy discourse for more than two decades, data are scattered and not consistently available across the years from an official source and have to be patched together from multiple sources. The available information suggests collection efficiency was more or less stable between 2012-2013 and 2017-2018, but

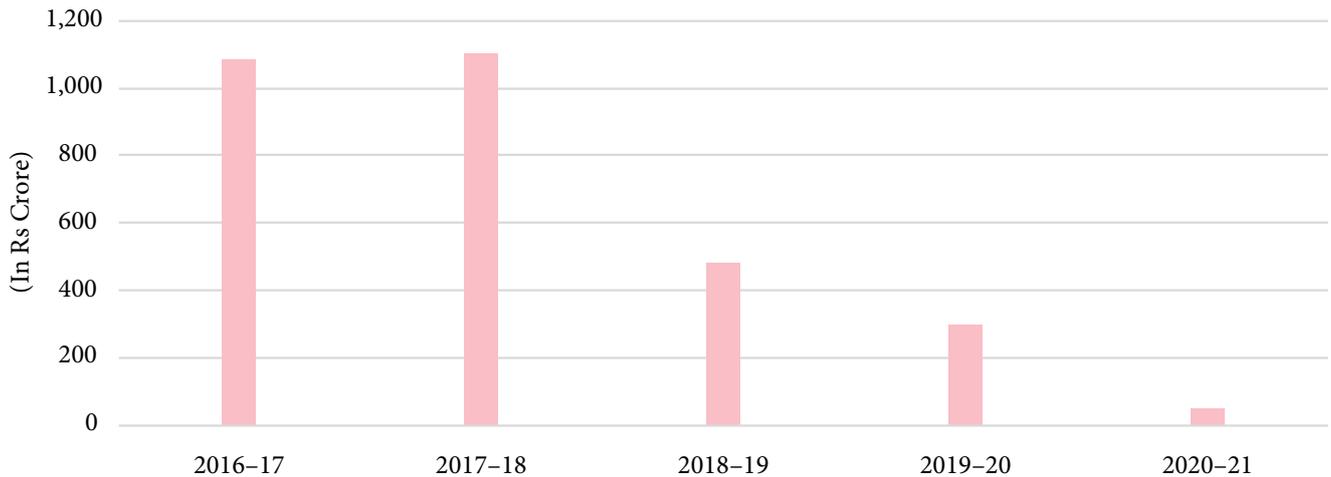
declined in 2017-2018 (Figure 10). BBMP's annual balance sheets indicate that arrears have significantly declined between 2017-2018 and 2020-2021, while arrear amounts are not reported for 2021-2022 and 2022-2023 (Figure 11). Moreover, information on the quantum of arrears is not available for the period 2012-2013 and 2017-2018 due to the non-availability of audited financial statements. No property tax write-off amounts are mentioned in any of the available balance sheets.

**Figure 10: BBMP's Collection Efficiency of Property Tax**

Source: The data for the period 2012-2013 to 2016-2017 is taken from the Fourth State Finance Commission Report, Karnataka, 2018. The data for 2017-2018 is based on author's calculations based on data gathered from budgets, audited income-expenditure statements, and balance sheets.

Note: It must be noted that the data for the period 2012-2013 to 2017-2018 does not specify whether the collection efficiency corresponds to the total or current demand. The data for 2017-2018 is the estimated collection efficiency of total property tax demand following the methodology of Box 1, since only the financial statement of 2017-2018 followed accrual method of accounting. Financial statements for all succeeding years were cash-based, limiting the estimation of collection efficiency.

**Figure 11: BBMP’s Property Tax Arrears**

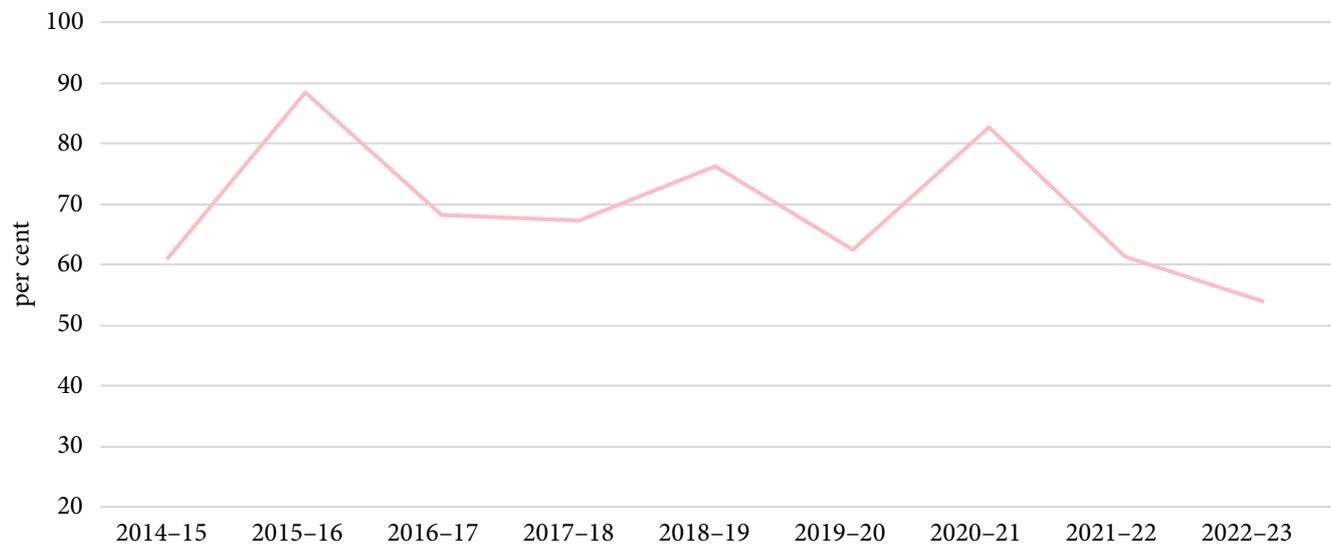


Source: Data from BBMP’s audited balance sheet.

**GNN:** GNN’s collection efficiency of total demand declined from 60 per cent to 50 per cent between 2015–2016 and 2022–2023<sup>38</sup> (Figure 12). Concurrently, arrears increased. Like PMC, GNN’s arrears have shown a secular increase since 2020 (Figure 13). GNN has not yet initiated the practice of writ-

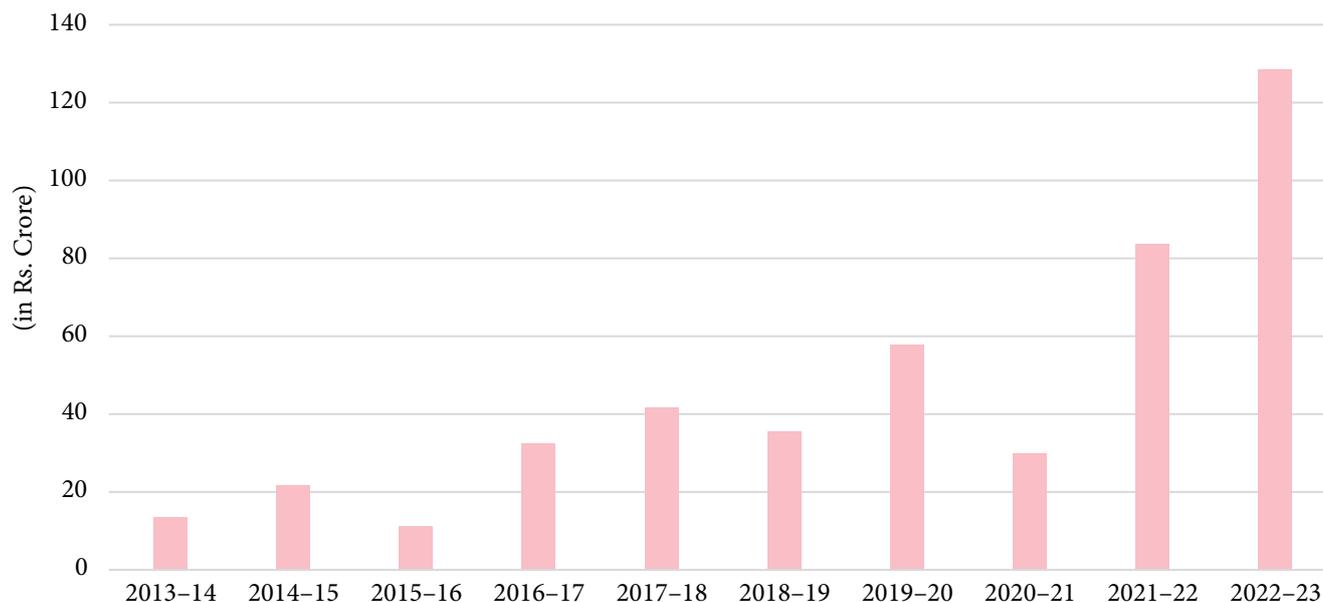
ing off non-viable arrears, but if its arrears remain uncollected, it will be required to do so in the coming years. GNN’s collection scenario presents a concerning picture, but the consistent availability of data from audited accounts is encouraging.

**Figure 12: GNN’s Collection Efficiency of Property Tax**



Source: Data from GNN’s income expenditure statements, balance sheet, and author’s calculation.

<sup>38</sup> Unable to estimate property tax demand before 2015–2016 due to non-availability of income statement and balance sheets.

**Figure 13: GNN's Property Tax Arrears**

Source: Data from GNN's balance sheet.

Insights from PMC, BBMP, and GNN's collection efficiency analysis have important implications:

- Increasing property tax receipts/collections does not mean better collection efficiency. Also, it is important to look at data on demand and arrears, in addition to that of collections.
- Consistent reporting of financial data through financial statements following the respective state and National Municipal Accounting Manual (NMAM) norms is critical for understanding a municipal corporation's collection performance. Lack of consistently available financial statements, as in the case of BBMP, is an even greater cause of concern than the awareness of worsening collection performance of PMC and GNN. Availability of credible official data ensures citizens and other stakeholders, including policymakers, can at least be made aware of the issue and its scale.
- Increasing arrears and subsequent write-offs mean efforts at enumeration, valuation, and assessment going to waste. PMC's arrear write-offs or non-recoverable property tax arrears are a cause of concern. But it should not in any way be interpreted to mean that PMC fares badly in comparison to BBMP and GNN, since PMC

every year consistently reports its arrears, while BBMP and GNN have not done so for a single year.<sup>39</sup> This non-reporting of write-offs despite the Karnataka Municipal Accounting Manual and Uttar Pradesh Municipal Accounting Manual clearly mentioning that age-wise property tax arrears write-off provisions be made in the balance sheet is concerning and hampers a full diagnosis of the property tax collection performance for BBMP and GNN.

### **Addressing the Issue of Arrears**

To address the issue of arrears, municipal corporations employ both incentives and disincentives. To incentivise timely payments, early bird discounts are offered, and lucky draws with attractive prizes like cars and mobiles are announced for payers who pay by a certain date, as PMC did in 2024. For encouraging defaulters to pay, one-time settlement or **amnesty schemes** are offered wherein the late payment charges and/or interest are forgone. If incentives do not work, the municipal corporations, through **enforcement actions**, can cut off the utility supply, seal the building, and if all fails, then foreclose it.

One-time or amnesty schemes do increase collections and propel some defaulters to pay up but not

<sup>39</sup> BBMP nor GNN report any write-offs on account of property tax in their balance sheets, like PMC does. GNN balance sheet notes in the absence of information on age of the arrears, no provision for write-offs are made, and the BBMP balance sheet does not report any write-offs without an explanation. It is important to note that BBMP, PMC, and GNN each should be following the accounting norms for provision of property tax write-offs depending on the age of the property tax arrears, as laid down by their respective state's municipal accounting manual which are fashioned based on the NMAM.

all. According to newspaper reports, compared to 2023–2024, total collections in 2024–2025 almost doubled for BBMP on the back of a one-time scheme with about half of the defaulters clearing their dues (Hamsaveni, 2024). PMC's amnesty schemes during the COVID years ensured property tax collections did not decline, as they did for BBMP and GNN. However, under BBMP's one-time amnesty scheme, half of the defaulters did not clear their dues, and half of the defaulters who had benefitted from Pune's amnesty schemes during the COVID years defaulted again (Kulkarni, 2025).

Enforcement actions of cutting off water lines especially for commercial properties often prompt defaulters to pay in GNN.<sup>40</sup> Municipal Corporation acts and subsequent standard operating procedures (SOPs) of BBMP, PMC, and GNN allow for sealing and attachment of properties in case of unpaid dues. Over the last few years, there has been a surge in such enforcement actions, especially by BBMP (The Hindu Bureau, 2025), starting with a detailed standard operating guideline on the steps to be followed for recovering arrears (BBMP, 2023)<sup>41</sup> followed by regular monitoring. These efforts have borne fruit, as apparent in BBMP's negligible arrears in 2020–2021 (Figure 11). Needless to add that efforts by the municipal staff are integral to the tax collection effort with tax assessors physically following up with defaulters. To encourage the staff's effort, BBMP has given awards to staff based on the collections made during its recent one-time amnesty scheme (TOI, 2024a). But these are one-time awards<sup>42</sup> and not standard practice. While one-time rewards are encouraging, a framework for regular appraisals is required to enhance staff performance further (NIUA, 2014).

To sum up:

- (i) BBMP's aggressive collection and enforcement measures bore fruit in terms of improved collection efficiency. However, it has to ensure that information on its property tax demand, arrears, and write-offs is regularly reported through audited income statements and balance sheets in the public domain.
- (ii) GNN will be able to fully capitalise on its initiatives of GIS mapping and base rate revisions, undertaken over the last few years, if it concurrently improves its collection efficiency.
- (iii) Poor collection efficiency, particularly of arrears, is PMC's key challenge at present. It needs to develop a medium-term plan on how best to tackle its mounting arrears by analysing the nature of arrears and the defaulters. At the same time, it needs to improve the collection efficiency of its current demand. Otherwise, the benefits of PMC's notable efforts in enumeration and valuation cannot be fully realised.

## 4. Summing Up and Recommendations

The property tax growth story in India's million-plus cities' municipal corporations falters when looked at through the lens of real growth and in terms of keeping pace with the economic growth of the respective states. However, property tax continues to be the mainstay of own-source revenue and an important contributor to the total municipal revenue of these municipal corporations.

An examination of the property tax system and administration of three municipal corporations—BBMP, PMC, and GNN—re-emphasises past perceptions. It also brings to the fore new, but critical, insights on enumeration, valuation and assessment, and billing and collection.

**Enumeration:** As espoused by extant literature, one-time, technology-led enumeration initiatives like satellite imagery-supported GIS mapping have led to significant improvement in property coverage across the three municipal corporations. Present ambiguity about the number of properties under BBMP's jurisdiction highlights the need for such initiatives at regular intervals, with one having taken place more than a decade ago. In addition, this study brings to the fore that additional data analytics efforts like the one undertaken by PMC using Google Maps and AI,

<sup>40</sup> But such measures in case of residential properties are extremely rare, as per municipal officials.

<sup>41</sup> <https://bbmptax.karnataka.gov.in/documents/SOPofPT.pdf>

<sup>42</sup> To incentivise the municipal staff one-time awards are given in BBMP and PMC. While the prevalent system of rewarding good performance in this manner is encouraging, it is also ad hoc. It also needs to be mentioned that such a target driven performance appraisal system is not common even in case of tax staff at the Central government level. For example, in case of income tax staff, good performance in its various assessment and collection related functions are usually rewarded only when proposed. Moreover, nominations through proposals were few, indicating the need for greater awareness among income tax officials of the reward scheme (<https://itgoawbunit.org/pdf/85156154Reward.pdf>).

and the **tacitly acknowledged physical inspections by municipal staff**, are critical for not just plugging gaps in property coverage but **for accurately capturing property details**.

**Valuation and Assessment:** BBMP, PMC, and GNN follow area-based methods of valuation. An inter-temporal comparison between BBMP and PMC in terms of coverage ratio, base value revision frequency, and collection efficiency highlights the distinct positive impact that regular revisions to the base value rate have in the case of PMC, corroborating similar insights from existing research and policy discourse. At the same time, the challenges encountered by GNN in revising the base rate after two decades also stress the need for small but regular revisions. Undoubtedly, such regular revisions will become easier with the adoption of the much-advocated capital value system, but BBMP's long-drawn, unfructified efforts at adoption of the capital value valuation system highlight that changing the system of valuation can be a challenging endeavour. In the meantime, regular revisions to the base rate under the area-based method are key for ensuring property tax buoyancy. For that, the **three conditions of having a legal provision, an elected municipal council, and receptivity of the citizens to the revision**, emerge as necessary.

In the matters of assessment, **random physical checks by the municipal staff** are critical for identifying under-reporting through self-assessments. Size-based exemptions result in a significant number of properties being outside the property tax net and are best done away with, as GNN did. Most assessment disputes appear to be resolved at the municipal corporation level. However, if that does not happen, then in the absence of quasi-judicial bodies, overburdened courts are the recourse, with long-drawn, unresolved disputes translating to arrears.

**Collection:** In matters of collection, while overall collections as in nominal receipts have gone up, **collection efficiency has declined for PMC, GNN, and BBMP**, and arrears are increasing. While BBMP's efforts at tax collection appear to have borne results, inconsistently available financial statements of poor quality place limitations on the author's efforts to arrive at a robust collection efficiency trend. Another matter of concern is the increasing tax write-offs in the case of PMC, but a **graver concern is the non-reporting of write-offs by BBMP and GNN** in their balance sheets despite clearly defined guidelines by the NMAM and respective state municipal accounting manuals regarding the same.

## 4.1 Recommendations

The study corroborates the rich existing research and policy discourse recommending technology-based mapping for enumeration, legal mandates and impetus for regular revision of valuation base rates for enhancing buoyancy, and stricter enforcement measures for collection. In addition, the study has the following recommendations:

### 1. Reporting of Property Tax: Current Demand, Arrears, Write-offs, and Collections from Current Demand and Arrears

In addition to the property tax receipts, i.e., collections (usually reported), property tax demand, arrears, and collection efficiency are important to get a full sense of the property tax situation of a municipal corporation. But other than the property tax receipts, which are reported in the annual budgets, data on the rest of the parameters are not explicitly available in the public domain and can, at best, be gathered from multiple sources (if available) and estimated as explained in Box 1 of this study.

While estimating the collection efficiency of total demand using the methodology set in this study gives an indication, for a complete picture of property tax collection performance to emerge, municipal corporations should annually report data on property tax demand—both current demand and arrears demand, and the respective collection efficiencies—in the public domain in a consistent and easy-to-understand format, preferably as a part of their annual budgets. Greater data transparency will bring about greater accountability in the municipal corporation's efforts at property tax assessment and collection and also generate greater civic awareness among the citizens. The municipal corporations' access to AMRUT, SBM, Central Finance Commission, and State government scheme grants can be made conditional on adherence to the reporting of these property tax parameters.

### 2. Updates on the Status of Revision in Base Rate

Regular updation of base rates for the municipal corporations, which follow the area-based valuation method, is critical for property tax buoyancy. But these rates are not revised regularly. Moreover, the course of research for this study revealed that information on when the rates were revised and by how much is not available in the public domain. Further, how the revisions were arrived at is also not clear. Given the importance of regular revision of the

valuation base rates, going forward the annual budget of municipal corporations should clearly mention whether a revision was carried out in the previous year, if yes, then by how much, and on what basis. This will help in building more receptivity in citizens regarding such revisions and also help in bringing about greater transparency to the municipal corporation's tax efforts. Building this requirement as a conditionality for accessing AMRUT, SBM, and State government grants will strengthen its enforcement.

### 3. Policy on Management of Arrears

Unless property tax arrears are effectively managed and collected, they have the potential of undoing all the good work across the earlier two stages. As cities grow bigger and the property tax system and administration become stronger, property tax demand will grow and so will the likelihood of arrears unless kept in check. A state-level policy on management of arrears will help in standardising good practices across municipal corporations and other ULBs of the state, and curtail arrears.

Municipal corporations employ both incentives (amnesty schemes) and disincentives (penalties, attachment, and foreclosure) to collect arrears. Existing provisions in the Municipal Corporation Acts and property tax rules on attachment of properties and assets should be supported by state-level property tax arrears management policy. This policy should objectively delineate the framework of SOP to be followed by the municipal corporations, with clearly defined responsibilities on conditions and procedures for show-cause, recovery, attachment, and foreclosure. BBMP's SOP (BBMP, 2023) is a good starting point. In addition, such policies should delineate the frequency of amnesty schemes targeting non-wilful defaulters and discourage repeat defaulters with conditions such that it can be availed only once in a period of 10 years.

### 4. Areas for Future Research

**Human Resource Issues:** Effective administration of the property tax system is the responsibility of the municipal staff. As highlighted in this study, whether in the conduct of regular physical inspections for enumeration or enforcement measures undertaken for collection of arrears, municipal staff play a critical role. In addition, there are other

property tax-related activities. As suggested in a few studies, outsourcing can help. But only as a stopgap measure. Ensuring long-term accountability ultimately depends on having a capable and adequately staffed municipal workforce.

Increase in municipal staff numbers, capacity building, performance management system, and systematic performance-linked incentives across departments have been well-explored areas in the policy discourse (NIUA, 2014, 2015). Yet there are gaps in the adoption of such a framework—vacant posts, low nomination to training programmes, the ULBs not having the power over staffing decisions or to take disciplinary actions (Comptroller and Auditor General of India [CAG], 2024) (as per a study across 15 states). The KARC-2 suggested an increase in the BBMP's revenue department (property tax department) staff strength by 40 per cent (KARC-2, 2023). Along with frequent mentions of staff shortage by municipal officials in the course of doing this study, it is revealed that the absence of a structured target-linked appraisal and remuneration system for municipal corporations could also be an issue. Thus, a deeper examination of the existing human resource management framework and practices is warranted. The moot point remains that persistent gaps in human resource management are likely to have an adverse impact on property tax performance, and across million-plus municipal corporations' rigorous assessment and addressal of the gaps through studies along the lines of KARC-2 is critical for improving property tax performance.

**Other Areas for Future Research:** Insights on two hitherto unexplored lines of enquiry will enrich the knowledge base for future policy efforts:

Is the levied property tax a true reflection of the benefits received by a property, considering other applicable charges? The answer will help to clarify the rationale and basis for the tax being levied, and help in strengthening the property tax system.

What is the relationship between property tax and inter-governmental transfers (fiscal transfers from the Central and State government to the ULB)? The answer to this question will help in calibrating an optimal framework for inter-governmental transfers which complements property tax enhancement.

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## Appendix 1: 15<sup>th</sup> Finance Commission Condition on Property Tax

Municipal Corporation	Is Property Tax Growth in 2022–2023 Greater Than the Simple Average of GSDP Growth of Recent Five Years
Agra	Yes
Ahmadabad	Yes
Amritsar	Yes
Chennai	Yes
Coimbatore	Yes
Ghaziabad	Yes
Gwalior	Yes
Hyderabad	Yes
Kolkata	Yes
Lucknow	Yes
Patna	Yes
Rajkot	Yes
Thiruvananthapuram	Yes
Vadodara	Yes
Bengaluru	No
Bhopal	No
Dhanbad	No
Indore	No
Kanpur	No
Kochi	No
Pune	No
Raipur	No
Surat	No
Vasai Virar	No

Source: Municipal corporation budgets and state GDPs from official documents; author's calculation.

## Appendix 2: Key Legal Provisions for Property Tax in BBMP, PMC, and GNN

(This Table should be read in conjunction with Table 2 of this paper. In this table, any mention of section refers to sections in the relevant municipal act, whereas any mention of rule refers to the relevant property tax rules document.)

S. No.	Provision	BBMP	PMC	GNN
1.	<b>Acts and Rules</b>	Bruhat Bengaluru Mahanagara Palike Act, 2020. Earlier, Karnataka Municipal Corporation Act, 1976. <sup>43</sup> BBMP Property Tax Rules, 2009 (Rules) & BBMP Property Tax Handbook 2009.	Maharashtra Municipal Corporation Act, 1949. The Pune <i>Milkatkar Pustika</i> , and Right to Information (RTI) Manual on Property Tax (Property Tax Handbook).	The Uttar Pradesh Municipal Corporation Act, 1959. <i>Uttar Pradesh Nagar Nigam (Sampatti Kar) Niyamawali</i> including amendments up to 2024 (Property Tax Rules).
2.	<b>Enumeration of properties</b>	<b>Coverage:</b> The BBMP Act <i>mandates</i> a property register of all immovable properties including at the zonal level (Section 136). The Act directs the Chief Commissioner to maintain a record of lawful ( <i>Khata A</i> ) and unlawful buildings ( <i>Khata B</i> ) which are taxed. <b>Frequency of enumeration:</b> It enables the Chief Commissioner to direct a survey of buildings and land for property tax assessment. However, no interval is specified for the same (Section 155).	<b>Coverage:</b> The Rules mandate the Commissioner to maintain an assessment book of all properties including their rateable or capital value (Rule 9). <b>Frequency of enumeration:</b> The Commissioner is empowered to amend the book anytime during a year (Rule 20). However, the Commissioner is mandated to prepare an assessment book at least once every five years (Rule 21(2)).	<b>Coverage:</b> The Corporation is <i>mandated</i> to publish an assessment list for the city. <b>Frequency of enumeration:</b> The intervals at which the assessment list should be drawn up is not specified (Section 207). It is <i>recommended</i> that such a list be ordinarily prepared every two years (Section 211).
3.	<b>Valuation of properties</b> (The main framework of valuation and assessment is explained in Table 2 of this study.)	<b>Revision of Base Rate:</b> Base rates to be revised every three years, as per the Karnataka Municipal Corporation Act, 1976. Rule 2(iii) of the BBMP Tax Rules, 2009, define a block period of three years for the purpose of tax revision. Meaning that these rates are to be set every three years. However, the Rules do not specify any further details operationalising the setting up of such dates.	<b>Revision of Base Rate:</b> Allows for revision of rental value of a property annually based on the previous year rent (Sub-section 129, Maharashtra Municipal Corporation Act, 1949).	<b>Revision of Base Rate:</b> The Municipal Commissioner is <i>mandated</i> to fix the minimum monthly rate of rent per sq ft once every two years.

<sup>43</sup> Some provisions of Karnataka Municipal Act, 1976, are still followed, as the concurrent provisions of the BBMP Act, 2020 are not in effect.

S. No.	Provision	BBMP	PMC	GNN
4.	<b>Composition of property tax and property tax rates</b>	<p><b>Property Tax Composition:</b> General Tax: Residential—20 per cent Non-residential—25 per cent (Property Tax Rules 2009).<sup>44</sup></p>	<p><b>Property Tax composition:</b> General Tax: Up to Rs 2,000 ARV: 16.75 per cent; Rs 2,001–5,000: 23.75 per cent; Rs 5,001–20,000: 32.75 per cent; Above Rs 20,000: 40.75 per cent. Fire Tax: 1.5 per cent. Tree Tax: 1 per cent. Sanitation Tax: 20.5 per cent. Water Benefit Tax: 5.75 per cent. Drainage Tax: 9.5 per cent. Road Tax: 10 per cent. Education Tax: 1.75 per cent. Large Property Tax Water taxes are also applicable for separate categories of connections at a percentage of the ARV. (<i>Milkatkar Pustika</i>)</p>	<p><b>Property Tax composition:</b> General Tax: 10-15 per cent. Water Tax: 7.5-12.5 per cent. Drainage Tax: 2.5-5 per cent. Conservancy Tax: not more than two per cent (Section 173).</p>
5.	<b>Assessment procedure</b>	<p>The Commissioner may take up at least ten per cent of self-assessed residential properties cases for random scrutiny and inspection. (Sec 144(12)).</p>	<p>Online-self-assessment since April 2013, offering a mechanism for self-assessment of properties to concerned persons.</p>	<p>The owner is primarily liable for tax payment on self-assessment basis, by filing a return in the prescribed manner (Sec 174, 207-A, 300).</p>
6.	<b>Exemptions</b>	<p>The Act provides for detailed exemptions including places of worship places, charitable institutions run on Government approved philanthropy, ancient monuments, hospitals and dispensaries, burial and cremation grounds, government lands set apart for recreational purposes (Section 152-152(2)).</p>	<p>The Act provides for exemptions from property tax payment to burial and cremation grounds, places for public worship or public charitable purposes, State government properties being used for public purposes, municipal corporation properties (Section 132). In addition, ex-servicemen and gallantry award winners, as well as widows of soldiers and gallantry award winners. (<i>Milatkara Pustika</i>). Rebates for properties undertaking sustainable practices (Pune RTI Manual on Property Tax).</p>	<p>The Act exempts religious/ educational/public land exempt from property tax. (Section 177 of Property Tax Rules). Exemptions for small owner-occupied properties were removed a few years back by amending the rules.</p>

<sup>44</sup> The new tax rates as per the BBMP 2020 Act have not come into effect.

S. No.	Provision	BBMP	PMC	GNN
7.	<b>Billing and collection</b>	The Act empowers the Chief Commissioner to recover property tax via distraint, attachment, sale, or legal suit (Section 148).	Lays out that property taxes can be recovered by presenting a bill, distraint, property attachment and sale (Section 128, 139, 140, 439)	Lays out that property tax can be recovered through several processes including presenting a bill, serving a notice, distraint, and sale or attachment of immovable property (Section 503).
8.	<b>Penalties and rebates</b>	The Act also mandates that a list of defaulters shall be published on the Corporation's website. (Section 144(22)). Rebate for advance payment (Sec. 140A), ecological schemes (Section 140B); incorrect returns penalised (Section 144).	Penalties are applicable for failing to file property tax return at 2 per cent of unpaid tax for each month (Rule 41), and for filing wrong information (Section 214, 221-B).	Penalties are applicable for failing to file property tax return at simple interest of 12 per cent per annum on dues. In case of submitting wrong information, a fine up to double the general tax may be levied (Section 214). Submitting wrong information on land and carpet area may attract up to Rupees 1000 penalty (Section 221).

Source: Respective municipal corporation acts and property tax rules and guidelines, as applicable and as mentioned in the table. Sections as and where mentioned refers to the same from the respective municipal corporation acts.

### Appendix 3: Estimating GNN's Collection Efficiency—Based on the Methodology in Box 1

	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	2020–2021	2021–2022	2022–2023
Property Tax Income from IE statement (Rs crore)	53.9	41.9	74.7	90.7	95.2	107.9	118.7	113.3	187.4	195.8
Property Tax Arrear from Balance Sheet (Rs crore)	13.6	21.54	11.1	32.4	41.6	35.5	57.9	29.74	83.8	128.68
Property Tax Write-Offs from Balance Sheet (Rs crore)	–	–	–	–	–	–	–	–	–	–

	2013– 2014	2014– 2015	2015– 2016	2016– 2017	2017– 2018	2018– 2019	2019– 2020	2020– 2021	2021– 2022	2022– 2023
<p>Estimated Property Tax Total Demand in Rs crore</p> <p><i>Estimated Total Demand<sub>(t)</sub> = Property tax from income statement<sub>(t)</sub> + Property tax arrears from balance sheet<sub>(t-1)</sub> – Property Tax Write-Off<sub>(t)</sub></i> (Equation 1 of Box 1) (Rs crore)</p>	–	55.5	96.2	101.8	127.6	149.5	154.2	171.2	217.1	279.6
<p>Estimated Property Tax Collection in Rs crore</p> <p><i>Estimated Collection from Total Demand<sub>(t)</sub> = Estimated Total Demand<sub>(t)</sub> – Property tax arrears from balance sheet<sub>(t)</sub></i> (Equation 2 of Box 1) (Rs crore)</p>	–	34.0	85.1	69.4	86.0	114.0	96.3	141.5	133.3	150.9
<p><b>Estimated Collection Efficiency of Total Demand</b></p> <p><i>Estimated Collection Efficiency<sub>(t)</sub> = Estimated Collection from Total Demand<sub>(t)</sub> / Estimated Total Demand<sub>(t)</sub></i> (Equation 3 of Box 1)</p>	–	<b>61.2%</b>	<b>88.5%</b>	<b>68.2%</b>	<b>67.4%</b>	<b>76.3%</b>	<b>62.5%</b>	<b>82.6%</b>	<b>61.4%</b>	<b>54%</b>

Source: GNN's audited income statement, balance sheet, and author's calculation.

## Appendix 4: Tables Corresponding to Figures 1 to 6 of This Study

**Table A1: Property Tax (Nominal as from Budgets) in Rs Crore**

(Corresponds to Figure 1)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	1085.0	1775.3	2396.8
Hyderabad	NA	1392.7	1680.5
Chennai	411.1	706.5	1507.3
Kolkata	828.7	822.5	1068.2
Pune	444	994.1	1732.6
Bhopal	24.3	43.3	128.3
Patna	24.1	48.0	85.6
Coimbatore	105.7	142.6	213.4
Raipur	25.0	57.0	79.6
Kanpur	71.3	117.4	184.2
Lucknow	83.4	177.3	337.1
Thiruvananthapuram	24.8	39.0	100.0
Kochi	52.7	79.5	122.1
Dhanbad	3.0	8.1	17.2
Amritsar	18.3	17.9	33.7
Gwalior	15.1	51.8	57.7
Agra	12.6	17.4	77.7
Ahmadabad	247.6	998.9	1201.7
Surat	194.4	393.4	895.5
Ghaziabad	47.9	85.2	154.6
Indore	124.6	93.5	136.4
Vadodara	139.2	292.1	355.7
Rajkot	76.1	117.2	241.4
Vasai Virar	52.1	66.8	157.0

Source: Municipal corporation budgets.

**Table A2: Per Capita Property Tax (Nominal) in Rs**

(Corresponds to Figure 2)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	1227.0	1642.8	1815.0
Hyderabad	NA	3680.5	4377.4
Chennai	878.7	1460.2	3011.8
Kolkata	1846.3	1849.6	2424.3
Pune	1392.2	2808.8	4412.6
Bhopal	132.1	212.5	566.8
Patna	141.0	258.5	425.1
Coimbatore	994.2	1262.1	1777.3
Raipur	238.4	455.2	532.2
Kanpur	255.9	404.6	609.6
Lucknow	288.6	540.5	905.2
Thiruvananthapuram	337.8	566.9	1550.4
Kochi	883.0	1392.8	2239.6
Dhanbad	25.8	64.6	129.6
Amritsar	158.9	144.5	253.8
Gwalior	139.3	424.6	419.1
Agra	77.6	96.4	385.5
Ahmadabad	434.3	1567.9	1688.7
Surat	415.0	663.6	1193.1
Ghaziabad	275.2	375.5	522.2
Indore	617.5	405.7	517.4
Vadodara	815.0	1530.4	1667.6
Rajkot	575.1	767.3	1370.8
Vasai Virar	391.5	326.7	500.2

Note: Municipal corporation population for 2012–2013, 2017–2018, and 2022–2023 was projected based on Census 2011 population and annual average growth rate of population for the given municipal corporation between 2001 and 2011.

Source: Municipal corporation budgets; author's calculation.

**Table A3: Per Capita Property Tax (Inflation Adjusted) in Rs**

(Corresponds to Figure 3)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	1227.0	1247.3	1064.9
Hyderabad	NA	2794.5	2568.3
Chennai	878.7	1108.7	1767.1
Kolkata	1846.3	1404.3	1422.4
Pune	1392.2	2132.6	2589.0
Bhopal	132.1	161.3	332.6
Patna	141.0	196.3	249.4
Coimbatore	994.2	958.3	1042.8
Raipur	238.4	345.6	312.2
Kanpur	255.9	307.2	357.6
Lucknow	288.6	410.4	531.1
Thiruvananthapuram	337.8	430.4	909.7
Kochi	883.0	1057.5	1314.0
Dhanbad	25.8	49.1	76.0
Amritsar	158.9	109.7	148.9
Gwalior	139.3	322.4	245.9
Agra	77.6	73.2	226.2
Ahmadabad	434.3	1190.5	990.8
Surat	415.0	503.8	700.0
Ghaziabad	275.2	285.1	306.4
Indore	617.5	308.0	303.6
Vadodara	815.0	1162.0	978.4
Rajkot	575.1	582.6	804.3
Vasai Virar	391.5	248.1	293.5

Note: Inflation adjustment is done based on CPI Combined procured from RBI DBIE.

Source: Municipal corporation budgets; author's calculation.

**Table A4: Property Tax as a Percentage of GSDP (per cent)**

(Corresponds to Figure 4)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	0.17062	0.14684	0.11768
Hyderabad	NA	0.20498	0.14157
Chennai	0.05350	0.05361	0.07125
Kolkata	0.15357	0.09234	0.07641
Pune	0.03464	0.04776	0.04912
Bhopal	0.00726	0.00656	0.01060
Patna	0.00923	0.01113	0.01256
Coimbatore	0.01376	0.01082	0.01009
Raipur	0.00674	0.00807	0.00683
Kanpur	0.04474	0.04659	0.04579
Lucknow	0.01868	0.02369	0.02676
Thiruvananthapuram	0.00338	0.00305	0.00510
Kochi	0.00719	0.00621	0.00623
Dhanbad	0.00082	0.00128	0.00164
Amritsar	0.00492	0.00282	0.00322
Gwalior	0.00939	0.02095	0.01601
Agra	0.00471	0.00412	0.01325
Ahmadabad	0.07416	0.15117	0.09922
Surat	0.02652	0.03074	0.04566
Ghaziabad	0.00754	0.00730	0.00684
Indore	0.01963	0.00802	0.00603
Vadodara	0.01899	0.02283	0.01814
Rajkot	0.02280	0.01773	0.01993
Vasai Virar	0.00822	0.00573	0.00694

Source: Municipal corporation budgets; author's calculation.

**Table A5: Property Tax as a Percentage of Own Source Revenue (per cent)**

(Corresponds to Figure 5)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	73.18	72.98	64.74
Hyderabad	NA	93.57	50.58
Chennai	50.00	49.06	60.07
Kolkata	63.88	59.08	63.81
Pune	16.19	34.04	40.28
Bhopal	18.38	13.11	24.24
Patna	71.18	86.33	63.90
Coimbatore	35.69	60.25	49.31
Raipur	29.75	31.82	36.48
Kanpur	69.11	70.78	84.20
Lucknow	51.82	55.63	71.16
Thiruvananthapuram	30.86	29.38	42.16
Kochi	54.48	47.80	61.13
Dhanbad	80.21	51.15	50.13
Amritsar	10.77	24.63	23.37
Gwalior	19.99	51.65	29.32
Agra	30.97	59.66	73.44
Ahmadabad	30.33	52.22	42.22
Surat	28.89	30.26	24.79
Ghaziabad	73.41	78.75	79.03
Indore	33.74	23.02	15.89
Vadodara	31.81	53.35	31.21
Rajkot	48.40	47.86	45.64
Vasai Virar	11.28	20.54	27.51

Source: Municipal corporation budgets; author's calculation.

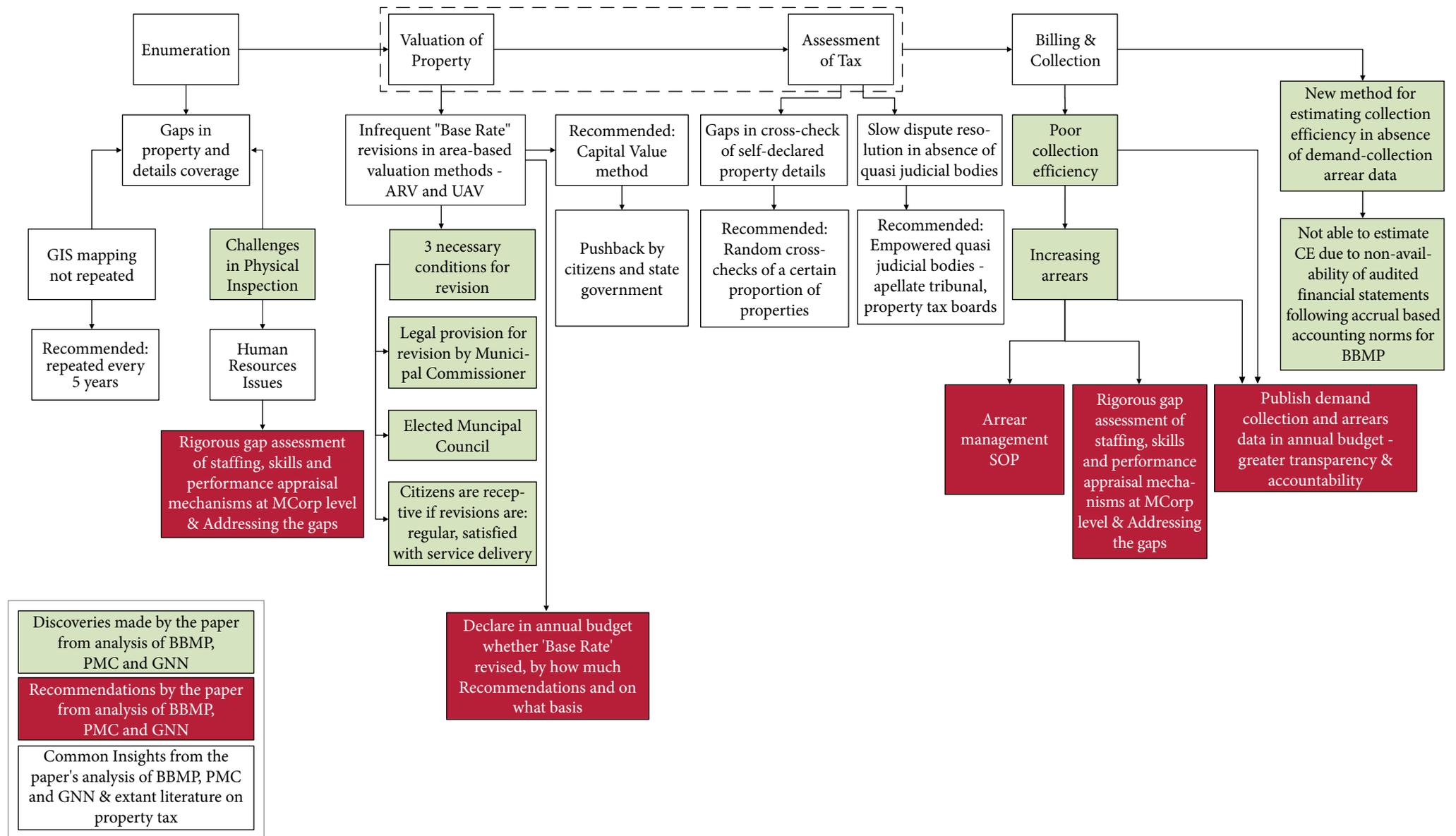
**Table A6: Property Tax as a Percentage of Municipal Revenue (per cent)**

(Corresponds to Figure 6)

Municipal Corporation	2012–2013	2017–2018	2022–2023
Bengaluru	34.62	24.55	22.40
Hyderabad	NA	50.94	32.37
Chennai	18.30	17.93	21.61
Kolkata	25.46	27.24	28.49
Pune	14.45	23.56	24.17
Bhopal	5.45	3.60	6.14
Patna	13.82	12.75	11.05
Coimbatore	17.48	18.47	25.43
Raipur	12.85	11.25	9.25
Kanpur	18.13	15.52	18.90
Lucknow	22.37	16.44	23.27
Thiruvananthapuram	11.77	9.39	13.40
Kochi	29.16	18.12	22.59
Dhanbad	6.11	4.03	14.33
Amritsar	8.44	6.28	9.79
Gwalior	5.59	10.74	8.67
Agra	6.26	7.04	13.11
Ahmadabad	8.57	19.05	15.48
Surat	9.29	13.60	18.21
Ghaziabad	23.83	16.88	20.84
Indore	13.82	7.14	6.70
Vadodara	11.68	25.77	19.49
Rajkot	27.26	25.41	17.27
Vasai Virar	10.04	9.97	15.16

Source: Municipal corporation budgets; author's calculation.

## Appendix 5: Analysis Schematic of Property Tax System and Administration



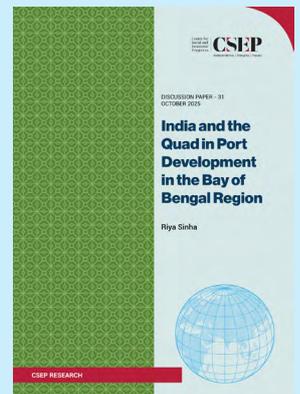
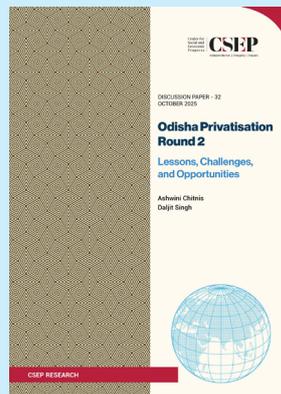
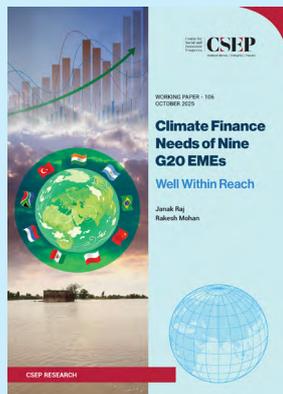
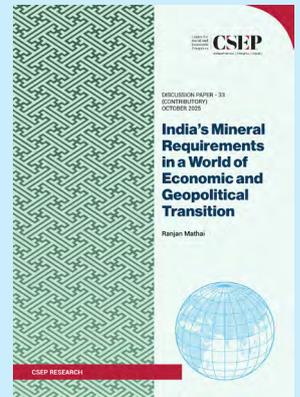
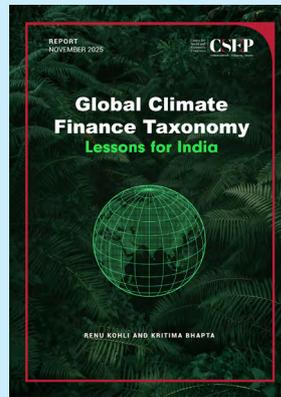
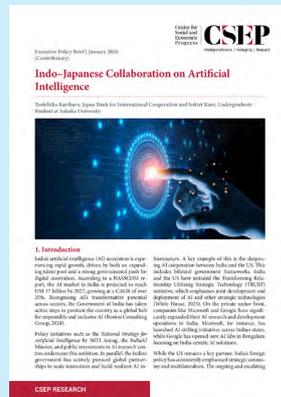
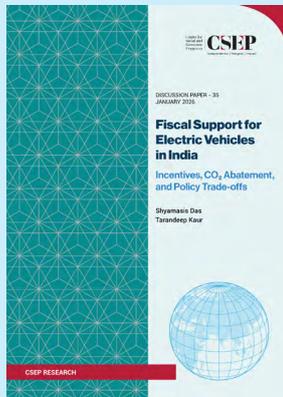
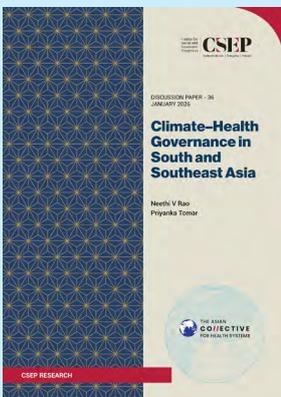
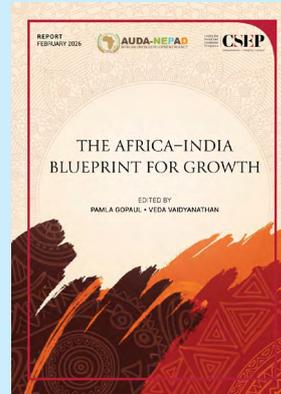
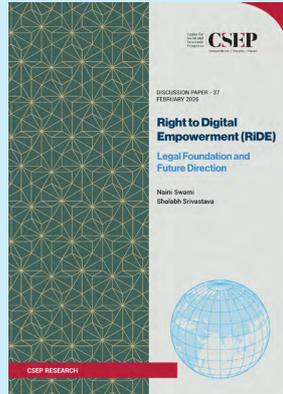
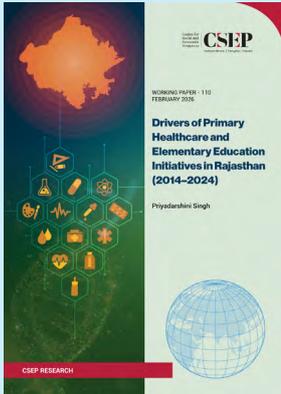
Source: Author's compilation.

## About the author



**Debarpita Roy** is Municipal Finance Expert at the NIUA and a Visiting Fellow at CSEP. Previously, she has worked as a Fellow at the Indian Council for Research in International Economic Relations (ICRIER), New Delhi. Her research interests encompass India's contemporary urban issues and myriad facets of the urban economy. Her recent research is in the areas of affordable housing and municipal finance. She actively contributes to India's urban policy discourse through engagements with the Ministry of Housing and Urban Affairs, Government of India, multilateral organisations, other think tanks and civil society organisations. Her industry experience includes working with JLL, an international property consultancy firm in their Consulting and Research division building up a Pan Indian real estate database. She is a PhD in Economics from Centre for Economic Studies and Planning, Jawaharlal Nehru University and a MA in Economics from Delhi School of Economics.

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