

**MUNICIPAL FINANCES AND SERVICE DELIVERY IN
MIZORAM**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

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2026 MUNICIPAL FINANCES AND
SERVICE DELIVERY IN MIZORAM**

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Philosophy in Economics of Mizoram University, Aizawl.

I

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CERTIFICATE

This is to certify that the thesis entitled “**Municipal Finances and Service Delivery in Mizoram**” submitted by Shri Lalthlamuana Ralte for the award of Doctor of Philosophy in Economics is carried out under my guidance and the thesis incorporates the student’s bonafide research and these have not been submitted for award of any degree in this or any other University or Institute of learning.

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DECLARATION

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February 2026

I, Lalthlamuana Ralte, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

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(LALTHLAMUANA RALTE)

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADC	Autonomous District Council
AKMWP	Association of Kohima Municipal Ward Panchayats
AMC	Aizawl Municipal Corporation
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
ANOVA	Analysis of Variance
ARV	Annual Rental Value
AWUMT	All Ward Union Mokokchung Town
BE	Budget Estimates
BCE	Before Common Era
CAGR	Compounded Annual Growth Rate
CE	Common Era
CFC	Central Finance Commission
CPCB	Central Pollution Control Board
CSS	Centrally Sponsored Schemes
CSO	Central Statistical Organization
CVS	Capital Value System
CWAS	Centre for Water and Sanitation
CWDF	Councillor Ward Development Fund
C&D	Construction and Demolition
DAY-NULM	Deendayal Antyodaya Yojana-National Urban Livelihoods Mission
DUCCF	Dimapur Urban Council Chairmen Federation
EPR	Extended Producer Responsibility
FC	Finance Commission
FC-XIII	Thirteenth Finance Commission
FC-XIV	Fourteenth Finance Commission
FC-XV	Fifteenth Finance Commission
FYPs	Five-Year Plans
GDP	Gross Domestic Product
GIS	Geographic Information System
GPS	Global Positioning System
GVMC	Greater Visakhapatnam Municipal Corporation

GST	Goods and Services Tax
ICT	Information and Communication Technology
IMF	International Monetary Fund
IPCA	Indian Pollution Control Association
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
LMC	Lunglei Municipal Council
MoEFCC	Ministry of Environment, Forest and Climate Change
MC	Municipal Councils or Municipal Corporations
MFC	Mizoram Finance Commission
MFC-I	First Mizoram Finance Commission
MFC-II	Second Mizoram Finance Commission
MLR	Multinomial Logistic Regression
MoHUA	Ministry of Housing and Urban Affairs
MoUD	Ministry of Urban Development
MTPD	Metric Tonnes per day
NERCCDIP	North Eastern Region Capital Cities Development Investment Programme
NITI Aayog	National Institution for Transforming India
OECD	Organisation for Economic Co-operation and Development,
OSR	Own-Source Revenue
PPP	Public–Private Partnerships
RAR	Revenue Autonomy Ratio
RBI	Reserve Bank of India
SDGs	Sustainable Development Goals
SERVPERF	Service Performance Model
SFC	State Finance Commissions
SIPMIU	State Investment Programme Management and Implementation Unit
SLB	Service Level Benchmarking
SLIP	Service Level Improvement Plans
SPCB	State Pollution Control Board
SWM	Solid Waste Management
SWMC	Solid Waste Management Centre
SUP	Single Use Plastic

TRR	Total Revenue Receipts
UA	Urban Agglomeration
UAM	Unit Area Method
UAV	Unit Area Value
UD&PA	Urban Development and Poverty Alleviation Department
ULB	Urban Local Body
ULG	Urban Local Government
UN	United Nations
UPIC	Unique Property Identification Codes
URDPFI	Urban and Regional Development Plans Formulation and Implementation
VC	Village Councils
WHO	World Health Organization

CHAPTER - I

INTRODUCTION

1.1 INTRODUCTION

This chapter presents a detailed overview of the evolution and development of municipalities globally and in India, tracing their historical development and

governance since independence. It examines the classification of urban settlements, functions of municipal institutions, and major sources of municipal finance. Additionally, it discusses municipal service delivery frameworks, the governance structure of the Aizawl Municipal Corporation (AMC), and its functional roles in Mizoram. The chapter also outlines the study's significance, theoretical foundation, conceptual framework, geographical scope, objectives, and research methodology in detail

Aristotle's well-known statement, "Man is by nature a social animal," reflects the idea that human beings are inherently inclined to live in a polis, or community, rather than in isolation. Around 6,000 years ago, history records that early agricultural societies began to form along the riverbanks of the Tigris and Euphrates. These early settlements, which originated from basic communal living, gradually evolved into the first cities in human history. Over time, these emerging cities evolved into self-governing urban centres, or municipalities.

The origins of municipal governance trace back to ancient river valley civilizations, where towns and cities first began to develop. The word municipality typically refers to an urban area that operates under its own local government, with legal status and the authority to govern itself. As defined by the Merriam-Webster Dictionary, it represents a self-governing urban political entity with corporate standing. The Oxford Advanced Learner's Dictionary explains that the term originates from the French word *municipalité*, which in turn comes from the Latin *municipalis*. This is derived from *municipium*, a Roman term referring to a chartered city or a self-administered city-state governed under a social contract.

1.2 THE EVOLUTION AND DEVELOPMENT OF MUNICIPALITIES

The system of municipalities - self-governing urban communities - dates back centuries ago and has adapted to social, political, and economic changes. The first cities in history date back to around 6000 BCE and 5000 BCE, and were mostly based on Neolithic agrarian societies. Later, with the evolution of mechanical tools and machines, such as the wheel-cart, and the system of farming in river valleys, surplus

food crops and excess manufactured goods were produced. As a result, the urban culture and ideology started around 3000 BCE. After this, the ancient urban process stopped for almost 2000 years. (Chen et al., 2007).

The birthplace of civilization, Mesopotamia, was home to large cities such as Ur, Nineveh, and Babylon, which were governed by kings and religious leaders. (Thomas, A. R. 2010). Cities in Egypt, like Thebes and Memphis, were governed by officials appointed by Pharaohs with limited self-rule. (Snape, S. R. 2014). In ancient Greece, the birthplace of modern democracy, we see a type of self-governing city, known as 'Poleis' (or Polis). Cities, such as Sparta and Athens, had democratic and oligarchic models with powerful councils and citizen assemblies. They have political independence, autonomy, and a source of local government. (Noori, M. Q. 2022). In the Roman Empire, municipia (self-governing towns) were established in different places with varying levels of autonomy, influencing later European municipal structures. (Reid, J. S. 1913).

The development of civilization led to the rise of various empires, as urban populations grew in different countries. Cities emerged in Europe, the Middle East, and southern India as early as the second millennium B.C.E., if not earlier (Pounds, 2005). The origins of municipalities in Europe can be traced back to the Roman Empire, where organized urban centres first emerged. Following the empire's collapse, the development of urban settlements continued, gradually evolving into structured local governance systems.

From the 11th century onwards, towns and cities in Europe experienced a significant revival, especially in regions like Italy, France, and the Low Countries. These urban areas began receiving charters from monarchs and feudal lords, allowing them a degree of self-governance. Merchant guilds grew in influence during this time and played a central role in managing local councils and overseeing civic matters. (Nicholas, D. 1997). In the period spanning the Renaissance to the early modern era (15th to 18th centuries), the rise of strong monarchies led to increased royal oversight of urban affairs, curtailing some of the autonomy that towns had previously enjoyed. Nonetheless, this time also marked the early stages of organized municipal governance,

with a shift toward more formal, bureaucratic, and professional management of city services-a development that would later shape modern municipal institutions. (Epstein, S. R. 2000)

During the Enlightenment and the period of the French Revolution (18th– 19th centuries), local governance underwent significant reorganization in France. The introduction of uniform administrative units emphasized principles of equality, secularism, and centralized state control. This model had a profound influence on municipal development throughout continental Europe (Sewell, W. H. 1980).

The 19th century is often regarded as the era of the ‘rise of modern municipalities’. Rapid urbanization driven by industrialization led to a dramatic increase in urban populations, which in turn demanded more effective municipal governance and greater fiscal independence. In Britain, the enactment of the Municipal Corporations Act of 1835 marked a major milestone, establishing a structured and accountable system of urban governance. Similar reforms were carried out in Germany, Italy, and other European countries during this time.

By the 20th century, municipalities began to assume a central role in both national development and economic policy. Their autonomy expanded significantly, allowing them to take the lead in areas such as urban planning, infrastructure development, revenue generation, and public welfare. These developments marked a significant transformation in urban governance across Europe.

The development of municipal governance in Asia spans a vast and diverse geographical area, shaped by a variety of civilizations, empires, and later, colonial influences. This diversity has resulted in a wide range of local governance practices. In South Asia, the Indus Valley Civilization (circa 2500 BCE to 1500 BCE) featured advanced urban centres such as Harappa and Mohenjo-Daro, known for their organized layouts, drainage systems, water supply, and sanitation infrastructure. (Possehl, 2002). However, the specific form of municipal governance in these cities remains uncertain. In contrast, ancient Chinese civilization operated under a centralized imperial system. Municipal administration was not independently structured; instead, local governance

was tightly controlled by the emperor through a hierarchical bureaucracy. (Fairbank, J. K., & Goldman, M, 2006).

In Islamic countries and throughout the Middle East, as early as the 5th century BCE, major cities such as Baghdad and Damascus had already appeared. Under the Islamic Caliphates, the administration of these cities was entrusted to officials like Muhtasibs (market inspectors) and Qadis (judges), who were responsible for managing urban affairs. (Lapidus, I. M, 2014). The Ottoman Empire, which existed from the late 13th century to the early 20th century, ruled over regions including Southeast Europe, West Asia, and North Africa. In major cities of West Asia and the Middle East, such as Istanbul, Cairo, and Jerusalem, a formal municipal governance structure known as Belediye was introduced to manage urban administration (Shaw & Shaw, 1977).

During the period of global modernization, municipalities also emerged in Japan and China. In Japan, during the Meiji Era (1868 CE–1912 CE), the country underwent significant modernization, and beginning in 1888, municipal system reforms were introduced. Local governments were established in major cities such as Tokyo, Osaka, and Kyoto, adopting governance models inspired by Western structures (Gluck, 1985; Large, 1998).

In China, urbanization and urban governance reforms took place during the 19th and 20th centuries, particularly during the Late Qing and Republican eras. Notably, the Self-Strengthening Movement of the 1860s brought about various urban reforms, including the establishment of municipal councils (Feuerwerker, 1976). After the founding of the Republic of China in 1912, municipal governance expanded, and Western-style administrative systems were introduced in cities like Shanghai (Lu, 1999; Strand, 1989).

In Southeast Asia as well, during the period of the Khmer Empire (9th to 15th centuries), cities such as Angkor were developed under the rule of kings and a centralized authority, with evidence of structured urban planning. Similarly, Ayutthaya (Thailand, 14th to 18th century) and other cities, developed under centralized monarchical governance, with city planning-including moats, canals, and zoning-

directly managed by the crown and its appointed officials. (Miksic, J. N., & Goh, G. Y, 2017).

During the Colonial Period (1700 CE – 1945 CE), the transformation and development of municipalities across Asia were heavily influenced by colonial powers such as the British, French, Dutch, and Portuguese. These powers introduced European-style municipal systems in their respective colonies. For example, Hong Kong, under British rule from 1842 to 1997, saw the establishment of the Sanitary Board in 1883, which later evolved into the Urban Council in 1935, responsible for local municipal governance (Ngo, 1999). In the Philippines, the Spanish colonial administration (1565–1898) introduced the *Cabildo* system, a form of city council, which was later replaced by American-style municipal governance following U.S. colonization in 1901 (Doeppers, 1984). Similarly, under French colonial rule in French Indochina—which included modern-day Vietnam, Laos, and Cambodia—cities such as Hanoi and Saigon were governed by French-run municipal councils (Wright, 1991).

After the end of the Second World War, many newly independent nations emerged across Asia, bringing about significant transformations in municipal governance. These countries began adopting modern systems of urban administration, often modeled after Western structures. Cities increasingly operated their own local governments to manage civic affairs. In India, a British-style municipal system was inherited. Over time, numerous cities developed independent local governments. A major milestone in India was the enactment of the 74th Constitutional Amendment Act of 1992, which constitutionally empowered Urban Local Bodies (ULBs). This amendment granted ULBs greater autonomy, mandated regular elections, and provided authority over local revenue and financial management (Government of India, 1992).

In China, with the establishment of the People's Republic in 1949, municipal governance became highly centralized under the communist regime. However, since the economic reforms of the 1980s, municipalities began receiving more autonomy, especially major cities such as Shanghai and Shenzhen, which were designated as Special Economic Zones to spur urban development and economic liberalization (Wu, 2002). In Japan, post-war reconstruction ushered in a strong democratic framework.

The Local Autonomy Law of 1947 provided municipalities with substantial administrative and fiscal independence, laying the groundwork for modern local governance (Yamamoto, 2001).

Across Southeast Asia urban transformation had been witnessed after the Second World War. In Indonesia, decentralization laws enacted in 1999 significantly empowered municipal governments. In the Philippines, the Local Government Code of 1991 enhanced the powers of cities and municipalities by decentralizing authority, enabling them to manage their own budgets and development plans (Brillantes & Cuachon, 2002). In Thailand, local government reforms began in the 1990s, leading to increased autonomy and empowerment of municipal institutions.

From the mid-20th century onwards, rapid urbanization across Asia increased the demand for improved municipal governance. Cities were required to expand infrastructure, generate more revenue, improve housing and settlements, strengthen disaster preparedness, and enhance public service delivery. In response, municipal reforms and urban planning initiatives were launched throughout the region to build resilient and well-managed urban centers (Roberts & Kanaley, 2006).

1.3 MUNICIPAL DEVELOPMENT HISTORY IN INDIA

India possesses a good legacy of municipal governance that dates back to ancient times. The history of municipal administration in India reveals a dynamic evolution, marked by different phases across various historical periods. In early urban settlements, many cities functioned as self-governing entities. Due to the proximity of royal residences or palaces, these urban centres often held political importance. Other major cities and towns also developed as centres of commerce and religious activity, and they exhibited organized forms of urban governance.

One of the most remarkable examples of early municipal administration can be traced to the Indus Valley Civilization (circa 2500 BCE – 1500 BCE). The prominent urban centres of Harappa and Mohenjo-Daro are among the earliest known examples of planned cities in world history. Archaeological findings demonstrate that these cities had well-laid-out street grids, sophisticated drainage systems, public baths, and water

reservoirs, all indicating a high degree of urban planning and an organized administrative structure (Possehl, 2002; Kenoyer, 1998). Such evidence suggests the presence of a systematic form of urban governance that managed public utilities and civic infrastructure efficiently.

During the medieval period (8th–18th century), India witnessed the emergence and expansion of powerful kingdoms and empires, most notably the Delhi Sultanate and the Mughal Empire. This era saw the continued growth of urban settlements, with cities flourishing as important centers of commerce and culture. Though modern, systematic municipal administration was absent, urban areas were managed through hierarchical administrative systems under royal authority.

City governance during this time was largely overseen by officials appointed by the rulers. Among these were Kotwals, who played key roles in maintaining law and order, overseeing tax collection, and supervising market activities (Raychaudhuri & Habib, 1982). In addition to royal officials, local merchant guilds and trading communities also participated in managing aspects of civic and economic life, especially in urban commercial hubs. These communities contributed to local governance by influencing market regulation and public affairs. While municipal autonomy as understood today did not exist, the urban administration of the medieval period laid foundational elements for later developments in city governance.

India's experience with modern municipal institutions dates back to the colonial period. As noted by Rao (1986), the British began introducing forms of urban governance even before they had fully established political control across the subcontinent. The evolution of municipal structures accelerated following the transfer of authority from the East India Company to the British Crown after the 1857 revolt. This transition marked a key phase in the development and expansion of municipal corporations throughout India, as emphasized by the World Bank (2011b), which links the proliferation of such administrative frameworks directly to this political shift.

During the Colonial period (18th century–1947), India underwent significant transformation and restructuring of its municipal governance system. Both the East

India Company and later the British Crown introduced Western-style municipal administration in major urban centres. These cities became not only commercial hubs but also colonial administrative centres. The earliest form of formal municipal governance began under British rule in the late 17th and early 18th centuries, with the establishment of municipal boards in Madras (1688), and later in Bombay and Calcutta. These municipalities were primarily managed and controlled by colonial officials, and their structures were designed to serve European settlements (Chandhoke, 1990).

A more systematic development in urban administration began with the Municipal Act of 1850, which allowed provincial governments to establish municipal bodies in towns and cities. With the expansion of urban settlements, the demand for urban infrastructure and civic services grew, necessitating further reforms. The Lord Ripon Resolution of 1882 marked a critical milestone in the history of municipal governance in India. It advocated for greater decentralization and the promotion of local self-government, including the inclusion of elected representatives in municipal bodies (Bhattacharya, 1972).

Despite these reforms, municipal governance under British rule remained heavily centralized, with limited financial autonomy granted to urban local bodies. Colonial officials retained significant control over decision-making processes. Nevertheless, this period laid the institutional foundations for modern urban governance in India, initiating long-term changes that would later shape independent India's municipal development.

1.4 POST-INDEPENDENCE MUNICIPAL GOVERNANCE IN INDIA

As mentioned earlier, after gaining independence in 1947, India continued with the municipal governance system inherited from the British, which was marked by limited autonomy and top-down administrative control. This colonial legacy persisted in municipal governance for several decades. During the initial postindependence years, municipal bodies continued to function; however, they faced severe financial

constraints, possessed limited fiscal powers, and were dominated by the bureaucracy, with weak political accountability (Mathew, 1994).

These challenges were further exacerbated by rapid urbanization and a sharp increase in urban populations, leading to rising demands for housing, infrastructure, and essential services in cities. Consequently, there emerged a pressing need to reform and modernize municipal governance structures to make them more responsive and effective. In the early Five-Year Plans, however, the focus remained largely on rural and agrarian development, and urban issues were not prioritized. By the 1980s and early 1990s, the situation became more critical as urban areas faced severe service delivery deficiencies, unplanned growth, and deteriorating infrastructure. The limitations of existing municipal governance structures became increasingly apparent, necessitating strong demands for urban reforms.

A significant turning point in India's urban governance came with the enactment of the 74th Constitutional Amendment Act in 1992. This amendment granted constitutional status to urban local bodies (ULBs), thereby strengthening the institutional framework of municipal governance. Until 1992, India operated under a two-tier system consisting of the central and state governments. The formal inclusion of a third level (tier) -local bodies- occurred following the enactment of the 73rd and 74th Constitutional Amendments in 1992. Specifically, the 74th Amendment introduced provisions for Urban Local Bodies (ULBs), marking a significant step toward decentralized urban governance. It categorized municipalities into three distinct types based on the size and nature of the urban area (Government of India, 1992). The structure and functioning of these ULBs vary considerably, with significant disparities in their financial capacity and sources of revenue:

- a) Nagar Panchayats, for regions undergoing transition from rural to urban characteristics;
- b) Municipal Councils, for small to medium-sized urban areas; and
- c) Municipal Corporations, for large urban centres.

Small towns are often categorized as "transitional towns," a term referenced in the 74th Constitutional Amendment Act (CAA), which calls for the establishment of Nagar Panchayats in areas shifting from rural to urban characteristics. These towns represent emerging urban forms that bridge the rural–urban continuum. In India's rapidly expanding urban regions, especially in Metropolitan Cities II such as Chennai, Bengaluru, Hyderabad, and Ahmedabad, urban growth is accompanied by the development of peri-urban and rural fringe areas, forming increasingly interconnected agglomerations. On a much larger scale, the phenomenon of conurbation—where multiple urban centers merge into a single continuous urban region—is becoming evident, particularly in areas where populations exceed 50 million and involve several major cities and metropolitan zones.

1.4.1 Classification of Urban Settlements in India

Urban settlements in India are categorized based on legal, demographic, and functional parameters. These classifications are crucial for effective governance, planning, and the allocation of public resources and services.

1) Administrative Classification (as per 74th Constitutional Amendment)

The 74th Constitutional Amendment Act (1992) introduced a three-tier system for ULBs, which varies depending on the size and nature of the urban area:

- (a) Municipal Corporations (Mahanagar Palikas): Established in cities with populations exceeding one million, typically large metropolitan areas.
- (b) Municipalities (Nagar Palikas): Serve medium-sized urban areas with populations between 100,000 and one million.
- (c) Nagar Panchayats: Set up for transitional zones—those shifting from rural to urban character, generally with populations between 20,000 and 100,000 (Government of India, 1992).

2) Census Classification

According to the Census of India (2011), urban areas are classified into two primary categories:

- (a) Statutory Towns: Areas that possess local governing bodies like municipalities, municipal corporations, cantonment boards, or notified area committees.
- (b) Census Towns: These are identified based on three criteria:
 - (i) A minimum population of 5,000.
 - (ii) At least 75% of the male working population engaged in non- agricultural activities.
 - (iii) A population density of at least 400 persons per square kilometer (Census of India, 2011).

3) Functional Classification

Urban settlements may also be grouped by their predominant functions

(Kundu, 2011):

- (a) Administrative towns: Centers of governance (e.g., New Delhi).
- (b) Commercial towns: Focused on trade and business activities (e.g., Surat).
- (c) Industrial towns: Driven by manufacturing and industrial activities
(e. g., Jamshedpur).
- (d) Transport towns: Strategically located for logistics and transport
(e. g., Vishakhapatnam).
- (e) Tourist towns: Known for religious or historical tourism (e.g., Varanasi)

4) Population-Based Classification (Census Classification)

Based on population size, towns are categorized into six classes:

<u>Class</u>	<u>Population Range</u>
Class I	100,000 and above
Class II	50,000 – 99,999
Class III	20,000 – 49,999
Class IV	10,000 – 19,999
Class V	5,000 – 9,999
Class VI	Less than 5,000

This classification helps in urban infrastructure planning and resource allocation (Census of India, 2011).

5) Special Urban Classifications

Some additional terms used in Indian urban planning include:

- (a) Urban Agglomeration (UA): A continuous urban spread consisting of a core town and its adjoining urban outgrowths or neighboring towns.
- (b) Metropolitan Cities: Cities with a population exceeding one million.
- (c) Megacities: Cities with over ten million residents, such as Mumbai, Delhi, and Kolkata. (MoHUA, 2015).

Planned urbanization helps create value, sustainable growth, productivity, and contributes to economies of scale to create prosperity for all urban dwellers. (UN Habitat, 2017). India's urban landscape is highly heterogeneous, ranging from small towns to mega cities, each with distinct characteristics, needs, and development challenges. Therefore, a uniform approach cannot be applied across all urban settlements. The Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines – 2015, issued by the Ministry of Housing and Urban Affairs (MoHUA), have their own as in the following Table 1.1. (Ministry of Housing and Urban Affairs, 2015).

Table 1.1: Classification of Urban Settlements

Sl.No.	Classification	Sub-category	Population Range	Governing Local Authority	Number of Cities as per Census of India, 2011
1	Small Town*	Small Town I	5,000 - 20,000	Nagar Panchayat	7467
		Small Town II	20,000 - 50,000	Nagar Panchayat/ Municipal Council	
2	Medium Town	Small Town I	50,000 to 1,00,000	Municipal Council	372
		Small Town II	1 lakh to 5 lakh	Municipal Council	
3	Large City	--	5 lakh to 10 lakh	Municipal Corporation	43
4	Metropolitan City	Metropolitan City I	10 lakh to 50 lakh	Municipal Corporation/ Metropolitan Planning Committee	45
		Metropolitan City II	50 lakh to 1 Crore	-Same-	5
5	Megapolis	--	More than 1 Crore	-Same-	3

Source: Modifications for the UDPFI Guidelines based on census 2011 classification and State experiences.

**Any urban centres even having less than 5,000 population may be given a statutory status and be called as a Statutory Town and Census of India follows 6-fold classification as per the population size*

1.4.2 Functions of Municipal Government

According to the 2011 Census of India, a total of 4,041 towns were administered by urban local bodies (Government of India, 2013). Over the past three decades, India has experienced rapid urbanization, marked by a significant increase in the number of cities and the urban population (United Nations, 2018). This growing urban population has led to an increasing demand for infrastructure, housing, and essential services, thereby underscoring the critical need for efficient and accountable municipal governance (World Bank, 2011). Thus, the 74th Constitutional Amendment Act, 1992 aimed to provide greater autonomy, enhance democratic participation, and

improve the functional and financial capacity of urban local bodies. This was one of the most significant developments in India's municipal history after independence.

The key features of the 74th Amendment Act, 1992 included:

- (a) Constitutional recognition of three categories of ULBs: Municipal Corporations, Municipal Councils, and Nagar Panchayats based on the size and nature of the urban area.
- (b) Mandatory elections to municipal bodies every five years.
- (c) Reservation of seats for Scheduled Castes, Scheduled Tribes, and women.
- (d) Establishment of Ward Committees in areas with a population above a certain threshold.
- (e) Devolution of powers and responsibilities, listed in the Twelfth Schedule, including functions like urban planning, public health, sanitation, and water supply.
- (f) Creation of State Finance Commissions (SFCs) to recommend financial devolution to ULBs.

A key feature of the 74th Constitutional Amendment Act was the inclusion of the 12th Schedule in the Indian Constitution under Article 243-W. The 12th Schedule outlines 18 functional areas that may be entrusted to municipalities by state governments through legislation. By assigning these responsibilities to local governments, the 74th Amendment sought to make urban governance more responsive, efficient, and accountable to citizens. The following Table 1.2 shows the 18 functional areas provided in the 12th Schedule in the Constitution:

Table 1.2: Functions Listed in the 12th Schedule of the Constitution

Sl. No	Functions	Activities
1	Urban planning including town planning	• Master Planning/Development Plans/Zonal Plans.
		• Enforcing master planning regulations.

		• Enforcing building codes and licences
2	Regulation of land-use and construction of buildings	• Regulating land use • Approving building plans/high rises • Demolishing illegal buildings.
3	Planning for economic and social development	• Promotion of economic activities • Ensuring social justice and social welfare.
4	Roads and bridges	• Construction and maintenance of roads • Construction and maintenance of bridges and flyovers
5	Water supply - domestic, industrial and commercial purposes	• Storage of water • Providing connections • Collection of charges • Operation & Maintenance (O&M)
6	Public health, sanitation, conservancy and solid waste management	• Maintaining hospitals, dispensaries, medical colleges • Immunisation • Prevention of vector-borne diseases • Quality of water, food
7	Fire services	• Establishing and maintaining fire brigades • Maintenance of water reservoirs • Providing Fire NOC/approval certificate
8	Urban forestry, protection of environment and ecology	• Afforestation • Greenification • Awareness drives • Maintenance of natural resources
9	Safeguarding the interests of weaker sections of the society	• Identifying beneficiaries • Social Pensions (old age, widow, specially-
	including the handicapped and mentally retarded	- abled) • Providing tools/benefits such as tricycles • Housing programs • Scholarships
10	Slum improvement and upgradation	• Identifying beneficiaries • Affordable Housing • Upgradation
11	Urban poverty alleviation	• Identifying beneficiaries • Livelihood and employment • Street vendors
12	Provision of urban amenities and facilities - parks, gardens and playgrounds	• Creation of parks and gardens • Operation & Maintenance

13	Promotion of cultural, educational and aesthetic aspects	• Schools and education
		• Fairs and festivals
		• Cultural buildings/institutions
		• Heritage
		• Public space beautification
14	Burials and burial grounds, cremations, cremation grounds and electric crematoriums	• Crematoriums and burial grounds (different religions)
		• Construction and O&M
15	Cattle pounds, prevention of cruelty to animals	• Catching and keeping strays
		• Sterilisation and anti-rabies
		• Ensuring animal safety
16	Vital statistics including registration of births and deaths	• Coordinating with hospitals/crematoriums etc., for obtaining information
		• Maintaining and updating the database
17	Public amenities including street lighting, parking lots, bus stops and public conveniences	• Installation and maintenance of streetlights
		• Creation and maintenance of public toilets
		• Creation and maintenance of parking lots
		• Deciding and operating bus routes
18	Regulation of slaughterhouses and tanneries	• Ensuring the quality of animals and meat
		• Disposal of waste

Compiled from the Constitution of India

The amendment significantly empowered local governments to play a more active role in urban development and governance. While the 74th Amendment laid the groundwork for stronger urban self-government, implementation has been uneven across states. Issues such as inadequate devolution of powers, poor financial health of ULBs, and dependence on state governments persist (Ahluwalia, 2011).

India's urban population currently exceeds 400 million and is projected to surpass 800 million by the year 2050 (United Nations, 2018). With more than 70% of the country's Gross Domestic Product (GDP) and a significant share of new employment opportunities expected to originate from urban areas by 2030 (McKinsey Global Institute, 2010), cities are poised to play a transformative role in India's development trajectory (Mohanty, 2016).

Urban centres will thus become pivotal from three interlinked dimensions:

- (a) Economic engines – Cities will drive industrial growth, innovation, and job creation.
- (b) Social inclusion – Urban areas offer access to better services, education, and healthcare, but they must also address inequality and ensure inclusive development.
- (c) Environmental sustainability – With increasing resource consumption and waste generation, sustainable urban planning is essential to mitigate the environmental impact of rapid urbanization (Kundu, 2014).

Recognizing the importance of these perspectives, strengthening municipal governance and infrastructure is critical to achieving national economic growth and social equity, while also fulfilling international commitments such as the Sustainable Development Goals (SDGs). (UN-Habitat, 2020).

1.5 MUNICIPAL FINANCE IN INDIA

In recent times, one of the most significant challenges faced by municipalities in India is the lack of sufficient financial resources. Municipalities often fail to generate enough revenue to meet their growing expenditure needs, and the transfers they receive from state and central governments are frequently inadequate. Consequently, resource mobilization has become a serious concern for urban local bodies. With the rapid pace of urbanization, urban populations are steadily increasing, which, in turn, raises the demand for urban development, infrastructure expansion, and essential services such as safety and security, education, sanitation, and waste management. The growing financial requirements have intensified the importance of strengthening municipal finance. (Mathur, 2013).

Municipal finance refers to the management of financial resources by urban local bodies, focusing on the processes of revenue generation and expenditure. It encompasses various sources of income such as tax revenues (e.g., property tax, advertisement tax), non-tax revenues (e.g., service charges, rent from municipal properties), user fees, penalties, and intergovernmental fiscal transfers from state and

central governments. These financial resources are essential for developing and maintaining urban infrastructure and for meeting the administrative and service delivery responsibilities of municipalities. ULBs are responsible for managing these systems-determining how funds are raised and how they are allocated. In India, municipal finance has traditionally been heavily influenced by both the central and state governments. (Rao & Bird, 2010) Today, urban local governments bear increasing responsibilities in managing financial and operational functions. Effective municipal finance not only ensures the adequate provision of public goods and services but also plays a critical role in local economic development and urban governance. It includes mechanisms for budgeting, expenditure planning, and fiscal discipline, as well as the establishment of accountability frameworks to oversee how resources are allocated and utilized. The municipal budgeting process, financial reporting, and internal and external audits form an integral part of municipal financial management, ensuring transparency and efficient use of public funds.

As mentioned in the previous section, the roots of municipal finance in India were established during British colonial rule. Municipal boards were created in key cities such as Madras, Bombay, and Calcutta. The Municipal Act of 1850 permitted the creation of local self-governments, although these institutions operated under strict colonial oversight. The powers of municipalities during that era were limited, especially in areas like taxation and infrastructure development, where decisions were controlled by the colonial administration (World Bank, 2011).

After India gained independence in 1947, the municipal finance structure continued under a constitutional framework governed largely by state governments.

A major transformation occurred in 1992 with the enactment of the 74th Constitutional Amendment. This amendment empowered municipalities not only by granting them constitutional status and also recognizing them as institutions of selfgovernment. Consequently, they were entrusted with wider responsibilities, including the authority to generate their own revenues through local taxes, property taxes, and non-tax sources (Government of India, 1992). Therefore, municipal governments began to strengthen their local revenue systems through these means.

The importance of municipal finance arises significantly from the rapid pace of urbanization globally, which demands the provision of quality and responsive public services. These services include various sectors such as water supply, sanitation and waste management, healthcare, education, street lighting, fire services, and others, all of which require effective municipal governance and urban management. Municipal finance is crucial because it enables the preparation of budgets and appropriate allocation of funds necessary for delivering these services. Moreover, municipal development in India plays a vital role not only in improving urban living standards but also in contributing to overall national development (World Bank, 2014).

Municipal finance encompasses the domains of revenue generation, expenditure, and financing arrangements. Compared to advanced economies, municipal councils and corporations (MCs) in India generate relatively lower revenues and spend a smaller proportion of the GDP on urban services. This underperformance reflects the need for systemic reforms in the structure of municipal finances, particularly in the way tax and non-tax revenues are mobilized. Among MCs, those that rely more on own-source revenues tend to enjoy greater financial autonomy, stronger institutional development, and better financial stability. Conversely, those dependent largely on intergovernmental transfers and grants often experience weaker financial foundations and limited effectiveness in service delivery. Therefore, ensuring a stable and buoyant base of own-source revenue is essential for the financial sustainability of urban local bodies in India.

1.5.1 Municipal Finance and Central Finance Commissions

In the area of municipal finance, various Finance Commissions in India have introduced significant recommendations and reforms over time. Their reports and suggestions have progressively shaped the municipal financial framework. A review of the last three Finance Commissions shows the evolving attention towards ULBs. The Thirteenth Finance Commission (FC-XIII) notably recognized urban centers as crucial engines of India's economic growth. In acknowledgment of this, the Commission emphasized the need to strengthen ULBs by enhancing their capacity to

deliver quality municipal public services. Compared to previous Finance Commissions, the allocation of funds for local bodies saw a considerable increase during this period. The FC-XIII recommended a total grant of ₹87,519 crore for the period 2010–2015, out of which ₹23,111 crore was specifically earmarked for Urban Local Bodies (Finance Commission of India, 2009).

One of the most prominent achievements of the FC-XIII in the context of municipal finance was its strong emphasis on property tax reforms. It encouraged state governments to undertake various measures to improve property tax collection. These included computerization of property records, GIS-based property mapping, and the adoption of Unique Property Identification Codes (UPIC). These reforms were intended to broaden the municipal tax base and increase local revenue generation. Moreover, the Finance Commission made a notable shift by linking financial assistance to performance-based criteria, thereby promoting institutional reforms, better service delivery, and enhanced fiscal autonomy for Urban Local Bodies. The 13th Finance Commission thus contributed significantly to strengthening the financial foundation and operational capacity of ULBs in India.

The Fourteenth Finance Commission (FC-XIV), covering the period 2015 to 2020, introduced significant recommendations for strengthening municipal finance and enhancing the fiscal capacity of ULBs in India. One of its most notable recommendations was the substantial increase in the share of divisible tax revenue allocated to local bodies. The Commission recommended a total grant of ₹ 2,87,436 crore for all local bodies, out of which ₹ 87,143 crore was specifically earmarked for ULBs, representing a major increase compared to the allocation by the Thirteenth Finance Commission (Finance Commission of India, 2015).

In fact, the FC-XIV placed strong emphasis on financial empowerment and accountability for municipal bodies. It introduced performance-linked grants for ULBs, encouraging institutional reforms in municipal governance, with particular focus on accounting, auditing, and own revenue mobilization. The Commission advised state governments to help municipalities adopt modern accounting standards and implement better financial reporting mechanisms. In addition, the Commission

stressed the need for property tax system reform and modernization, aiming to enhance efficiency in tax collection, promotes the use of technology, and implement GIS-based property mapping.

The overall objective of the FC-XIV was to improve municipal fiscal autonomy, build institutional capacity, and strengthen accountability frameworks. These reforms were viewed as essential steps for enabling Indian cities to address emerging urban challenges, meet growing infrastructure demands, and ensure sustainable service delivery to their citizens.

The Fifteenth Finance Commission (FC-XV), covering the period from 2021 to 2026, had a strong focus on improving the fiscal health of ULBs. One of its key recommendations was to address the growing urban infrastructure demand and to bridge service delivery gaps across all local bodies. The total grant recommended for local bodies was ₹ 4,36,361 crore, out of which ₹ 1,21,066 crore was specifically allocated to urban local bodies. This marked a substantial increase compared to earlier Finance Commissions, reflecting the Commission's recognition of the vital role of cities in promoting India's economic growth and social development (Finance Commission of India, 2020).

The FC-XV also introduced performance-based grants for ULBs for the first time. These grants aimed to encourage urban governance reforms, strengthen financial management practices, enhance own-source revenue mobilisation, and improve public service delivery mechanisms at the municipal level. The Commission emphasized the need for ULBs to adopt better accounting standards, transparent budgeting, and reliable reporting mechanisms to enhance fiscal discipline and accountability.

1.5.2 Sources of Municipal Finance in India

The funding sources of ULBs in India can be basically divided into following major categories:

- (i) Own Source Revenue (OSR), including tax and non-tax revenues. Tax revenues typically comprise property taxes, taxes on the fire brigade, taxes on vehicles,

and other similar taxes. Non-tax revenues include user fees, fines, penalties, and rent on municipal property, among others. Additionally, the municipality generates income through the sale of assets, goods, and services.

(ii) Grants received from the central and state governments by the ULBs on the recommendation of various Central Finance Commissions (CFCs) and State Finance Commissions (SFCs).

(iii) The share of central taxes allocated to Urban Local Bodies (ULBs) as determined by the recommendations of both the Central Finance Commissions and the State Finance Commissions.

(iv) Grants-in-aid from the central government (Tied or untied funds)

Municipal own revenue is broadly divided into tax and non-tax revenue. Property tax remains the most significant source of own tax revenue for ULBs. The Government of India introduced Goods & Services Tax (GST) in July 2017. (Government of India, 2017). Since then, all other taxes, with a few exceptions, have been subsumed into GST. Previously, entertainment tax and octroi were among the significant revenue sources for ULBs. However, with the implementation of the GST in 2017, these taxes were subsumed into the GST regime and are no longer directly collected by municipal authorities. Property tax is still collected by the municipal government and becomes the main contributor to the tax revenue for ULBs. Besides, property tax is not only the only substantial local tax that municipal governments retain the power to levy and collect, but it remains the most stable and predictable source of revenue at the municipal level, crucial for financing basic civic services and infrastructure development (World Bank, 2014).

In our present study, we dedicate Chapter 4 to property tax, in addition to one chapter on municipal finance (Revenue Sources and Fund Devolution). In the AMC area, property tax collection began in 2015-16, with an annual property tax rate of 3 per cent. The rate of property tax in AMC has been increased to 3.42 per cent for the fiscal year 2022-23, leading to an increase in the quantity of property tax collection.

Municipal Corporations (MCs) in India generate far less revenue and expenditure as a percentage of GDP compared to advanced economies and other emerging economies. Financially, most ULBs have underdeveloped own-source revenue, including both tax and non-tax revenues, necessitating a greater reliance on central and State governments for their funding needs through revenue transfers. Meanwhile, MCs that can depend heavily on their own revenues can enjoy greater financial autonomy and stability, and can utilize their funds for urban development projects. (Reserve Bank of India. 2024).

Table 1.3: Revenue Sources of Urban Local Bodies

Category	Source
Tax revenue	Property tax, advertisement tax, tax on animals, vacant land tax, taxes on carriages and carts, tax on consumption and sale of electricity, toll tax
Non-tax revenue	User charges, trade licensing fee, town planning charges, building permission fees, sale and hire charges, lease rentals
Revenue grants	Plan grants from state and central government under various schemes and programmes, and non-Plan grants from state government to compensate for loss of income, specific transfers
Assigned revenue	Entertainment tax, surcharge on stamp duty, professional tax, motor vehicles tax
Investments/ Interest earned	Income from investment, interest on savings, house building advance, fixed deposits.
Others	Law charges/ costs recovered, cess, lapsed deposits, fees, fines and forfeitures, rent on tools and plants, miscellaneous sales, rent on shopping complex, shops, playgrounds, marriage and community halls, stadium.

Compiled from various sources – Reports and Documents

An emerging source for municipal financing is the use of municipal bonds. These instruments have gained prominence as a means for Urban Local Bodies (ULBs) to access capital markets and fund infrastructure projects. The Bengaluru Municipal Corporation pioneered this approach in India, issuing the country's first municipal bonds in 1997 to finance water supply and sewerage improvements. Since then, several large municipal corporations have adopted municipal bonds as a strategic tool to secure long-term funding for urban infrastructure development. In March 2015, the Securities and Exchange Board of India (SEBI) introduced the "Issue and Listing of Debt Securities by Municipalities" regulations to streamline the issuance and listing of municipal bonds. This regulatory clarity enhanced investor confidence by ensuring safer transactions. According to the Reserve Bank of India (2024), outstanding

municipal bonds totaled ₹4,204 crore (0.01% of GDP) as of March 31, 2025, compared with ₹1,100 crore (0.03% of GDP) in 2005. Municipal bonds enable ULBs to secure long-term infrastructure financing from capital markets. Cities such as Bengaluru, Ahmedabad, and Pune have effectively used them, although the Aizawl Municipal Corporation has yet to issue any.

The following table 1.4 illustrates the financial performance of all municipal corporations in India over five fiscal years, from 2019–20 to 2023–24.

Table 1.4: Municipal Corporations’ Revenue Receipts and Expenditure

(All Municipal Corporations)					(₹ crore)
Item	2019-20 (Accounts)	2020-21 (Accounts)	2021-22 (Accounts)	2022-23 (RE)	2023-24 (BE)
Revenue Receipts	1,11,308	1,11,891 (0.5)	1,37,058 (22.5)	1,42,178 (3.7)	1,70,722 (20.1)
Revenue Expenditure	1,06,394	1,10,857 (4.2)	1,23,201 (11.1)	1,31,608 (6.8)	1,49,903 (13.9)
Revenue Surplus (+) / Deficit (-) (Receipts - Expenditure)	4,914	1,034	13,857	10,570	20,819

Source: Reserve Bank of India. (2024). Report on Municipal Finances Figures in the parentheses are estimated growth rates

Table 1.4 presents the revenue receipts and expenditure of municipal corporations, showing actual figures for the years 2019–20, 2020–21, and 2021–22, along with the revised estimates (RE) for 2022–23 and the budget estimates (BE) for 2023–24. Between 2019–20 and 2023–24, municipal corporations experienced consistent growth in both revenue receipts and expenditure. Revenue receipts rose from ₹1,11,308 crore to a budgeted ₹1,70,722 crore, while expenditure increased from ₹1,06,394 crore to ₹1,49,903 crore. The highest annual growth in receipts was recorded in 2021–22 at 22.5 per cent, accompanied by an 11.1 per cent rise in expenditure. Revenue surplus fluctuated during the period, reaching its lowest at ₹1,034 crore in 2020–21 and peaking at ₹20,819 crore in 2023–24. Therefore, municipal finances in India are showing robust recovery and growth after the pandemic-induced decline. Additionally, the rising surplus suggests better financial discipline and improved

revenue collection, which in turn is due to potentially greater support from both state and central governments. Overall, the data reflects improving fiscal capacity and expanding service responsibilities of municipal corporations, with significant investment potential in urban infrastructure.

1.6 MUNICIPAL SERVICE DELIVERY IN INDIA

Urban local bodies play a crucial role in delivering essential public services that directly impact the daily lives of residents in India's cities and towns. According to the UN's projections, urbanization is accelerating, with over 400 million people currently living in urban areas and the number expected to surpass 800 million by 2050 (United Nations, 2018), necessitating effective, equitable, and efficient municipal service delivery. Municipal services encompass the provision of a comprehensive range of municipal needs, including basic infrastructure and public utilities such as water supply, sanitation, waste management, street lighting, stormwater drainage, public health, education, and urban transportation. These services are crucial to maintaining public health, fostering economic growth, and improving the overall quality of urban life.

As per the 74th Constitutional Amendment Act, 1992, ULBs are responsible for providing essential services that directly affect the urban population's quality of life. These services include water supply, sanitation, solid waste management, street lighting, roads and drains, town planning, and public health, among others. As the urban populations grow rapidly, the demand for improved and equitable service delivery has increased significantly, challenging the existing infrastructure and administrative capacities of ULBs and necessitating comprehensive reforms. The Twelfth Schedule of the Indian Constitution provides 18 functional responsibilities assigned to municipalities. These functions form the legal basis for municipal service delivery and cover areas such as:

- 1) Water supply for domestic, industrial, and commercial use
- 2) Public health and sanitation

- 3) Solid waste management
- 4) Urban planning
- 5) Fire services
- 6) Slum improvement and upgradation
- 7) Urban forestry and environmental protection

These responsibilities are further supported by state governments, municipal laws and policy frameworks at both the national and state levels. Additionally, various national programs and schemes provide guidance and financial support for enhancing urban service delivery systems.

1.7 MUNICIPAL GOVERNANCE IN MIZORAM: A HISTORICAL OVERVIEW

Before the advent of British administration in Mizoram, the villages in the region were administered primarily through indigenous tribal institutions, under the rule of village chiefs. These chiefs held broad and consolidated powers, encompassing administrative, judicial, and executive roles. Village governance operated under customary norms and practices rather than formalized legal or municipal systems (Zirthankimi, 2017). The chief was supported by a council, whose members he appointed.

In addition to this formal structure, in times of need, there were auxiliary institutions such as the Val Upa Rorel (council of senior bachelors) and the Zawlbuk Titi, informal assemblies held at the zawlbuk-a communal bachelor's dormitory where discussions often took place at night. These groups played a supplementary role in local governance, providing support to the chief and his council in managing village affairs.

During the British colonial period, the chieftainship system was not abolished but its authority was curtailed under the framework of indirect rule. Chiefs continued

to function, but their power was increasingly regulated and limited by the colonial administration. The British relied on traditional tribal leadership to implement governance at the village level, while maintaining overall control through a limited administrative presence. The highest British official in the region was the Superintendent, who exercised authority over the chiefs and ensured compliance with colonial regulations (Khawlhing, 2015).

At this time, Mizoram did not have large towns or a formal municipal governance system. Aizawl was still developing and functioned more as a military post than a civilian town. The civilian population remained sparse, and the region's administration was centered around the authority of tribal chiefs under British supervision. This model of indirect rule allowed the colonial state to minimize direct interference in local social structures while maintaining a degree of administrative control through the institution of chieftainship.

After India's independence in 1947, Mizoram was a district under Assam state. In 1972, Mizoram was incorporated as a Union Territory and in 1987 it attained a full fledged statehood. Despite these notable administrative transitions, the state witnessed little progress in terms of urban governance during this period. Townlevel administration was largely carried out by the state government departments and well structured municipal administrations as envisioned by the 74th Constitutional Amendment were absent. With increasing urbanization, particularly in Aizawl, the state capital - the need for good urban governance became evident. Rapid population growth in Aizawl placed increasing pressure on infrastructure, public services, and civic amenities, highlighting the urgency for a decentralized and accountable municipal system capable of addressing complex urban challenges.

The State Government has implemented a three-tier system of urban governance structure, comprising the Municipal Body consisting elected corporators/councillors, the Ward Committee chaired by its respective corporator/councillor, and the Local Council represented by elected members from the community. In Aizawl, the Municipal Corporation includes 31 Councillors comprising 19 directly elected with 6 women elected from reserved wards, and 12 nominated

members appointed by the State Government - 11 MLAs from assembly constituencies within Aizawl and one MP from the state. The newly constituted Lunglei Municipal Council is composed of 11 elected Councillors, with 4 seats reserved for women to ensure gender representation. (Government of Mizoram, 2023).

1.8 AIZAWL MUNICIPAL COUNCIL/CORPORATION – ESTABLISHMENT AND FUNCTIONS

The Mizoram State Legislative Assembly passed the Municipalities Bill 2007 on March 29, 2007 which received the assent of the Governor on 16 April 2007, and became the “The Mizoram Municipalities Act 2007”. The Act came into force in 2008 and was enacted to incorporate the provisions of the 74th Constitutional Amendment Act, 1992. (Ralte, L., & Lalhriatpuii. 2024). Then, the Aizawl Municipal Council (AMC), the first urban local body in the State, started functioning on July 1, 2008, covering a total area of 129 sq. km. and a population of 2,93,416, as per the 2011 Census. The establishment of Aizawl Municipal Council was a landmark in the governance history of Mizoram as it marked a new chapter in urban administration.

The first general election to constitute the AMC was held in 2010 and the AMC was then officially constituted in 2010 with 19 elected Councillors and 10 nominated members. It has become the authority responsible for the civic administration of Aizawl city, encompassing 19 wards and 83 local councils. One third of the total membership of the municipal council is reserved for women; these six seats are rotated every five years. The tenure of the Corporation is 5 years. There is a Ward Committee in every ward, consisting of a Chairman, who is an elected Councillor from that ward, and two members each from all the local councils within the ward. There are 83 local councils with a term of 5 years.

In response to the growing population, urban sprawl, and increasing infrastructure needs in Aizawl, the Government of Mizoram elevated the status of the Aizawl Municipal Council to the Aizawl Municipal Corporation on October 15, 2015 and the number of Local Councils was expanded to 85. This institutional shift granted the civic

body to exercise enhanced administrative and financial authority, enabling it to operate with more efficiency and autonomy. The upgradation brought AMC on equal footing with other municipal corporations across India, empowering it to undertake larger infrastructure projects and broaden the scope of urban service delivery.

Table 1.5: Key Milestones and Structure of Aizawl Municipal Corporation

Date of Establishment	1st July, 2008
First Election	3rd November, 2010
No. of Wards	19
No of Local Councils	85
Upgraded from Council to Corporation	15th October, 2015

Source: AMC website (<https://amcmizoram.com/page/rti>)

In tandem with the 74th Constitutional Amendment Act, 1992, the Section 57 of the Mizoram Municipalities Act, 2007 provides that the State Government may assign 18 functions in progressive manner considering the managerial, technical and financial capacity of the municipality. Initially, eight subjects/functions were transferred to the Municipal Government by the State Government, they are:

- (a) Solid waste management
- (b) Slum improvement and upgradation
- (c) Urban poverty alleviation
- (d) Parks and gardens
- (e) Burials and burial grounds
- (f) Cattle pounds and animal controls
- (g) Street lighting including parking lots and public conveniences
- (h) Slaughter house and markets. (Chhuanawma, H. 2018)

The first actual transfer of power from the state government to the AMC was regarding the transfer of management of Ch.Chhunga Bus Terminal at Thuampui Veng and Ch.Saprawnga Truck Terminal at Rangvamual Veng on May 27, 2009 (Chhuanawma, H. 2011). As of now (2025), the State Government had transferred 15 functions/subjects to the AMC.

Table 1.6: Functions Transferred to Aizawl Municipal Corporation as per the 12th Schedule to the Constitution

Sl. No	Functions Transferred to Aizawl Municipal
1	Urban Planning including Town Planning
2	Regulation of land-use & construction of buildings
3	Planning for economic and social development
4	Public health, sanitation conservancy & Solid Waste Management
5	Urban forestry, protection of the environment and promotion of ecological aspects
6	Safeguarding the interest of weaker sections of society, including the handicapped and mentally retarded
7	Slum improvement and upgradation
8	Urban poverty alleviation
9	Burials and burial grounds; cremations, cremation grounds and electric crematoriums
10	Public amenities including street lighting, parking lots, bus stops and public conveniences
11	Vital statistics including registration of Births and Deaths
12	Provision of urban amenities and facilities such as parks, gardens, playgrounds
13	Promotion of cultural, educational & aesthetic
14	Cattle pounds, prevention of cruelty to animals
15	Regulation of slaughter houses & tanneries

Source: AMC website (link : <https://amcmizoram.com/page/rti>)

1.9 RESEARCH GAP

The study of municipal finance and service delivery in Mizoram, with particular reference to the AMC, is vital for advancing research on urban governance in smaller Northeastern states. AMC faces distinct challenges, including fiscal dependency on higher governments, limited revenue generation capacity, and increasing pressure to provide a wide range of urban services. Despite these realities, no comprehensive study on municipal finance and service delivery in the AMC has been undertaken so far. This absence of scholarly research creates a significant knowledge gap, limiting the understanding of AMC's financial structure, expenditure dynamics, and service mechanisms. Addressing this gap is essential for policymaking and strengthening urban governance in Mizoram.

Also, existing literature on municipal finance in India has predominantly focused on large metropolitan cities, where issues of fiscal management and governance have been well-documented. However, smaller urban local bodies such as AMC remain understudied, leaving policymakers with inadequate insights to evaluate their fiscal frameworks, revenue patterns, and efficiency in service delivery. This study seeks to address this gap by providing an empirically grounded analysis of AMC. By analyzing municipal finance and service delivery in AMC, this study contributes to policy formulation by offering evidence-based recommendations. Such research not only assists municipal authorities in designing effective strategies for resource mobilization and service improvement but also strengthens citizen participation, accountability, and transparency in local governance.

1.10 SIGNIFICANCE OF THE STUDY

ULBs play a crucial role in ensuring equitable and sustainable development, particularly in rapidly urbanizing regions. In Mizoram, the AMC has taken a significant step towards structured urban governance over the last decade. Aizawl, being the state capital and the largest urban centre in Mizoram, serves as a crucial case for studying municipal finance and service delivery. Examining its urban governance structure offers valuable insights into the performance and challenges of local government, which can inform policy development and be applied to other emerging urban areas across Northeast India.

Aizawl is situated in a hilly and geologically sensitive area, facing practical challenges in urban planning, service delivery, and building infrastructure. The city's unplanned and congested housing has made good waste management, water supply, drainage and road maintenance essential, yet logistically necessary in such a limited and narrow urban space. Our present study may be helpful in some respects for the development of this city.

During the course of this study, the Lunglei Municipal Council (LMC) was established on 13 January 2023, resulting in the presence of two urban local bodies currently functioning within the state - AMC and LMC. AMC has been the only urban local body in the state of Mizoram for a long time. It serves as a model for urban local bodies; it is important to conduct a focused study on its financial structure and service delivery performance. Therefore, this type of study may be crucial for assessing the effectiveness of decentralization reforms introduced under the 74th Constitutional Amendment Act and supported by the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines (Ministry of Housing and Urban Affairs, 2015).

Similar to many ULBs across India, the AMC has limited own-source revenue, inadequate cost recovery from service delivery, and delays in receiving funds from the government, resulting in financial constraints for the authority. These issues collectively hinder the AMC's ability to function properly and efficiently. AMC's own-source revenue (OSR) streams are mainly derived from property taxes, user charges, fees, and fines; these are very meagre compared to the funds requirements of the AMC. Own-source revenues account for less than one-third of total revenue in most years, making the Corporation heavily dependent on state and central transfers. (Ralte, L., & Lalhriatpuii, 2024). According to the Second Mizoram Finance Commission Report, the total inter-governmental transfers received by the AMC constituted 79 per cent of the total revenue in 2016-17, rising to 92 per cent in 2020-21. (Government of Mizoram, 2023). Besides, the Union Finance Commission (FC-XIV and FC-XV) have been the main contributor to AMC revenues, accounting for more than 50 per cent of

the total revenue receipt for three years, 2017-18, 2018-19 and 2021-22, when its contribution was 37.43%, 39.66%, and 43.77%, respectively.

The Second State Finance Commission of Mizoram (2023) has stressed the need to strengthen revenue mobilization through improved tax assessment, digitized property mapping, and rationalization of user charges. Understanding these dynamics allows policymakers and urban planners to design targeted interventions to improve financial sustainability. Therefore, analyzing municipal finance is essential to evaluate how the municipal government mobilizes and allocates its funds, and provides insights into the fiscal capacity of the ULB.

1.11 THEORETICAL BACKGROUND

The two components of municipal governance-municipal finance and service delivery-have direct impact on the efficiency, equity, and sustainability of urban development. The theoretical foundation of municipal finance is based on the principles of federalism, which emphasizes decentralization of financial powers to lower levels of governments, including urban local bodies, to enhance responsiveness and accountability (Oates, 1972). The advocacy of this framework of fiscal federalism necessitates that ULBs are expected to mobilise resources through OSR and deliver essential services needed by the locals.

One relevant theory that offers an important perspective on the responsibilities of municipal service delivery is the Public Goods Theory, which categorizes municipal services like sanitation, waste management and recreation facilities as public goods. Public goods are defined by two important characteristics: non-excludability and non-rivalry. In accord with these two characteristics, essential municipal services-such as street lighting, waste management, drainage systems, and public sanitation are characterized by their non-excludability and non-rivalry, meaning they are available to all residents, and one person's use does not diminish availability to others. Another theory that justifies local taxation as a fair system for municipal funding is the Benefit Principle of Taxation. This principle asserts that citizens should contribute or pay in a fair and efficient way for the services they receive or consume.

1.12 CONCEPTUAL FRAMEWORK OF MUNICIPAL FINANCE AND SERVICE DELIVERY

A conceptual framework of municipal finance and service delivery offers a structured approach to examine how the AMC mobilizes and allocates its financial resources, the institutional arrangements involved, and the mechanisms through which essential public services are provided in a rapidly urbanizing context. Such a framework is considered essential in this research, as it highlights and clarifies the core concepts underpinning the study. The following are some important concepts used in this study.

- 1) Central and States' Finance Commissions:** The Central Finance Commission is a constitutional body that recommends the distribution of financial resources (tax revenues) between the Union and states. State Finance Commissions, constituted by state governments, recommend sharing revenues between the state and local bodies, ensuring fair allocation, fiscal balance, and strengthening of decentralized governance for effective public service delivery.
- 2) Solid Waste Management:** Solid waste refers to discarded materials that are no longer useful or required, originating from households, industries, commercial activities, and institutions. It includes garbage, debris, and other non-liquid refuse. Therefore, Municipal solid waste management involves the collection, transportation, processing, recycling, and disposal of solid waste generated in urban areas. It aims to protect public health, conserve resources, and maintain environmental quality.
- 3) Municipal revenue:** It refers to the income generated by urban local bodies to fund public services and infrastructure. Sources of municipal revenue include property tax, profession tax, and entertainment tax; user charges for water supply, sanitation, and waste management; fees for licenses and permits; fines and penalties; rents from municipal properties; and grants or transfers from state and central governments to support urban services and development projects.
- 4) Fund devolution:** It refers to the allocation of financial resources from the central or state government to lower levels of governance, such as states or local bodies, by the Finance Commission.

- 5) **Property tax:** Property tax is a levy imposed by local governments on the ownership of property, including land and buildings. It serves as a key source of municipal revenue, funding public services, infrastructure, and community development while promoting accountability and sustainable urban management.
- 6) **Service level benchmark:** Service Level Benchmark (SLB) refers to a set of performance standards used to assess and improve the quality, efficiency, and coverage of public services, such as water supply, sanitation, and waste management, ensuring accountability, transparency, and better service delivery by urban local bodies.
- 7) **Gross Domestic Product:** Gross Domestic Product (GDP) is the total monetary value of all final goods and services produced within a country's borders annually, reflecting overall economic performance and national productivity.
- 8) **Household:** It refers to a group of individuals, related or unrelated, who share living arrangements under the same roof and collectively manage resources such as income, food, and utilities. It functions as a single economic and social unit within a community.
- 9) **Municipal Service Delivery:** Municipal service delivery refers to the provision of essential public services by urban local bodies, including water supply, sanitation, waste management, roads, street lighting, and public health. Its effectiveness reflects governance quality, financial capacity, and institutional efficiency, directly influencing urban residents' living standards, well-being, and sustainable urban development outcomes.

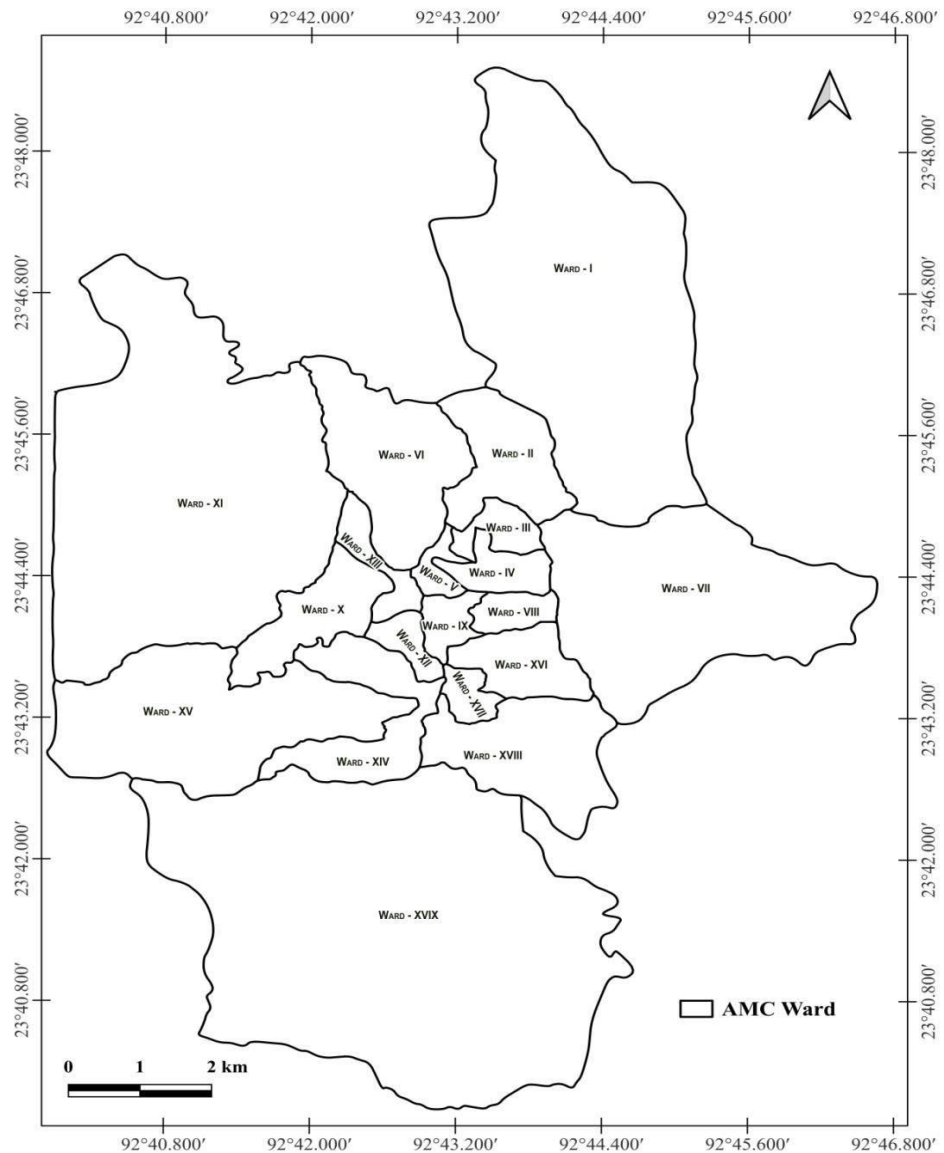
1.13 AREA OF THE STUDY

This study covers the area of Aizawl Municipal Corporation (AMC) which extends over a total area of 129 sq. km. with a population of 2,93,416 as per 2011 Census. Under the AMC, there are 19 Wards comprising of 83 Local Councils. Although AMC was upgraded from Council to Corporation on 15 October 2015,

raising the number of Local Councils to 85, this research was conducted prior to that expansion.

Aizawl, the capital of Mizoram, is situated at about 1,132 meters above sea level. It is a beautiful city set on ridges of steep hills. Flanked on the north by the craggy peaks of Durtlang, the hill city overlooks the valley of the river Tlawng and ranges of blue hill beyond. It has a mild, sub-tropical climate due to its location and elevation. Aizawl is connected by road with Silchar through National Highway 54, with Agartala through National Highway 40 and with Imphal through National Highway 150. It is air-linked by daily flights from Kolkata and Guwahati. As per 2011, Census the population of Aizawl is 2,91,822. Sex ratio is 1029 per 1000 males. Average literacy rate of Aizawl city is 98.80 percent of which male and female literacy was 99.30 and 98.31 percent. It is the largest city in the state. It is also the centre of administration containing all the important government offices, state assembly house and civil secretariat. The population of Aizawl strongly reflects the different communities of the ethnic Mizo people.

Map 1: AMC Area and Wards



Source: AMC Ward Map prepared by Dr Zoramkhuma, Dept. of Geography, PUC

1.14 SCOPE OF THE STUDY

At the commencement of this research, Aizawl was the sole urban centre in Mizoram with a municipal governance structure. Consequently, the study is confined to the AMC and covers the period from 2010 onwards, following its formal establishment. The AMC jurisdiction spans 129 square kilometres and, as per the 2011 Census, accommodates a population of 2,93,416. Administratively, it is divided into 19 wards comprising 83 local councils.

During the course of this research, the Lunglei Municipal Council (LMC) was formally inaugurated on 13 January 2023, marking the emergence of two ULBs in the state. Nevertheless, the present study remains focused exclusively on the AMC, examining developments and governance dynamics within its jurisdiction from 2010 to the present (Government of Mizoram, 2011; Government of Mizoram, 2023).

1.15 LIMITATIONS OF THE STUDY

This research is limited to the AMC, which functioned as Mizoram's only urban local body for several years. The study excludes the Lunglei Municipal Council, established in 2023, nor the 22 other settlements officially designated as census towns and notified towns. While government documents classify notified towns as urban areas eligible for development funds and grants, these settlements retain rural local bodies under village councils, operating in alignment with rural governance frameworks (Government of Mizoram, 2023). Consequently, such areas, along with other urban settlements, were not included in the scope of this research.

Following the enactment of the Mizoram Municipalities Act, 2007, the Aizawl Municipal Council was officially constituted on 15 October 2010 (Government of Mizoram, 2010). The research covers only the period after 2010, corresponding with the first municipal council elections. Two household surveys were conducted, yielding 406 and 408 samples, respectively. The sample size, though limited, was deemed sufficient to represent the city's households.

1.16 OBJECTIVES OF THE STUDY

1. To analyse the trends of fund devolution to the municipality in Mizoram from the Finance Commissions and the State Government.
2. To examine the various components of own tax and non-tax revenues of the municipality in Mizoram.
3. To examine the performance of households towards property tax payment in the Aizawl Municipal Corporation area.
4. To assess the current state of municipal service delivery in Aizawl with special focus on Solid Waste Management in the Aizawl Municipal Corporation area.

1.17 HYPOTHESES

1. There is a positive relationship between Aizawl Municipal Corporation's total revenue and grants from the Central and State Governments.
2. There is a significant relationship between the types of occupation and citizens' perception of property taxation in the Aizawl Municipal Corporation area.
3. There is a significant relationship between the amount of property tax paid and citizens' perception of property taxation in the study area.
4. Customers' perception of Solid Waste Management service quality (across five dimensions) significantly differs among demographic and socioeconomic groups (Ward Number, Family Occupation, and Residence Status).

1.18 METHODOLOGY

1) Source of Data

This study employed both secondary and primary data sources to ensure comprehensive analysis. Secondary data were obtained from various official and

institutional documents, including the AMC budget reports, State Finance Commission reports, Central Finance Commission reports, records from the Directorate of Economics and Statistics, Government of Mizoram, as well as publications and unpublished works from the Urban Development and Poverty Alleviation Department, Government of Mizoram. Additional references included documents from officials, organizations, and individual researchers.

In addition, two primary surveys were undertaken. The first survey targeted property taxpayers, covering 406 households, to evaluate the socio-economic profile of respondents and gather insights into public perceptions of property taxation in Aizawl. Descriptive analysis was used to interpret the results. The second survey aimed to assess citizens' perspectives on municipal service delivery, with particular focus on solid waste management within the AMC jurisdiction, and to evaluate service quality based on customer perceptions. A total of 408 households were covered for this purpose. In both surveys, the study employed multi-stage cluster sampling by dividing AMC into wards and then localities. The final analysis includes a random sample of at least five households from 83 localities in Aizawl and also examines the socio-economic profile of respondents to contextualise their views. The final number of sample households analyzed slightly differs from the actual target, as a couple of responses had to be excluded due to invalid responses. Data collection was done through a structured questionnaire administered to the selected households, ensuring systematic and reliable information gathering.

2) Analytical Method

The study adopts an exploratory research design, with the majority of data analysis conducted through descriptive statistical methods such as mean and standard deviation. Where appropriate, visual tools, including charts and diagrams, have been employed to illustrate findings effectively. Given its descriptive orientation, the study makes limited use of advanced statistical modelling. Its primary objective is to capture property taxpayers' perceptions and present citizens' views on the quality of solid waste management services in relation to their level of awareness.

To evaluate service quality, the study applies the SERVPERF framework, which measures five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy. A one-way ANOVA is used for analyzing the service quality dimensions. This model enables a structured assessment of how effectively services meet public expectations.

In addition, Multinomial Logistic Regression (MLR) is utilized to analyze the perspectives of property taxpayers on three selected dimensions, such as: i) Perceived importance or obligations to pay property tax, ii) Awareness and understanding of property tax system, iii) Awareness of property tax rate revisions. These analyses offer additional insights into the factors influencing their views and attitudes.

CHAPTER-II

REVIEW OF LITERATURE

2.1 INTRODUCTION

This chapter provides a review of literature relevant to the study, encompassing academic works, research papers, and policy documents on urban local bodies across different countries. It also examines scholarly studies related to urban governance in India, with particular attention to the institutional structure and functioning of the AMC.

In recent decades, urban studies have emerged as a significant field within economics and social sciences, reflecting the growing importance of cities in national development. Urban local governments contribute substantially to India's economic output, accounting for nearly 60 per cent of the country's Gross Domestic Product (GDP) (Baxi, 2019). The governance framework for municipalities was institutionalized through the 74th Constitutional Amendment Act of 1992, which aimed to establish Urban Local Bodies (ULBs) as autonomous institutions of selfgovernance (Rao et al., 2017). As constitutionally recognized entities, ULBs form an integral part of the state's fiscal architecture, responsible for planning and implementing programmes related to economic growth, social justice, and welfare. The Twelfth Schedule of the Constitution assigns 18 distinct functional responsibilities to these bodies. To fulfil these functions, ULBs are empowered to mobilizes resources and enhance revenue generation (Gurjar, 2009).

Urbanization has accelerated across the developing world, and India is projected to have nearly half its population living in cities and towns within the coming decades, up from the present 30 per cent. However, India's pace and level of urbanization remain modest compared to several other developing and developed countries (Mohanty et al., 2007). Bandyopadhyay (2014) notes that the urban sector's share in the national economy has steadily risen since independence. Estimates from the Central Statistical Organization (CSO) show that the contribution of the urban sector to India's GDP increased from 38 per cent in 1970–71 to 52 per cent in 2004–05 (Mathur et al., 2011). A study by Forum Dave (2020) examining municipal finances in Gujarat further reinforces the critical role of urban local governments in driving national progress and highlights their expanding involvement in India's governance framework.

Recently, a clear trend of increasing urbanization has been observed across much of the developing world. India has also been experiencing steady urban population growth and is projected to have nearly half of its population residing in urban areas within the next few decades, compared to the present share of about 30 per cent. Despite this growth, the overall level and pace of urbanization in India remain relatively low when compared with several other developing and developed countries (Mohanty et al., 2007).

Bandyopadhyay (2014) highlights that the contribution of the urban sector to India's economy has expanded considerably since independence. Supporting this view, estimates from the CSO show that the share of the urban sector in India's GDP rose from 38 per cent in 1970–71 to 52 per cent in 2004–05 (Mathur et al., 2011). Furthermore, a study by Forum Dave (2020) examining municipal finances in Gujarat highlights the crucial role of urban local governments in driving national development. This study also emphasizes the growing involvement of urban local bodies in governance and their increasing importance in the country's economic and developmental path.

Municipal revenue is generally derived from a mix of own-source revenues—such as taxes, non-tax revenues, user charges, fees, and fines—as well as grants and contributions (PAS, 2013). However, local governments in many developing countries remain heavily dependent on higher-level fiscal transfers to meet their operational and developmental needs. Serageldin et al. (2008) note that in poorer countries, local bodies often rely on central government transfers to cover deficits in operating expenditures, with external funds serving as the primary source for financing infrastructure upgrades and expanding urban services. While decentralization policies have transferred functional responsibilities to local bodies, they have frequently not been accompanied by adequate fiscal resources to fulfil these obligations.

In the Indian context, Mohanty et al. (2007) assessed municipal finances across 35 municipal corporations, identifying considerable dependency of local bodies on state governments for funding, while state governments themselves depend heavily on central transfers. According to the High-Powered Expert Committee (2011),

intergovernmental transfers to municipal bodies in India averaged around 0.45 per cent of GDP during 2010–2020. In contrast, such transfers constitute a higher share of GDP in several developing countries—approximately 2 to 2.5 per cent in the Philippines, 5.1 per cent in Brazil, 5.4 per cent in Indonesia, 1.6 per cent in Mexico (OECD, 2016), and about 6 per cent in South Africa (Afonso et al., 2006). Mathur et al. (2011) further highlight that the share of municipalities in India’s total tax resources has remained stagnant at approximately 1.7 per cent, despite a national trend of increasing tax-to-GDP ratios.

In India, most municipal governments rely heavily on financial assistance from their respective State governments, particularly in the form of revenue grants to cover deficits in their revenue accounts. When revenue shortfalls occur, such grants serve as a crucial means of meeting routine operational expenditures. Similarly, capital grants are often provided to support project-specific or infrastructure-related investments (Chowdhury et al., 2023). These fiscal transfers are primarily designed to address the persistent mismatch between the functions assigned to urban local bodies and the financial resources made available to them (Nallathiga, 2009). The Second Mizoram Finance Commission Report provides evidence that the total intergovernmental transfers received by the AMC constituted 79 per cent of the total revenue in 2016-17, rising to 92 per cent in 2020-21. (Government of Mizoram (2023). These figures highlight the structural vulnerability of AMC’s finances due to limited own-source revenue.

Empirical studies on municipal finances reveal considerable challenges in revenue generation. Das et al. (2018) concluded, in their study of municipal finances in West Bengal, that revenue collection by urban local bodies in the state has been markedly unsatisfactory. Complementing this perspective, Chowdhury et al. (2021) examined the municipal financing and infrastructure patterns of 128 ULBs across West Bengal, analyzing their funding structures, expenditure patterns, and revenue characteristics. Their study found that while non-tax revenue fluctuated over time, overall revenue exhibited an upward trend largely driven by increases in tax revenue.

These findings underscore the growing dependence of municipalities on external fiscal support alongside limited improvements in internal revenue mobilization.

The 74th Constitutional Amendment Act of 1992 marked a significant milestone in advancing the decentralization of powers and the distribution of authority to urban local bodies (Mathur, 2007). This amendment provided constitutional recognition to urban local governments and led various state governments to enact municipal legislation empowering these bodies to mobilize and enhance their revenue sources. However, while the amendment institutionalized urban local governance, the Constitution itself does not explicitly define the revenue base for these bodies. Instead, the responsibility for identifying, assigning, and regulating the collection of tax and non-tax revenues for urban local bodies rests with the respective state governments. For instance, the Government of West Bengal has outlined the types of taxes and non-tax revenues that municipal governments within the state are authorized to collect (Chattopadhyay, 2015). In general, a substantial portion of municipal finances in the state is derived from property tax, supplemented by minor taxes such as advertisement tax, tolls on bridges and ferries, and charges on heavy vehicles using municipal roads. Key sources of non-tax revenue include rents from municipally owned markets, fees for building plan approvals, construction permits, mutation charges, and parking fees (Barma.S, 2008).

Mohanty (2016) further notes that municipalities also receive funds through revenue-sharing arrangements, under which they are allocated a portion of state or central government revenues as grants. These grants can be categorized as either specific-purpose or general-purpose and may be earmarked or non-earmarked, conditional or unconditional, depending on the nature of their intended use. Such fiscal mechanisms play a crucial role in supplementing the limited own-source revenues of urban local bodies and ensuring their operational sustainability.

According to the Reserve Bank of India (RBI, 2022), India's ULBs are among the weakest globally in terms of fiscal autonomy, largely due to extensive state government controls on their ability to levy taxes and user charges, set rates, grant exemptions, borrow funds, and regulate the design, amount, and timing of

intergovernmental transfers. Consequently, ULBs in India depend heavily on grants from the state and central governments rather than generating sufficient revenue from their own sources. The Revenue Autonomy Ratio (RAR), which represents the ratio of own-source revenue (taxes and non-tax revenues) to total municipal income, illustrates the degree of financial dependency. Chattopadhyay (2015) documented a declining trend in RAR in West Bengal: while RAR initially increased, indicating high reliance on government funds, it later declined as ULBs made efforts to raise their own revenues. Similarly, the Fifth State Finance Commission of Kerala (2015) reported that own revenue constituted only 36 per cent of total income for municipal corporations in 2008–09, a proportion that remained nearly unchanged in 2013–14.

Urban governance in India is a state subject, and Das et al. (2018) noted that state governments have generally implemented only partial devolution of finances and functionaries to municipal bodies. In contrast, China represents one of the most decentralized systems globally, where by 2007 the central government accounted for just 20 per cent of total budgetary expenditure, while the remaining was shared among provincial (18 per cent), municipal/prefecture (20 per cent), and county/township governments (40 per cent) (Wong, 2013). Bandyopadhyay (2014) highlights that inadequate decentralization of powers, functions, and finances in India has resulted in low revenue generation, constrained expenditure, and weak service delivery by ULBs. Rao (2013) further emphasizes that inefficiencies are exacerbated by extensive exemptions granted to various property categories.

Bandyopadhyay (2014) also observes that both own-tax revenue (primarily property tax) and non-tax revenue of ULBs declined between 2002–03 and 2007–08, with the municipal share of own revenue falling from 63% to 53% during this period (Twelfth Five-Year Plan). Low collection efficiency of property tax remains a critical issue contributing to inadequate revenue mobilization in Indian cities (Mohanty et al., 2007; Bandyopadhyay et al., 2009; Rao et al., 2011). These findings collectively underscore the structural fiscal constraints facing Indian ULBs, arising from limited autonomy, inadequate devolution, and inefficient revenue administration.

Bandyopadhyay (2013) examined the implementation of property tax reforms in two major Indian metropolitan cities—Delhi and Bengaluru—both of which transitioned to the Unit Area Method (UAM) of property tax assessment. Significantly, the AMC is the only municipal corporation in Northeast India to have adopted the UAM, a move that received formal commendation from the Ministry of Housing and Urban Affairs, Government of India (AMC, 2022). The collection of property tax was transferred from the Land Revenue and Settlement Department to the Aizawl Municipal Council on 8 October 2012, with retrospective effect from 7 August 2011 (Chhuanawma, 2018). Since 2015–16, AMC has collected property tax under the provisions of the Mizoram Municipalities (Property Tax Management) Rules, 2014.

Although these Rules initially allowed the imposition of property tax on vacant lands within Aizawl, this provision was revoked by the State Government on 23 June 2015, and currently, property tax is levied only on buildings (Thanga, J.L.T., et al., 2023). Under the UAM system, annual ratable value is determined based on location, construction type, building age, and property use (Mathur et al., 2019), applying a self-assessment principle (Mohanty et al., 2007). However, as Ahluwalia (2017) notes, opportunities offered by the Goods and Services Tax (GST) regime have not been leveraged to allocate a portion of the state government’s GST share to local bodies. Ensuring predictable financial transfers, greater fiscal autonomy, and enhanced institutional capacity for urban planning would be essential steps toward empowering urban local governments, such as AMC.

The share of municipalities in the country’s total tax resources has also continued to stagnate at 1.7 per cent, despite the national trend of rising tax-to-GDP ratios (Mathur et al., 2011). Some scholars focus on property tax, which is the main contributor to municipal revenue in India. Over-reliance on property tax (among own revenue sources) has constrained the exploitation of other avenues of funding, such as trade licenses, entertainment taxes, taxes from mobile towers, solid waste user charges, water charges, and value capture financing (RBI 2022). However, ULBs face several challenges in assessing and collecting property tax.

A study by Gnyaneswar (2009) notes that the primary challenge for municipalities is property assessment, which is exacerbated by issues such as the use of unscientific methods, lack of transparency, and inefficiency in property records. According to his findings, there are no proper processes and practices for property counts. Additionally, in some cases, the collection of property taxes is hindered by political interests, resulting in low collection rates and inefficiency throughout the entire process. Regarding municipal property tax, Bandyopadhyay (2014) suggests several key strategies for expanding municipal bodies' resources in the country, including essential reforms to the property tax system and the adequate mobilisation and utilisation of user charges and fees. The Twelfth Five-Year Plan also recommended these suggestions. Besides, Uttarakhand's State Finance Commission Report (2018-19) endorses that municipal governments need to improve collection efficiencies in respect of property tax, user charges, lease rentals, advertisement tax, and parking fees (Uttarakhand, 2018-19). Notably, Meerut Municipal Corporation has increased its property tax revenue since 2016–17 by adopting GIS-based surveys to include new properties (Jain et al., 2022).

User charges represent one of the key components of non-tax revenue for municipal bodies and function as essential price signals, reflecting the scarcity value of services to consumers (Bird et al., 2011). However, the adoption of user charges remains limited in India as they are a relatively recent development. Even in comparatively advanced states such as Maharashtra, Karnataka, and Andhra Pradesh, levies on water supply and sewerage are imposed as charges rather than as formal taxes. Mohanty et al. (2007) observed that despite being among the best-performing municipal corporations, cities like Mumbai, Surat, and Pune underutilize user charges, resulting in cost recovery rates below 25 per cent.

Appropriately designed user charges, supported by accurate metering systems and efficient billing mechanisms, can enhance both cost recovery and service efficiency for essential services such as water supply and solid waste management. Evidence from a pilot project in Karnataka revealed that metered water usage led to lower payments for households compared to fixed-rate systems (Ahluwalia, 2010).

Historically, octroi was a significant revenue source for Indian cities prior to the introduction of the GST. The Committee on Octroi (1985) recommended its replacement with local taxes, as octroi often contributed a larger share to municipal revenues than property tax (NIUA, 2010; Pethe et al., 2011; Bandyopadhyay et al., 2009; NIPFP, 2007).

A Working Group of State Urban Development Secretaries constituted by the Ministry of Urban Development, Government of India, highlighted that municipal finances in India have historically been weak and inadequate (Mathur, O.P., 2013). The group reported a notable disparity between the annual per capita aggregate expenditures and revenues of municipalities in 2007–08, with expenditures amounting to ₹1,513 per capita compared to revenues of only ₹1,430 per capita, thereby indicating a structural fiscal deficit (Municipal Finance Report, 2013). Per capita income and expenditure are considered vital indicators of urban local bodies' (ULBs) capacity to provide civic services and reflect their performance levels (Nallathiga, 2009). However, India lacks nationally accepted expenditure norms for ULBs. The High-Powered Expert Committee (HPEC, 2011) estimated that ULBs spend only about 27–28 per cent of the amount required for the efficient delivery and management of urban services. Furthermore, Yuvrajbhai et al. (2018), in their comparative study of the Ahmedabad Municipal Corporation, Surat Municipal Corporation, and Vadodara Municipal Corporation, observed that both per capita income and expenditure increased across these corporations during the study period from 2007–08 to 2016–17.

Municipal finance systems across Latin America share several structural and operational characteristics, particularly in their relationship with central governments. Martinez-Vazquez (2011) conducted a comprehensive study of municipal finances in the Latin American region, highlighting critical fiscal and administrative challenges faced by urban local governments. His analysis reveals that property tax constitutes the most widely assigned and significant source of local revenue across Latin American countries. Alongside property tax, other important municipal revenue sources include betterment levies, various business licenses, vehicle registration and permit fees, real estate and land transfer taxes, as well as taxes on gambling activities. Despite this

revenue diversity, many municipalities in the region experience periodic fiscal recentralization. For example, Argentina's Law of Economic Emergency (2002) and Budget Law (2006) curtailed municipal fiscal autonomy, redirecting substantial revenue control back to the central government. These instances reflect a recurring tension between decentralization policies and recentralizing tendencies in municipal governance across Latin America.

In contrast, Canada represents a different institutional model. Johal et al. (2019) examined municipal finance in Canada and identified several challenges confronting its urban local governments. Canada's constitutional framework grants provinces exclusive authority over municipalities, thereby shaping their fiscal and administrative autonomy. Although Canada is geographically the largest country in the Americas, its municipalities operate under provincial jurisdiction, which determines their fiscal powers, revenue sources, and capacity for independent decision-making. This provincial oversight influences how Canadian municipalities mobilize local resources and manage urban services, offering a markedly different model from the Latin American experience.

Padovani et al. (2021) examined urban financial conditions through the perspective of municipal financial vulnerability, focusing on its dynamics before, during, and after the COVID-19 pandemic. Their study assessed how the pandemic intensified fiscal vulnerabilities by evaluating municipal financial conditions in precrisis, crisis, and post-crisis contexts. This analysis involved mapping and systematizing the dimensions and sources of resilience and financial robustness in two European countries severely impacted by COVID-19—Portugal and Italy.

Vulnerability is conceptualized as “the level of exposure to a shock” (Barbera et al., 2017; Steccolini et al., 2017). The concept was first introduced by the Canadian Institute of Chartered Accountants (2009) as a key component of assessing municipal financial conditions (Zafra-Gómez et al., 2009; Cabaleiro et al., 2013). Padovani et al. (2021) observed that municipal vulnerability is inherently contingent, varying across time and space, and can produce paradoxical outcomes. While Portugal and Italy adopted different strategies to address the pandemic crisis, both experienced similar

adverse impacts on municipal financial stability. Moreover, high fiscal dependency further exacerbates the vulnerability of local governments, constraining their capacity to finance essential infrastructure and public amenities (Matari, 2017).

The Jawaharlal Nehru National Urban Renewal Mission (JNNURM), a comprehensive urban modernization programme, was launched by the Government of India under the Ministry of Urban Development on December 3, 2005 (JNNURM, 2005). A central component of this mission included the reform of property taxation through the introduction of Geographic Information System (GIS)-based assessments to enhance its contribution as a major revenue source for ULBs and to achieve at least 85% collection efficiency during the mission period (Mohanty et al., 2007). Property tax is widely recognized as a principal source of municipal revenue globally, typically levied on fixed and immovable assets such as land and buildings. However, certain countries have historically excluded residential properties from property taxation. For instance, China did not levy a nationwide property tax until 2021, when the National People's Congress authorized the State Council to initiate its implementation (Zhang et al., 2022).

The municipal revenue structure in India generally comprises tax revenue, non-tax revenue, shared revenues, grants, loans from state governments, and market borrowings (Chattopadhyay, 2015). Municipalities are legally required to maintain balanced budgets, and any borrowing must receive prior approval from the state government (Ahluwalia et al., 2019). Non-tax revenues constitute a vital component of municipal finances, with major sources including rental income from municipal markets, building plan approval fees, mutation charges, parking fees, and the lease or sale of municipal land (Barma, 2008; Kumar et al., 2017). Similar to other ULBs, non-tax revenue serves as a significant source of funds for the AMC. Key contributors to AMC's non-tax revenues include rental income from municipal properties, advertisement and hoarding fees, and charges collected from sanitation-related services (Thanga et al., 2023).

Alm (2010) examined municipal finance across different countries, highlighting the diverse revenue sources available to urban local governments for

initiating capital infrastructure projects. He emphasized that the growing demand for urban services in major cities worldwide compels municipal authorities to identify innovative financing mechanisms. Such large-scale mobilization of municipal finance is necessary not only for infrastructure creation and asset development but also for supporting long-term economic growth.

Gore et al. (2015) emphasize that policymakers and planners face the critical challenge of fostering environmentally sustainable development while enhancing urban living standards. A key question remains: how can cities accommodate expanding populations while ensuring a better quality of life. Within this context, public services emerge as essential instruments for realizing developmental objectives, supporting economic growth, and creating an enabling environment in which multiple sectors of the economy can function efficiently (Singla, 2018–2019).

The scope and responsibilities of urban local governments vary across countries, reflecting contextual and structural differences. For instance, the Constitution of South Africa places the responsibility for service delivery and the promotion of local economic development squarely on municipal authorities (Nyalunga, 2006). While provincial and national governments are expected to support municipalities, Waldt (2011) notes a widening gap between constitutional developmental mandates and the practical realities of service delivery. Similarly, Van der Wal et al. (2007) highlight variations within Africa, noting that in Tanzania local authorities oversee licensing, while in Nigeria and Lesotho they manage land inspection responsibilities.

Local governments play a crucial role in delivering essential goods and services to meet the needs of their local communities. However, despite constitutional guarantees for sustainable and effective service provision, achieving these goals continues to pose significant challenges (Bekink, 2006). The delivery of basic civic services in urban areas is crucial for improving citizens' living standards and enhancing overall welfare. In the Indian context, such functions are governed by state legislations, which are aligned with the constitutional framework (Nallathiga, 2016). Yet, empirical evidence suggests a worrying decline in both the quality and accessibility of essential

services across Indian cities. Numerous settlements face persistent deficits in water supply, sanitation, and other civic amenities, undermining equitable urban development (PRIA, 2014).

Water and sanitation services represent some of the most essential responsibilities of municipal governments, forming the foundation for public health and human well-being. Access to safe water and sanitation is particularly critical in developing regions such as Africa, where service deficits remain acute. The United Nations' Sustainable Development Goals (SDGs) emphasize the importance of universal access to these services as a global development priority (United Nations, 2022). Despite this, Africa continues to record the lowest global coverage in water supply and sanitation. Evidence shows that fewer than half of the poorest urban populations in Africa and less than 40% in Asia have access to piped water (World Health Organization [WHO] & UN-Habitat, 2010). Ironically, Africa is also the fastest-urbanizing continent, with rapid population growth amplifying the challenges of service delivery (Mwanza, 2001). Municipal governments, therefore, play a critical role by providing both obligatory and discretionary services designed to protect public health and promote welfare (Narayana et al., 2014). Yet, access remains uneven. For example, in Bangalore, slum dwellers often rely on informal intermediaries—such as local officials, politicians, employers, and ward members—to secure urban services, underscoring persistent inequities in formal service provision (Smitha, 2010).

Narayana et al. (2014) examined the scope of civic services delivered by the Greater Visakhapatnam Municipal Corporation (GVMC), noting its pioneering role in providing education from primary to secondary levels, as well as significant public health achievements, including a reduction in malaria prevalence and control of HIV/AIDS. In a comparative analysis, Shridhar et al. (2010) assessed four major Indian cities—Ahmedabad, Kolkata, Jaipur, and Bangalore—focusing on the delivery of critical urban services, including water supply, sewerage, sanitation, solid waste management, municipal roads, and street lighting. Expanding on sanitation trends, Singh et al. (2023) documented a consistent rise in sanitation service usage across Indian municipalities, accompanied by a decline in unhygienic practices. Furthermore,

Sahasranaman et al. (2021) emphasized that inadequate sanitation services contribute to continued reliance on open defecation, which negatively impacts both public health and environmental sustainability.

In recent years, the integration of digital technologies into municipal governance has gained prominence, offering opportunities to enhance service delivery and local development. However, their transformative potential has often been constrained by limited adoption and inadequate technical capacity, particularly in developing contexts (Klievink et al., 2017; Shava, 2022). To address such limitations, municipalities have increasingly turned to private sector participation through outsourcing, contracting, shared services, and public–private partnerships (Péteri, 1997; Kitchen, 2004).

Reddick (2011) emphasized that digital participation mechanisms can significantly improve service delivery by fostering greater citizen engagement and accountability. Nevertheless, organizational challenges remain a barrier to technological integration, as observed by Martens et al. (2016). Further, Anthopoulos et al. (2007) and Jansen et al. (2013) demonstrated the important role of social media in enabling participatory governance and municipal decision-making. Yet, digital hesitancy continues to limit innovation, as noted by Shava (2022), who highlights the uneven progress of digital adoption across local governments.

Digital governance initiatives have played a transformative role in reshaping public service delivery across India, with Andhra Pradesh emerging as a pioneer in launching citizen-centric digital services as early as 1998. Over time, the state has advanced its Information and Communication Technology (ICT) platforms to reduce service delivery gaps and improve accessibility for citizens (Balakrishna, 2018). Despite these innovations, decision-making processes continue to be largely centralized within the executive branch, resulting in limited direct citizen involvement in governance (Roy, 2008; Aucoin et al., 2011).

Traditional service delivery models placed a considerable burden on citizens, who were required to visit multiple departments and endure lengthy waiting times to

access essential services (Paul & Paul, 2015). The challenges of extending such services to rapidly growing informal settlements have further tested municipal authorities and public utilities (GSMA, 2021). In response, the use of mobile applications has become increasingly significant. These platforms not only enable electronic service delivery but also foster participatory models by integrating mobile technologies with social media to crowdsource citizen input and enhance collaborative service design (Roy, 2014; Nam, 2014; Ganapati, 2015).

The Assessment Framework for Urban Services, developed by Boex et al. (2014), provides a structured approach for analyzing the processes, systems, and institutions that underpin effective service delivery in urban areas. Weak municipal administration and fragile local governments are frequently identified as major causes of poor service delivery outcomes at the urban level. While core services, such as water supply and sanitation, often receive priority, sectors like housing, public safety nets, and social security tend to be overlooked, despite their significant impact on urban welfare.

Urban service delivery also extends into social sectors, including education and health, which are frequently examined in urban studies literature (Jones et al., 2014). In India, with over 4,000 cities and towns, the diversity and complexity of urban challenges vary widely, requiring context-specific responses. Scholars note that the prioritisation of services often reflects the most pressing needs of a locality, shaped by the developmental goals set by policymakers (J-PAL, 2012). For instance, health-related challenges caused by inadequate water supply or poor sanitation may dominate service priorities in certain municipalities, while other cities may prioritise different issues.

Solid Waste Management (SWM) has emerged as one of the most critical urban challenges across developing countries. Jones et al. (2014) emphasize that SWM is a central urban service, yet it remains strained by rapid urbanization, population growth, rising consumption, and the increasing number of urban settlements. The rising volume of municipal waste underscores the urgent need for sustainable systems to manage solid waste effectively.

Municipal services are typically classified into several categories for operational and functional purposes. Richards (1975) and Warren (1975) identify these as protection services (e.g., policing, fire protection, food inspection, licensing), communal services (such as sewerage, sanitation, street cleaning, entertainment, and lighting), social services (including education, healthcare, housing, and welfare), and trading services (such as water supply, transportation, and other revenue-generating activities).

Deficiencies in sanitation infrastructure remain particularly harmful in informal settlements and slum areas, where inadequate facilities often force dependence on open defecation. This contributes to poor public health and environmental degradation (Sahasranaman et al., 2021). In addition, Jones et al. (2014) argue that emergency services in developing countries remain underresearched, especially in relation to governance and political economy dimensions, highlighting the need for empirical investigations into the causes of service deficits and lessons for improving delivery.

The modes of municipal service delivery have varied over time, ranging from exclusive public provision to complete privatization, or hybrid arrangements that incorporate both. Péteri (1997) emphasizes that shared services, contracting, outsourcing, and public–private partnerships (PPPs) have increasingly shaped the discourse on urban service delivery. Kitchen (2004) similarly underscores PPPs as a vital tool to enhance efficiency, share risks, and integrate private sector innovation into municipal governance.

Rudnik (2013) examined urban administration in Russia and other countries, highlighting two crucial strategies for improving organizational and financial mechanisms in municipal service delivery: reforming public sector and local government agencies, and fostering “open areas” for greater access to public and municipal services. Similarly, Lamothe et al. (2006) noted that municipal services typically include education, health, sanitation, street lighting, fire prevention, crime patrol, city planning, licensing, recreation, roads, drainage, parking, and animal shelters.

Duflo et al. (2012) argued that improvements in water and sanitation services in developing contexts are hindered by supply, demand, and institutional constraints. They emphasized that institutional barriers often prevent marginalized populations from accessing urban services, while demand constraints—such as low willingness to pay—limit uptake. For example, studies in Zambia (Ashraf et al., 2010) and Kenya (Kremer et al., 2009, 2011) have shown a low household willingness to invest in improved water quality. The Bill & Melinda Gates Foundation (2011) similarly reported that fewer than 15% of people in parts of Asia and Africa had access to adequate sanitation facilities, underscoring the severity of these challenges.

In Mizoram, solid waste management is a vital service provided by the AMC. The AMC operates a Solid Waste Management Centre at Tuirial, approximately 20 km from the city, which handles about 165.4 tonnes of waste per day. The waste composition consists of 38% biodegradable, 39% recyclable, and 23% other materials, with collection and segregation jointly managed by Local Councils and AMC (Thanga, 2022).

Weak urban governance continues to hinder India's ambition of becoming a 7-trillion-dollar economy. Several crucial responsibilities, particularly town planning, remain concentrated in the hands of state governments (Panagariya, 2014).

From the reviewed scholarship, several insights emerge. First, while the overall contribution of urban local governments (ULGs) to the national economy remains modest, there has been a gradual improvement in their fiscal and developmental roles. However, most studies emphasize the inadequacy of municipal spending to provide and maintain infrastructure at normative standards (Mathur et al., 2011; HPEC, 2011). Second, although the 74th Constitutional Amendment Act (1992) empowered ULGs by granting constitutional status and revenue-raising authority, state governments have been reluctant to devolve all 18 functions outlined in the Constitution (Rao et al., 2017; Mathew, 1994).

Third, the AMC derives its revenue primarily from tax and non-tax sources, with non-tax revenue significantly supported by rental income from municipal

properties, advertisement fees, and sanitation-related charges (Thanga, 2022; Thanga et al., 2023). Fourth, municipal service delivery generally includes essential functions such as water supply, solid waste management, social safety nets, and urban infrastructure provision (Nallathiga, 2016; PRIA, 2014). Finally, technological innovation has increasingly shaped municipal governance in India, enabling faster, more efficient delivery of civic services and strengthening citizen engagement in local governance processes (Klievink et al., 2017; Reddick, 2011; Shava, 2022).

2.2 CONCLUSION

This chapter reviews various academic and empirical studies emphasizing that urban local governments play a crucial role in promoting economic growth, delivering services, and enhancing urban governance in India and other countries. Various studies emphasize the need for efficient financial management, property tax reforms, and innovative revenue mechanisms to strengthen municipal finances and enhance service delivery effectiveness. The findings of various scholars and researchers collectively demonstrate that empowering local bodies enhances urban management, ensures better public service outcomes, and strengthens decentralized governance across Indian cities.

CHAPTER - III

REVENUE SOURCES, FUND DEVOLUTION AND EXPENDITURE

3.1 INTRODUCTION

This chapter analyses the key sources of municipal finance, examining the composition and allocation of revenue to urban local bodies under successive Five Year Plans. It also reviews the Finance Commission's recommendations on tax devolution to municipalities and assesses the AMC's expenditure patterns from 2010–11 to 2021–22, highlighting fiscal trends and structural challenges in municipal finance.

Having good sources of revenue can provide a broad sense of financial security and stability to urban local bodies. Adequate revenues are necessary for funding basic urban services and essential social overheads, which encompass education, healthcare, sanitation, and waste management. Likewise, long-term and stable sources of revenue are crucial for municipal governments to maintain financial health and achieve fiscal balance or reduce budgetary deficits. Therefore, to achieve sound and sustainable municipal finance is the urban authority's effort to keep the city moving forward.

Certainly, municipal finance involves the collection of revenues through various channels, including taxes and non-tax sources, such as user charges, fees, fines, grants, and inter-governmental fund transfers, and the allocation of these resources to meet the diverse needs of residents. For an operational and accountable fiscal future, urban local bodies need to establish a strong foundation of financial resources. To fulfil their mandate in a fiscally responsible manner, local governments in developing countries must have significant sources of their own tax revenues and non-tax revenues, including those collected from user charges and fees. The adequacy of own revenues is key to a city's improved ability to deliver necessary goods and services and to better accountability of local officials to their constituents (Martinez-Vazquez, 2015).

For every municipal government, adequate revenue is also the key to improving its ability to deliver necessary goods and services to its residents, as well as to ensure better accountability of authorities to their wards or constituents.

Ironically, one of the most common financial features of municipalities in India is a lack of adequate revenues. This has resulted in a vicious circle of problems that exacerbate existing municipal economic situations, such as insufficient investments in

infrastructure, poor quality of services, a lack of willingness among citizens to pay taxes and other user charges, and a poor state of municipal finances, among others. And this vicious circle needs to be broken by addressing the factors responsible for fiscal gap in cities (Mohanty, 2016).

Municipal corporations or urban local bodies worldwide generate revenue from various sources to fund the growing demands of urban development and different municipal services. These sources typically include:

- 1) **Property Taxes:** Property taxes are the primary source of revenue for municipal corporations and are levied on residential, commercial, and industrial properties based on their annual rental value or the area of the property.
- 2) **Fees and User Charges:** Municipal corporations collect fees for various services such as water supply, sanitation, solid waste management, and other municipal services.
- 3) **Fines:** Revenue is generated through the issuance of licenses for businesses, trade activities, and various permits. Fines and penalties for violating municipal regulations also contribute to the revenue stream.
- 4) **Grants and Aids:** Municipal corporations receive grants and aids from the central and state governments for specific projects and programs such as infrastructure development, urban renewal and the implementation of various schemes aimed at improving the quality of life in urban areas.
- 5) **Advertisement/Hoarding Taxes:** Municipal corporations levy taxes on advertisements displayed in public places and on hoardings.
- 6) **Leasing of Properties:** Income is generated through the leasing of municipal properties, such as community halls, markets, parking lots, and other commercial spaces.
- 7) **Development Charges:** Municipal corporations collect development charges from property developers for approving building plans and for allowing construction activities within the city limits.

8) Special Assessments: In some cases, municipal corporations impose special assessments on property owners for specific improvements or infrastructure projects in their localities.

The revenue base of municipal bodies in India can be broadly categorised into Tax revenues, Non-tax revenues, assigned (shared) revenue, Grants-in-aid, Loans and Other receipts. RBI (2007) categorized the revenue base of municipal corporations as follows:

- 1) Tax revenue:** Tax revenue includes property tax, vacant land tax, octroi, tax on animals, taxes on carriages and carts, and advertisement tax.
- 2) Non-tax revenue:** Non-tax revenue comprises municipal fees, sale and hire charges, user charges, and lease amounts.
- 3) Other receipts:** Other receipts include sundry receipts, lapsed deposits, fees, fines and forfeitures, Law charges, costs recovered, rent on tools and plants, and miscellaneous sales.
- 4) Assigned (shared) revenue:** Assigned or shared revenue includes profession tax, surcharge on stamp duty, entertainment tax, and motor vehicles tax.
- 5) Grants-in-aid:** Grants-in-aid are of various types, such as -
 - (a) Plan grants made available by way of planned transfers from the upper tier of Government under various projects, programmes and schemes, and
 - (b) Non-plan grants made available to compensate against the loss of income and some specific transfers.
- 6) Borrowings:** Borrowings are loans undertaken by the local authorities for capital works, etc., mainly from Life Insurance Corporation of India, State and Central Governments, banks and municipal bonds in selected cases.

3.2 FIVE YEAR PLANS AND MUNICIPAL FINANCE

The Government of India, in accordance with constitutional provisions, has consistently allocated funds to local bodies through successive Five-Year Plans (FYPs) and Finance Commissions (FCs). This section outlines the nature and evolution of such allocations under the FYPs, while the subsequent section discusses grants from Central and State Finance Commissions. Broadly, both the FYPs and Finance Commission reports served as central policy frameworks guiding national economic priorities over a five-year horizon.

The First Five-Year Plan, launched in 1951, marked the beginning of systematic national planning. Each plan period subsequently addressed emerging challenges associated with urbanization, infrastructure, and municipal governance. Following the dissolution of the Planning Commission and the establishment of the National Institution for Transforming India (NITI Aayog) in 2014, the Twelfth Plan (2012–2017) became the final phase of India’s centralized planning era.

The First Five-Year Plan (1951–1956) prioritized the creation of Town Planning Departments within state governments to ensure coordinated urban development and promote affordable housing for economically weaker sections. As Singh et al. (2015) noted, a lump-sum allocation of ₹15 crore was earmarked to support local development initiatives, enabling municipalities, district boards, and taluka boards to propose and implement community-driven projects. Financial assistance from this provision aimed to strengthen local participation and promote grassroots urban governance.

The Second Five-Year Plan (1956–1961) recognized the financial inadequacies of local bodies and highlighted the need for systematic urban planning. It proposed establishing development authorities in major cities and emphasized urban renewal through slum clearance and housing programs (Planning Commission of India, 1961). The Second Plan also introduced town and country planning legislation and set up planning institutions, leading to the formulation of Master Plans for several cities.

The Third Five-Year Plan (1961–1966) focused on improving essential municipal services, including water supply, sanitation, and drainage. It aimed to strengthen the financial capacity of Urban Local Bodies (ULBs) through local taxation,

enhanced revenue mechanisms, and financial assistance for housing and urban infrastructure development.

The Fourth Five-Year Plan (1969–1974) focused on enhancing municipal administration and promoting participatory governance through decentralization. It emphasised the development of urban infrastructure, particularly transportation, roads, and solid waste management systems. To support these initiatives, ₹45 crore was earmarked to be mobilized through local bodies for urban planning and development activities. The Fifth Five-Year Plan (1974–1979) continued prioritizing urban infrastructure expansion and social welfare programs aimed at alleviating urban poverty. It allocated ₹10.27 crore for improving urban sanitation and water supply while encouraging market borrowings amounting to ₹3,030 crore to enhance financial autonomy among local governments.

The Sixth Five-Year Plan (1980–1985) shifted focus toward rapid industrialization and capacity building for Urban ULBs. It allocated ₹1.60 crore for policy formulation and urban research, emphasizing managerial efficiency, financial assistance, and tax incentives to strengthen the fiscal base and administrative performance of local governments. (Planning Commission of India.1985)

The Seventh Five-Year Plan (1985–1990) emphasized the need for horizontal coordination among various levels of governance and recognized taxation as the primary source of revenue generation for ULBs. It also stressed the importance of establishing measurable physical and financial targets to ensure effective local governance (Singh et al., 2015).

The Eighth Five-Year Plan (1992–1997) aimed to promote sustainable urban development through urban renewal, revitalization, and infrastructure improvement programs. This period also saw the enactment of the 73rd and 74th Constitutional Amendments, which granted constitutional status to local bodies and provided them with greater financial and regulatory authority. The Plan underscored the potential of Public–Private Partnerships (PPPs) in urban infrastructure development.

The Ninth Five-Year Plan (1997–2002) focused on enhancing financial autonomy and governance efficiency among ULBs by improving revenue mobilization, tax reforms, and institutional strengthening. Similarly, the Tenth Five-Year Plan (2002–2007) prioritized decentralization, fiscal discipline, and capacity building. It recognized the need to bridge managerial skill gaps in municipalities, ensure transparency, promote user charges, and enhance non-tax revenues, thereby fostering sustainable and accountable urban governance.

The Eleventh Five-Year Plan (2007–2012) sought to enhance the financial sustainability of municipalities through the Municipal Finance Improvement Programme. It identified a substantial fiscal gap of ₹76,896 crore between municipal revenues and financial requirements, highlighting the need for fiscal reforms and capacity building at the ULB level. The Twelfth Five-Year Plan (2012–2017) proposed the establishment of state-level urban regulatory authorities and advocated for the integration of information technology within ULB operations to improve efficiency, transparency, and governance.

Collectively, the Twelfth to Fourteenth Plans (2012–2022) emphasized the development of smart and sustainable cities, focusing on integrated urban planning, improved service delivery, and the application of technology-driven governance. These plans underscored the importance of strengthening local institutional frameworks and governance mechanisms to manage rapid urbanization. Through successive planning cycles, India has continuously advanced toward sustainable and inclusive urban development, enabling ULBs to play a more proactive role in improving infrastructure, governance, and the quality of urban life.

Table 3.1: Five Year Plans and Select Measures for Urban Local Bodies in India

FYP	Year	Proposed Allocations or Recommendations for Local Bodies

First	1951-56	The focus was on setting up basic infrastructure in urban areas. Funds were allocated for projects such as housing, water supply, sanitation, and roads, which were implemented by ULBs with support from the central and state governments. Rs. 15 crore: Lump-sum provision for local development works for local bodies.
Second	1956-61	Continued emphasis on urban infrastructure development. Allocations were made for initiatives to improve living conditions in urban areas, including slum clearance and housing programs. Recognized that Local Bodies had inadequate finances.
Third	1961-66	Further investments in urban infrastructure and services. Funds were allocated for projects aimed at improving water supply, sanitation, drainage, and transportation systems in urban areas
Fourth	1969-74	The plan aimed to strengthen municipal administration and governance by promoting citizen participation and decentralization of powers. Rs 45 crore planned to be raised by local bodies for urban planning and development.
Fifth	1974-79	This plan continued the focus on urban infrastructure development and emphasized the role of ULBs in urban poverty alleviation and social welfare programs. Rs 10.27 crore allocated to local bodies for improving urban sanitation and water supply.
Sixth	1980-85	The plan aimed to improve urban governance and management through capacity building initiatives for ULBs. It focused on strengthening urban infrastructure and services, particularly in smaller towns and cities. Rs. 1.60 crore allotted for policy formulation and research on urban development.
Seventh	1985-90	This plan emphasized the need for integrated urban development strategies and comprehensive urban planning. It included provisions for urban environmental management and pollution control measures.
Eighth	1992-97	73rd and 74th Amendments were passed. This plan aimed to promote sustainable urban development through initiatives such as urban renewal and revitalization programs. It emphasized the importance of public-private partnerships (PPPs) in urban infrastructure development.

Ninth	1997-02	This plan focused on improving urban governance and financial management systems in ULBs. It aimed to enhance service delivery and infrastructure provision in urban areas, with a focus on basic amenities for the urban poor
Tenth	2002-07	The plan aimed to promote urban reforms, including decentralization of powers, strengthening of local governance institutions, and capacity building for ULBs. It emphasized the need for sustainable urban development and integrated urban planning approaches.
Eleventh	2007-12	Municipalities sought to be made financially sustainable through Municipal Finance Improvement Program; recognized that there was a gap between revenues and financial requirements of Rs. 76,896 crore.
Twelfth	2012-17	Launched AMRUT aimed at providing basic urban infrastructure and services to improve the quality of life in cities. Introduced Swachh Bharat Mission (Urban) aimed at achieving cleanliness and sanitation in urban areas. Proposal to set up an urban regulator at State level.

Source: Various Five-Year Plans Documents, Government of India

3.3 CENTRAL FINANCE COMMISSIONS AND MUNICIPAL FINANCE

The Central Finance Commission (CFC) is constituted by the Government of India every five years under Article 280 of the Constitution to recommend the distribution of tax revenues between the Union and the States, and among the States themselves. These recommendations play a crucial role in ensuring fiscal balance, transparency, and equitable growth. ULBs receive grants from both the Central and State Governments, based primarily on the recommendations of the CFCs and respective State Finance Commissions (SFCs). The CFC's recommendations strengthen fiscal stability and enhance the financial autonomy of local governments by ensuring systematic intergovernmental transfers.

Before the enactment of the 74th Constitutional Amendment Act (1992), the Central Government did not directly transfer resources to ULBs. Article 280(3)(c) later mandated the Finance Commission to recommend measures for augmenting the

Consolidated Fund of States to supplement the resources of Panchayats and Municipalities, based on SFC recommendations. Following the 73rd and 74th Amendments, six successive Finance Commissions—from the Tenth to the Fifteenth—were constituted, establishing a structured framework for fiscal devolution to local bodies that previously functioned under state control without adequate legislative empowerment (Singh et al., 2015).

Following the 74th Constitutional Amendment Act (1992), the Tenth Finance Commission (1995–2000) marked a pivotal step in strengthening fiscal decentralization by providing ad hoc grants to ULBs from central revenues. This initiative represented the first systematic attempt by a CFC to address the fiscal needs of ULBs and enhance their accountability, efficiency, and institutional credibility. The constitutional amendments facilitated the devolution of fiscal and administrative powers to the third tier of governance, reinforcing India’s commitment to cooperative federalism (Singh et al., 2015). Subsequent Finance Commissions continued this effort by allocating grants to ULBs based on state-wise criteria, including the proportion of the slum population and other socioeconomic indicators.

The 73rd and 74th Amendments also mandated each state government to establish a SFC every five years to review municipal finances and make recommendations, which would subsequently inform the deliberations of the succeeding CFCs. However, many state governments failed to constitute SFCs within the stipulated timeframe, limiting the Tenth Finance Commission’s capacity to incorporate their recommendations. Despite these institutional shortcomings, the Tenth Finance Commission’s initiatives laid the foundation for structured fiscal transfers and highlighted the central government’s evolving commitment to genuine fiscal federalism and municipal empowerment.

Despite the absence of explicit terms of reference for local bodies, the Tenth Finance Commission (1995–2000) made a historic intervention by allocating an ad hoc grant of ₹1,000 crore to municipalities across India. This grant, distributed among states as grant-in-aid, represented the first major central initiative to empower urban and rural local governments under the framework of the 73rd and 74th Constitutional

Amendments (Mohanty, 2016). These amendments had assigned local bodies new fiscal and administrative responsibilities, necessitating adequate financial resources to discharge their functions effectively.

For Mizoram, the Tenth Finance Commission recommended the highest per capita resource transfer among all Indian states. The total devolution for the period 1995–2000 amounted to ₹1,802.01 crore—comprising ₹1,398.37 crore as tax shares and ₹403.64 crore as grants-in-aid—reflecting a 76.5% increase over the Ninth Finance Commission’s recommendations (1990–1995). Additionally, the state received ₹331.19 crore as revenue gap grants and ₹3.32 crore to improve local administration, both rural and urban (Government of Mizoram, 1996). These allocations underscored the Commission’s recognition of the financial vulnerabilities of smaller and northeastern states while promoting balanced regional development and strengthening local fiscal capacity.

The Eleventh Finance Commission (2000–2005) was the first to receive a clear constitutional mandate to recommend measures for augmenting the Consolidated Funds of the States to strengthen the financial capacity of municipalities and panchayats. After consulting the Ministry of Urban Development and various state governments, the Commission recognized that providing basic civic services—such as sanitation, waste management, and water supply—required focused attention and systematic fiscal support (NIUA, 2011). However, due to the unavailability of several SFC reports at the time, the Eleventh Finance Commission was constrained in its analysis and had to rely on approximate estimations. Consequently, it recommended an ad hoc grant of ₹2,000 crore to municipalities for the 2000–2005 period to support essential urban functions and infrastructure.

The Twelfth Finance Commission (2005–2010) further strengthened fiscal decentralization by recommending grants-in-aid of ₹25,000 crore to augment state consolidated funds, benefiting both municipalities and panchayats. Of this amount, ₹5,000 crore was earmarked explicitly for ULBs. The interstate allocation was determined using weighted indicators, including population, geographic area, per capita income differentials, and revenue effort. The Commission emphasised the

importance of Public Private Partnerships (PPPs) for efficient urban service delivery, particularly in solid waste management (SWM). It recommended that cities with populations exceeding 100,000 develop integrated waste management strategies, including composting and waste-to-energy projects, and that at least 50% of urban grants be earmarked for such initiatives. Moreover, the Commission underscored the need for improved municipal accounting systems and database management to ensure transparency, accountability, and effective planning at the local level.

The Thirteenth Finance Commission (2010–2015) was mandated to recommend measures to augment the Consolidated Fund of the States, thereby strengthening the financial capacity of Panchayats and Municipalities, based on the recommendations of the respective SFCs. In line with this mandate, the Commission introduced two categories of grants for local bodies: (i) General Basic Grant and (ii) General Performance Grant. The Basic Grant was released upon submission of utilization certificates for previous allocations, while the Performance Grant was contingent upon the fulfillment of nine reform-oriented conditions by state governments, as specified in the Commission's report.

The Thirteenth Finance Commission recommended a total grant-in-aid of ₹23,111 crore for municipalities during the 2010–2015 period—approximately four times higher than the allocation under the Twelfth Finance Commission. State governments were eligible to access their share of the 'General Performance Grant' only upon meeting all prescribed conditions related to transparency, accountability, and fiscal management. According to Mohanty (2016), transfers to municipalities through central mechanisms—including the Finance Commission, Planning Commission, and other ministries—amounted to 0.10% of GDP in 2012–13. With the implementation of subsequent recommendations under the Fourteenth Finance Commission, this ratio was projected to rise to 0.15% per annum, marking a significant step toward strengthening fiscal decentralization and urban governance.

The Fourteenth Finance Commission (2015–2020) was constitutionally mandated to propose measures for augmenting the Consolidated Fund of the States, thereby strengthening the fiscal capacity of Panchayats and Municipalities, guided by

the recommendations of the SFCs. In alignment with this mandate, the Commission emphasized the need for assured transfers to local bodies to facilitate effective planning and smooth delivery of essential civic services within the scope of their constitutionally assigned functions (Government of India, 2015).

The Fourteenth Commission (FC-XIV) observed that strengthening the fiscal base of local bodies would improve the quality of basic services and, consequently, enhance citizens' willingness to contribute through taxes and user charges. It recommended that expenditures incurred by Panchayats and Municipalities be made only after the preparation of comprehensive plans in accordance with established state rules and procedures. A landmark recommendation of the FC-XIV was the significant enhancement of the states' share in the divisible pool of central taxes from 32% to 42%, representing a major step toward fiscal federalism.

For the 2015–2020 award period, the FC-XIV proposed total grants-in-aid of ₹2,87,436 crore for local bodies, out of which ₹87,144 crore was specifically allocated to municipalities. These grants aimed to promote financial autonomy, strengthen governance capacity, and ensure sustainable delivery of basic urban services.

The FC-XIV has recommended Grant-in-aid to duly constituted Panchayats (Rural Local Bodies) and Municipalities (Urban Local Bodies) in two parts, namely -

- 1) Basic Grant, and
- 2) Performance Grant.

In case of Municipalities, 80 per cent of the Grant will be the Basic Grant and 20 per cent will be the Performance Grant. The FC-XIV has recommended a Basic Grant of Rs 69,715.03 crore for the Municipalities for the period 2015-20.

The Fifteenth Finance Commission (2021–2026) established a comprehensive framework for funding ULBs in India, recognizing the increasing fiscal demands of rapid urbanization and the need for sustainable urban development. The Fifteenth Finance Commission (FC-XV) recommended a total grant of ₹1,21,055 crore for ULBs and urban agglomerations across the country, reflecting its emphasis on strengthening

municipal infrastructure, service delivery, and financial autonomy (Finance Commission of India, 2020). Additionally, it encouraged performancebased grants, efficient revenue mobilization, transparent governance, and effective utilization of funds to enhance accountability and ensure long-term urban resilience.

Acknowledging that 61% of India’s urban population resides in urban agglomerations—including census towns, municipalities, and outgrowths—the FCXV introduced a differentiated approach in allocating grants. It categorized ULBs into two groups: (a) Million-Plus Urban Agglomerations/Cities (excluding Delhi and Srinagar) and (b) Non-Million-Plus Cities, each receiving distinct types of grants. For Non-Million-Plus cities, 40% of the total allocation was designated as basic (untied) grants—intended for local priority projects, excluding administrative expenditures—while 60% constituted tied grants, earmarked specifically for improving essential urban services such as water supply, sanitation, and solid waste management.

Through this framework, the FC-XV reinforced the principle of performancelinked fiscal transfers and encouraged ULBs to adopt accountable, transparent, and citizen-oriented governance models, aligning with India’s broader goals of sustainable and inclusive urban development.

Table 3.2 below illustrates the progressive increase in financial grants recommended by successive Finance Commissions for ULBs from 1995 to 2025. The allocation grew remarkably from ₹1,000 crore under the 10th Commission to ₹1,21,055 crore under the 15th, reflecting the government’s growing fiscal commitment to strengthening urban governance and service delivery over time.

Table 3.2: Grants recommended under Finance Commissions

Finance Commission	Award Period	Grants for ULBs
10 th Finance Commission	1995-2000	Rs. 1,000 crore
11 th Finance Commission	2000-2005	Rs. 2,000 crore
12 th Finance Commission	2005-2010	Rs. 5,000 crore
13 th Finance Commission	2010-2015	Rs. 23,111crore

14 th Finance Commission	2015-2020	Rs 87,144 crore
15 th Finance Commission	2020-2025	Rs 1,21,055 crore

Source: 10th, 11th, 12th, 13th, 14th and 15th Finance Commissions' Reports

The Fifteenth Finance Commission (2021–2026) introduced a structured funding mechanism for Non-Million-Plus Cities and towns, dividing the allocated grants equally into two parts: (i) 50% as Basic (untied) Grants and (ii) 50% as Tied Grants. Of the total Tied Grant, half is earmarked explicitly for Sanitation and SWM, including achieving Garbage-Free Star Ratings developed by the Ministry of Housing and Urban Affairs (MoHUA). The remaining half supports projects related to Drinking Water Supply, Rainwater Harvesting, and Water Recycling. These tied grants are designed to supplement existing central and state allocations under various Centrally Sponsored Schemes (CSSs), thereby improving sanitation and drinking water services for citizens and promoting sustainable urban management (Finance Commission of India, 2020).

The four Finance Commissions preceding the Fifteenth—namely, the Eleventh, Twelfth, Thirteenth, and Fourteenth Finance Commissions—employed population and geographical area as the primary criteria to determine intergovernmental fiscal transfers, reflecting the relative needs of states and local bodies. In contrast, Table 4.3 shows that the Fifteenth Finance Commission introduced innovative parameters such as Forest and Ecology and Demographic Performance, marking a significant evolution in fiscal devolution policy. The Commission relied on Census 2011 data, assigning a 90% weight to population and a 10% weight to area in distributing grants among states. These allocations were further divided among duly constituted gram panchayats and municipalities based on their respective urban and rural populations. While this formula sought to maintain equity and simplicity, Oommen (2015) contends that excessive emphasis on population undermines fiscal justice and weakens democratic decentralization. He argues that overlooking additional socio-economic and environmental criteria risks perpetuating inequities in resource allocation, thereby temporarily deferring meaningful empowerment of local governance institutions.

Table 3.3: Distribution of Grants to States for Urban Local Bodies: Criteria and Weights (Percentage) Adopted by Finance Commissions of India

Finance Commission	11 th	12 th	13 th	14 th	15 th
Population	40	40	50	90	15
Geographical area	10	10	10	10	15
Distance from highest per capita income	20	20	20	-	45
Index of decentralization	20	-	-	-	-
Index of devolution	-	-	15	-	
Index of deprivation	-	10	-	-	
Revenue effort /Tax & Fiscal effort	10	20	-	-	2.5
CFC ULB grant utilization index		-	-	5	-
Forest & Ecology					10
Demographic performance					12

Source: 11th, 12th, 13th, 14th and 15th Finance Commissions' Reports

3.4 REVENUE SOURCES OF AIZAWL MUNICIPAL CORPORATIONS

Municipalities in India have long faced a chronic shortage of financial resources, significantly constraining their ability to develop infrastructure and deliver essential civic services. Since independence, urban local finances have remained a marginal component of India's overall public finance framework characterized by a limited revenue base, restricted fiscal autonomy, weak institutional capacity, and a heavy dependence on intergovernmental fiscal transfers. These constraints have perpetuated inefficiencies in financial management and hindered sustainable urban development (Jain et al., 2015).

Like most Indian municipalities, the AMC depends substantially on transfers from both the Central and State Governments to meet its fiscal needs. The SFC recommends devolution of state taxes to AMC, while the Corporation's own-source revenues consist primarily of property tax, rents, fees, and fines. In addition, AMC receives periodic grants-in-aid from the CFC, supplementing its operational budget (AMC, 2022). However, the reliance on external grants underscores the Corporation's

financial fragility. According to Thanga et al. (2023), AMC's ownsource revenue averaged only 11.59% of its total revenue between 2015–16 and 2021–22, while its own receipts were consistently less than one-third of its annual expenditure, indicating severe fiscal stress. Property tax remains AMC's only significant source of tax revenue, with average annual growth of 14.2%, though this increase is insufficient to close the fiscal gap.

The Second Mizoram Finance Commission (MFC-II) identifies four primary categories of AMC's revenue: (1) own-source revenue (tax and non-tax), (2) transfers from the Central Government, (3) transfers from the State Government, and (4) other miscellaneous receipts. Section 210 of the Mizoram Municipalities Act, 2007 (amended 2015) authorizes AMC to levy taxes such as property tax, market fees, profession tax, cart and carriage tax, and advertisement tax (excluding newspaper advertisements). Major non-tax revenues include fees from the Ch. Chhunga Bus Terminal, Ch. Saprawnga Truck Terminal, parking charges, and building regulation fees, which collectively supplement AMC's limited fiscal capacity (Accountant General, 2017).

The Property Tax Management Rules, 2014, implemented on April 1, 2015, granted AMC exclusive authority to collect property tax, marking an important step in enhancing local fiscal autonomy. Nonetheless, despite this empowerment, AMC's own revenue sources remain narrow. The MFC-II (2023) reports that AMC's dependency on higher-level government transfers mirrors the national trend of weak local resource mobilization. In eight of the twelve years examined, AMC's own revenues were below one-third of total expenditure, demonstrating a persistent reliance on state and central allocations for developmental projects.

Such dependence has rendered AMC vulnerable to fiscal instability and limited its capacity to invest in critical infrastructure and service delivery. The MFCII emphasizes that overreliance on upper-tier transfers weakens municipal selfsufficiency, undermining the long-term sustainability of urban governance in Mizoram. Strengthening own-source revenue generation, diversifying fiscal instruments, and improving tax collection efficiency are thus imperative for AMC to

achieve financial resilience and fulfil its mandated functions in urban development and service provision.

3.4.1 Tax and Non-Tax Revenues

Urban local governments (ULGs) in India require adequate financial resources to effectively discharge their constitutional and functional responsibilities. A proper assessment of municipal finances—comprising expenditure requirements, revenue capacity, and service delivery obligations—is crucial for efficient urban governance. The first systematic attempt to set urban service norms was made by the Zakaria Committee (1963), which established physical and expenditure benchmarks for key municipal services, including water supply, sewerage, stormwater drainage, urban roads, and street lighting. Subsequent assessments, including those by Mathur et al. (2007), have updated these benchmarks to reflect changing urban needs. However, ensuring that municipalities possess adequate fiscal capacity to meet such expenditure norms remains a persistent challenge. The Centre for Water and Sanitation (CWAS, 2020) recommends developing updated “Zakaria-type” estimates aligned with current service standards to more accurately assess local government expenditure requirements.

According to the Reserve Bank of India (RBI, 2022), the revenue receipts of Indian municipal corporations—comprising own tax, own non-tax, and transfer revenues—accounted for 0.61% of GDP in 2017–18, with projections rising to 0.72% of GDP in 2019–20, indicating a gradual improvement. Own tax revenues, including property tax, water tax, toll tax, and other levies, contributed around 31–34% of total revenues during this period. Property tax remains the dominant revenue source, constituting nearly half of total municipal tax collections but contributing less than 0.5% of GDP, with significant interstate disparities. Nevertheless, property tax performance in India lags far behind that of OECD nations, primarily due to structural inefficiencies, including property undervaluation, incomplete assessment records, weak administrative capacity, and pending legal disputes (Awasthi et al., 2020; Mankikar, 2018).

In Mizoram, the first state Finance Commission became operational in 2015, initiating systematic devolution to the AMC. Initially, during 2015–16, all transfers were in the form of non-tax devolution, but following the implementation of the First Mizoram Finance Commission (2016–17), AMC began collecting property tax and incorporating tax devolution into its revenue structure. Between 2015 and 2020, the total transfer from the State Government amounted to ₹7,181.42 lakh, while tax receipts rose substantially from ₹333.66 lakh in 2016–17 to ₹1,417.93 lakh in 2019–20, totalling ₹6,596.55 lakh over five years. Concurrently, AMC received ₹13,013.91 lakh in grants from the Fourteenth Finance Commission, reflecting both enhanced fiscal transfers and growing reliance on higher tiers of government for financial support. Despite these improvements, AMC’s own-source revenues remain limited, underscoring the structural dependence of urban local bodies on intergovernmental transfers for sustaining essential urban infrastructure and civic services.

Table 3.4: Devolution of funds from the State and Centre to Aizawl Municipal Corporation

(₹ in lakh)

Year	Projected share of taxes as per 1st SFC	Share of taxes received	14 th FC grants received	Projected grants-in-aid from State Government as per 1st SFC	Grants-in-aid received from State Government	Total projected transfers from the State Government (2+5)	Total transfers received from State Government (3+6)
2015-16	770.7	0	2,968.91	0	584.87	770.7	584.87
2016-17	887.07	333.66	1,375.50	0	0	887.07	333.66
2017-18	1,020.97	2,905.40	2,192.50	0	0	1,020.97	2,905.40
2018-19	1,175.13	1,939.56	1,990.50	0	0	1,175.13	1,939.56
2019-20	1,352.56	1,417.93	4,486.50	0	0	1,352.56	1,417.93
2015-20	5,206.43	6,596.55	13,013.91	0	584.87	5,206.43	7,181.42

Source: Aizawl Municipal Corporation and the First Mizoram Finance Commission

Table 3.4 illustrates the financial transfers from the State and Central Governments to the AMC during the period 2015–16 to 2019–20. The data indicate considerable year-to-year variation, with Finance Commission grants emerging as the dominant revenue source. Notably, allocations from the 14th Finance Commission peaked at ₹4,486.50 lakh in 2019–20. In contrast, projected grants under the first Mizoram Finance

Commission (MFC-I) were only partially disbursed, with some tax shares remaining unpaid. Overall, AMC received ₹7,181.42 lakh— below the expected SFC allocations—underscoring the uncertainty of state-level transfers and AMC’s sustained fiscal dependence on central funding mechanisms. The inconsistency in intergovernmental fiscal transfers highlights the need for predictable, rule-based devolution and enhanced fiscal autonomy to enable stable municipal financial planning, equitable service delivery, and long-term institutional strengthening.(Aizawl Municipal Corporation [AMC], 2022).

The inconsistent and partial nature of fiscal transfers has considerably restricted AMC’s financial autonomy, impairing its strategic planning and service delivery capacity. Dependence on external funding sources reduces its potential to mobilize internal revenues, weakens infrastructure investment, and erodes transparency and fiscal accountability in urban governance. (Aizawl Municipal Corporation.2022).

The following Table 3.5 outlines the revenue receipts of the (AMC from 2011–12 to 2021–22, highlighting four key components—own revenues (tax and non-tax), central transfers, state transfers, and other receipts. The data reflect AMC’s persistent dependence on higher-level fiscal transfers, owing to its narrow internal revenue base. In its early years, AMC’s earnings came solely from non-tax sources, amounting to ₹20.41 lakh in 2010–11 and ₹29.70 lakh in 2011–12. As reported by the Second Mizoram Finance Commission (2023), AMC’s limited ability to mobilize internal resources has led to continued reliance on central and state transfers, constraining its financial autonomy and impeding sustainable municipal development.

Central transfers—mainly Finance Commission grants and Centrally Sponsored Schemes—remain the most significant source of revenue for the AMC, rising from ₹932.05 lakh in 2010–11 to a peak of ₹5,904.45 lakh in 2020–21, before a sharp decline. State transfers displayed greater volatility, beginning at ₹161.50 lakh in 2010–11, rising steadily, then spiking to ₹2,905.40 lakh in 2017–18, before fluctuating in later years. Overall, AMC’s total revenue receipts increased from ₹1,113.96 lakh in 2010–11 to ₹7,357.26 lakh in 2020–21, reflecting a compound annual growth rate of

14.3%, before declining to ₹3,917.35 lakh in 2021–22. The observed revenue growth trajectory indicates a gradual strengthening of intergovernmental fiscal relations, though it remains largely transfer-dependent. The sharp fluctuations in grants highlight the AMC's limited fiscal autonomy and the absence of a predictable revenue framework. Strengthening fiscal decentralization, improving local tax administration, and institutionalizing performance-linked grants are necessary to enhance financial stability, reduce uncertainty, and empower AMCs to deliver sustainable, citizen-responsive urban services.

Although property tax collections improved after 2015, boosting own-source revenue from ₹20.41 lakh in 2010–11 to ₹643.72 lakh in 2021–22, they accounted for only an average of 9.3% of total receipts. This highlights AMC's continuing fiscal dependence on state and central transfers, where shortfalls in central allocations were often compensated by state funds. Such dependency, however, exposes AMC to financial instability and constrains its ability to plan and implement long-term, sustainable urban governance strategies. Strengthening local revenue bases, enhancing financial management systems, and diversifying non-tax income sources are essential to achieving fiscal resilience and ensuring efficient service delivery within the municipal framework.

Table 3.5 Summary of Revenue Receipts of the Aizawl Municipal Corporation

Rs in lakh

Year	Own Revenue			Central Transfer			State Transfer			Others (Penal Interest)	Total Revenue Receipt	Own Revenue as % of TRR
	Property Tax	NonTax Revenue	Total	FC transfer	CSS	Total	Tax Devolution	GIA	Total			
2010-11	0	20.41	20.41	932.05	0	932.05		161.5	161.5		1113.96	1.8
2011-12	0	29.7	29.7	1107	0	1107		378.09	378.09		1514.79	2
2012-13	223.47	81.34	304.81	1982.09	0	1982.09		339.37	339.37		2626.27	11.6
2013-14	0	102.97	102.97	1863.1	0	1863.1		604.19	604.19		2570.26	4
2014-15	1.94	129.08	131.02	3600.46	0	3600.46		558.09	558.09		4289.57	3.1
2015-16	114.18	174.39	288.57	2968.91	0	2968.91	0	584.87	584.87	32.69	3875.04	7.4
2016-17	220.4	277.57	497.97	1375.5	73	1448.5	333.66	0	333.66	54.38	2334.51	21.3
2017-18	275.53	244.57	520.1	2192.5	200.11	2392.61	2905.4	0	2905.4	38.74	5856.85	8.9
2018-19	297.07	571.29	868.36	1990.5	220.37	2210.87	1939.56	0	1939.56	0	5018.79	17.3
2019-20	344.06	308.93	652.99	4486.5	70.6	4557.1	1417.93	0	1417.93	14.06	6642.08	9.8
2020-21	307.79	276.77	584.56	4500	1404.45	5904.45	0	868.01	868.01	0.25	7357.26	7.9
2021-22 (RE)	322.09	321.63	643.72	1700	45.11	1745.11	0	1528.52	1528.52	0	3917.35	16.4
CAGR (%)	**	28.1	34.8	8.4	**	9.8	**	**	20.1	**	14.3	

Source: Report of the the Second Mizoram Finance Commission, Mizoram

Note: FC Transfer is the fund transfer from the Central government as recommended by the Central Finance Commissions; CSS includes receipt from AMRUT, Swach Bharat Mission, DAY-NLUM; CAGR is the Compound Annual Growth Rate; and ** indicates Insignificant trend coefficient

Table 3.5 illustrates the revenue receipt trends of the AMC from 2010–11 to 2021–22, highlighting the Corporation’s persistent dependence on central transfers, particularly Finance Commission (FC) grants, which consistently account for the largest share of total revenues. Although own-source revenues, such as property tax and non-tax receipts, have shown gradual improvement, they remain below 20% of total income. Despite increased property tax collection after 2015–16, AMC continues to exhibit significant fiscal dependency, raising concerns regarding its financial sustainability and institutional autonomy. Government of Mizoram. (2023).

The continued reliance on central transfers highlights the necessity for the AMC to strengthen its own-source revenue base. Expanding the property tax network through GIS mapping, enhancing collection efficiency, and revising user charges can substantially improve fiscal capacity. Additionally, diversifying non-tax revenues via market fees, parking charges, and public–private partnerships would enhance financial resilience and reduce dependence on irregular external transfers. (Government of Mizoram. 2023).

3.4.2 Mizoram Finance Commissions and Aizawl Municipal Corporation

Under the 73rd Constitutional Amendment Act (1992), each state is constitutionally mandated to establish a state Finance Commission to recommend principles for fiscal devolution to local bodies. Article 243I of the Indian Constitution requires that the Governor constitute an SFC within one year of the amendment’s commencement and subsequently every five years. These commissions are responsible for reviewing municipalities’ financial status and recommending revenue-sharing mechanisms. As Mathur (2020) notes, Article 280(3)(c)—which directs the Central Finance Commission to consider SFC reports when assessing urban local body requirements—warrants re-evaluation to ensure coherent and equitable fiscal decentralization between central, state, and local governments.

3.4.2(a) First Mizoram Finance Commission and AMC

In alignment with the 74th Constitutional Amendment, the Government of Mizoram established the First Mizoram Finance Commission (MFC-1) on 30 September 2011,

under Section 3(1) of the Mizoram Finance Commission Act, 2010 (Act No. 17 of 2010). The Commission's mandate was to recommend measures to strengthen local fiscal governance for the period 2015–2020, and its report was formally presented to the Mizoram Legislative Assembly in March 2016. The principles which inter alia should govern –

- 1) The distribution between the State and the Village Councils (VCs), AMC and the Autonomous District Councils (ADCs) of the net proceeds of the taxes, duties, tolls and fees leviable by the State, which may be divided between them to enable these bodies to perform the functions assigned, and which may be assigned to it under any laws in force or orders, and the allocation between the VCs, AMC and the ADCs councils at all levels of their respective shares of such proceeds;
- 2) The determination of the taxes, duties, tolls and fees which may be assigned to or appropriated by the VCs, AMC and the ADCs;
- 3) The Grants-in-aid to the Aizawl Municipal Council from the Consolidated Fund of Mizoram; and
- 4) The measures needed to improve the financial position of the AMC, VCs and ADCs.

Although Mizoram is constitutionally exempt from the 74th Amendment, the state government has demonstrated a consistent commitment to deepening local governance. The Mizoram Municipalities Act, 2007, amended in 2009, institutionalised urban local self-government, promoting citizen participation and fiscal accountability. These measures reflect the government's effort to harmonise constitutional principles with Mizoram's unique socio-political context, ensuring a balance between decentralization and autonomous local governance. Government of Mizoram. (2015).

The MFC-1 highlighted two critical demographic concerns based on the 2011 Census, reflecting the growing complexity of urbanization in Aizawl city, particularly in the areas of sanitation and urban infrastructure. First, the Commission noted the

significant population growth of Aizawl over the past three decades, which has intensified pressure on civic amenities. Second, it observed the high population density, with over one-fourth of the state's population residing within an area covering slightly more than half a per cent of Mizoram's total geographical expanse. Prior to the establishment of the MFC-I, non-tax revenues and central transfers were the primary sources of income for the AMC. Table 3.6 illustrates AMC's revenue trends from 2010 to 2015, underscoring the fiscal challenges associated with rapid urban growth and limited revenue capacity.

Table 3.6: Trend in Total Revenue Receipts of AMC during 2010-11 to 2014-15

(Rs in Lakhs)

Sl.No	Item	2010-11	2011-12	2012-13	2013-14	2014-15
	Non-Tax Revenue					
1	Total Parking Fees	20.41	22.79	42.94	42.87	59.7
2	Building Permission		10.83	22.91	15.41	16.8
3	Licensing Regulation				0.71	15
4	Bank Interest	0.12	2.2	14.68	36.33	50.85
5	Others		0.02	4.67	8.93	12.8
1 to 5	Total Non-Tax Revenue	20.53	35.84	85.2	104.25	154.52
	Transfers					
6	LC's Remuneration		28.5	28.5	82.44	82.44
7	General Basic Grants (FC)	864	1,107.00	1,245.13	1,746.72	1,662.00
8	Performance Grant (FC)			426.67	426.67	1,131.00
9	General Performance Grant (forfeited of other state)		68.05	310.29		
10	Penal interest		0.35	28.86	65.15	90.48
11	Plan grants	161.5	200	300	686.64	686.64
6 to 10	Transfer net of plan grants	864	1,203.90	2,039.45	2,320.98	2,965.92
6 to 11	Total Transfers	1,025.50	1,403.90	2,339.45	3,007.62	3,652.56
1 to 11	Total Receipts	1,046.03	1,439.74	2,424.65	3,111.87	3,807.08
12	Own revenue % to Total Receipts	1.96	2.49	3.51	3.35	4.06

Source: Report of the Second Mizoram Finance Commission, Mizoram

Table 3.6 illustrates the revenue receipts of the AMC during the five-year period from 2010–11 to 2014–15, indicating a consistent upward trend in both nontax revenues and intergovernmental transfers. The non-tax component, primarily comprising parking fees, building permit charges, and bank interest, expanded notably from ₹20.53 lakh in 2010–11 to ₹154.52 lakh in 2014–15. However, grants and transfers—including allocations from the Finance Commissions, plan grants, and performance-based grants—remained the principal source of income, contributing the bulk of AMC’s total receipts. Consequently, total revenues rose from ₹1,046.03 lakh to ₹3,807.05 lakh over the study period. Despite this overall increase, ownsource revenues accounted for only a marginal share, rising from 1.96% to 4.06%, thereby underscoring AMC’s sustained financial reliance on state and central government transfers.

Until the fiscal year 2014–15, the AMC did not generate any tax-based revenue. The shift occurred following the adoption of the Mizoram Municipalities (Property Tax Management) Rules, 2014 by the AMC on 13 May 2015, which officially came into effect on 1 April 2015 within AMC’s jurisdiction. Consequently, property tax collection began in 2015, marking a crucial milestone in AMC’s fiscal evolution.

The MFC-I (2015–2020) estimated, using a normative revenue model, that property tax could generate approximately ₹10 crore annually by the end of the award period (2020). Table 3.7 below served as a forecasting tool to project future revenue streams. Non-tax revenues, such as parking fees, building permits, and licensing fees, were assumed to grow at an annual rate of 6%, based on 2014–15 benchmarks and expected inflation. Likewise, bank interest income was estimated as the average of the preceding two years and projected to grow at the same rate.

By the end of the award period, AMC’s own-source revenue, including tax and non-tax components, was expected to reach approximately ₹11 crore, reflecting gradual fiscal strengthening. However, despite this growth, AMC’s financial sustainability remained dependent on enhancing its own revenue mobilization capacity and improving tax administration efficiency.

Table 3.7: Projected Own Revenue Receipts of AMC during 2015 to 2020

(Rs in Lakhs)

Particulars	2015-2016	2016-17	2017-18	2018-19	2019-20
Property tax	500.00	600.00	700.00	800.00	900.00
Non-tax Revenue	155.84	167.03	179.09	192.07	206.06
Total Own Tax Revenue	655.84	767.03	879.09	992.07	1106.06

Source: Report of the Second Mizoram Finance Commission, Mizoram

In alignment with its constitutional mandate and the provisions of the Mizoram Finance Commission Act, 2010 (Act No. 17 of 2010), the MFC-1 submitted its first report outlining key recommendations to strengthen fiscal decentralization and local governance in the state. Given Mizoram's fragile financial condition and limited revenue-generating capacity, the Commission exercised fiscal prudence and refrained from recommending the devolution of the State's share of central taxes to local bodies during its award period (2015–2020). This decision was also influenced by the fact that the Fourteenth Finance Commission's report was not finalised at the time, rendering the estimation of the state's share of central taxes uncertain.

The Commission proposed a vertical devolution of 15 per cent of the State's own tax revenues, supplemented by an additional 5 per cent of excise duty from the date of actual levy, to be shared among all local bodies in aggregate. The horizontal devolution, representing inter se distribution among local entities, was structured in three stages. Accordingly, the Commission recommended a distribution ratio of 58.33 per cent to the ADCs, 24.17 per cent to the VCs, and 17.50 per cent to the AMC. This distribution framework aimed to ensure a fair and equitable allocation of fiscal resources across various tiers of local governance.

The Commission further emphasised the role of the Asian Development Bank (ADB)-assisted North Eastern Region Capital Cities Development Investment Programme (NERCCDIP) in enabling AMC to operationalise property tax collection from 2015–16 onwards. It is projected that AMC's property tax collection would increase linearly from ₹5 crore in 2015–16 to ₹9 crore by 2019–20, reflecting progressive fiscal capacity building at the urban local level.

Additionally, the MFC-I recommended that the State Government establish clear service delivery standards for key municipal sectors—namely water supply, sewerage, stormwater drainage, and solid waste management—to be notified by the end of each fiscal year. These standards were intended to enhance transparency, accountability, and performance monitoring in urban governance.

A further recommendation pertained to the functional devolution of remaining subjects listed in the Twelfth Schedule of the Constitution to the AMC within a specified timeframe. This would enable the municipal body to perform functions analogous to other ULBs in India and address the challenges of urbanization more effectively.

Through these recommendations, the MFC-1 sought to lay the foundation for a sustainable fiscal framework that would empower local governments to improve service delivery, enhance revenue mobilization, and promote participatory urban governance. The Commission’s balanced approach—combining fiscal caution with institutional strengthening—reflected a pragmatic strategy for advancing urban selfgovernance within the constraints of Mizoram’s economic context. (Government of Mizoram. 2015).

Table 3.8: First Mizoram Finance Commission Recommendation

First Stage : Distribution of the 15 per cent devolution of State Own Tax Revenues among the local bodies

<i>Sl No</i>	<i>Name of Local Bodies</i>	<i>Percentage Funds Shared</i>
1	Autonomous District Councils	58.33
2	Village Councils of the Eight Districts	24.17
2	Aizawl Municipal Corporation	17.5
Total		100

Source: Report of First Mizoram Finance Commission, Mizoram

Table 3.8 outlines the recommendations of the MFC-1 regarding fiscal devolution to local bodies across the state. The Commission proposed that 15 per cent of the State’s Own Tax Revenue be devolved to local institutions. The allocation formula prescribed 58.33 per cent for the three ADCs, 24.17 per cent for VCs across

eight districts, and 17.5 per cent for the AMC representing urban local governance. Also, the recommendation of the Commission regarding the horizontal distribution of tax devolution among local bodies are shown in the Table 3.9 below.

Table 3.9: First Mizoram Finance Commission Recommendation

First stage of horizontal distribution of tax devolution amongst local bodies as recommended by 1st MFC

Sl. No.	Name	Population (In aggregate) = x	Annual Average Assessed Expenditure (₹ in lakh) = y	y/sum (Y)*100 = z	x*z = xz.	xz/sum (xz)*100 = inter se share
1	ADCs	1,74,468	25,503.35	78.84	1,37,55,686.57	58.33
2	VCs	8,03,790	2,294.33	7.09	95,701,219.22	24.17
3	AMC	2,93,416	4,549.08	14.06	41,26,447.36	17.5
Total		12,71,674.00	32,346.76	100	2,35,83,353.16	100

Source: Report of the First Mizoram Finance Commission, Mizoram

The Table 3.9 presents the MFC-I's allocation pattern, showing that ADCs received the highest inter-se share (58.33%), followed by VCs (24.17%) and the AMC (17.5%), reflecting a population-and expenditure-based distribution. This indicates a strong fiscal emphasis on ADC's governance, developmental needs, and resource decentralization across different tiers of state's local government system.

MFC-I examined the financial mechanisms for addressing non-plan deficits of the AMC and other local bodies and proposed specific procedural guidelines. To estimate deficit requirements before devolution, the Commission advised adopting standardized forecasting methods based on realistic fiscal assumptions. It noted that state tax devolutions alone might not suffice to offset the deficit, recommending that funds from local body grants be utilized to bridge the remaining shortfall. Accordingly, MFC-I calculated the necessary allocations for financing AMC's nonplan deficits, as presented in Table 3.10, emphasizing prudent fiscal management and equitable fund distribution across local bodies.

Table 3.10: Projected Non-Plan Deficits of AMC and Financing

(Rs Lakh)

Particulars	2015-2016	2016-17	2017-18	2018-19	2019-20
1. Non-plan Expenditure	4200.11	4374.59	4549.08	4723.56	4898.04
2. Own revenue receipts	655.84	767.03	879.09	992.07	1106.06
3. Deficit before devolution (1-2)	3544.27	3607.56	3669.99	3731.49	3791.98
4. Share in State taxes	770.7	887.07	1020.97	1175.13	1352.56
5. Deficit after tax devolution (3-4)	2773.57	2720.5	2649.02	2556.36	2439.42

Source: Report of First Mizoram Finance Commission, Mizoram

During the initial year of the award period (2015–16), the Aizawl Municipal Corporation received funds through grants-in-aid rather than through direct tax devolution. The recommendations of the First MFC–I were effectively implemented from 2016–17 onward. As previously shown in Table 3.4, total state government transfers increased significantly from ₹584.87 lakh in 2015–16 to ₹1,417.93 lakh in 2019–20, amounting to ₹7,181.42 lakh over the five-year period. The share of tax receipts rose sharply from ₹333.66 lakh in 2016–17 to ₹1,417.93 lakh in 2019–20, totalling ₹6,596.55 lakh during 2015–2020. In addition, AMC received ₹13,013.91 lakh under the Fourteenth Finance Commission (2015–2020), indicating a growing reliance on intergovernmental transfers to finance municipal operations and developmental projects. Government of Mizoram, (2015).

The Second Mizoram Finance Commission (MFC–II) report reviewed the recommendations of the First Finance Commission and evaluated the extent of their implementation by the State Government. It examined the devolution of funds and functional responsibilities to the AMC in alignment with the Twelfth Schedule of the Indian Constitution. The outcomes and fiscal measures undertaken by the State Government in response to the MFC-I’s directives are systematically summarised in Table 3.11, reflecting the evolving framework of urban fiscal decentralisation in Mizoram. Government of Mizoram. (2023).

Table 3.11: Actions taken by the State Government on the 1st SFC Report

Para	Recommendation	Whether or not the Recommendation is accepted?	If accepted, action taken?
3.20 3.21	Functional devolution of remaining subjects listed in the Twelfth Schedule of the Constitution to the AMC in a time bound manner to enable them to perform analogous functions of other urban local bodies of the country and to handle the problems of growing urbanization with a holistic point of view.	Has not been considered by the Government	Most of the functions listed in the Twelfth Schedule had been transferred to AMC except water supply for domestic, industrial & commercial purposes; roads & bridges; fire services.
3.23	State Government to gradually put in place standards for delivery of all essential services provided by local bodies. For a start, State Government must notify or cause AMC to notify by the end of a fiscal year (31 March) the service standards for four service sectors-water supply, sewerage, storm water drainage, and solid waste management proposed to be achieved by them by the end of the succeeding fiscal year	Has not been considered by the Government	Service level benchmarks for four sectors viz., water supply, sewerage, storm water drainage and solid waste management had been notified by the State Government in Urban Development & Poverty Alleviation Department for the years 2016-17, 2017-18, 2018 19, 2019-20 and even in subsequent years in compliance with the recommendation of the 14th Finance Commission.
7.24 7.26	Asian Development Bank assisted NERCCDIP would enable the State Government to impose property tax by the Aizawl Municipal Council from the year 2015-16. Out of the surveyed properties, AMC to reach a level of annual collection of property tax at ₹9.00 crore rupees at least in 2019-20 gradually from a modest collection of ₹5.00 crore in 2015 16. The step up is assumed to be linear.	Has not been considered by the Government	Property tax levied, collected and appropriated by the AMC. Year-wise property tax collections, however, fell short of the 1st SFC projections, presumably on account of the suspension of the property tax on vacant land by the State Government and inefficiencies in revenue collection. Year wise receipts of property tax are: a) 2014-15 – ₹1.94 lakh b) 2015-16 – ₹114.18 lakh c) 2016-17 – ₹220.40 lakh d) 2017-18 – ₹275.53 lakh e) 2018-19 – ₹297.07 lakh f) 2019-20 – ₹344.06 lakh

7.27	On projection of non-tax revenue of AMC, the total parking fees in the base year estimate has been kept at the level of 2014-15 rounded off to ₹60 lakh and grown at a rate of 6% per annum for the forecast period as inflation effect. The base year estimate of building permission fees has been kept at the level of 2014-15 and grown at a rate of 6% per annum. Licensing regulation fees has been kept at 2014-15 level and grown at a rate of 6% per annum. The base year number of Bank interest has been arrived at a level of the average of the last two years (2014-15 and 2013-14) and grown at a rate of 6% per annum. For other fees, the same norm is followed as in the case of bank interest.	Has not been considered by the Government	The AMC generates non-tax revenues from various sources, prominent among them being receipts from parking fees, licensing fees, building permits, advertisement and hoardings, bank interests, etc. The receipts from non-tax revenues did exceed the 1st SFC projections as shown below: <i>₹ in lakh</i> <table><tr><th>Year</th><th>1st SFC</th><th>Actuals</th></tr><tr><td>2015-16</td><td>155.84</td><td>174.39</td></tr><tr><td>2016-17</td><td>167.03</td><td>277.57</td></tr><tr><td>2017-18</td><td>179.09</td><td>244.57</td></tr><tr><td>2018-19</td><td>192.07</td><td>571.29</td></tr><tr><td>2019-20</td><td>206.06</td><td>308.93</td></tr></table>	Year	1st SFC	Actuals	2015-16	155.84	174.39	2016-17	167.03	277.57	2017-18	179.09	244.57	2018-19	192.07	571.29	2019-20	206.06	308.93
Year	1st SFC	Actuals																			
2015-16	155.84	174.39																			
2016-17	167.03	277.57																			
2017-18	179.09	244.57																			
2018-19	192.07	571.29																			
2019-20	206.06	308.93																			
9.6	Vertical devolution of 15% of the State's Own Tax Revenue with local bodies in aggregate viz. Village Councils, Aizawl Municipal Council and Autonomous District Councils. In addition, vertical sharing of at least 5% of the excise duty to the local bodies from the date of the levy of the tax.	Accepted	The State Government accepted and implemented the recommendation by issuing Official Notification wherein 15% share of the State's Own Tax Revenue (SOTR) was to be devolved to local bodies over and above the grants-in-aid to the local bodies flowing either from the State or Central Government. However, separate devolution of 5% of excise duty was not implemented since the State Government considered that the excise duty formed part of the SOTR and thus was already included in the 15% divisible pool. The State Government stipulated that the share of local bodies from tax devolution shall be released in 14 instalments while amounts recommended for the year 2015-16 shall be treated to have lapsed.																		

9.8 9.9 9.10	Horizontal distribution of the 15% tax devolution amongst the local bodies in three stages. In the first stage, the inter se share from the 15% vertical devolution is recommended amongst the Autonomous District Councils in aggregate, Village Councils in aggregate and Aizawl Municipal Council in percentage terms as 58.33%, 24.17% and 17.50% respectively	Accepted	The State Government accepted and implemented the recommendation by issuing an OM No.A.11011/1/2016-FMC dt. 04.05.2016 wherein 15% vertical devolution from the State's Own Tax Revenue was decided to be distributed horizontally amongst the local bodies in aggregate as follows: a) Autonomous District Councils – 58.33% b) Village Councils of the 8 districts – 24.17% c) Aizawl Municipal Council – 17.50%
9.22 9.23 9.24	The financing mechanism of the non-plan deficits of the VCs and AMCs will follow the norm recommended for the ADCs	Accepted	The State Government accepted and implemented the recommendation by issuing a suitable instruction. The State Government stipulated that the non-plan revenue deficit grants shall be released in monthly instalments while amounts recommended for the year 201516 shall be treated to have lapsed

Source: Report of the Second Mizoram Finance Commission & Finance Department, GoM

3.4.2 (b) Second Mizoram Finance Commission and AMC

According to the Constitution (Seventy-Third Amendment Act, 1992), each state is mandated to constitute a SFC within one year of the Act's commencement and subsequently every five years. In Mizoram, the MFC-I covered the period 2015– 2020, and the MFC-II was expected to be constituted by 2019 to prevent fiscal imbalances in the flow of Grants-in-Aid and maintain both vertical and horizontal equity among local bodies. However, the state government delayed its formation, establishing the MFC-II only on 18 April 2021. The Commission submitted its report to the Governor of Mizoram on 20 July 2023, and the report was subsequently tabled before the Mizoram Legislative Assembly in August 2023, marking a crucial step in strengthening local fiscal decentralization and addressing the financial challenges faced by urban and rural local bodies.

The MFC-II conducted a detailed review of the extent to which functions listed under the Twelfth Schedule of the Indian Constitution were effectively transferred to the AMC. The Commission observed that while some functions had been formally devolved, several were only nominally transferred without corresponding administrative or financial authority. To fulfil the constitutional objective of transforming municipalities into genuine institutions of self-government capable of preparing and implementing plans for economic development and social justice, the Commission recommended that all eighteen functions enumerated in Section 57 of the Mizoram Municipalities Act, 2007 (as amended) be fully devolved in both letter and spirit within the next two to three years. This process should include the transfer of associated institutions, schemes, properties, assets, and liabilities. Furthermore, following such functional devolution, the State Government should provide AMC with adequate funds and personnel to enable the effective discharge of its newly transferred responsibilities, as mandated under Section 59(1) of the Mizoram Municipalities Act, 2007.

3.4.2(c) Recommendations of the Second Mizoram Finance Commission

The MFC-II observed that the AMC remains heavily dependent on fiscal transfers from both the Central and State Governments, a condition that undermines its financial stability and limits its capacity to provide essential civic infrastructure and services. Between 2010–11 and 2021–22, AMC's own-source revenue (OSR) contributed an average of 9.3% to total revenue receipts (TRR), while its own revenues consistently remained below one-third of total revenue expenditure, indicating structural fiscal weakness. The Commission cautioned that even a minor reduction in intergovernmental transfers could significantly affect AMC's fiscal health and service delivery performance. Despite these challenges, the MFC-II proposed several key measures to enhance local fiscal autonomy and strengthen revenue mobilisation.

The Commission noted that transfers from the Central and State Governments accounted for 88.5% of AMC's TRR between 2015–16 and 2021–22, with ULB grants from the 14th and 15th Finance Commissions comprising nearly 55% of total revenues. However, the abrupt decline in ULB grants in 2020–21 led to a 47% decline in total

receipts. Central schemes such as AMRUT, Swachh Bharat Mission, and DAY-NULM contributed approximately 6% of AMC's TRR, while devolution from the State Government accounted for 27.39%.

To address revenue constraints, the MFC-II made the following significant recommendations:

- 1) Property Tax Expansion** – The Commission urged the State Government to lift the suspension on property tax and broaden its base by including vacant land under Section 214 of the Mizoram Municipalities Act, 2007 (as amended), in accordance with the valuation principles set out in the Property Tax Management Rules, 2014.
- 2) Periodic Rate Revision** – In alignment with the State Property Tax Board's advice, it recommended revising the minimum floor rate periodically to reflect market realities and ensure buoyancy with urban development.
- 3) Entertainment Tax Levy** – To enhance fiscal autonomy, it proposed introducing an enabling provision in the Mizoram Municipalities Act that would empower municipalities to levy entertainment taxes within their jurisdictions.
- 4) User Charges** – The Commission emphasized creating a cost-reflective user charge framework, ensuring partial linkage with the cost-of-living index to promote progressive pricing while recognising that full cost recovery may not be achievable for essential public goods.
- 5) Investment of Idle Funds** – It is recommended that AMC invest surplus funds, not required for immediate use, in secure public securities or other instruments permitted under Section 73 of the Municipalities Act to optimise interest income.
- 6) Expenditure Policy Framework** – To address rising administrative costs, it proposed that the State Government frame a fiscal discipline policy to ensure adequate allocation toward operation, maintenance, and capital expenditure while curbing excessive growth in establishment costs.

7) **Ward Development Fund Regulation** – Finally, it advised developing clear guidelines for the Councillor Ward Development Fund (CWDF) to enhance transparency, define the roles of Ward Committees and Local Councils, and ensure proper classification of expenditures between revenue and capital accounts.

In essence, the MFC-II stressed the urgent need for AMC to diversify and strengthen its own-source revenues, adopt sound financial management practices, and rationalise expenditures to achieve fiscal sustainability and reduce dependency on external transfers.

3.5 EXPENDITURE COMPONENTS OF AIZAWL MUNICIPAL CORPORATION

The expenditure of AMC from 2010-11 to 2021-22 (RE) is shown in Table 3.12. The data is obtained from the report of the Second Mizoram State Finance Commission and classified into revenue expenditure and capital expenditure.

Table 3.12: Expenditure of Aizawl Municipal Corporation from 2010-11 to 2021-22

	Expenditure		
Year	Revenue	Capital	Total
2010-11	181.91	211.85	393.76
2011-12	407.79	1278.45	1686.24
2012-13	931.97	946.85	1878.82
2013-14	1375.16	1455.29	2830.45
2014-15	1374.87	1652.13	3027
2015-16	1368.68	1470.38	2839.07
2016-17	1986.78	977.18	2963.96
2017-18	1641.96	2440.55	4082.52
2018-19	2835.67	2737	5572.67
2019-20	3045.73	3371.01	6416.74
2020-21	3458.61	2492.4	5951.02
2021-22RE	2990.4	3922.52	6912.92
CAGR (%)	24.6	19.5	21.5

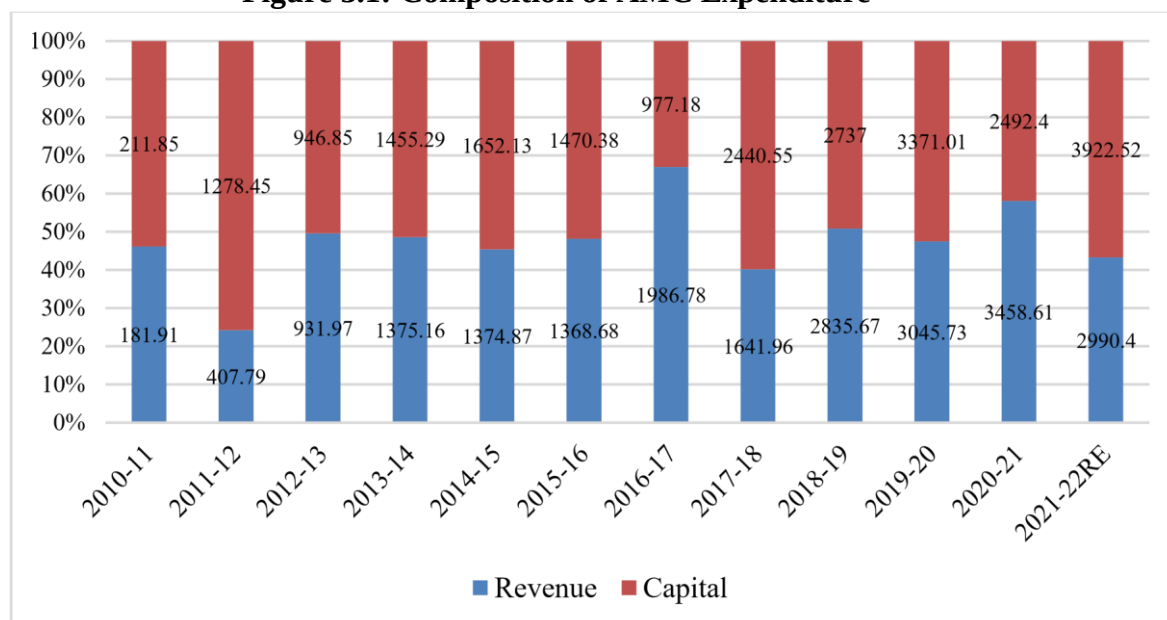
Source: Second Mizoram Finance Commission, Mizoram

The composition of revenue and capital expenditure, growth of total expenditure and Compounded Annual Growth Rate of AMC from 2010-11 to 2021-22RE is further analysed in the following sub sections.

1) Composition of AMC Revenue and Capital Expenditure

The composition of AMC's revenue and capital expenditure is shown in Figure 3.1 below. Revenue expenditure are that expenditure which does not create asset nor reduce the liabilities of the municipality, whereas capital expenditure are those expenditures which create asset as well as reduce liabilities of the municipality.

Figure 3.1: Composition of AMC Expenditure



Source: Report of the Second Mizoram Finance Commission, Mizoram

Over 2010-11 to 2021-22RE, both revenue and capital expenditure expand sharply. Revenue expenditure rises from Rs. 181.91 lakhs to Rs. 2990.40 lakhs and capital expenditure from Rs. 211.85 lakhs to Rs. 3922.52 lakhs, implying high compound annual growth and a much larger fiscal scale by the end of 2021-22.

After 2016-17, both Revenue and Capital Expenditure shifted to a higher level. Average Revenue Expenditure rises from Rs. 940 lakhs to Rs. 2,660 lakhs, and Capital from Rs. 1,169 lakhs to Rs. 2,657 lakhs. This growth is about 2-3 times higher than the

previous period. This corresponds to higher transfer from the state government in the form of devolution through the State Finance Commission recommendations.

The revenue expenditure follows a comparatively smooth trajectory only with modest retreats in the years 2015-16, 2017-18, and 2021-22RE. Capital expenditure is relatively volatile, with notable increase in 2011-12, 2017-18 and 2021-22 RE.

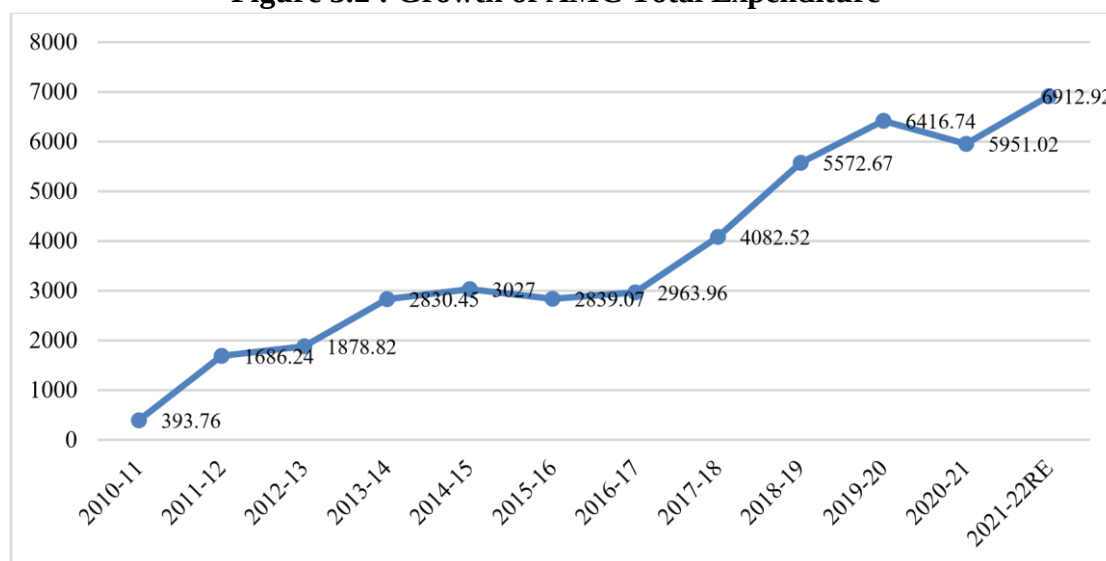
While capital expenditure exceeds revenue expenditure in most years, revenue expenditure temporarily leads in 2016-17, 2018-19 and 2020-21, which shows that both heads of expenditure have alternating phases of increase and domination.

Both revenue and capital expenditure move with high correlation coefficient (0.83), with revenue expenditure reaching its height in 2020-21 and capital expenditure peaking in 2021-22RE although significant divergences are found in 2016-17 and 2020-21.

2) Growth of AMC Total Expenditure

The growth of AMC's total expenditure over the years is also shown in the Figure 3.2 below. The total expenditure of the AMC shows the volume of its activities and its growth over the years.

Figure 3.2 : Growth of AMC Total Expenditure



Source: Report of the Second Mizoram Finance Commission, Mizoram

The figure shows that there is a remarkable increase in total expenditure from

Rs.393.76 lakh in 2010-11 to Rs. 6912.92 lakhs in 2021-22RE. This increase is more than seventeen times and indicates a rapid fiscal expansion and operation of the municipality over the decade.

There is a clear shift in the expenditure pattern after 2016–17, when expenditure stabilizes at a significantly higher level. Prior to 2016–17, the yearly spending averaged around ₹2,100 lakh, but after the shift in 2016–17, the yearly spending rose to about ₹5,300 lakh. This indicates the role of State Finance Commission grants and the structural strengthening of AMC finances.

The growth in total expenditure of AMC is not uniform over the years. There are remarkable surges in certain years such as 2011–12, which marked the early expansion, and other surges occurred in 2017–18 and 2018–19, when total expenditure grew by nearly 40 percent each year. These significant changes suggest the influence of increased grants, enhanced administrative capacity, and expanding service responsibilities of the Corporation.

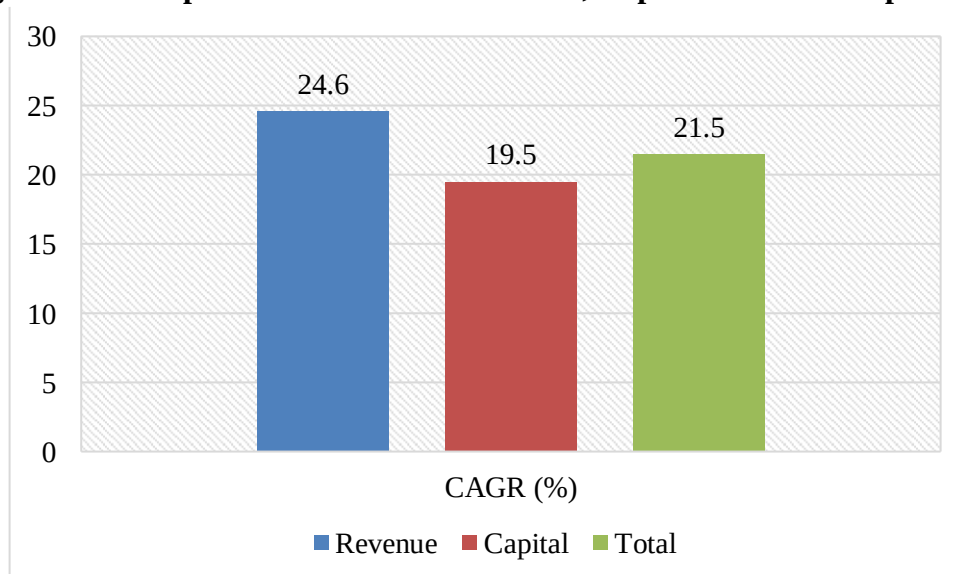
The impact of pandemic years is also visible in the growth of AMC finances over time. Expenditure dipped slightly in 2020–21 to ₹5,951.02 lakh from ₹6,416.74 lakh in 2019–20. However, the following year recorded ₹6,912.92 lakh—the highest in the series—reflecting fiscal resilience, improved resource mobilization, efficient fund utilization, and sustained urban service delivery even amid external shocks.

Overall, the upward expenditure trajectory demonstrates AMC’s evolving financial maturity and institutional capacity, and the growing alignment of municipal expenditure patterns with the broader developmental and urban governance priorities of the state.

3) Compounded Annual Growth Rate of Expenditure

The compounded annual growth rate (CAGR) of the revenue, capital and total expenditure of the AMC is given in the Figure 3.3 below. CAGR shows the annualized growth rate of the expenditure of the AMC over time and gives a picture on the trend in revenue, capital and total expenditure.

Figure 3.3: Comparison of CAGR of Revenue, Capital and Total Expenditure



Source: Second Mizoram State Finance Commission

As shown in Figure, revenue expenditure has grown at a faster pace than capital expenditure as the CAGR of revenue expenditure is 24.6 per cent whereas capital expenditure increased at 19.5 per cent CAGR over the years. This indicates that the expansion of municipal finances in Aizawl is largely driven by revenue components, rather than capital components of the expenditure.

The total expenditure records a CAGR of 21.5 per cent during the study period which is in between revenue expenditure growth and capital expenditure growth. This suggests the contribution of both revenue and capital expenditure in pushing the volume of expenditure over the years.

3.5.1 Comparison of Administrative Expenditure: AMC vs. Indian Municipal Corporations

1) AMC Trends

Recent budget data reveal that AMC allocates a disproportionately high share of its resources to administrative and establishment expenditure. In 2022–23 (Actuals), such spending constituted nearly 78% of total revenue expenditure, while in 2023–24 (Revised Estimates), it accounted for about 68%. This upward trend highlights a significant diversion of resources toward administrative costs, potentially limiting

allocations to essential services and infrastructure development (Aizawl Municipal Corporation, 2024).

2) All-India Municipal Corporations

In contrast, studies of larger municipal corporations across India demonstrate that administrative and establishment expenditure typically absorbs about 50–57% of revenue expenditure. While this figure is also substantial, it reflects a more balanced fiscal structure compared to AMC. According to ICRIER’s study for the Fifteenth Finance Commission, metropolitan corporations spend an average of 63% of their total expenditure on revenue needs, with establishment and administrative costs comprising the bulk of this spending (ICRIER, 2019; NITI, 2019; Janaagraha, 2022).

3.6 CONCLUSION

This chapter highlights that the stability of municipal finance depends on diversified revenue sources, consistent intergovernmental transfers, and prudent fiscal management. In the case of the AMC, continued reliance on state and central grants, limited own-source revenues, and increasing expenditures restrict fiscal autonomy. Strengthening property taxation, revising user charges, diversifying nontax income, and enforcing transparent expenditure norms are essential for sustainable service delivery and urban resilience. Equally important are robust expenditure frameworks, enforceable service benchmarks, and functional devolution to convert resources into urban services.

CHAPTER- IV

**AN OVERVIEW OF
PROPERTY TAXATION IN
INDIA**

4.1 INTRODUCTION

This chapter explores the structure and evolution of property taxation across different regions, with a particular focus on India and the Northeastern states. Special attention is given to the property tax system under the Aizawl Municipal Corporation (AMC), highlighting its administrative framework, revenue significance, and operational challenges. Furthermore, the chapter assesses taxpayers' perceptions within the AMC area to understand their attitudes, satisfaction levels, and awareness regarding the property tax system and its implementation.

Property tax is widely recognised as one of the most significant and stable sources of own-source revenue for municipal governments worldwide. Its structure and administration, however, vary considerably across nations, reflecting differences in economic conditions, historical legacies, governance systems, and local institutional capacities. While some countries rely on market-based assessments of property value, others apply periodic or area-based valuation systems. Regardless of the approach, property taxation remains a vital fiscal tool supporting essential public services such as education, sanitation, infrastructure development, and public safety (Bird & Slack, 2022).

In advanced economies, property tax accounts for a meaningful share of subnational revenue. Within the Organisation for Economic Co-operation and Development (OECD) countries, it accounted for about 5.6% of total government revenue and approximately 2% of gross domestic product (GDP) in 2019. In contrast, developing and low-income countries generate substantially less—typically around 1% and below 0.1% of GDP, respectively—indicating significant unrealised potential for revenue mobilization (OECD, 2021). Strengthening assessment mechanisms, improving compliance, and leveraging technology could markedly enhance revenue performance.

According to fiscal experts from the International Monetary Fund (IMF), including Grote, Mansour, and Jean-François (2024), the adoption of modern technologies such as satellite imagery, drones, and digitized cadastral systems could increase local property tax collections by up to tenfold in emerging economies. They note that property tax contributes roughly 3% of GDP in advanced economies but

remain as low as 0.1% in parts of Asia and Africa, largely due to weak administrative capacity and outdated valuation practices.

Furthermore, technological innovations—particularly Geographic Information Systems (GIS), Global Positioning System (GPS) mapping, and geotagging—have revolutionised property identification and valuation processes, ensuring greater transparency and efficiency. Nonetheless, in many Asian and Pacific countries, property taxes remain underutilised, generating far less than global averages. As the Asian Development Bank (ADB, 2022) emphasizes, improving property tax administration and integrating modern geospatial technologies can substantially expand fiscal capacity and strengthen local governance.

Table 4.1: Percentage of Property Tax Revenue to Total Tax Revenue by Region or Group, 2019

Region or Group	Property Taxes
<i>OECD</i>	5.6%
Europe	4.4%
Asia	5.0%
North America	4.1%
Africa	1.6%
South America	4.4%
Oceania	2.4%

Source : OECD “Global Revenue Statistics Database,”

https://stats.oecd.org/Index.aspx?DataSetCode=RS_GBL, and OECD, “Revenue Statistics – OECD countries: Comparative tables,” <https://stats.oecd.org/Index.aspx?DataSetCode=Rev>.

Link : [OECD Tax Revenue - Sources of Government Revenue, 2021](#)

Data for Australia, Japan, Mexico and non-OECD countries is from 2018 because 2019 data was not available yet.

Table 4.1 presents the comparative global landscape of property taxation, illustrating regional and group-wise shares of property tax revenue as a percentage of total tax receipts in 2019. According to data from the Organisation for Economic Cooperation and Development (OECD), comprising 38 member nations, property taxes accounted for approximately 5.6% of total tax revenue (OECD, 2021). Regionally, property tax revenue accounted for 5.0% of total tax receipts in Asia, 4.4% in Europe and South America, 4.1% in North America, and 2.4% in Oceania. The OECD, though not a regional entity but an intergovernmental forum focused on

economic policy coordination, includes several European and Asian members that collectively dominate the global share of property taxes. Overall, the data indicate that property taxation accounts for a relatively modest share of total tax revenue worldwide, suggesting significant scope for reform in valuation methodologies, administrative efficiency, and collection mechanisms (Bird & Slack, 2022).

In comparison, India's property tax revenue remains substantially lower than that of OECD economies. While the average property tax collection among OECD members equals roughly 1.1% of national GDP, India's corresponding figure is about one-sixth of this benchmark (Awasthi & Nagarajan, 2020).

Table 4.2: Asia's Level of Property Tax Revenues Compared to India, 2015

Country or Economy	Property Tax/Gross Domestic Product
Hong Kong SAR, China	3.3
Taiwan, China	2.3
Singapore	1.8
Kazakhstan	0.6
Kyrgyz Republic	0.5
Malaysia	0.5
Philippines	0.5
Nepal	0.4
Indonesia	0.3
India	0.2
Bangladesh	0
Bhutan	0

Source: ADB (2018).

Link: <http://dx.doi.org/10.22617/TCS189264>

Table 4.2 illustrates property tax revenue as a percentage of GDP across selected Asian countries in 2015, revealing India's limited fiscal performance in this domain. Higher-income Asian economies such as Japan, South Korea, and China exhibit relatively higher property tax-to-GDP ratios, reflecting more mature urban governance and valuation systems. Similarly, advanced economies in the AsiaPacific region, including Hong Kong, Taiwan, and Singapore, record property tax contributions exceeding 1% of GDP, highlighting their robust fiscal frameworks and efficient local tax administration (Asian Development Bank [ADB], 2022).

4.2 PROPERTY TAXATION IN INDIA

According to United Nations demographic projections, India has the secondlargest urban population globally, trailing only China in absolute numbers. The World Urbanization Prospects: 2018 Revision by the United Nations Department of Economic and Social Affairs (UN DESA) estimated India's urban population at approximately 461 million in 2018, projected to reach 877 million by 2050. By midcentury, over 50% of India's total population is expected to reside in urban areas (United Nations, 2019). This significant demographic transition indicates an ongoing and accelerating process of urbanization, presenting considerable challenges for city governance, infrastructure development, service delivery, and fiscal sustainability of Urban Local Bodies (ULBs).

The rapid growth of India's urban population is driven by three key factors: (a) natural population increase within cities, (b) rural-to-urban migration in search of better livelihoods, and (c) administrative reclassification of rural settlements as urban. Despite the large absolute number of urban dwellers, India's overall urbanization level remains moderate. According to the 2011 Census, only about 34% of the population lived in urban areas, with projections placing this share between 36% and 38% by 2024. These figures are significantly lower than those of most developed nations, where urbanization often exceeds 70%. The modest urbanization rate has direct fiscal implications—it constrains the property tax base and limits municipal capacity for efficient tax administration and service provision (World Bank, 2020).

Property tax serves as the primary and most stable source of revenue for municipalities in India, as in many other countries. It is levied on residential, commercial, and industrial properties, commonly based on annual rental value, capital value, or unit area systems. According to the Reserve Bank of India (RBI, 2022), property tax constitutes roughly half of total municipal tax collections, yet it contributes less than 0.5% of India's GDP, reflecting both under-assessment and weak enforcement. Moreover, substantial interstate disparities exist due to variations in administrative capacity, valuation procedures, and political will.

The concept of urban taxation in India has deep historical roots. Archaeological evidence suggests that the urban settlements of the Indus Valley Civilisation (c. 2500 BCE) may have practised primitive forms of taxation to sustain urban infrastructure (Bandekar & Memon, 2023). During the medieval period, taxation evolved through feudal and dynastic systems, where local rulers or landlords collected taxes—often in

kind—to maintain governance and local defence (Habib, 1963). Under the Mughal Empire, land and property taxation became highly institutionalized. The Mughal administration organised territories into subas, sarkars, and parganas, each responsible for systematic land revenue collection, which laid early foundations for later property-based taxation (Tantray & Sheikh, 2023).

The British colonial period marked a major shift toward formalised taxation systems. The Permanent Settlement of 1793, introduced by Lord Cornwallis, institutionalized land revenue by granting zamindars proprietary rights to collect taxes from cultivators in exchange for fixed annual payments to the colonial government. This reform significantly altered property ownership structures and created the foundation for modern property taxation in India. After independence in 1947, the Indian Constitution (1950) formalised the fiscal division between the Union and State Governments. Property taxation was placed under the State List of the Seventh Schedule, authorizing state governments to legislate and delegate taxing powers to municipal bodies (Government of India, 1950).

The evolution of local taxation continued through several key legislative and institutional milestones. The Government of India Act (1919), the Local Finance Enquiry Committee (1951), and the Taxation Enquiry Commission (1953–54) each reinforced the need for sustainable local revenue mechanisms, including taxes on land and buildings, octroi, and other municipal levies (Ahluwalia et al., 2019). These frameworks gradually established the institutional autonomy of Urban Local Bodies (ULBs) as vital agents of decentralized fiscal governance.

Following liberalization in the 1990s, urban fiscal reforms gained momentum. Many state governments introduced structural changes to property tax systems, shifting from annual rental value to area-based or capital-value models to improve fairness and buoyancy. Technological integration has further transformed property taxation. The use of Geographic Information Systems (GIS), computeraided property databases, and online payment portals has improved valuation accuracy, transparency, and compliance rates in several Indian cities (Awasthi et al., 2020).

However, despite such reforms, municipal revenue generation remains weak. Traditional taxes like octroi, entry tax, and entertainment tax—previously important local revenue streams—were subsumed under the nationwide Goods and Services Tax

(GST) in 2017. This structural change reduced ULBs' fiscal autonomy and deepened their dependence on intergovernmental transfers. As a result, property tax has emerged as the only significant tax instrument under municipal control, contributing nearly 60% of municipal tax revenue by 2017–18 (Ahluwalia et al., 2019).

Empirical evidence underscores persistent inefficiencies in India's property tax collection. According to Awasthi et al. (2020), property tax collection efficiency in Indian municipalities averages below 0.2% of GDP—significantly lower than global benchmarks. Weak administrative capacity, limited digital coverage, political resistance to valuation updates, and a fragmented cadastral system contribute to poor performance. For example, several municipalities continue to operate without comprehensive GIS-based mapping or updated valuation rolls, leading to underassessment and non-compliance.

Furthermore, intergovernmental fiscal transfers—though essential—often fail to address long-term financial sustainability. Grants from the Central and State Finance Commissions, while supplementing municipal budgets, are typically tied to specific schemes and lack flexibility. This limits ULBs' discretion in prioritising local needs. Therefore, expanding and strengthening property taxation remains vital for enhancing local fiscal autonomy and achieving sustainable urban governance (RBI, 2022; Ahluwalia et al., 2019).

In summary, India's urbanization trajectory represents both an opportunity and a challenge. Rapid population growth in cities is increasing the demand for infrastructure, housing, and municipal services. Yet, weak property tax performance continues to constrain ULBs' fiscal capacity. As India's urban population approaches 900 million by 2050, the need for comprehensive reforms in property taxation—encompassing valuation accuracy, administrative efficiency, and technological integration—becomes imperative. Strengthening municipal finance through a buoyant, equitable property tax system is therefore essential to promoting sustainable, inclusive, and resilient urban development.

According to the 74th Amendment of the Indian Constitution, a metropolitan area is an area having a population of 10 Lakh or 1 Million or more. Urban Agglomerations (UA) are also classified into 3 different groups as below:

Class I UA – A population of at least 1,00,000 persons.

- Million Plus UA** – A population of 1 million or above.
- Mega Cities** – The Million Plus UAs/Cities having more than 10 million persons

The Census of India classifies urban settlements according to specific demographic and administrative criteria into two main categories: Statutory Towns and Census Towns. Statutory Towns are settlements officially notified under state legislation as municipalities, corporations, cantonment boards, or notified area committees. In contrast, Census Towns are identified based on demographic and economic parameters, including a minimum population of 5,000, at least 75% of the male working population engaged in non-agricultural activities, and a population density of no less than 400 persons per square kilometre (Census of India, 2011).

Furthermore, urban centres are classified into six categories based on population size, as shown in Table 4.3.

Table 4.3: Classification of Urban Centres

Sl. No	Category	Population
1	Class-I	1 lakh and above
2	Class-II	50,000 - 99,999
3	Class-III	20,000 - 49,999
4	Class-IV	10,000 - 19,999
5	Class-V	5,000 - 9,999
6	Class-VI	Below 5,000

Source: Office of the Registrar General & Census Commissioner, India, 2011

Among these, Class I cities with a population exceeding one million are designated as “Million-Plus Cities” (e.g., Kolkata, Mumbai, and Bengaluru). According to the 2001 Census, India had 35 such cities, with 28 exceeding four million inhabitants. The 2011 Census, the most recent complete enumeration, identified 7,935 urban centres, comprising 4,041 Statutory Towns and 3,894 Census Towns across the country.

Under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), cities were classified into three categories based on population and functional importance.

Table 4.4: Categories of Cities under JNNURM

Category	Cities/Uas	Nos

A	Cities/UAs with 4 million plus population as per 2001 Census	7
B	Cities/UAs with 1 million plus population but less than 4 million as per 2001 Census	28
C	Selected Cities/UAs (State capitals and other Cities/UAs of religious/historic and touristic importance)	30
	Total	65

Source: Ministry of Housing and Urban Affairs, 2007

Property tax assessment methods vary widely across countries, reflecting differences in administrative capacity, legal frameworks, and economic conditions. In most jurisdictions, the term property includes both vacant and developed land, encompassing all structures and improvements situated on it. Youngman et al. (2004) observed that global land and building taxation systems employ diverse tax bases, including capital value (improved or unimproved), annual rental value, acquisition value (original purchase price), and non-value measures such as area-based assessments or flat-rate levies. The selection of a tax base often depends on historical context, local administrative efficiency, and socio-economic considerations (De Cesare, 2004).

In India, the property tax system has traditionally relied on the Annual Rental Value (ARV) model, inherited from British-era practices of taxing rental income in a free market. This approach remains prevalent across many Indian municipalities (Awasthi & Nagarajan, 2020; Ahluwalia et al., 2019). Under the ARV method, municipal authorities estimate the gross annual rent of a property and levy taxes based on this valuation. The rateable value is determined by factors such as property size, location, infrastructure quality, and the availability of civic amenities (Kelly et al., 2020).

Recognising the limitations of the ARV system—particularly its subjectivity and outdated rental assumptions—the Second Administrative Reforms Commission (2009) recommended transitioning to more objective valuation methods, such as the Unit Area Value (UAV) or Capital Value System (CVS). It further advised that property tax records be made publicly accessible to enhance transparency and reduce collusion between tax officials and property owners.

The property tax system in India employs three main assessment methods: Annual Rental Value (ARV), Unit Area Value (UAV), and Capital Value (CV), each

adopted in different states and cities (Awasthi & Nagarajan, 2020; Ahluwalia et al., 2019; Reserve Bank of India. 2024):

1) The annual rental value (ARV) : Property tax is assessed on the estimated yearly rent a property could generate under normal conditions. This traditional approach, emphasizing rental potential, is widely applied in West Bengal (Kolkata), parts of Odisha, and select urban centres across India for valuation consistency and revenue predictability.

2) Unit Area Value (UAV): The UAV system calculates property tax based on a per-unit area rate that varies by property type, location, and usage. It ensures equitable taxation that reflects market-value differences and promotes administrative simplicity and transparency. This method—adopted in Delhi, Bengaluru, Chennai, Hyderabad, and Lucknow—encourages fair tax assessment while improving compliance and municipal revenue efficiency.

3) The Capital Value (CV) Methods: The CV method levies property tax as a fixed percentage of the property's prevailing market value, reflecting its real worth. Implemented in Maharashtra (Mumbai) and Gujarat (Ahmedabad), it ensures a rational, value-based taxation approach that aligns municipal revenue with property appreciation, promotes fiscal equity, and enhances transparency in urban property assessment and tax administration systems.

The Constitution of India lays a clear legal and institutional foundation for property taxation, granting state governments the authority to legislate and administer such taxes. Property tax provisions are embedded in several constitutional articles and schedules that define the fiscal relationship among the Union, the states, and local governments.

1) Entry 5 of the State List (List II, Seventh Schedule, Article 246) confers exclusive legislative powers to state governments, including the authority to establish and regulate local governments responsible for taxation on land and buildings.

2) Article 243X empowers state legislatures to authorise municipalities to levy, collect, and appropriate taxes, duties, tolls, and fees in accordance with procedures established by state law, thereby providing a constitutional basis for local fiscal autonomy.

3) Article 243Y mandates the creation of a State Finance Commission (SFC) every five years to recommend the sharing of revenues between the state and local bodies, both tax and non-tax, to strengthen municipal finances.

4) Article 280(3)(c) directs the Central Finance Commission to recommend measures to augment a state's Consolidated Fund, thereby supplementing municipal resources based on SFC recommendations.

5) Part XII, specifically Article 276, authorises states to impose taxes on professions, trades, callings, and employments, which also include property-related levies. Article 289 exempts state property and income from Union taxation, while allowing certain exceptions.

6) Article 285 grants similar exemptions to Union property from state taxation, except in cases explicitly permitted by Parliament.

Collectively, these provisions ensure a constitutionally grounded framework for property taxation, delineating fiscal powers across government levels to maintain balance and accountability in India's decentralized governance system.

The following Table 4.5 presents the property tax collection of all urban local governments in India from 2010–11 to 2017–18. The data show a steady rise in overall collections, from ₹10,819.9 crore in 2010–11 to ₹25,551.9 crore in 2017–18, indicating growing urban fiscal capacity. Maharashtra, Karnataka, and Gujarat consistently recorded the highest contributions, whereas smaller and Northeastern states such as Mizoram, Tripura, and Meghalaya showed negligible collections. This pattern highlights significant inter-state disparities in municipal fiscal performance.

Table 4.5:
Property Tax for all Urban Local Governments during 2010-11 to 2017-18

State	(Rs. crore)							
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Andhra Pradesh	401.0	523.1	649.9	644.0	711.4	812.9	856.4	945.1
Arunachal Pradesh*, ***	NA	NA	NA	NA	NA	NA	NA	NA
Assam	27.5	29.9	50.6	58.9	62.8	82.7	99.6	70.8
Bihar	7.4	9.3	12.4	9.2	9.5	13.1	17.5	60.7
Chhattisgarh	NA	NA	108.3	156.8	140.5	355.9	428.6	471.4
Goa***	NA	NA	15.1	16.8	19.9	23.4	22.0	26.7
Gujarat***	789.1	832.0	900.8	1087.5	1184.5	1281.4	1511.4	5312.2

Haryana***	69.9	125.7	248.6	337.2	114.5	527.8	599.3	89.6
Himachal Pradesh	13.7	16.4	22.1	19.9	18.5	32.7	29.3	34.3
Jammu and Kashmir***	NA	NA	NA	NA	NA	NA	NA	NA
Jharkhand	NA	NA	11.2	10.4	26.2	29.9	88.4	80.0
Karnataka	1075.4	1076.8	1649.0	1631.8	2008.4	2324.4	2628.5	2705
Kerala ***	164.1	206.5	168.0	187.4	213.6	235.2	262.3	294.9
Madhya Pradesh***	246.4	303.6	416.5	459.0	494.6	603.4	781.7	1079.9
Maharashtra	5275.2	5233.3	5590.4	6068.7	6961.0	8697.7	8799.6	8357.7
Manipur	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.3
Meghalaya*,***	4.2	4.2	4.3	4.7	4.6	5.1	5.1	5.2
Mizoram**,***	NA	NA	2.2	NA	NA	1.2	2.2	2.5
Nagaland*	NA	NA	NA	NA	NA	NA	NA	NA
Odisha	59.6	55.2	40.5	44.7	57.5	59.9	88.7	67.2
Punjab	163.5	178	197.3	252.1	176.1	243.5	221.1	251.8
Rajasthan	54.8	62.9	70.9	77.3	106.5	180.0	175.4	187.8
Sikkim	NA	NA	NA	NA	NA	NA	NA	NA
Tamil Nadu	974.1	971.7	1138.8	1253.7	1382.6	1450.6	1627.7	1827.5
Telangana	554.3	703.8	939.6	1175.3	1286.2	1380.2	1484.5	1604.1
Tripura	1.0	1.5	1.6	2.1	2.7	2.7	6.6	4.6
Uttar Pradesh	327.4	413.2	456.1	473.0	687.5	759.7	810.8	810.8
Uttarakhand	11.9	12.4	12.8	22.5	27.5	30.2	43.0	55.1
West Bengal	599.3	690.1	1012.7	834.7	886.5	1032.0	1070.4	1206.8
India (All States)	10819.9	11449.6	13719.9	14827.6	16583.3	20165.9	21660.3	25551.9

Source: Ahluwalia, I. J. et al. (2019)

*No Municipal Corporation in the state, ** No Municipal Council in the state,

***No Nagar Panchayat in the state

Mizoram emerged as one of the latest Indian states to implement property tax collection, initiating the process only in 2015. As noted by Ahluwalia et al. (2019), the Aizawl Municipal Corporation (AMC) generated approximately ₹1.2 crore in property tax revenue during the financial year 2015–16, ranking second lowest nationwide. In comparison, India's total property tax revenue for that year amounted to ₹20,165.90 crore, with Mizoram contributing a mere 0.006 per cent of the national total.

Table 4.6: Property Tax for Municipal Corporations during 2010-11 to 2017-18
(Rs. crore)

State	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Andhra Pradesh	272.6	360.8	450.2	458.2	496.2	555.7	585.5	659
Arunachal Pradesh*,***	NA	NA	NA	NA	NA	NA	NA	NA
Assam	18.6	19.4	36.4	43.4	46.9	63.7	73.3	49.4
Bihar	4.0	5.0	6.7	3.2	3.2	6.7	11.0	53.3

Chhattisgarh	NA	NA	84.7	135.2	112.6	325.9	390.0	429.0
Goa***	NA	NA	8.0	9.0	10.6	14.1	12.4	13.7
Gujarat***	632.6	673.8	720.7	896.3	978.1	1066.4	1261.4	5050.9
Haryana***	53.3	109.4	235.0	305.4	101.2	504.3	570.6	67.1
Himachal Pradesh	7.2	8.5	8.6	8.2	7.3	22.0	14.2	17.2
Jammu and Kashmir***	NA	NA	NA	NA	NA	NA	NA	NA
Jharkhand	NA	NA	9.2	8.4	22.8	24.7	72.0	57.7
Karnataka	878.8	858.4	1406.3	1379.9	1715.2	2001.6	2237.5	2297.9
Kerala ***	100.4	125.5	95.6	103.2	118.4	126.5	142.2	156.3
Madhya Pradesh***	184.7	238.2	352.1	390.8	434.4	517.6	691.6	943.6
Maharashtra	4983.4	4913.4	5258	5701.6	6532	8155.6	8211.0	7770.0
Manipur	NA	NA	NA	NA	NA	NA	NA	NA
Meghalaya*,***	NA	NA	NA	NA	NA	NA	NA	NA
Mizoram**,***	NA	NA	2.2	NA	NA	1.2	2.2	2.5
Nagaland*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Odisha	29.6	26.7	28.4	29.9	38.0	40.7	55.2	43.7
Punjab	125.8	136.1	152.7	173.9	126.9	171.0	160.2	173.7
Rajasthan	30.7	35.1	35.2	39.6	65.9	120.2	118.5	107.2
Sikkim	NA	NA	NA	NA	NA	NA	NA	NA
Tamil Nadu	624.1	606.5	735.4	826.4	938.8	967.3	1105.0	1222.2
Telangana	522.5	650.7	851.1	1101.0	1173.3	1237.0	1322.2	1402.7
Tripura	0.6	0.9	1.0	1.3	1.7	1.8	5.3	3.4
Uttar Pradesh	272.2	347.6	374.8	390.7	597.6	666.4	715.0	715.0
Uttarakhand	3.6	3.7	3.9	8.7	13.1	14.0	23.5	33.6
West Bengal	480.6	564.5	881	690.8	731.7	856.9	880.9	983.1
India (All States)	9225.2	9684.3	11737.2	12705.1	14266	17461.7	18660.7	22252.2

Source: Ahluwalia, I. J. et al. (2019)

*No Municipal Corporation in the state, ** No Municipal Council in the state, ***No Nagar Panchayat in the state

Table 4.6 provides a comprehensive overview of property tax revenue collected by municipal corporations across India from 2010–11 to 2017–18. During this period, Mizoram had only one urban local body — the Aizawl Municipal Council (AMC) — which was officially upgraded to the Aizawl Municipal Corporation on 15 October 2015 (Aizawl Municipal Corporation, n.d.). Property tax collection in Mizoram commenced in 2015–16, when AMC collected ₹1.2 crore, increasing to ₹2.2 crore in 2016–17 and ₹2.5 crore in 2017–18, showing a steady upward trajectory.

Across India, municipal corporations continue to rely heavily on property taxes as their primary revenue source, yet most remain financially constrained by low collection efficiency, administrative bottlenecks, and limited valuation updates. Strengthening fiscal decentralization through improved property tax governance,

enhanced administrative capacity, and modernised systems is essential for ensuring the financial sustainability of urban local bodies.

Several Indian cities have adopted reforms and digital innovations to improve efficiency in property tax assessment and collection. Geographic Information System (GIS) mapping, e-governance tools, and Unique Property Identification Codes (UPICs) are increasingly used in cities such as Delhi and Pune to enhance valuation accuracy and transparency. Municipalities such as Giridih, Chas, Hazaribagh (Jharkhand) and Kurnool (Andhra Pradesh) have transitioned from the traditional Annual Rental Value (ARV) system to the Capital Value (CV) method, while Nagpur, Greater Hyderabad, Jhansi, and Meerut have introduced GIS-based enumeration for property registration. Additionally, many municipal corporations have integrated QR code-enabled digital payment systems to simplify transactions and promote compliance (Reserve Bank of India, 2024).

4.3 PROPERTY TAXATION IN NORTH EAST INDIA

All the Northeastern states of India have enacted municipal legislation in alignment with the 74th Constitutional Amendment Act (1992), which sought to strengthen decentralized urban governance across the country. Despite this legislative progress, the overall condition of urban governance in the region remains underdeveloped, largely due to administrative, financial, and institutional limitations. Establishing an effective, accountable, and inclusive framework for urban local governance is therefore imperative for addressing governance gaps and promoting sustainable urban development in these states.

The Northeast region is culturally diverse, encompassing multiple communities with unique cultural traditions, customary laws, and social systems. Governance mechanisms in these states must, therefore, be consistent with local customs and indigenous governance practices. Consequently, the structure and performance of municipal institutions differ significantly from those in other parts of India, with Assam being a partial exception due to its relatively longer history of municipal administration. The challenge lies in balancing respect for traditional systems with the need to institutionalize modern administrative frameworks that ensure efficiency, equity, and accountability in local governance.

In Meghalaya, urban administration is managed by 12 ULBs, which are administered by municipal boards and town committees rather than municipal corporations. Although the Meghalaya Municipal Act (1973) mandates the imposition of property tax based on the annual value of holdings, implementation remains weak, resulting in chronically low municipal revenues (Comptroller and Auditor General of India, 2016). This limited fiscal base restricts ULBs' ability to deliver essential civic services and maintain infrastructure. Furthermore, the nonconstitution of the State Finance Commission (SFC), as required every five years under the 74th Constitutional Amendment, has hindered systematic fiscal devolution, intergovernmental transfers, and equitable revenue sharing, thereby undermining the financial autonomy, accountability, and developmental capacity of urban local bodies across the state.

In Nagaland, the earlier municipal legislation was repealed and replaced by the Nagaland Municipal Act (2023), which notably omitted the property tax clause following widespread opposition. This resistance stemmed from differences in land tenure systems and strong sentiments about community ownership. Major civil organizations, such as the Association of Kohima Municipal Ward Panchayats (AKMWP), Dimapur Urban Council Chairmen Federation (DUCCF), and All Ward Union Mokokchung Town (AWUMT), opposed the inclusion of property tax provisions, viewing them as incompatible with customary landholding rights. Since over 90 per cent of land in Nagaland is owned by individuals or communities (Government of Nagaland, 2012), implementing a uniform property tax system remains legally and politically contentious.

Thus, while legal frameworks exist, Northeast India's municipal governance requires substantial institutional strengthening, fiscal reform, and culturally sensitive adaptation to achieve the objectives envisioned in the 74th Constitutional Amendment.

Table 4.7 presents the property tax collection trends across four Northeastern states between 2019–20 and 2021–22, reflecting significant inter-state disparities in fiscal performance. Assam consistently recorded the highest revenue, contributing more than three-fourths of the total regional receipts, while Mizoram maintained moderate but steady growth during the same period. Tripura demonstrated gradual improvement, whereas Manipur's collection remained minimal. Overall, the data underscore the constrained fiscal capacity and uneven municipal revenue generation

in the Northeast, emphasizing the necessity for robust property tax systems and enhanced administrative efficiency.

Table 4.7: Property Tax Collection in selected North East States

(In lakh)

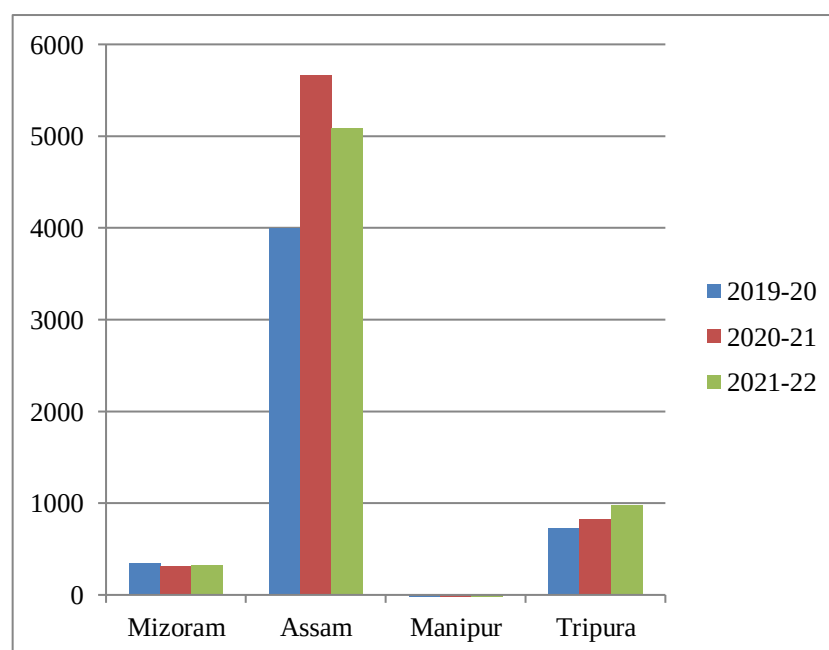
State	2019-20	2020-21	2021-22
Mizoram	344 (6.79)	308 (4.54)	319 (5)
Assam	3,998 (78.93)	5,657 (83.38)	5,090 (79.74)
Manipur	1 (0.02)	0.7 (0)	0.4 (0)
Tripura	722 (14.25)	819 (12.07)	974 (15.26)
Total	5,065	6,784.7	6,383.4

Source: Reserve Bank of India. (2024)

Figure inside the parentheses indicate percentage value

The Reserve Bank of India (RBI) Report on Municipal Finances (2024) indicates that only four Northeastern states—Mizoram, Assam, Manipur, and Tripura—have implemented mechanisms for property tax collection, as shown in Table 4.7. (Reserve Bank of India, 2024). Among these, Assam consistently achieved the highest revenue from property taxation, whereas Manipur recorded the lowest collection during the same period. In percentage terms, Assam accounted for 78.93% of total Northeastern property tax revenue in 2019–20, 83.38% in 2020–21, and 79.74% in 2021–22. Tripura followed with respective shares of 14.25%, 12.07%, and 15.26%, while Mizoram, through the Aizawl Municipal Corporation (AMC), contributed 6.79%, 4.54%, and 5% during those years. The corresponding figure illustrates inter-state variations in property tax collections across the four Northeastern states between 2019–20 and 2021–22.

Figure 4.1: Property Tax Revenue in selected North East States



Source: Reserve Bank of India. (2024)

4.4 PROPERTY TAX IN MIZORAM

The Aizawl Municipal Council (AMC), Mizoram’s first urban local body, was formally established on July 1, 2008, under the provisions of the Mizoram Municipalities Act, 2007. The first election to the Council was conducted on November 3, 2010, marking the institutionalization of urban local governance in the state. The AMC was later upgraded to a Municipal Corporation on October 15, 2015, following the Fourth Amendment of the Mizoram Municipalities Act, 2007 (Aizawl Municipal Corporation, n.d.). The Corporation comprises 19 wards and 82 Local Councils, functioning as the primary body of urban governance in the state.

Fifteen years after the establishment of AMC, the Lunglei Municipal Council (LMC) was inaugurated on January 13, 2023, becoming Mizoram’s second urban local body (Government of Mizoram, 2023). The creation of these institutions reflects the state’s gradual alignment with the Seventy-Fourth Constitutional Amendment Act (1992), which mandates the devolution of powers and responsibilities to Urban Local Bodies (ULBs) for planning and implementing socioeconomic development activities across 18 subjects listed in the Twelfth Schedule of the Indian Constitution.

Under the Mizoram Municipalities Act, 2007, the property tax within the jurisdiction of the Aizawl Municipal Corporation consists of multiple components—namely, a general purpose tax, water and drainage tax, lighting tax, and scavenging

tax. These levies collectively finance essential urban services, including water supply, drainage, waste management, and street lighting. When imposing water and drainage taxes, the Corporation must clearly delineate the share allocated to waterworks and drainage activities as per Section 212 of the Act (Government of Mizoram, 2007).

The First Mizoram Finance Commission (MFC-I) was constituted on September 30, 2011, by an order of the Governor and its recommendations became operational in 2015. In the initial year (2015–16), AMC received funds solely as nontax devolutions. Following the implementation of MFC-I in 2016–17, property tax collection began, and tax devolution became part of the Corporation’s revenue framework (First Mizoram Finance Commission, 2015).

Across India, property tax is the principal source of own tax revenue for urban local bodies, accounting for approximately 60% of total municipal tax revenue, with the remainder comprising user charges and other local taxes. However, in Aizawl, property tax remains the sole municipal tax, underscoring the Corporation’s limited fiscal capacity. Prior to 2014–15, AMC had not levied any tax; all receipts were non-tax revenues. The adoption of the Mizoram Municipalities (Property Tax Management) Rules, 2014, on May 13, 2015—effective April 1, 2015—marked the introduction of property taxation within AMC’s jurisdiction.

Using the Unit Area Method (UAM), AMC implemented a self-assessment system to simplify valuation and enhance compliance. Based on normative projections, the First Mizoram Finance Commission estimated that annual tax revenue could reach ₹10 crore by 2020 through improved collection efficiency (First Mizoram Finance Commission, 2015).

Table 4.8 presents the year-wise property tax collection of the Aizawl Municipal Corporation (AMC) from 2015–16 to 2022–23, expressed in lakh rupees. The data, sourced from the AMC’s official website and additional information obtained under the Right to Information Act (2005), reveal a fluctuating yet generally upward trend in revenue performance (Aizawl Municipal Corporation, 2025.). The compound annual growth rate (CAGR) of property tax revenue during this period was 23.36%, highlighting a notable improvement in fiscal mobilization.

Table 4.8: Property Tax Collection in AMC during 2015-16 to 2022-23
(Rupees in lakh)

Financial Year	Collection	% Growth
2015- 2016	114.18	
2016-2017	220.02	92.7
2017-2018	275.53	25.23
2018-2019	286.59	4.01
2019-2020	289.85	1.14
2020-2021	324.10	11.82
2021-2022	322.09	-0.62
2022-2023	574.49	78.36
2023-2024	612.24*	6.57
CAGR (%)	23.36%	

Source: AMC website <https://amcmizoram.com/page/rti> &

* 2023-24 data obtained through RTI Act 2005

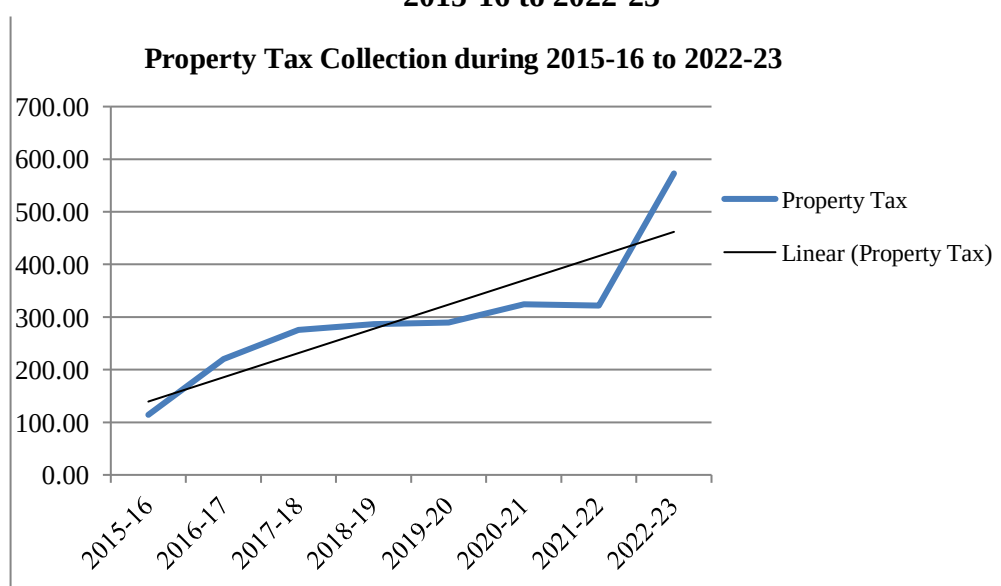
According to AMC records, there were 41,537 registered property holders in the 2023–24 fiscal year. The introduction of the Mizoram Municipalities (Property Tax Management) Rules, 2014, and the adoption of self-assessment and unit areabased valuation methods have contributed to greater compliance and transparency in tax collection. Except for 2021–22, when collections declined by -0.62% due to the COVID-19 pandemic’s economic disruptions, annual revenues showed consistent growth. The pandemic-induced employment losses and reduced household incomes temporarily constrained taxpayers’ capacity, resulting in the only negative growth year since the inception of the property tax system.

Overall, the data suggest steady fiscal strengthening of AMC’s own-source revenues, reflecting both improved administrative efficiency and rising taxpayer responsiveness. The following figure illustrates the trend in property tax collections within the AMC jurisdiction from 2015–16 to 2022–23.

Property taxpayers’ lists are publicly available on the Aizawl Municipal Corporation (AMC) website (<https://amcmizoram.com/documents/property-taxrelated-form?page=9>). As per the compiled data, there were 41,537 registered property holders in the AMC area during 2023–24. Overall, taxpayers have shown commendable compliance, and property tax collection has demonstrated steady growth since its introduction, except for the 2021–22 fiscal year. The temporary decline in collections during this period was largely due to the COVID-19 pandemic, which disrupted local economic activity, employment, and household incomes. However, subsequent recovery efforts, enhanced digital payment options, and improved taxpayer awareness

have strengthened compliance levels, leading to a positive trend in revenue collection. This reflects both the growing efficiency of AMC's tax administration and citizens' increasing responsiveness toward fulfilling their municipal tax obligations. The following Figure 4.2 shows the trends of property collection in AMC area during 2015-16 to 2022-23.

Figure 4.2: Trends of Property Tax Collection in AMC during 2015-16 to 2022-23



AMC website <https://amcmizoram.com/page/rti> &

* 2023-24 data obtained through RTI Act 2005

The field survey on property taxpayers' perceptions within the AMC area was conducted using a random sampling method, encompassing 406 households across all 19 wards to ensure comprehensive coverage and statistical validity. The study design aimed to produce results that are representative, unbiased, and reflective of the broader attitudes and experiences of property taxpayers in the AMC jurisdiction.

The findings were visually represented through pie charts and bar diagrams, facilitating a clearer understanding and interpretation of data trends. These graphical representations highlight taxpayer satisfaction, compliance levels, and major concerns regarding property tax collection and service delivery. Overall, this systematic approach provided a comprehensive view of taxpayers' perceptions and their interaction with AMC's fiscal mechanisms, offering valuable insights for municipal policy improvement and fiscal governance reforms.

4.5 Taxpayers' Perception of the Property Tax System Within the AMC Area

Taxpayers' attitudes are significantly shaped by their perceptions of fairness, the quality of municipal services, and the efficiency of tax administration. The present study primarily focuses on taxpayers' attitudes, levels of satisfaction, and concerns regarding the property tax system. To achieve this objective, a questionnaire-based household survey was conducted from January to March 2025 in the Aizawl Municipal area, using a random sampling method covering 406 households. A detailed analysis of the survey findings is presented in Chapter VI, while this chapter provides a general overview and summary of the main observations.

Here are some typical findings that emerge from the survey, along with their implications for municipal authorities. The perspectives of property taxpayers within the AMC area are briefly outlined in the following sections.

Table 4.9: Socio-demographic background of respondents

Variable	Frequency	Percentage
Gender		
Male	208	51.2%
Female	198	48.8%
Sub-Total	406	100%
Age		
18-30	104	25.6%
31-45	79	19.5%
46-60	136	33.5%
Sub-Total	406	100%
Family's main occupation		
Business	69	17.0%
Govt employment	206	50.7%
Self-employment	52	12.8%
Under Private sector	10	2.5%
Church or NGO worker	6	1.5%
Unemployed	11	2.7%
Others	52	12.8%
Sub-Total	406	100%

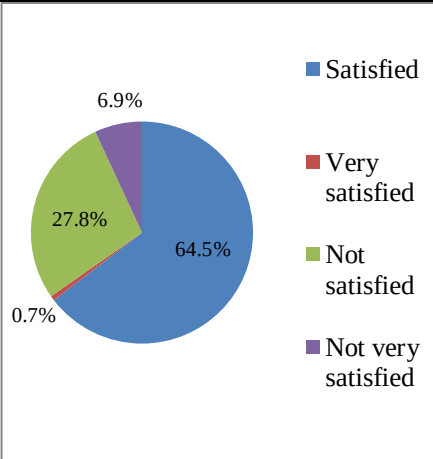
Source : Field survey (2025)

In this survey, 51% of the respondents are male, while 49% are female. In Mizoram, government jobs play a significant role as a primary source of employment. These trends are evident in our survey results: 51% of respondents said government employment is their main occupation. Other prominent family occupations are business and self-employment.

Taxpayers' perceptions of the property tax rates are influenced by several factors, including their understanding of how the tax rate is determined, perceived fairness, and the quality of services received in return. In our survey we can see that the property taxpayers have different views regarding the rate of the tax and the following table reflects property taxpayers' attitudes and perceptions in some ways.

Table 4.10 : Tax payers' perception on the rate of Property tax in AMC area.

Table 10.1: Tax payers' perception on the rate of property tax in AMC area.												
Questions		Answers										
Do you think the current property tax rate in AMC area is fair and reasonable?	Property tax was introduced in 2015 only in AMC and collection was started during 2015-16 FY. In our survey, more than half of the respondents (52.9%) agree that the current rate of property tax is fair and reasonable. While 26.4 per cent of them think that the rate of property tax is high, a handful of 9.40% said that the rate is very high. Also, 11.30% declared that they had no any idea on the rate of property tax.	A pie chart showing the distribution of responses to the question 'Do you think the current property tax rate in AMC area is fair and reasonable?'. The chart is divided into four segments: 'Yes' (52.90%, blue), 'High' (26.40%, red), 'Very high' (9.40%, green), and 'I don't know' (11.40%, purple). A legend to the right of the chart identifies these categories. <table><tr><th>Response</th><th>Percentage</th></tr><tr><td>Yes</td><td>52.90%</td></tr><tr><td>High</td><td>26.40%</td></tr><tr><td>Very high</td><td>9.40%</td></tr><tr><td>I don't know</td><td>11.40%</td></tr></table>	Response	Percentage	Yes	52.90%	High	26.40%	Very high	9.40%	I don't know	11.40%
Response	Percentage											
Yes	52.90%											
High	26.40%											
Very high	9.40%											
I don't know	11.40%											
Even if the government will raise the rate of property tax, will you still pay your tax obligation correctly without any complaint?	As many as 46.1% of the respondents said they will be obliged to submit the tax even if the authority raised the rate. But, 43.1% of them said that they may complain it, if the government raise the tax rate. While 10.8% of them are undecided, they can not say how would they react to the increase of the tax rate.	A pie chart showing the distribution of responses to the question 'Even if the government will raise the rate of property tax, will you still pay your tax obligation correctly without any complaint?'. The chart is divided into three segments: 'Yes' (46.1%, blue), 'No' (43.1%, red), and 'I don't know' (10.8%, green). A legend to the right of the chart identifies these categories. <table><tr><th>Response</th><th>Percentage</th></tr><tr><td>Yes</td><td>46.1%</td></tr><tr><td>No</td><td>43.1%</td></tr><tr><td>I don't know</td><td>10.8%</td></tr></table>	Response	Percentage	Yes	46.1%	No	43.1%	I don't know	10.8%		
Response	Percentage											
Yes	46.1%											
No	43.1%											
I don't know	10.8%											

Are you satisfied with the present rate of property tax in AMC area?	On the question about the rate of property tax, about 65% of the responders stated that they are satisfied (with the present rate). Meanwhile, 28% are not satisfied with the present rate, while 6.9% claimed that they are not very satisfied. Less than one percent of them said they are very satisfied. Overall, majority of the residents of AMC are supposed to be satisfied with the present rate of property tax.	 <table><tr><th>Satisfaction Level</th><th>Percentage</th></tr><tr><td>Satisfied</td><td>64.5%</td></tr><tr><td>Very satisfied</td><td>0.7%</td></tr><tr><td>Not satisfied</td><td>27.8%</td></tr><tr><td>Not very satisfied</td><td>6.9%</td></tr></table>	Satisfaction Level	Percentage	Satisfied	64.5%	Very satisfied	0.7%	Not satisfied	27.8%	Not very satisfied	6.9%
Satisfaction Level	Percentage											
Satisfied	64.5%											
Very satisfied	0.7%											
Not satisfied	27.8%											
Not very satisfied	6.9%											

Source: Field Survey (2025)

Property tax awareness allows residents to understand the direct benefits of their contributions and to engage more deeply in their community’s decision-making processes. Table 4.10 illustrates taxpayers’ perceptions of property tax in the AMC area. Most respondents (52.9%) consider the tax rate fair and reasonable, while 46.1% express willingness to comply even with potential rate increases. Furthermore, approximately 65% of respondents report satisfaction with the existing tax rate, indicating broad acceptance of AMC’s taxation framework. However, a smaller proportion remains uncertain or dissatisfied, suggesting scope to improve communication and awareness of property tax policies and revisions.

Property taxpayers' attitudes toward property tax systems may vary widely, particularly around issues such as transparency, fairness in raising municipal revenue, and system simplicity. Some taxpayers believe that updates on tax rates, exemptions, and deadlines are poorly disseminated. While many acknowledge property tax as a crucial, stable revenue source for municipalities, others remain unconvinced of its necessity for financing essential urban services and infrastructure projects, and for ensuring equitable resource distribution within the municipal framework, reflecting a perceptual divide among citizens.

Table 4.11 highlights taxpayers’ attitude on issues like publicity about property tax, main source of municipal revenue and their understanding level on the tax system itself.

Table 4.11: Taxpayers’ Attitudes on Property Tax

Variable	Frequency	Per cent
There is adequate publicity about property tax among the citizens of AMC?		
Agree	62	15.3%
Somewhat agree	21	5.1%
Strongly agree	12	3.0%
Neutral	59	14.5%
Disagree	98	24.1%
Somewhat disagree	128	31.5%
Strongly disagree	26	6.4%
Sub-Total	406	100%

Property tax is a suitable means of raising revenue of urban local body?		
Agree	270	66.5%
Somewhat agree	45	11.1%
Strongly agree	35	8.6%
Neutral	27	6.6%
Disagree	14	3.4%
Somewhat disagree	11	2.7%
Strongly disagree	4	1.2%
Sub-Total	406	100%

The property tax system is simple and easily understandable to the public?		
Agree	86	21.2%
Somewhat agree	46	11.3%
Strongly agree	2	0.5%
Neutral	114	28.1%
Disagree	54	13.3%
Somewhat disagree	91	22.4%
Strongly disagree	13	3.2%
Sub-Total	406	100%

Source: Field Survey (2025)

Our main areas of focus, in this study, is taxpayers' perceptions of fairness and equity as these are very important for their compliance and willingness to pay. So many of the taxpayers diligently submitted taxes without complaining, not thinking about the use of the money they contributed to the government and not considering whether the money was spent for development works or not. At the same time some of the taxpayers are concerned about the rate of the tax and the process of decision making regarding the tax rate. Despite all these, the taxpayers compliance and consciousness levels are normally making them to obey and fulfill their tax obligations.

4.6 CONCLUSION

This chapter shows that property tax is the linchpin of municipal finance, yet remains under-exploited, particularly in India and the Northeast. Despite a strong constitutional mandate, weak valuation, limited capacity, and modest urbanization depress yields. Evidence from AMC—post-2015 adoption, strong CAGR with a pandemic dip—and household perceptions point to cautious acceptance, but with information gaps. Closing the OECD gap requires GIS-enabled cadastres, periodic revaluation, transparent self-assessment (UAV/CV), digital payments, and predictable devolution, strengthening local accountability, service delivery, and fiscal sustainability over time.

CHAPTER - V

**SOLID WASTE MANAGEMENT
AS MUNICIPAL SERVICE
DELIVERY IN
AIZAWL MUNICIPAL
CORPORATION AREA**

5.1 INTRODUCTION

This chapter outlines the framework of solid waste management, detailing legislative provisions and initiatives undertaken by governments and urban local bodies (ULBs). It also highlights the Service Level Benchmark (SLB) targets related to solid waste management within the Aizawl municipal corporation. It presents global trends alongside India's acute urban challenges, rapid population growth, rising per capita waste, and infrastructure gaps before turning to the AMC. Emphasis is placed on regulatory frameworks, institutional roles, and performance benchmarks necessary for assessing AMC's systems, compliance, service outcomes, and pathways toward sustainable, scientifically managed SWM.

Solid waste refers to all non-liquid refuse, including garbage, trash, and discarded materials. The World Health Organization (WHO, 2024) defines it as any unwanted or discarded substance that does not flow as liquid. Waste can be classified by source, such as municipal solid waste, health-care waste, or electronic waste (e-waste). Proper management is essential to prevent pollution, safeguard public health, conserve resources, and protect the environment. Municipal Solid Waste (MSW) specifically refers to waste generated by households, commercial establishments, institutions, and public activities, comprising everyday items such as packaging, food scraps, and household goods. Globally, more than 2 billion tonnes of MSW are generated annually, with projections suggesting this will nearly double to 4 billion tonnes by 2050. In addition, around 54 million tonnes of e-waste are produced every year, a figure expected to rise to 75 million tonnes by 2030 (WHO, 2024).

Globally, municipal waste management has undergone rapid evolution, with cities adopting innovative and sustainable solutions. In India, however, the challenge remains acute due to rapid urbanization, population growth, inadequate waste management infrastructure and increased waste generation. As per the Census of India (2011), 31 per cent of the population (377 million people) lived in urban areas, producing enormous daily waste quantities. According to the Central Pollution Control Board (CPCB), India generated 1,43,449 tonnes per day (TPD) of MSW in 2014–15, of which only 32,871 TPD (22%) was processed or treated (CPHEEO, 2016). More recent estimates suggest that urban India generates 65–75 million tonnes of waste

annually, with per capita waste generation ranging from 0.3 to 0.6 kg/day. This figure is expected to rise with ongoing urban and economic growth (CPCB, 2021).

MSW management in India poses a significant challenge, not only due to environmental and aesthetic concerns, but also because of the substantial volume of waste generated daily. MSW typically comprises three categories: dry waste, wet waste, and construction and demolition (C&D) waste. Dry waste encompasses a range of materials, including both recyclable and non-recyclable items such as plastics, paper, cardboard, metals, glass, rubber, and other combustibles. Among these, recyclables are considered the most valuable because of their high economic potential. Rapid urbanization and changing consumption patterns have further increased the significance of this waste stream.

According to estimates from the Ministry of Housing and Urban Affairs (MoHUA, 2021), India generates approximately 1.45 lakh metric tonnes of solid waste per day, with dry waste accounting for nearly 35 per cent. This category consists of plastics, paper and cardboard, glass and ceramics, metals, textiles, tyres, and rubber. Wet or biodegradable waste includes cooked and uncooked food, vegetable and fruit residues, flowers, fallen leaves, and other organic matter. Processing methods have traditionally relied on aerobic composting and biomethanation. C&D waste generally accounts for between 5 per cent and 25 per cent of the MSW generated in urban local bodies (ULBs). Proper management of construction and demolition (C&D) waste plays a crucial role in reducing dust emissions, thereby mitigating air pollution. Additionally, it promotes resource conservation by recycling construction materials and encouraging their reuse in infrastructural projects, contributing to both environmental sustainability and urban resilience.

Municipal solid waste in India can be broadly classified into :

- (i) Biodegradable waste. E.g., food waste, garden waste, paper, etc.,
- (ii) Non-biodegradable waste. E.g., plastics, metals, glass, etc.,
- (iii) Hazardous waste. E.g. E-waste, biomedical waste, chemicals, etc.,

(iv) Construction and demolition waste and

(v) Inert waste. E.g., dust, silt, and debris.

This is a broader classification. Sometimes, MSW is categorized based on its origin or sources, composition, and potential for reuse or recycling or management, as follows:

1) Sources:

(i) Residential: Household waste, such as food scraps, paper, plastics, and yard trimmings.

(ii) Commercial: Waste from businesses like offices, restaurants, and retail stores.

(iii) Institutional: Waste from schools, hospitals, and government buildings.

(iv) Public Spaces: Waste collected from parks, streets, and public events.

2) Composition:

(i) Organic materials (e.g., food waste, garden clippings).

(ii) Recyclables (e.g., paper, glass, metals, plastics).

(iii) Non-recyclable materials (e.g., textiles, ceramics).

(iv) Occasionally includes small quantities of hazardous waste (e.g., batteries, electronic waste).

3) Management:

(i) Collection and transportation by municipal authorities or private contractors.

- (ii) Treatment through recycling, composting, incineration, or disposal in landfills.

According to the Annual Report of the Central Pollution Control Board (CPCB), India generated approximately 1,70,339 tonnes per day (TPD) of solid waste during 2021–22, of which 1,56,449 TPD was collected, reflecting an overall collection efficiency of 92 per cent. However, segregation at source, systematic transportation, treatment, and scientific disposal remain inadequate, contributing to environmental degradation and adversely affecting the quality of life (CPHEEO, 2016). Urban areas alone generate an estimated 65–75 million tonnes of municipal solid waste annually, with per capita generation rates ranging from 0.3 to 0.6 kilograms per day. This figure is expected to rise further due to rapid urbanization and economic growth (CPCB, 2021).

The rapid growth of population and changes in lifestyle has significantly increased both the volume and complexity of MSW in India. The composition of MSW generally consists of 40 per cent – 60 per cent biodegradable waste, 10 per cent – 20 per cent recyclables, and 20 per cent – 30 per cent non-recyclable components. However, the proportion of each category varies depending on the locality. For instance, organic waste is predominant in vegetable markets, whereas commercial hubs, such as shopping malls, generate a higher share of inorganic or dry waste. In residential areas, biodegradable waste remains the major component. Moreover, the nature and quantity of waste generated are closely linked to household income levels, with higher-income groups often contributing to greater amounts of packaging and recyclable waste (Ministry of Housing and Urban Affairs [MoHUA], 2020).

5.2 SOLID WASTE MANAGEMENT LEGISLATIONS

Solid waste management in India is primarily governed by the constitutional framework. According to the Constitution of India, the subject of sanitation and solid waste management falls under the purview of the State List, making state governments

responsible for implementing appropriate waste management practices across urban areas.

The role of the central government is largely supportive, focusing on the formulation of national policy guidelines, establishment of standards, and provision of technical assistance to states and municipalities when required. Importantly, the 74th Constitutional Amendment Act (1992) explicitly mandates ULBs to manage solid waste within their jurisdictions. This legislative framework decentralizes authority, entrusting ULBs with the responsibility of planning, executing, and monitoring solid waste management, thereby making it a core municipal function. To operationalize this mandate, the Ministry of Environment, Forest and Climate Change (MoEFCC) notified the Solid Waste Management Rules, 2016, replacing the earlier 2000 rules. These rules expanded the scope of municipal solid waste management by covering not only residential but also industrial, institutional, and commercial establishments.

The Government of India has established a comprehensive set of legal frameworks and regulatory mechanisms to address the growing challenges of solid waste management. These frameworks emphasize waste reduction, segregation, recycling, and environmentally sound disposal practices:

- 1) Solid Waste Management Rules, 2016:** These rules mandate segregation of waste at source into biodegradable, non-biodegradable, and hazardous categories. They promote scientific disposal, composting, and waste-to-energy processes, while requiring urban local bodies to integrate informal waste pickers into formal waste management systems.
- 2) Plastic Waste Management Rules, 2016 (Amended 2022):** These rules introduced a ban on single-use plastics and strengthened Extended Producer Responsibility (EPR) obligations, requiring manufacturers and brand owners to ensure the collection, recycling, and safe disposal of plastic waste.
- 3) E-Waste (Management) Rules, 2016:** Focusing on the rapidly growing problem of electronic waste, these rules outline mechanisms for collection, recycling,

refurbishment, and safe disposal of e-waste, while reinforcing producer responsibility in managing end-of-life products.

4) Construction and Demolition Waste Management Rules, 2016: These regulations aim to ensure the reuse and recycling of construction debris, reduce landfill pressure, and promote the use of recycled materials in infrastructure projects.

Collectively, these rules highlight India's evolving efforts to build an integrated and sustainable solid waste management system, aligned with global environmental standards. Solid waste management is the obligation of the respective ULBs, which include municipal corporations, municipalities, and nagar panchayats. The Ministry of Environment and Forests, Government of India, issued the Municipal Solid Waste (Management and Handling) Rules, 2000 (the "MSW Rules") under the Environment (Protection) Act, 1986. These rules specify how the Authorities must collect, separate, store, transport, process, and dispose of the municipal solid waste produced within their respective jurisdictions in accordance with their respective governing laws.

The Environment Protection Act, 1986, serves as an umbrella legislation that empowers the Central Government to regulate environmental pollution, including the management of solid waste. It provides the legal foundation for framing various waste management rules in India (Government of India, 1986). The Directive Principles of State Policy, as outlined in Article 48A of the Constitution of India, require the state to protect and improve the environment. Similarly, Article 51(g), which forms part of the Fundamental Duties, requires every citizen to safeguard the natural environment, including forests, lakes, rivers, and wildlife. Additionally, the 12th Schedule of the Constitution, introduced through the 74th Constitutional Amendment Act of 1992, specifies the powers, authorities, and responsibilities of municipalities. Under Article 243W, waste management is explicitly listed as one of the functional responsibilities of ULBs (Government of India, 1992).

In line with these constitutional provisions, the Government of India introduced the Municipal Solid Waste (Management and Handling) Rules, 2000, marking the first comprehensive regulatory framework for managing MSW in the country. These Rules,

notified under the Environment Protection Act of 1986, delineated the responsibilities of waste generators, urban local bodies, and other stakeholders (Government of India, 2000).

Subsequently, the Solid Waste Management (SWM) Rules, 2016, replaced the earlier 2000 Rules, establishing a more comprehensive and rigorous framework for municipal solid waste management in India. These rules clearly defined the responsibilities of waste generators, urban local bodies, State Pollution Control Boards (SPCBs), and Pollution Control Committees (PCCs). They emphasized mandatory segregation at source, recycling, and scientific disposal, while also requiring SPCBs and PCCs to submit annual compliance reports to the Central Pollution Control Board (CPCB) (Government of India, 2016). This marked a significant step towards strengthening institutional accountability and promoting sustainable waste management practices.

Key Provisions of the SWM Rules, 2016 are given below.

- 1) Waste Segregation:** Mandatory segregation of waste into biodegradable, nonbiodegradable, and domestic hazardous waste.
- 2) Decentralized Waste Management:** Encouragement of composting, biomethanation, and resource recovery.
- 3) Prohibitions:** Ban on open dumping and burning of waste.
- 4) Extended Responsibilities:** Waste generators must segregate and store waste at source; bulk generators such as hotels and institutions must process biodegradable waste onsite.
- 5) Landfill Management:** Scientific landfill practices with provisions for leachate and gas management.
- 6) Community Involvement:** Market associations, resident welfare associations, and gated communities are required to segregate waste and hand over recyclables to authorized waste pickers, recyclers, or urban local bodies.

7) Sanitary Waste: Manufacturers must provide disposal pouches or wrappers for sanitary waste, such as diapers and sanitary napkins.

8) Packaging Waste: Implementation of a collection-back scheme for packaging materials.

(viii) Waste Processing and Treatment: Biodegradable waste should be managed through composting or bio-methanation.

9) Central Monitoring Committee: Constituted under the Ministry of Environment, Forest and Climate Change (MoEFCC) to monitor and review rule implementation annually.

There are other regulations that aim to promote sustainable waste management practices and minimize environmental degradation, such as:

1) Plastic Waste Management Rules, 2016 (Amended 2022): Restricts single-use plastics and enforces Extended Producer Responsibility (EPR) for producers, importers, and brand owners (MoEFCC, 2022).

2) E-Waste (Management) Rules, 2022: Mandates collection, recycling, and safe disposal of electronic waste, incorporating municipal authorities into enforcement mechanisms (CPCB, 2022).

3) Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016: Governs the handling, treatment, and cross-border movement of hazardous waste (MoEFCC, 2016a).

4) Bio-Medical Waste Management Rules, 2016: Focuses on the segregation, treatment, and disposal of biomedical waste from healthcare facilities, preventing contamination of municipal solid waste streams (MoEFCC, 2016b).

5) Construction and Demolition (C&D) Waste Management Rules, 2016: Provides specific procedures for reuse and recycling of debris, aiming to reduce its impact on municipal solid waste systems (MoEFCC, 2016c).

Besides, there are specific missions which support urban waste management in India. These are.

- 1) Swachh Bharat Mission (Urban):** Focuses on achieving 100% scientific management of MSW, including waste collection, segregation, treatment, and disposal.
- 2) Smart Cities Mission:** Encourages innovative waste management solutions, including smart bins, automated collection systems, and recycling initiatives.
- 3) Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** Funds infrastructure development for waste management in smaller cities.

In India, MSW management operates under a multi-tiered institutional framework that distributes authority among central, state, and local levels. This structure ensures regulatory coherence, decentralization, and citizen involvement in sustainable waste practices. At the apex, the Central Pollution Control Board (CPCB) formulates national guidelines, enforces environmental standards, and monitors compliance with policies. State Pollution Control Boards (SPCBs) supervise statelevel execution, granting approvals and overseeing treatment facilities. ULBs, functioning at the grassroots level, are primarily responsible for daily operations, including collection, segregation, transportation, processing, and scientific disposal of waste. Additionally, ULBs conduct public awareness campaigns, implement service-level benchmarks, and report performance to higher authorities.

Collectively, these institutions form an integrated governance network that emphasizes environmental protection, accountability, and efficiency in urban waste management systems across India.

A) Central Government Institutions

1) Ministry of Environment, Forest and Climate Change (MoEF&CC)

The MoEF&CC formulates national policies and legal frameworks related to solid waste management. It is responsible for enforcing regulations such as the Solid

Waste Management Rules, 2016, and ensuring adherence to environmental standards nationwide.

2) Central Pollution Control Board (CPCB)

The CPCB provides technical guidance, establishes standards for MSW management, and prepares operational manuals and guidelines for municipalities. It also monitors state-level compliance with national waste management regulations, thereby ensuring institutional accountability.

3) Ministry of Housing and Urban Affairs (MoHUA)

MoHUA plays a pivotal role in supporting ULBs through policy guidance and financial assistance under various flagship programs, including Swachh Bharat Mission (Urban), Smart Cities Mission and Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

B) State Government Institutions

1) State Pollution Control Boards (SPCBs)

It enforces waste management rules at the state level, monitors the performance of local bodies in waste processing and disposal and reviews and approves landfill site designs and waste treatment facilities.

2) Urban Development Departments

It provides policy directions and financial support to urban local bodies and develops state-level waste management plans and coordinates inter-departmental efforts.

C) Urban Local Bodies (ULBs)

ULBs are the primary institutions responsible for executing municipal solid waste management (MSWM) activities. Their responsibilities include

1) Waste Collection: Door-to-door collection and transportation of waste to designated sites.

(i) Source Segregation: Promoting public participation in segregating biodegradable, recyclable, and hazardous waste.

(ii) Processing and Disposal: Establishing composting, waste-to-energy plants, and other treatment facilities and managing scientific landfill sites for residual waste disposal.

(iii) Public Awareness: Conducting campaigns on waste reduction, segregation, and recycling.

(iv) Monitoring and Reporting: Submitting annual reports on compliance with waste management rules to SPCBs.

5.3 SOLID WASTE MANAGEMENT IN AMC AREA

The management of municipal solid waste is one of the main functions of all ULBs in the country. The 74th Constitutional Amendment Act (CAA) of 1992 (12th Schedule Article 243 W) gave constitutional validity to local or municipal governments, which derive their power from the state government. The 12th Schedule of the Indian Constitution was added by the 74th CAA of 1992 which deals with the provisions that specify the powers, authority and responsibilities of Municipalities. This schedule has 18 subjects and solid waste management was added to it. Section 57 (In the Chapter VI) of The Mizoram Municipalities Act 2007 solid waste management is included in the functions of the municipality.

5.3.1 Implementation of Solid Waste Management regulations

The AMC has implemented various regulations for solid waste management issued by the central government. These areas of implementation are highlighted and explained as follows:

1) Solid Waste Management Rules, 2016

The AMC manages the Solid Waste Management Centre (SWMC) at Tuirial, around 20 km from the city. The facility undertakes collection, segregation, composting, and landfilling, thereby fulfilling the mandate for scientific waste processing as outlined in the Solid Waste Management Rules, 2016 (Government of India, 2016a). At the household level, segregation of waste into biodegradable, recyclable, and residual categories is enforced through Local Councils (LCs), demonstrating institutional compliance with the national framework.

2) Plastic Waste Management Rules, 2016 (Amended 2022)

AMC declared Aizawl a Plastic-Free City on October 2, 2019, and subsequently banned single-use plastics within municipal offices in 2022. Enforcement efforts have become progressively stronger, as reflected in increased penalties and the seizure of plastic items. These measures highlight AMC's role in enforcing Extended Producer Responsibility (EPR) and demonstrate alignment with national plastic waste legislation (Government of India, 2016, 2022).

3) E-Waste (Management) Rules, 2016

In contrast, e-waste remains a significant compliance gap. Discarded electronic products are largely managed through informal recycling networks, without formal collection or regulation. The lack of a structured e-waste mechanism suggests partial alignment with national requirements. Establishing partnerships with certified recyclers could bridge this gap and improve compliance with the E-Waste (Management) Rules, 2016 (Government of India, 2016).

4) Construction and Demolition Waste Management Rules, 2016

AMC struggles with effective disposal of construction and demolition (C&D) waste, as debris is often discarded in open sites or vacant land. Recycling and reuse initiatives remain limited, and formalized systems for processing C&D waste are yet

to be developed. This indicates only partial compliance with the Construction and Demolition Waste Management Rules, 2016 (Government of India, 2016).

5) Innovative Local Initiatives

Beyond statutory compliance, AMC has introduced innovative measures. It has signed recycling agreements with private firms such as NEPRA Resource, Rapidue Technology, and IPCA, aligning with the public–private partnership (PPP) approach promoted under national frameworks. In addition, AMC operates a wet waste treatment facility that produces bio-fertilizers, advancing circular economy principles. By 2024–25, AMC had extended door-to-door waste collection to 95% of households, marking substantial progress towards the objectives of the Garbage-Free Cities Mission (Aizawl Municipal Corporation [AMC], 2022).

Overall, AMC has made considerable strides in implementing national solid waste management frameworks, particularly in areas such as source segregation, plastic waste regulation, and recycling partnerships. However, notable gaps remain in e-waste management and construction and demolition (C&D) waste management. Strengthening institutional capacity, enhancing public awareness, and integrating digital monitoring systems are critical for AMC to achieve full alignment with India’s evolving waste management legislation.

5.3.2 Solid Waste Management – An Introductory Framework

The necessity for organised solid waste management in Aizawl was recognised even before the formal establishment of the Aizawl Municipal Council. The Council was constituted and became operational in October 2008. In January 2009, a tripartite agreement was signed between the Asian Development Bank (ADB), the Government of India, and the Government of Mizoram to provide financial support for developing a sustainable SWM system under a PPP model. Under this arrangement, ADB approved a loan of ₹17.01 crore to the Government of Mizoram, of which 30 per cent was to be repaid by the Government of India. The State Investment Programme Management and Implementation Unit (SIPMIU), operating under the Urban

Development and Poverty Alleviation Department (UD&PA), was entrusted with project oversight (Lalchhuanawm, 2016).

Solid waste collection and disposal in Aizawl continue to function under the PPP framework. The Local Councils (LCs), established under the Mizoram Municipalities (Ward Committee and Local Council) Rules, 2010, serve as key grassroots institutions in every locality. They play a vital role in facilitating AMC's service delivery by mobilising household-level contributions and organising waste collection within their jurisdictions. As of August 2024, AMC and the LCs share the financial burden of waste management in a 60:40 ratio. (AMC, 2022).

In compliance with the Solid Waste Management Rules, 2016, the State Level Monitoring Committee on SWM was constituted on 18 April 2018, chaired by the Chief Secretary, with all District Deputy Commissioners as members. Additionally, a State Level Advisory Board, chaired by the Secretary of the UD&PA Department, was created to strengthen oversight. Complementing these structures, the State Advisory Committee on Bio-medical Waste Management was established on 3 April 2019, aligning with the Bio-medical Waste Management Rules, 2016. (Government of India, 2016).

Until 2023, Mizoram had only one Urban Local Body (ULB)—the AMC—alongside 28 notified urban towns. The state generated approximately 374 tonnes per day (TPD) of solid waste, of which 313 TPD was collected, 234 TPD treated, and 8 TPD landfilled (CPCB, 2021–2022). Within AMC's jurisdiction, solid waste collection amounted to 137.91 TPD during 2017–18 and 2018–19, increasing to 167.91 TPD between 2019–20 and 2020–21, before declining to 70.21 TPD in 2021–22 and 70 TPD in 2022–23. These figures were obtained under the Right to Information (RTI) Act, 2005, from the AMC office.

Collection is carried out through designated sanitation points covering all 83 Local Councils, with specially designed covered trucks—painted in green and blue—used for transportation to minimise spillage and ensure hygienic handling (CPCB, 2022).

5.3.3 The AMC and Solid Waste Management Bye-Laws, 2019

The AMC Solid Waste Management Bye-Laws, 2019, published in July 2019, are applicable across all areas within AMC's jurisdiction. These Bye-laws extend to all public spaces, all generators of MSW, and every premise under individual or institutional ownership within the city. The regulations require that all waste generators segregate waste at the source into specific categories and store them separately in authorized bins, bags, or receptacles. The segregated waste is then to be handed over to authorized waste pickers or collectors, as directed by AMC from time to time. The prescribed categories of waste under these Bye-laws include:

- 1) Biodegradable (wet) waste,
- 2) Specified domestic hazardous waste,
- 3) Fully treated biomedical waste (as per relevant national rules),
- 4) Construction and demolition (C&D) waste,
- 5) Bulk garden and horticultural waste, including tree and plant trimmings, and
- 6) All other non-biodegradable (dry) waste, including recyclable and nonrecyclable components. Sanitary waste, such as napkins, diapers, and tampons, must be securely wrapped in pouches provided by the manufacturers or other suitable wrappers before being stored with dry waste for collection.
- 7) All bulk waste generators are obligated to manage their waste on-site in accordance with AMC's instructions, which may evolve over time (AMC, 2019).

In line with state-level directives, the Government of Mizoram (Notification No. RNI 7009/1973) empowered AMC's Board of Councillors to ban plastic carry bags below 50 microns in thickness, effective from 1 August 2019. Following this, Aizawl was officially declared a Plastic-Free City on 2 October 2019. This initiative was further strengthened when the AMC Mayor declared all AMC offices and premises Single Use Plastic (SUP)-Free Zones on 21 June 2022.

According to guidelines provided by the State Investment Programme Management and Implementation Unit (SIPMIU), approximately 14% of the total dry waste collected at the Solid Waste Management Centre (SWMC) in Tuirial consists of plastic waste. This amounts to an estimated 26.92 metric tonnes per day (MTPD) of plastic waste requiring specialized handling (AMC, 2019; SIPMIU, 2022).

Table 5.1: Statistics of Banned Plastic Seized

Sl. No	Year	No. of Shops	Quantity Seized (in Kgs)
1	2020	14	132.12
2	2021	122	329.05
3	2022	218	330.54
4	2023		831.38
Total			1623.09

Source: AMC (Data obtained through the Right to Information Act, 2005)

The table 5.1 presents data on the enforcement of plastic ban measures by the AMC between 2020 and 2023. It records both the number of shops penalized and the quantity of banned plastic seized (in kilograms). The data show a steady increase in enforcement, from 14 shops and 132.12 kg in 2020 to 218 shops and 330.54 kg in 2022, peaking in 2023 with 831.38 kg seized from 218 shops. Overall, 1,623.09 kg of banned plastic was confiscated, reflecting AMC's progressively stringent enforcement and rising awareness of plastic control.

5.3.4 SIPMIU Initiatives

The State Investment Programme Management and Implementation Unit (SIPMIU) was established in Mizoram in 2009, along with other four northeastern states, viz., Tripura, Sikkim, Nagaland, and Meghalaya, when the Ministry of Urban Development (MoUD), Government of India, secured a loan from the Asian Development Bank (ADB) to enhance urban development and service delivery in the Northeastern states. The ADB approved a Multi-Tranche Financing Facility (MFF) for five northeastern capital cities, initially scheduled for completion by June 2016 but later extended until March 2022. The program prioritised essential urban services,

including water supply, sewerage and sanitation, solid waste management, institutional development, and capacity building (ADB, 2016).

SIPMIU played a critical role in solid waste management initiatives in Aizawl. Public awareness campaigns and the distribution of waste-segregation bins were undertaken to encourage households to separate their “wet” and “dry” waste at the source. According to SIPMIU Aizawl, 143,200 dustbins were distributed to 71,600 households, coupled with instructions on segregation practices. To improve collection efficiency, 54 modern garbage vehicles equipped with hydraulic tilting functions were procured and dedicated equally to the transport of both wet and dry waste.

The Solid Waste Management Centre (SWMC) at Tuirial, located 20 km from Aizawl, was established under the ADB-assisted program. The facility, granted environmental clearance in January 2013, incorporates a mechanical compost plant (capacity 50 TPD), a windrow composting shed, a waste resource centre with baling machines, and a sanitary landfill (ECOMS et al., 2023). The plant processes approximately 165.39 metric tonnes per day (MTPD) of municipal waste using “accelerated aerobic composting under controlled conditions.” The facility was officially inaugurated on 11 December 2019 and handed over to the Aizawl Municipal Corporation (AMC) in January 2022 (AMC, 2022).

Post-handover, AMC introduced stricter regulations, allowing only authorized ragpickers with official identification cards to collect recyclable materials. AMC has also expanded partnerships, signing recycling agreements with firms such as NEPRA Resource Pvt. Ltd, Rapidue Technology Pvt. Ltd, and the Indian Pollution Control Association (IPCA). Furthermore, in 2022, AMC partnered with Waste Tech & Bio-Energy Pvt. Ltd for wet waste treatment and, since 2024, has operated its own wet waste processing facility to produce bio-fertilizers.

To improve cost recovery, AMC, through Local Councils, recovers approximately 20% of garbage collection expenditure via user charges. Local Councils are mandated to complete waste collection before 8:30 a.m. to ensure smooth transfer of waste to the SWMC before peak traffic hours. Additionally, AMC observes

Cleanliness Week annually in October, involving mass cleaning drives and competitions across schools, local councils, and government offices to strengthen public awareness on sanitation and waste management (CPCB, 2022).

Table 5.2: Solid Waste Collection

Sl. No	Year	Waste Collected (in ton per day)
1	2017-18	137.91
2	2018-19	137.91
3	2019-20	167.91
4	2020-21	167.91
5	2021-22	70.21
6	2022-23	70.00

Source: AMC (Data obtained through the Right to Information Act, 2005)

The data in Table 5.2 highlight the trend of solid waste collection in Aizawl over a six-year period. From 2017–18 to 2020–21, daily waste collection remained relatively high, ranging between 137.91 to 167.91 tons per day. However, from 2021–22 onward, there was a notable decline, with daily collection reducing to nearly 70 tons per day. This sharp decrease suggests potential shifts in waste generation patterns, collection practices, or data reporting, and highlights emerging challenges in municipal waste management efficiency.

5.4 SERVICE LEVEL BENCHMARK

Benchmarking has been increasingly recognized as a critical tool for ensuring accountability and enhancing performance in service delivery. It involves the systematic and continuous measurement of service providers' performance, enabling the identification of performance gaps and the adoption of corrective measures.

Through the sharing of knowledge and best practices, benchmarking contributes to the improvement of service delivery, thereby enhancing outcomes for citizens (Unnisa et al., 2013). In this context, the Ministry of Urban Development (MoUD),

Government of India, initiated the Service Level Benchmarking (SLB) programme in 2008, introducing the Handbook of Service Level Benchmarking. This framework was designed to guide ULBs and city agencies in adopting performance benchmarking systems across four critical sectors:

- 1) Water Supply
- 2) Sewerage
- 3) Solid Waste Management (SWM)
- 4) Storm Water Drainage (MoUD, 2008).

For solid waste management, SLB provides a standardized mechanism to evaluate service efficiency, highlight gaps, and promote accountability by comparing performance against defined indicators or best practices. The SLB framework considers perspectives of utility managers, planners, and citizens, and it also enables performance comparisons across cities and over time.

The SLB framework specifies 28 indicators, of which 8 are directly linked to SWM:

- 1) Household-level coverage of SWM services
- 2) Efficiency of MSW collection
- 3) Extent of waste segregation at source
- 4) Extent of waste recovery and recycling
- 5) Extent of scientific disposal of MSW
- 6) Extent of cost recovery in SWM services
- 7) Efficiency in redressal of customer complaints
- 8) Efficiency in collection of SWM-related user charges (MoUD, 2008).

Performance data for Aizawl Municipality, covering the period from 2011–12 to 2023–24, obtained from the Department of Urban Development and Poverty Alleviation, Government of Mizoram (UD&PA Department through the RTI Act 2005), indicate that while progress has been made in waste collection and segregation,

financial sustainability remains a challenge. Emphasis has been placed on efficiency in collection, segregation, recycling, and fiscal sustainability.

Importantly, both the 13th Finance Commission (2010–15) and the 14th Finance Commission (2015–20) emphasized linking financial transfers to the achievement of service-level benchmarks, thereby strengthening accountability mechanisms and incentivizing performance-based governance (Government of India, 2010; 2015). Their recommendations reinforced the SLB framework by making fiscal devolution conditional on measurable improvements in service delivery, particularly in the urban sector.

Table 5.3: SLB Indicators for SWM in Aizawl Municipality 2011-12

Sl. No	Proposed Indicator	Baseline Level (2010-11)	Level of Services (2011-12)	Benchmark Level (2011-11)
1	Household level coverage of solid waste management services	70%	70%	50%
2	Efficiency of collection of municipal solid waste	60%	65%	65%
3	Extent of segregation of municipal solid waste	0%	0%	10%
4	Extent of municipal solid waste recovered/recycled	0%	0%	10%
5	Extent of scientific disposal of municipal solid waste	0%	0%	70%
6	Extent of cost recovery in Solid Waste Management services	10%	10%	10%
7	Efficiency in redressal of customer complaints	60%	60%	50%
8	Efficiency in collection of user charges	60%	60%	80%
9	Extent of processing and treatment of Municipal Solid Waste			80%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.3 presents the service benchmarks for SWM in Aizawl Municipality for the period 2011–12. Household coverage of services was maintained at 70 per cent, while

collection efficiency improved slightly to 65 per cent. However, indicators such as segregation, recycling, and scientific waste disposal remained at 0 per cent, reflecting significant compliance gaps. Cost recovery and complaint redressal efficiency were stable at 10 per cent and 60 per cent, respectively. Compared with benchmark levels, progress was uneven, underscoring the need for improved practices in segregation, disposal, and cost recovery.

The following table shows the Service level benchmark in respect of SWM in the AMC for the year 2012-13.

Table 5.4: SLB Indicators for SWM in Aizawl Municipality 2012-13

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2012-13)	Benchmark Level (2012-13)
1	Household level coverage of solid waste management services	70%	80%	80%
2	Efficiency of collection of municipal solid waste	60%	70%	70%
3	Extent of segregation of municipal solid waste	0%	0%	10%
4	Extent of municipal solid waste recovered/recycled	0%	0%	0%
5	Extent of scientific disposal of municipal solid waste	0%	0%	0%
6	Efficiency in redressal of customer complaints	60%	70%	70%
7	Extent of cost recovery in Solid Waste Management services	10%	20%	20%
8	Efficiency in collection of SWM charges	60%	70%	70%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.4 on service benchmarks for SWM in Aizawl Municipality during 2012–13 demonstrates notable progress compared to earlier years. Household-level coverage increased from 70 per cent to 80 per cent, achieving the benchmark, while the efficiency of waste collection also improved to 70 per cent, matching the set

standard. Customer complaint redressal, cost recovery and user charge collection also reached their benchmarks. However, segregation, recycling, and scientific disposal of waste remained unaddressed, highlighting persistent gaps in sustainable waste management practices. The collection and disposal of municipal solid wastes did not involve any scientific handling and disposal. It is just a simple process of collection and dumping.

The following table shows the Service level benchmark in respect of SWM in the AMC for the year 2013-14.

Table 5.5: SLB Indicators for SWM in Aizawl Municipality 2013-14

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2013-14)	Bench mark Level	Target for 2013-14
1	Household level coverage of SWM services	70%	85%	100%	85%
2	Efficiency of collection of municipal solid waste	60%	75%	100%	75%
3	Extent of segregation of municipal solid waste	0%	10%	100%	10%
4	Extent of municipal solid waste recovered/recycled	0%	0%	80%	0%
5	Extent of scientific disposal of municipal solid waste	0%	0%	100%	0%
6	Efficiency in redressal of customer complaints	60%	70%	80%	70%
7	Extent of cost recovery in SWM services	10%	20%	100%	20%
8	Efficiency in collection of SWM charges	60%	75%	90%	75%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

The table presents service benchmarks for SWM in Aizawl Municipality for 2013–14. Household-level coverage improved significantly from 70% in 2010–11 to 85%, meeting the year’s target. Efficiency in collection and user charge collection also rose to 75%. However, critical areas such as scientific disposal, recycling, and cost recovery remained unaddressed. Despite progress in some indicators, performance still fell short of benchmark levels, highlighting persistent gaps in sustainable waste management practices.

Collection and transportation of Municipal Solid Waste in AMC area is carried out by a modified form of PPP where the AMC, in partnership with Local Councils, managed the collection and transportation in an efficient manner during this period.

Table 5.6: SLB Indicators for SWM in Aizawl Municipality 2014-15

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2014-15)	Benchmark Level	Target for 2014-15
1	Household level coverage of SWM services	70%	85%	100%	85%
2	Efficiency of collection of municipal solid waste	60%	80%	100%	80%
3	Extent of segregation of municipal solid waste	0%	10%	100%	10%
4	Extent of municipal solid waste recovered/recycled	0%	0%	80%	0%
5	Extent of scientific disposal of municipal solid waste	0%	0%	100%	0%
6	Efficiency in redressal of customer complaints	60%	60%	80%	70%
7	Extent of cost recovery in SWM services	10%	10%	100%	20%
8	Efficiency in collection of SWM charges	60%	75%	90%	75%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.6 presents the service benchmark indicators for Solid Waste Management (SWM) in Aizawl Municipality for 2014–15. One significant thing during this period is that the target level of household coverage 85% was achieved from 70% (2010–11), meeting its target. The efficiency of waste collection rose to 80%, though segregation, recycling, and scientific disposal remained at 0%, reflecting critical gaps. Customer complaint redressal stagnated at 60%, falling short of the 70% target. Cost recovery remained weak at 10%, while collection of SWM charges reached 75%, showing partial alignment with targets. As a trial project, Waste at Source (Dry and Wet) was implemented in September 2014 in five local council areas out of 83. It will be expanded to additional AMC areas concurrently.

In the process of vermicomposting, biodegradable waste segregated at the source undergoes biological treatment, transforming it into nutrient-rich compost. This eco-friendly method offers a sustainable approach to waste management, enriching soil quality and reducing reliance on landfills. Simultaneously, the newly established Solid Waste Resource Management Centre (SWRMC) assumes a crucial role in handling dry or recyclable waste. These materials are systematically recovered, sorted, and sold to authorised recycling firms, thereby supporting waste valorization and circular economy objectives.

Supported by the Asian Development Bank (ADB) under the North Eastern Region Capital Cities Development Investment Programme (NERCCDIP), a scientific Solid Waste Management Centre was conceptualized and funded through a ₹3,308 lakh project sanctioned by the Ministry of Urban Development (MoUD) in 2014. The pilot program, launched in five Local Councils in September 2014, introduced source-level waste segregation, later extended across AMC wards. This integrated and scientifically managed framework demonstrates Aizawl Municipal Corporation's (AMC) progressive shift toward sustainable, efficient, and resource-oriented urban waste management.

The integration of vermicomposting and the Solid Waste Resource Management Centre (SWRMC) marks a significant step toward achieving circular waste economy principles. The dual focus on biodegradable and recyclable waste demonstrates AMC's alignment with SDGs emphasizing environmental stewardship, resource recovery, and waste minimization.

Furthermore, the ADB-assisted initiative under NERCCDIP highlights the institutional collaboration between local governance and international funding agencies, reinforcing technical and financial capacities for sustainable infrastructure. The systematic implementation of source-level waste segregation across Local Councils shows AMC's commitment to community participation and decentralized waste handling. Overall, the project represents a model of eco-efficient, inclusive, and resilient solid waste management, setting a precedent for other Northeastern urban centres seeking similar sustainability outcomes.

Table 5.7: SLB Indicators for SWM in Aizawl Municipality 2015-16

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2015-16)	Benchmark Level 2015-16	Target for 2015-16
1	Household level coverage of SWM services	70%	85%	100%	88%
2	Efficiency of collection of municipal solid waste	60%	80%	100%	83%
3	Extent of segregation of municipal solid waste	0%	0%	100%	10%
4	Extent of municipal solid waste recovered/recycled	0%	5%	80%	5%
5	Extent of scientific disposal of municipal solid waste	0%	0%	100%	5%
6	Efficiency in redressal of customer complaints	60%	65%	80%	73%
7	Extent of cost recovery in SWM services	10%	20%	100%	22%
8	Efficiency in collection of SWM charges	60%	NA	90%	78%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.7 illustrates that the household coverage improved to 85% against a target of 88%, although the shortfall was largely due to inadequate financial resources available to the AMC, which limited expansion. Collection efficiency increased to 80%, approaching the 83% target. Waste segregation at source was piloted in five Local Councils from 2014, yet its coverage remained low. Recycling and scientific disposal showed minimal progress at 5%. Improvements were visible in complaint redressal (65%) and cost recovery (20%), while user charge collection was not fully assessed. Overall, achievements coexisted with persistent challenges.

The biodegradable waste segregated at source is processed and converted into compost through vermicomposting techniques. Dry waste, primarily comprising recyclable materials, is collected at the newly established Solid Waste Resource Management Centre and subsequently transferred to authorized recycling handlers. During this period, a scientific Solid Waste Management Centre was proposed under the Asian Development Bank (ADB)-assisted North Eastern Region Capital Cities Development Investment Program (NERCCDIP).

Table 5.8: SLB Indicators for SWM in Aizawl Municipality 2016-17

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2016-17)	Benchmark Level (2016-17)	Target for 2016-17
1	Household level coverage of SWM services	70%	86%	100%	86%
2	Efficiency of collection of municipal solid waste	60%	85%	100%	81%
3	Extent of segregation of municipal solid waste	0%	1%	100%	1%
4	Extent of municipal solid waste recovered/recycled	0%	5.5%	80%	6%
5	Extent of scientific disposal of municipal solid waste	0%	1%	100%	1%
6	Efficiency in redressal of customer complaints	60%	67%	80%	67%
7	Extent of cost recovery in SWM services	10%	20%	100%	25%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

The biodegradable waste segregated at source is processed and converted into compost through vermicomposting techniques. Dry waste, primarily comprising recyclable materials, is collected at the newly established Solid Waste Resource Management Centre and subsequently transferred to authorized recycling handlers. The target for household coverage 86% had been achieved during 2016-17 period.

Table 5.8 outlines the SLB indicators for SWM in Aizawl Municipality for 2016–17, highlighting measurable progress across key performance parameters. Household-level service coverage improved to 86%, and collection efficiency reached 85%, nearing benchmark levels. However, waste segregation, recycling, and scientific disposal showed minimal advancement, reflecting ongoing institutional and infrastructural limitations. Cost recovery and grievance redressal efficiency rose to 20% and 67%, respectively, indicating moderate administrative improvement. Overall, the findings underscore AMC’s operational progress while emphasizing the need for sustained financial, technological, and community-driven reforms to achieve comprehensive SWM efficiency. (UD&PA, 2005).

Table 5.9: SLB Indicators for SWM in Aizawl Municipality 2017-18

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2017-18)	Benchmark Level (2017-18)	Target for 2017-18
1	Household level coverage of SWM services	70%	90%	100%	90%
2	Efficiency of collection of municipal solid waste	60%	87%	100%	90%
3	Extent of segregation of municipal solid waste	0%	2%	100%	5%
4	Extent of municipal solid waste recovered/recycled	0%	10%	80%	30%
5	Extent of scientific disposal of municipal solid waste	0%	5%	100%	50%
6	Efficiency in redressal of customer complaints	60%	70%	80%	70%
7	Extent of cost recovery in SWM services	10%	25%	100%	25%

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.9 illustrates the Service Benchmark indicators for SWM in Aizawl Municipality during 2017–18. Notable progress was achieved in three key indicators—household-level coverage (90%), efficiency in redressal of customer complaints (70%), and cost recovery (25%)—each meeting its respective targets. However, limited advancement was recorded in waste segregation (2%), recovery/recycling (10%), and scientific disposal (5%), which fell short of target levels. Despite improvements in collection efficiency (87%), overall performance indicates that financial and infrastructural constraints continue to hinder progress in sustainable waste management across Aizawl.

Additionally, the initiative underscores the growing importance of institutional collaboration and capacity-building in sustainable waste governance. By combining technical expertise, financial support, and local participation, the project enhances operational efficiency and environmental accountability. The AMC’s approach reflects a paradigm shift from conventional waste disposal to integrated resource management, fostering community awareness and behavioural change.

Moreover, the success of vermicomposting and SWRMC demonstrates how localized strategies can effectively contribute to national waste management goals and

Sustainable Development Goals (SDGs) 11 and 12, emphasizing sustainable cities and responsible consumption. This coordinated framework strengthens AMC's role as a frontrunner in green urban transformation within the Northeastern region of India.

Table 5.10: SLB Indicators for SWM in Aizawl Municipality 2018-19

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2018-19)	Benchmark Level (2018-19)	Target for 2018-19
1	Household level coverage of SWM services	70%	95%	100%	95%
2	Efficiency of collection of municipal solid waste	60%	95%	100%	95%
3	Extent of segregation of municipal solid waste	0%	10%	100%	5%
4	Extent of municipal solid waste recovered/recycled	0%	30%	80%	30%
5	Extent of scientific disposal of municipal solid waste	0%	23%	100%	30%
6	Efficiency in redressal of customer complaints	60%	75%	80%	75%
7	Extent of cost recovery in SWM services	10%	30%	100%	30%
8	Efficiency in collection of SWM charges		<i>Achieved</i>		

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.10 illustrates the Service Benchmark indicators for SWM in Aizawl Municipality during 2018–19, reflecting substantial progress in key areas. Household-level coverage and collection efficiency both reached 95%, aligning closely with the benchmark targets. However, waste segregation at source remained low at 10%, and recovery/recycling reached only 30% of the desired level. The scientific disposal of waste improved to 23%, while cost recovery rose to 30%, indicating enhanced financial performance. Efficiency in redressal of customer complaints also improved to 75%, indicating better citizen engagement. Overall, the municipality demonstrated significant operational progress, though scientific disposal and segregation practices still require strengthening.

According to the Notification of the Department of Urban Development and Poverty Alleviation (UD&PA), Government of Mizoram, on 25 February 2019, the AMC operated 51 medium and 55 light garbage trucks for year-round waste collection.

Larger Local Councils received waste collection services thrice weekly, while smaller councils were serviced twice weekly. Waste segregation, initially introduced in 19 Local Councils, was soon extended to all. The SIPMIU transferred the Solid Waste Management Centre to AMC. Additionally, 125 registered rag pickers, authorized by AMC, collaborated with seven appointed contractors to collect, recover, and recycle solid waste effectively.

Table 5.11: SLB Indicators for SWM in Aizawl Municipality 2019-20

Sl. No	Propose Indicator	Baseline Level (2010-11)	Level of Services (2019-20)	Benchmark Level (2019-20)	Target for 2019-20
1	Household level coverage of solid waste management services	70%	95%	100%	95%
2	Efficiency of collection of municipal solid waste	60%	97%	100%	97%
3	Extent of segregation of municipal solid waste	0%	50%	100%	50%
4	Extent of municipal solid waste recovered/recycled	0%	40%	80%	40%
5	Extent of scientific disposal of municipal solid waste	0%	50%	100%	50%
6	Efficiency in redressal of customer complaints	60%	80%	80%	80%
7	Extent of cost recovery in SWM services	10%	40%	100%	40%
8	Efficiency in collection of SWM charges		<i>Achieved</i>	90%	

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.11 illustrates the SLB for SWM in Aizawl Municipality for 2019–20. It reveals significant progress in several key indicators, including household-level coverage (95%) and collection efficiency (97%), both meeting their respective targets. Notable improvements were also seen in segregation (50%), recycling (40%), and scientific disposal (50%) of waste. Additionally, cost recovery in SWM services reached 40%, while complaint redressal efficiency rose to 80%. Overall, these results indicate steady advancement toward achieving national SWM benchmarks.

During this period, approximately 130 garbage vehicles operated within the Aizawl Municipal area, ensuring systematic and daily waste collection across all Local

Council jurisdictions. Waste segregation and collection were organized by category and day: wet waste on Mondays, Thursdays, and Saturdays; dry waste on Wednesdays and Fridays; plastic waste on Tuesdays; and electronic waste (e-waste) on the first Friday of each month. The practice of source segregation was implemented as far as possible in all 83 Local Councils. The inauguration of the Solid Waste Management Centre (SWMC) on 11 December 2019 marked a significant milestone in AMC's efforts to institutionalize scientific waste management. Rag pickers were regularly monitored and provided with protective gear such as face masks, gloves, gumboots, raincoats, torches, and first-aid kits to ensure occupational safety.

The establishment of the SWMC enabled the scientific treatment of municipal waste and enhanced the recovery of recyclable materials. The AMC also demonstrated improved responsiveness to complaints concerning waste collection inefficiencies. Each Local Council collected user fees from households, covering approximately 20% of waste collection expenditure. Waste collection was completed before 8:30 a.m. to ensure timely delivery to the SWMC before the city's traffic peak hours (9:30–10:30 a.m.), reflecting efficient coordination and operational discipline across the municipal system.

The 13th Finance Commission emphasized performance-based grants to ULBs, linking financial support to efficiency in service delivery and fiscal accountability. The 14th Finance Commission further advanced this approach by promoting greater financial autonomy and prioritizing outcome-based performance over rigid benchmarks. The 15th Finance Commission (2020–2026) reinforced these reforms through performance-linked grants, integrating accountability, climate resilience, and alignment with SDGs. It broadened SLB to include indicators such as 100% door-to-door collection, scientific waste processing, and landfill reduction. Additionally, it mandated robust urban databases, including GIS-based mapping of infrastructure for improved governance and transparency.

Digital monitoring tools have been introduced to enhance transparency and accountability in tracking SLB progress and fund utilization. ULBs are mandated to prepare Annual Service Level Improvement Plans (SLIPs) as a prerequisite for grant

eligibility. The 15th Finance Commission established key baseline indicators for solid waste management within the SLB framework, focusing on measurable performance outcomes. These indicators aim to institutionalize sustainable, efficient, and data-driven waste management practices across urban areas in India, ensuring continuous performance assessment and improved service delivery. Key Indicators and Benchmarks During the 15th Finance Commission Period

1) Collection and Segregation

- (i) Achieve 100% door-to-door collection of municipal solid waste in all urban areas.
- (ii) Ensure source segregation of waste into biodegradable, recyclable, and hazardous categories.

2) Processing and Disposal

- (i) Process 100% of collected waste via scientific methods such as composting, bimethanation, and waste-to-energy technologies.
- (ii) Minimize landfill usage by restricting disposal to inert and non-recyclable waste only.

3) Resource Recovery

- (i) Promote recycling and material recovery to support a circular economy.
- (ii) Encourage decentralized and home composting of organic waste.

4) Public Participation

- (i) Foster active citizen engagement in waste segregation and waste reduction practices.
- (ii) Conduct awareness campaigns to reduce single-use plastics and promote sustainable behavior.

5) Integration of the Informal Sector

- (i) Formalize waste pickers and integrate them into municipal solid waste management systems.

6) Monitoring and Transparency

- (i) Deploy digital platforms for real-time monitoring of waste collection, transportation, and disposal.
- (ii) Utilize GIS-based tracking systems for waste collection vehicles.

The 15th Finance Commission sets these indicators as baseline service level benchmarks for 2020–21, with targets continuing from 2021–22 through 2024–25 for urban local bodies in the domains of water supply and waste management as shown in the following Tables. Finance Commission of India (2020).

**Table 5.12: SLB Indicators for SWM in Aizawl Municipality
Mandatory Conditions**

Sl. No	Indicator	2020-2021	2021-22
1	Audited accounts published for all ULBs on State/ULB website for the year before the preceding year w.r.t the award year	Yes	Yes
2	Property tax floor rate notified	Yes	Yes
3	Increase in Property tax collection over previous year in tandem with the State GSDP	Yes	
4	Increase in Property tax collection over previous year (in%)	2.4	3
5	Increase in GSDP over previous year (in %)	2.4	3

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 5.12 presents the mandatory SLB conditions for the financial years 2020–21 and 2021–22, as outlined under the Fifteenth Finance Commission framework. It indicates compliance by ULBs in publishing audited accounts online and notifying property tax floor rates. Property tax collection showed a positive trend, increasing by 2.4% in 2020–21 and 3% in 2021–22, corresponding with similar growth in the State Gross Domestic Product (GSDP), reflecting improved fiscal accountability and performance monitoring.

The Fifteenth Finance Commission's focus on sustainable solid waste management and performance-based grants marked a transformative step toward environmentally responsible and efficient, as outlined urban waste governance. By aligning with these benchmarks, the AMC aimed to create a more sustainable urban waste system. In 2021–22, AMC successfully fulfilled mandatory property tax conditions under the Service Level Benchmark framework.

Table 5.13: Plan for Garbage free star rating City : Aizawl Municipal Corporation during 2021-2025

Sl. No	Indicator	Bench mark	Gap	Existing	Target (2021-22)	Target (2022-23)	Target (2023-24)	Target (2024-25)	Proposed Action Plan/Remarks
1	Door to Door Collection	100%	5%	95%	96%	97%	98%	100%	
2	Waste Segregation at Source	100%	50%	50%	60%	70%	80%	100%	
3	Sweeping at Public and commercial place	100%	50%	50%	60%	70%	80%	100%	
4	Litter Bins	100%	95%	5%	25%	50%	80%	100%	
5	Secondary Waste Storage	100%	-	100%	100%	100%	100%	100%	ULB in Binless
6	Availability of Material Recovery Facilities	100%	-	100%	100%	100%	100%	100%	MRF is located 25 kms from the city due to space constraint
7	Citizen Grievance Redressal And feedback System	50%	45%	5%	15%	25%	35%	50%	1. Platform for grievance redressal/feedback is done through telephone 2. Web page for redressal is under process 3. Mobile application will follow
8	User Charge, penalties, Spot fines for littering and enforcement on thin plastic ban	100%	100%	100%	100%	100%	100%	100%	2019 SWM Bye laws
9	User Charge : Byelaws have been framed including user charges for waste collection and transportation	100%	100%	100%	100%	100%	100%	100%	2019 SWM Bye laws
10	Scientific Waste Processing & Scientific landfill	100%	100%	100%	100%	100%	100%	100%	190 tpd capacity scientific treatment plant is in place
11	C&D Waste collection and disposal and management	50%	50%	0%	10%	25%	37%	50%	Yet to be started
12	Bulk waste generators compliance	100%	-	Yet to be started					Yet to be started

13	Drains and water bodies : No visible solid waste in storm water drains and water bodies in 100 percent of premises under ULB jurisdiction	100%	-	50%	60%	70%	80%	100%	

Source: UD&PA (Data obtained through the Right to Information Act, 2005)

Table 3.13 presents AMC plan for achieving a Garbage-Free City status under the 2021–2025 framework. It outlines benchmarks, existing performance, and annual targets for indicators such as door-to-door collection, waste segregation, scientific processing, user charges, and citizen feedback systems. The plan reflects AMC’s progressive strategy to reach 100% compliance in waste management, public participation, and environmental sustainability through phased annual improvements and technological integration.

Achieving a Garbage-Free Star Rating requires fulfilling key benchmarks such as 100% door-to-door waste collection, complete segregation of waste across all wards, maintenance of cleanliness in public spaces, development of advanced wasteprocessing systems, elimination of garbage-vulnerable sites, and reduction of landfill dependence. The framework also promotes a circular economy supported by active citizen engagement. Table 3.13 presents the Garbage-Free Cities Star Rating Framework as implemented within the AMC. A notable innovation under the Fifteenth Finance Commission is the inclusion of performance-based incentives, enabling ULBs that achieve higher star ratings under the Garbage-Free Cities Protocol to access additional financial grants. Evaluation criteria include service coverage, operational efficiency, environmental sustainability, and fiscal resilience.

The table illustrates AMC’s strategic roadmap (2021–2025) toward achieving a garbage-free city. It highlights significant progress targets in door-to-door collection, waste segregation, sweeping, litter bin installation, and grievance redressal mechanisms. While user-charge systems and scientific waste management already meet national benchmarks, further improvement is needed in construction and demolition waste management, bulk waste generator compliance, and segregation practices. The phased approach reflects AMC’s progressive movement from partial to full compliance, despite constraints in infrastructure and implementation capacity.

Solid Waste Management in Aizawl Municipal Corporation reflects a gradual but significant transformation toward sustainable urban service delivery. Over the years, AMC has demonstrated steady improvements in waste collection efficiency,

household coverage, and compliance with national regulations. The establishment of the Solid Waste Management Centre, performance benchmarking under the Finance Commissions, and the adoption of scientific and digital systems mark critical milestones. However, persistent challenges—such as limited financial resources, incomplete waste segregation, and inadequate recycling—necessitate continued institutional strengthening, community participation, and technological innovation to achieve comprehensive, sustainable waste management and a garbage-free city status by 2025.

5.5 CONCLUSION

This chapter introduces SWM as the main municipal function and outlines its definitions, sources, and material streams (biodegradable, recyclable, hazardous, C&D, and inert). It highlights global trends alongside India’s urban challenges—rapid population growth, rising per capita waste, and infrastructure gaps—before turning to the AMC. Emphasis is placed on regulatory frameworks, institutional roles, and performance benchmarks, establishing the analytical basis for assessing AMC’s systems, compliance, service outcomes, and pathways toward sustainable, scientifically managed SWM.

CHAPTER - VI

PROPERTY TAXATION IN THE

AIZAWL MUNICIPAL CORPORATION AREA: AN ANALYSIS

This chapter examines the issues and challenges of property taxation in Aizawl, particularly in the Aizawl Municipal Corporation (AMC) area. The study highlighted the socio-economic profile of the respondents and gave an overview of citizens' perspectives on property taxation in Aizawl using descriptive analysis. An empirical analysis using multinomial logistic regression analysis was also conducted to analyze the citizens' perception of the different aspects of property taxation based on the amount of property tax paid as well as based on occupation. Accordingly, the chapter is arranged in the following manner.

The remaining sections of the chapter are arranged as follows. Section 6.1 outlines the socio-economic profile of respondents, establishing the background for understanding their tax attitudes. Section 6.2 summarizes citizens' overall perspectives on property taxation. Section 6.3 provides an empirical assessment of perceptions based on the amount of tax paid and occupational categories. Finally, Section 6.4 summarizes key findings and observations derived from the analysis and Section 6.5 concludes the chapter.

6.1 SOCIO-ECONOMIC PROFILE OF THE RESPONDENTS:

The socio-economic profile of respondents is essential for assessing the perspectives of property taxpayers, as it provides a deeper understanding of the demographic and economic factors that shape their attitudes toward taxation. Characteristics such as income, education, occupation, and household size directly influence taxpayers' awareness, willingness to comply, and expectations from municipal services (Bird & Slack, 2004). In this section, we examined the socioeconomic profile of the respondents which can be sub categorizes into personal profile of the respondents and family profile of the respondents.

1) Personal Profile of the Respondents:

The personal profile of respondents plays a crucial role in analyzing municipal property taxpayers' perspectives. Variables such as gender, age, religion, and position in the family significantly influence individuals' attitudes toward taxation and municipal services. The personal profiles of the respondents are given in

Table 6.1. They are further classified into gender, age, position in the family and religious institutions. The data is given in Table. 6.1 as follows.

Table 6.1: Personal Profile of the Respondents

	Category	Total	Percentage
1	Gender		
	Male	208	51.2%
	Female	198	48.8%
2	Age		
	18-30	104	25.6%
	31-45	79	19.5%
	46-60	136	33.5%
	60 above	87	21.4%
3	Position in the Family		
	Father	140	34.5%
	Mother	105	25.9%
	Son	66	16.2%
	Daughter	79	19.5%
	Other	16	3.9%
4	Religion		
	Christian	406	100%
	Hindu		
	Muslim		

Source: Field Survey, 2025

It can be observed from Table 6.1 that male respondents are slightly more than female respondents among the sample households which were selected randomly. In terms of age, the share of age groups 46-60 comprised the highest share with 33 per cent of all the respondents. Moreover, in terms of position of the respondents in the family, 34.5 percent of them are fathers which comprised the largest group and 25.9

per cent are mothers. The remaining of the respondents are distributed between son, daughter and others in which other comprised 3.9 per cent. . **2) Family Profile of the Respondents:**

The family profile of respondents is crucial in assessing the perspectives of municipal property taxpayers. Family occupation indicates the stability of income, which shapes the ability and willingness to pay taxes. The number of family members reflects the household's resource needs, where larger families may prioritize daily expenses over tax obligations. Similarly, the number of dependents influences financial pressure, as households with more dependents often view taxes as an additional burden. The family profiles of the respondents are also shown in Table 6.2. It includes the family's main occupation, number of family member and number of dependents in the family.

Table 6.2. Family Profile

	Category	Total	Percentage
1	Family Main Occupation		
	Business	69	17.0%
	Govt employment	206	50.7%
	Self-employment	52	12.8%
	Hired labourer	10	2.5%
	Church or NGO worker	6	1.5%
	Unemployed	11	2.7%
	Others	52	12.8%
2	No. of Family Member		
	4 or below	110	27.1%
	5	97	23.9%
	6	84	20.7%
	7	55	13.5%
	8 or above	60	14.8%
3	No. of Dependents in the family		

	NIL	15	3.7%
	1	36	8.9%
	2	103	25.4%
	3	115	28.3%
	4	72	17.7%
	5	38	9.4%
	6 or above	27	6.6%

Source: Field Survey, 2025

6.2. OVERVIEW OF CITIZENS' PERSPECTIVES ON PROPERTY TAXATION IN THE AIZAWL MUNICIPAL CORPORATION AREA

This section provides an overview of citizens' perspectives on property taxation within the jurisdiction of the AMC. The analysis categorizes these perspectives into seven thematic areas: (1) property characteristics and tax assessment, (2) perceptions of property tax rates and revisions, (3) payment methods and convenience, (4) tax compliance and willingness to pay, (5) taxpayer consultation and participation, (6) understanding and awareness of the property tax system, and (7) revenue generation and policy implications. Each of these themes is briefly discussed in the subsequent sub-sections.

1) Property Characteristics and Tax Assessment

The characteristics of respondents' properties are central to the study of citizens' perspectives on property taxation. Factors such as property size, location and usage (residential or commercial) directly determine the assessed value and, consequently, the amount of tax levied. These attributes influence taxpayers' perceptions of fairness and equity in the tax system, as differences in property features often lead to variations in tax burden. Here, the study investigates the characteristics of the property of the respondents from which property taxes were levied. It dissects the property taxation system in the AMC area by the time of payment of the tax by respondents, property

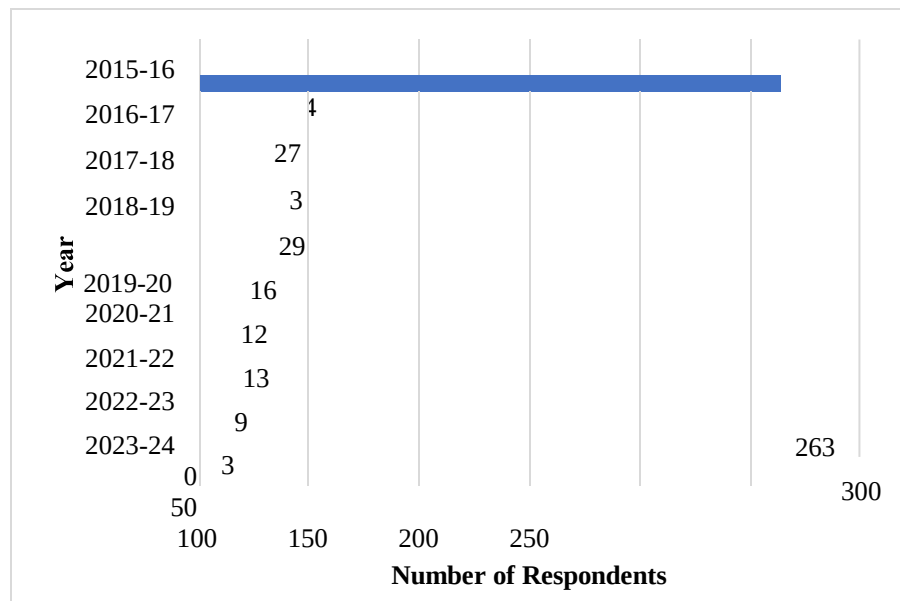
type, use of property, agreement on tax basis and amount of property tax paid in the last year. For these purpose, the following queries were made:

- a. The respondents were asked to indicate the year in which they began paying property taxes.
- b. The respondents were required to specify the type of property on which they pay property tax.
- c. The respondents were asked to state the purpose for which their property is used.
- d. The respondents were asked whether they agree that the property tax they pay is based on the assessed value of their property.
- e. The respondents were asked to report the amount of property tax they paid in the previous year.

(a) Property Tax Commencement Date:

Respondents were asked to indicate the year or period when they first began paying property tax. This information helps to trace the duration of their tax compliance history and provides insights into taxpayers' awareness and engagement with the municipal property taxation system. The result is shown in Figure 6.1 below.

Figure 6.1: Property Tax Commencement Date



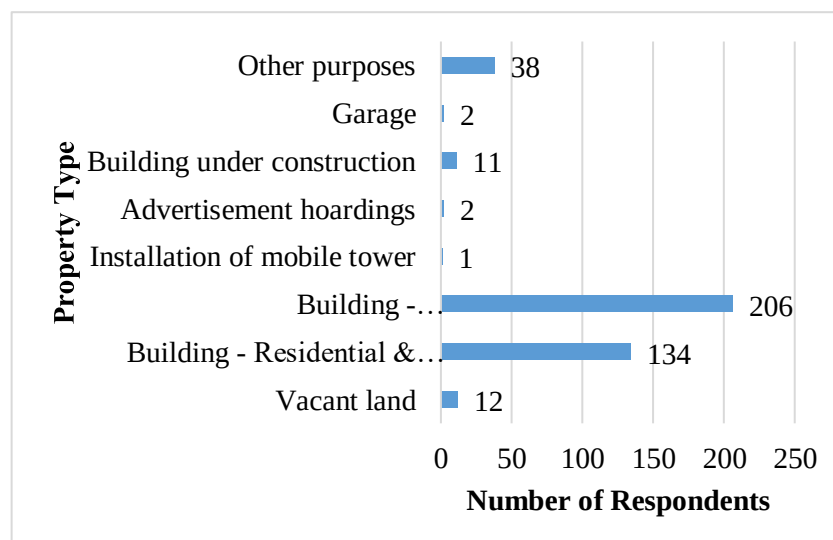
Source: Field Survey, 2025

It can be observed from Figure 6.1 that a large majority of the respondents started paying property tax to AMC in 2015-16. After 2015-16, there has been a continuous but marginal addition to the number of property taxpayers, which is reflected in the small number of respondents starting their property tax payments in the later years.

(b) Property Type:

The common types of property owned by the respondents include Vacant land, different types of buildings, installation of mobile tower, advertisement hoardings, building under construction, garage and other purposes.

Figure 6.2: Property Type



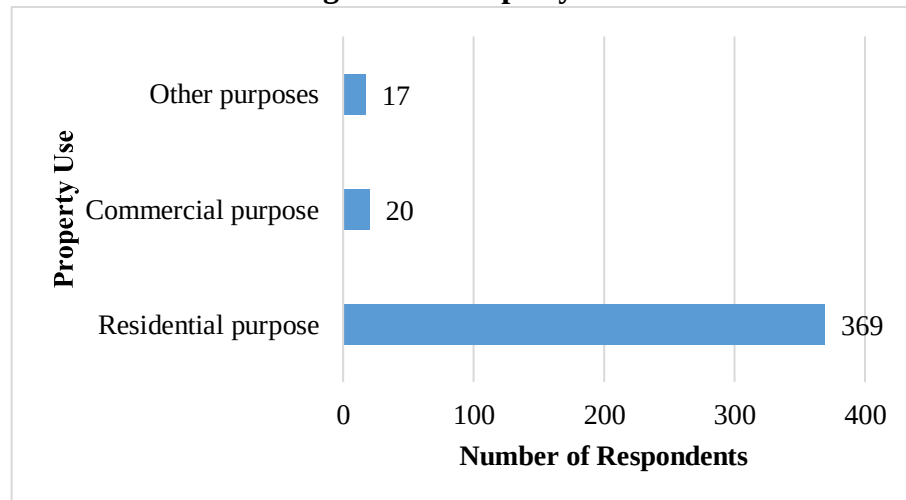
Source: Field Survey, 2025

The data illustrated in Figure 6.2 indicates that the majority of respondents pay property tax on residential and commercial buildings without appurtenant land. This category is closely followed by those who pay tax on residential and commercial buildings, along with their appurtenant land. In contrast, a comparatively smaller proportion of respondents reported paying property tax on other categories, such as vacant land, buildings under construction, garages, advertisement hoardings, and mobile tower installations. This distribution highlights the predominance of built-up properties as the principal basis for property taxation in the study area.

(c) Property Utilisation by Households:

The different uses of property by the respondent households were categorised into three categories: residential purpose, commercial purpose and other purposes as follows.

Figure 6.3: Property Use



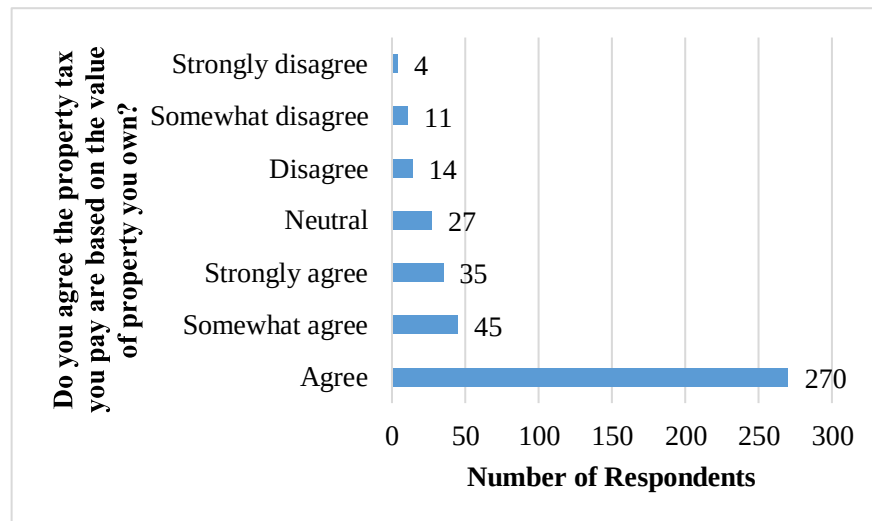
Source: Field Survey, 2025

The data presented in Figure 6.3 reveals that the majority of respondents utilize their properties for residential purposes, accounting for 369 households. By contrast, a significantly smaller number of respondents reported using their properties for commercial purposes (20 respondents) or for other purposes (17 respondents). This distribution clearly indicates that the use of the property by owner is mostly for residential purposes.

(d) Agreement on Tax Basis:

Respondents were asked whether they agreed on the amount of property tax paid are based on the value of their properties. Their perceptions were measured using a seven-point Likert scale, ranging from strongly agree to strongly disagree. This approach allowed the study to capture the degree of acceptance or skepticism among taxpayers regarding the fairness and transparency of the property tax assessment process. This is shown in Figure 6.4 below.

Figure 6.4: Agreement on Tax Basis



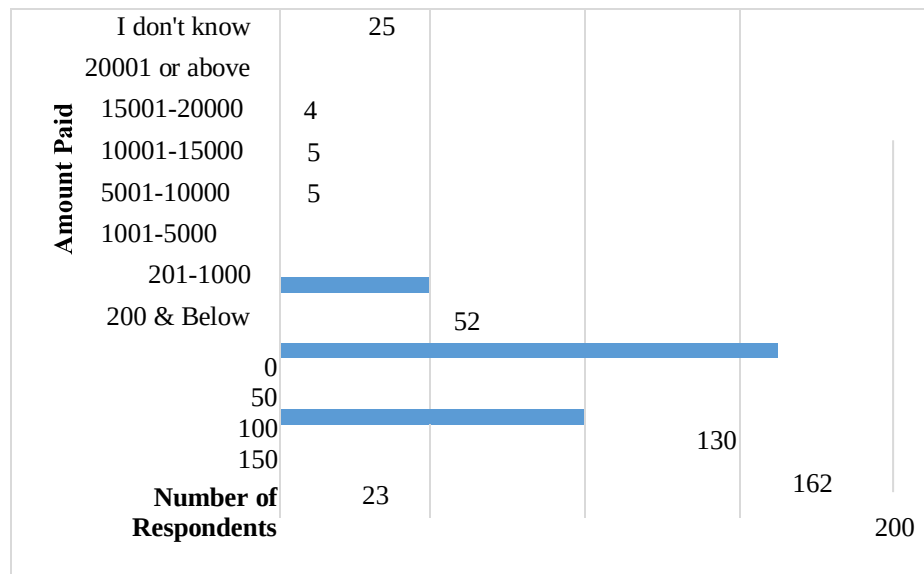
Source: Field Survey, 2025

The table shows that most respondents believe the property tax they pay is based on the value of the property they own. In comparison, disagreement is minimal, as reflected in the much smaller number of respondents who think otherwise. A neutral stance was taken by 27 respondents. This indicates a strong consensus that property tax is linked to property value.

(e) Last Year's Tax Amount

Respondents were asked to report the amount of property tax they had paid during the previous year. The responses were classified into categories ranging from ₹200 and below to ₹2001 and above. The data is presented in Figure 6.5 below.

Figure 6.5: Last Year's Tax Amount



Source: Field Survey, 2025

Figure 6.5 illustrates the distribution of respondents based on the amount of property tax paid during the previous year. The majority of respondents reported making payments within the range of ₹201 to ₹5,000. A smaller proportion indicated payments between ₹5,001 and ₹10,000, while only a few respondents paid amounts exceeding ₹15,000. Notably, 25 respondents were uncertain about the exact amount they had paid, and 23 respondents reported paying ₹200 or less. This distribution highlights significant variation in taxpayers' financial obligations and levels of awareness regarding their property tax payments.

2) Perceptions of Property Tax Rates and Revisions

The study also examined how households perceive the prevailing property tax rates in the AMC area, as well as their views on issues related to tax revision. For this purpose, the following questions were asked of each household.

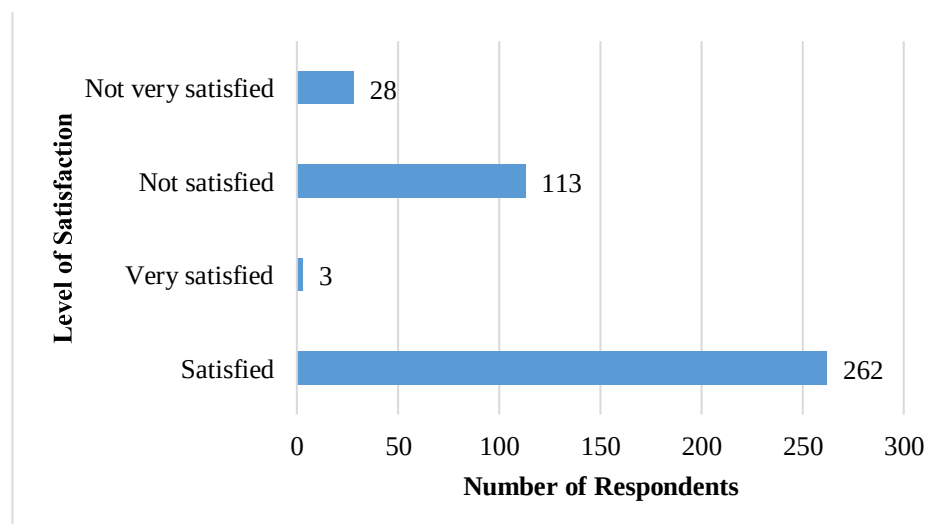
- The respondents were asked to indicate their level of satisfaction with the present rate of property tax in the AMC area.
- The respondents were asked whether they believe the current property tax rate in the AMC area is fair and reasonable.

- c. The respondents were asked whether they would agree to an increase in the property tax rate if proposed by the municipal government.
- d. The respondents were asked whether their property tax amount had increased as a result of their most recent assessment.

(a) Satisfaction with Current Property Tax Rate

Respondents were asked to indicate their level of satisfaction with the existing property tax rate under the AMC. Their responses were categorized into four groups: satisfied, very satisfied, not satisfied, and not very satisfied. This categorization provides a structured understanding of public opinion regarding the adequacy and fairness of the prevailing tax rate, thereby offering insights into citizens' acceptance of the municipal tax regime and their willingness to comply with it. The data is shown in Figure 6.6 below.

Figure 6.6: Satisfaction with Current Tax Rate



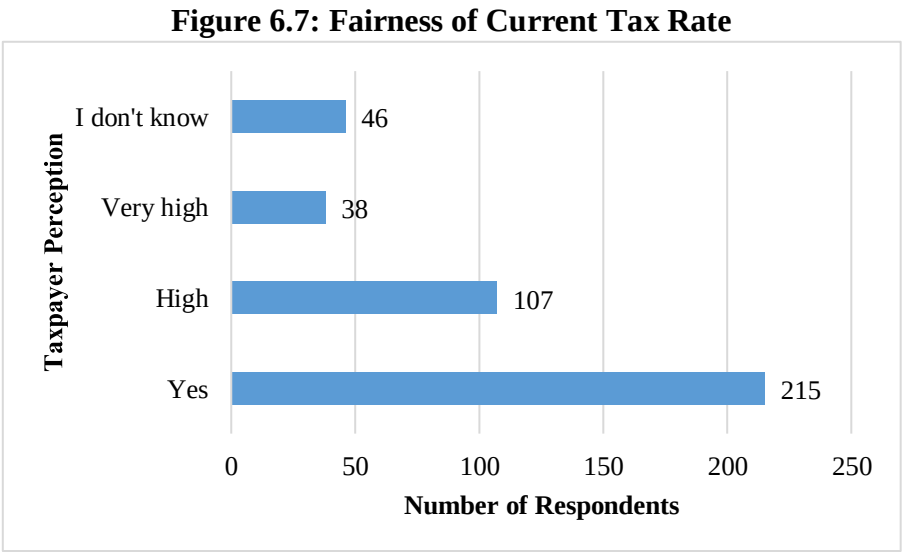
Source: Field Survey, 2025

Figure 6.6 presents the distribution of respondents' levels of satisfaction with the prevailing property tax rate in the AMC area. The results indicate that a majority of respondents expressed satisfaction with the existing tax rate. At the same time, a

notable share of respondents reported dissatisfaction, suggesting differing perceptions regarding the adequacy and fairness of the taxation system. Importantly, only 3 respondents indicated being very satisfied with the present tax rate, highlighting that strong approval remains limited among taxpayers.

(b) Fairness in the Current Tax Rate:

Respondents were asked to express their opinion on whether they considered the existing property tax rate to be fair. Their responses were categorized along a scale ranging from a simple 'yes' to 'high' or 'very high'. Nevertheless, a portion of respondents reported having no opinion on the matter.



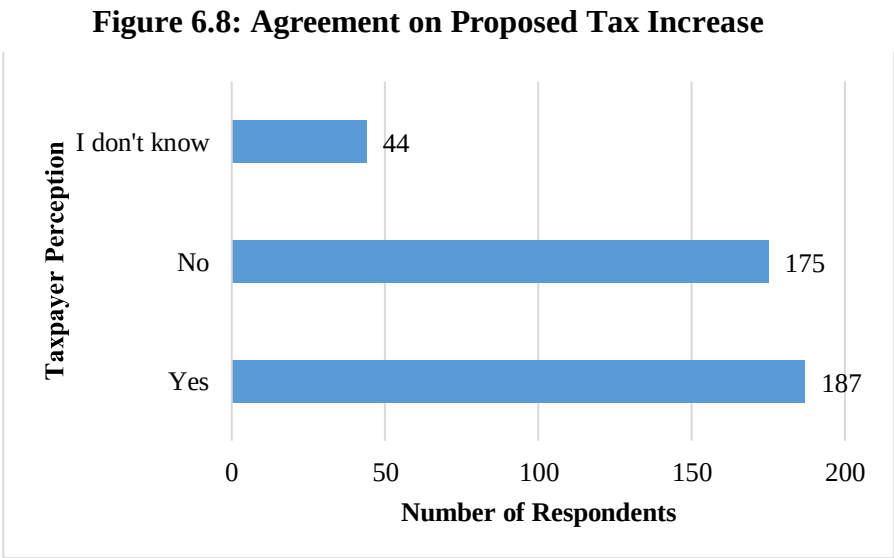
Source: Field Survey, 2025

It can be observed from the above figure that, in general, the majority of respondents believe the current tax rate in the AMC area is fair and reasonable. Only 46 respondents reported having no opinion to the contrary.

(c) Hypothetical Acceptance/Agreement of Proposed Tax Increase:

A hypothetical scenario was presented in which the AMC implemented an increase in the property tax rate. Respondents were asked whether they would agree to

such an increase. Their responses, as shown in Figure 6.8, provide valuable insights into taxpayers’ willingness to accept higher tax burdens and their overall attitude toward prospective revisions to the property taxation system.



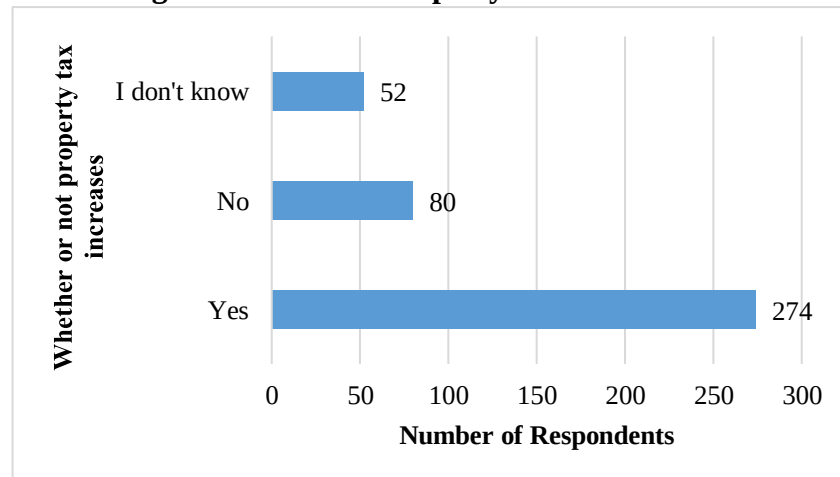
Source: Field Survey, 2025

Figure 6.8 illustrates the varying opinions among respondents regarding a potential increase in the property tax rate. The number of those who indicated agreement exceeded those opposed by a narrow margin of only 12 respondents. In addition, 44 respondents reported having no opinion on the matter, suggesting a notable segment of taxpayers remains neutral or uncertain about potential revisions to the property tax system.

(d) Recent Increase in Property Tax:

Respondents were asked to indicate whether the amount of property tax they paid during their most recent payment represented an increase compared to their previous payment. Their responses are shown in the figure below.

Figure 6.9: Recent Property Tax Increase



Source: Field Survey, 2025

Figure 6.9 indicates that the majority of respondents reported an increase in their property tax obligations as a result of the most recent assessment. Only a minimal number of respondents stated that their tax liabilities had not increased, indicating a relatively small segment that was unaffected by the revision. Additionally, 52 respondents indicated that they were unsure whether their tax payments had increased, suggesting a degree of uncertainty or limited awareness regarding changes in their property tax assessments.

3) Payment Methods and Convenience

An essential component of property tax administration is the availability and accessibility of payment methods, as well as the level of convenience these offer to taxpayers. This aspect directly reflects the classical principle of taxation known as the canon of convenience, which emphasizes that tax collection should minimise the burden on taxpayers in terms of time, effort, and accessibility. To examine taxpayers' perspectives on this issue, the following questions were posed:

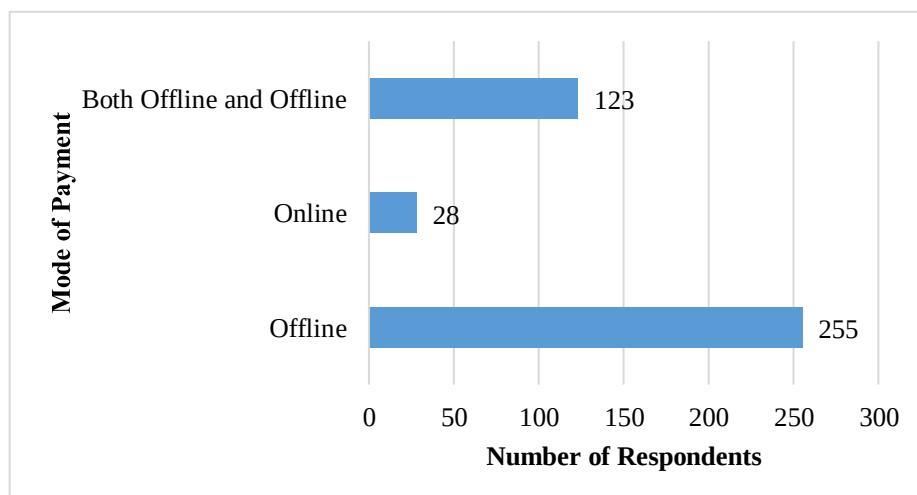
- a. The respondents were asked to indicate their preferred mode of payment for property tax.

- b. The respondents were asked whether they experienced any complications while paying property tax.
- c. The respondents were asked whether they agreed that there should be a simple way available for paying property tax.

(a) Modes of Property Tax Payment:

Property tax payments may be made through two primary modes: offline and online. These modes represent the conventional in-person payment system and the emerging digital platforms that provide greater accessibility and efficiency. The respondents' preferred methods of payment are illustrated in Figure 6.10.

Figure 6.10: Property Tax Payment Mode



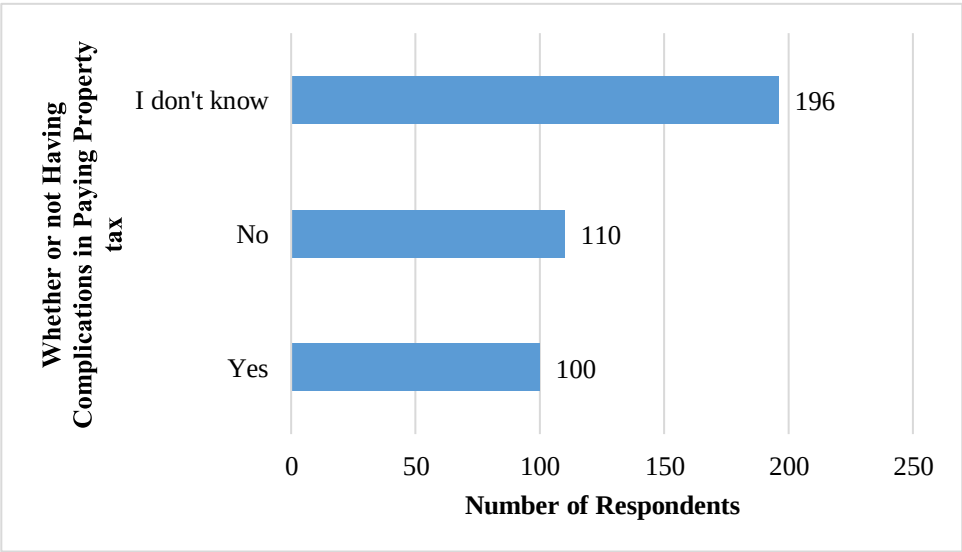
Source: Field Survey, 2025

The figure indicates that the majority of respondents continue to pay their property tax through offline channels. A notable proportion reported using both offline and online modes, suggesting a gradual shift toward digital adoption while maintaining reliance on traditional methods. By contrast, only a small number of respondents paid exclusively through online platforms, highlighting that while digital systems are available, their uptake remains relatively limited among taxpayers.

(b) Complications in Paying Property Tax:

Property taxpayers were also asked whether they encountered any complications or difficulties in the process of paying their property tax. Their responses, summarized in Figure 6.11, provide insights into the practical challenges faced by taxpayers and highlight potential barriers that may affect compliance, efficiency, and overall satisfaction with the property tax system..

Figure 6.11: Complications in Paying Property Tax



Source: Field Survey, 2025

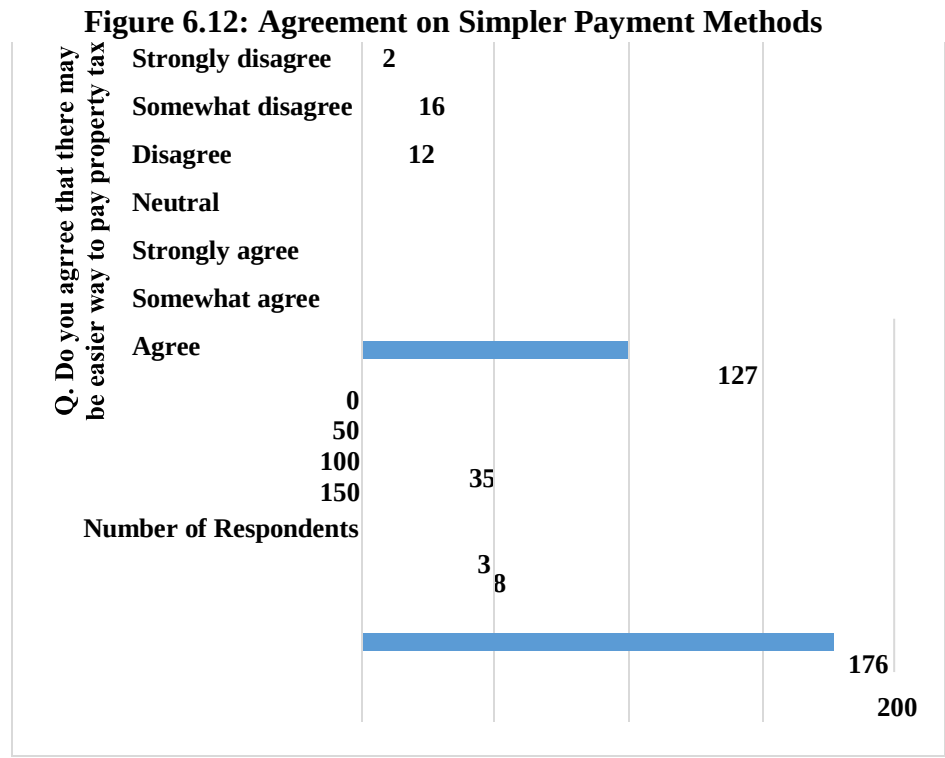
Figure 6.11 reveals contrasting opinions among respondents regarding the complications in paying property tax. The number of respondents who reported facing difficulties was nearly equal to that of those who reported no such issues, with the latter outnumbering the former by a margin of only ten respondents.

Additionally, 196 respondents indicated that they had no opinion on the matter, suggesting either limited engagement with the process or a lack of clear experiences to report. This distribution highlights both the presence of administrative challenges and the need for greater taxpayer awareness regarding the payment system.

(c) Agreement on Simpler Payment Methods:

One of the fundamental principles of taxation is the Canon of simplicity, which emphasizes that tax payment procedures should be simple enough and easily understood by taxpayers. Simplifying payment methods not only reduces administrative burden but also encourages higher levels of compliance, thereby enhancing revenue collection.

To explore this aspect, respondents were asked whether they considered it necessary to adopt additional measures to simplify the property tax payment process. Their responses are presented in Figure 6.12.



Source: Field Survey, 2025

As shown in Figure 6.12, majority of respondents see potential for simpler property tax payment methods, with a close number remaining neutral. A few respondents agreed with this viewpoint, while a smaller number disagreed.

4) Tax Compliance and Willingness to Pay

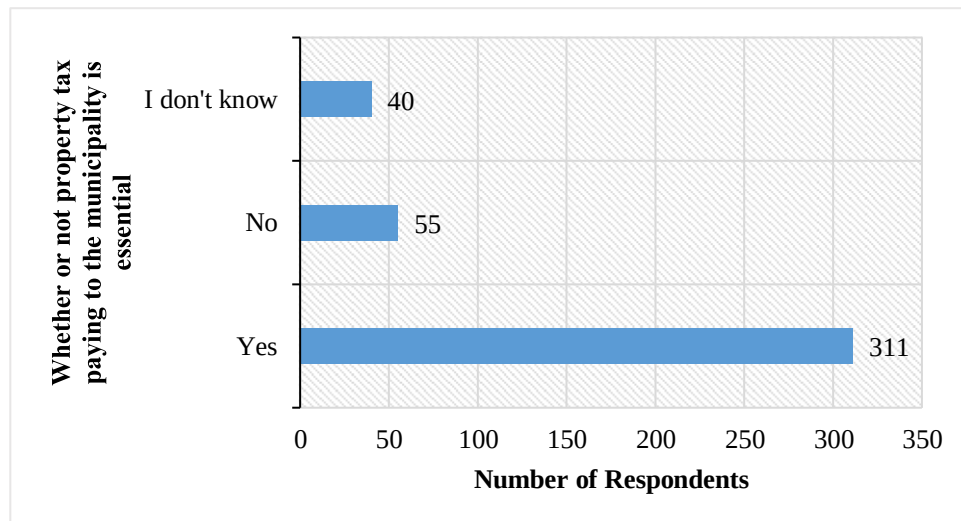
To evaluate the tax compliance and willingness to pay of taxpayers, a set of questions was asked to understand their perceptions and opinions on the matter. The following questions were asked

- a. The respondents were asked whether they consider the payment of property tax to the municipality as essential.
- b. The respondents were asked whether they would continue to pay their property tax obligations accurately and without complaint, even if the government increased the tax rate.
- c. The respondents were asked whether they believe that penal interest should be paid on delayed tax payments, if necessary, without complaint.
- d. The respondents were asked whether they agree that tax evasion is a major constraint to effective tax collection.

(a) Essentiality of Property Tax Payment:

We asked taxpayers for their personal opinion on a general question about whether they consider property tax payment essential or not. Their opinions on this matter provide important insights into the perceived legitimacy of property taxation and its role in municipal governance. The distribution of responses is presented in Figure 6.13.

Figure 6.13: Essentiality of Property Tax Payment



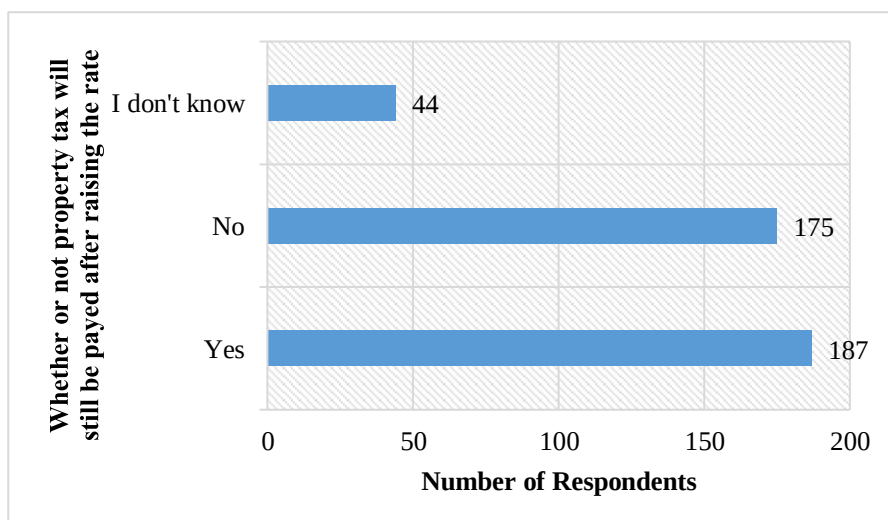
Source: Field Survey, 2025

Figure 6.13 shows that the majority of respondents believe paying property tax to the municipality is essential, while a very small group of respondents hold the opposite view. Additionally, 40 respondents reported having no opinion on the matter.

(b) Compliance with Increased Tax Rates:

Respondents were asked a hypothetical question regarding their willingness to comply with an increase in the property tax rate. Specifically, they were asked whether they would continue to pay the tax following such a revision. The responses, summarized in Figure 6.14, provide important insights into taxpayers' attitudes toward potential tax hikes and their commitment to meeting civic obligations despite increased financial burdens.

Figure 6.14: Compliance with Increased Tax Rate



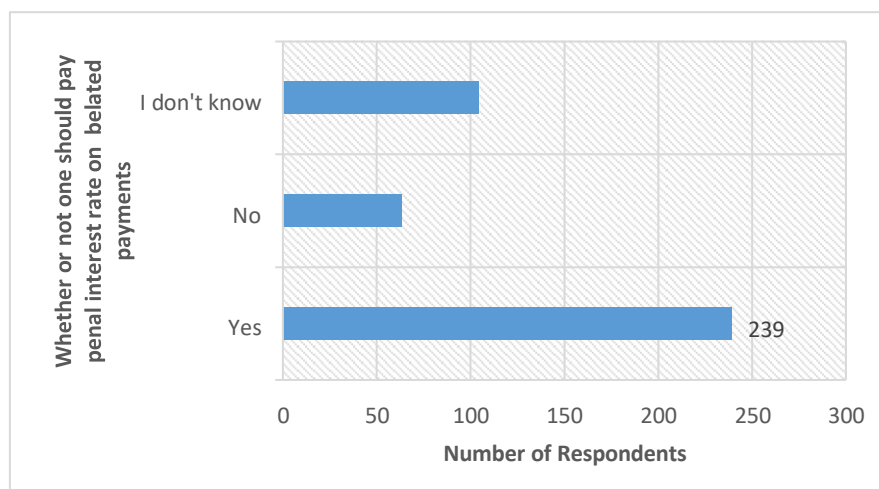
Source: Field Survey, 2025

The data presented in Figure 6.14 illustrate respondents' stated willingness to comply with property tax payments without objection should the government implement a tax increase. The findings reveal contrasting views, with nearly equal numbers of respondents expressing agreement and disagreement; however, the positive responses outnumbered the negative ones by a margin of 12. Furthermore, only a relatively small group of 40 respondents reported having no opinion on the issue.

(c) Acceptance of Penal Interest on Late Payments:

The imposition of interest on late payments is a common penalty mechanism applied to various forms of taxation, including property tax, as a means to encourage timely compliance. In this study, respondents were asked whether they supported the practice of charging a penal rate of interest for late payment of property taxes. Their responses are summarized in Figure 6.15.

Figure 6.15: Acceptance of Penal Interest on Late Payments



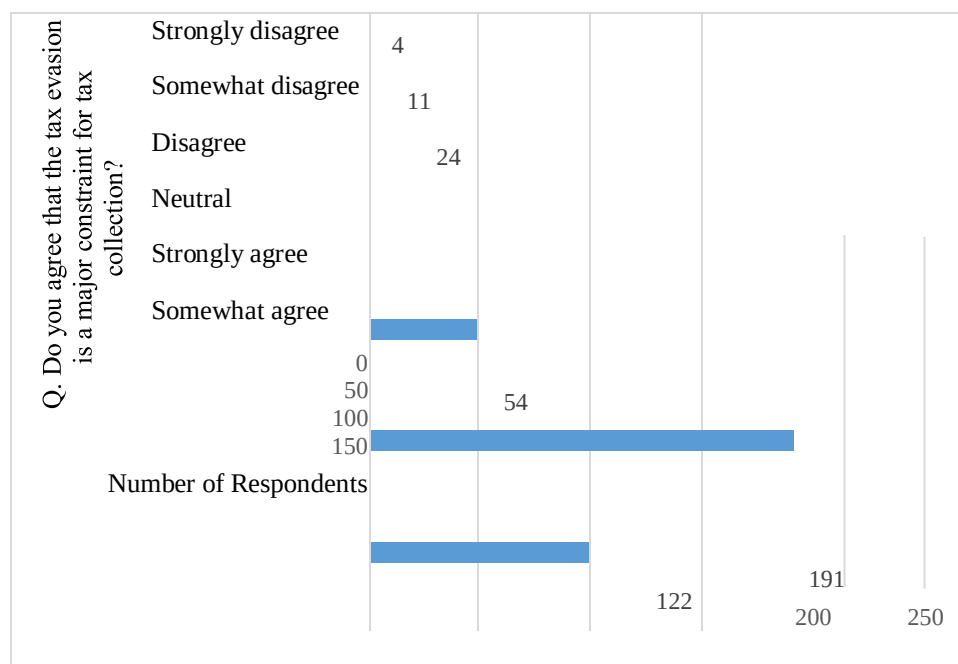
Source: Field Survey, 2025

As illustrated in Figure 6.15, a substantial majority of respondents agreed that penal interest should be charged on late property tax payments and accepted it as a necessary measure. In contrast, only a very small proportion of respondents expressed disagreement with this enforcement mechanism. A slightly larger segment of respondents reported having no opinion, suggesting a degree of neutrality or limited engagement with the implications of delayed payment penalties.

(d) Tax Evasion as a Constraint:

A common issue regarding tax payment is tax evasion and is widely recognized as a persistent challenge in the administration of property taxation. To evaluate citizens' views on this issue, respondents were asked whether they perceived tax evasion to be a major constraint affecting the effectiveness of property tax collection. Their responses, summarized in Figure 6.16, shed light on taxpayers' awareness of this problem and its perceived impact on municipal revenue generation, equity in taxation, and overall compliance within the system.

Figure 6.16: Tax Evasion as a Constraint



Source: Field Survey, 2025

The data in figure 6.16 reveals that a substantial majority of respondents strongly agree that tax evasion poses a major constraint to effective tax collection. A considerable number also expressed moderate agreement (somewhat agreed), further reinforcing this perception. A smaller group of respondents adopted a neutral stance, while only a minimal number disagreed with the notion that tax evasion constitutes a significant challenge. This distribution reflects a broad consensus among taxpayers regarding the detrimental impact of tax evasion on municipal revenue collection.

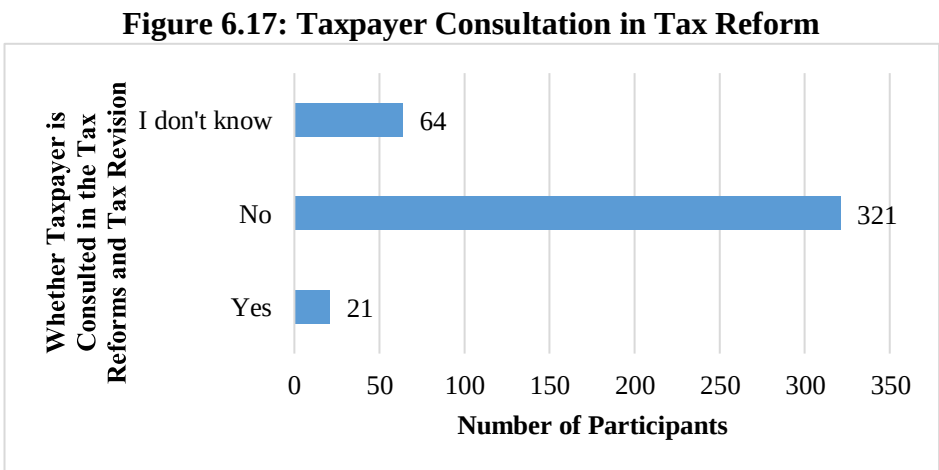
5) Taxpayer Consultation and Participation:

The study examined whether taxpayers under the Aizawl Municipal Corporation felt consulted in decision-making processes concerning property tax reforms and rate revisions. Strengthening consultation practices could enhance taxpayer trust, improve compliance, and legitimize reforms, thereby fostering more sustainable municipal revenue generation. Taxpayers were asked if the municipal government consulted them in the process of decision-making, regarding tax reforms and the revision of tax rates. The following question was asked:

a. The respondents were asked whether the municipal government had consulted them, as taxpayers, in the decision-making process regarding tax reforms and the revision of tax rates.

(a) Taxpayer Consultation in Tax Reform:

The study examined whether taxpayers were consulted in the process of property tax reforms and revisions of tax rates under the Aizawl Municipal Corporation (AMC). The responses, summarized in Figure 6.17, provide valuable insights into perceptions of inclusiveness and participatory governance in local taxation.



Source: Field Survey, 2025

Figure 6.17 reveals that a substantial majority of respondents—321 out of 406—reported that the municipal government did not consult them during the decision-making process concerning property tax reforms and the revision of tax rates. Only a small proportion of respondents indicated that they had been consulted, while a limited number expressed no opinion on the matter.

6) Understanding and Awareness of Property Tax System

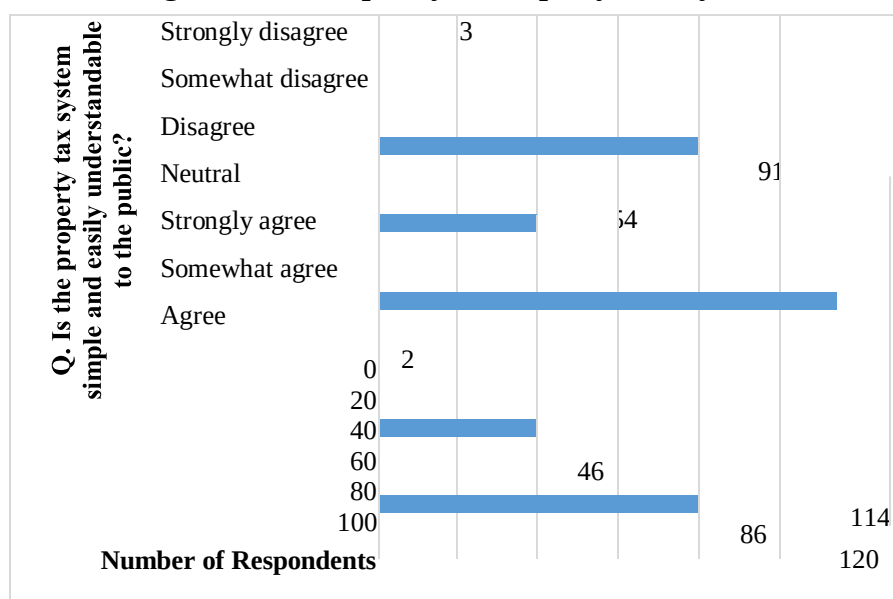
Taxpayers' understanding and awareness of property tax significantly influence compliance, perception of fairness, and overall effectiveness of municipal revenue systems. For this the following points were raised and examined.

- a. The respondents were asked whether they consider the property tax system to be simple and easily understandable to the general public.
- b. The respondents were asked whether they agree that there is adequate publicity about property tax among the citizens of AMC.
- c. The respondents were asked whether they are aware of how the government utilizes the revenue collected from property tax.
- d. The respondents were asked whether they understood the reasons why the government collects taxes from citizens.
- e. The respondents were asked whether they are aware that the municipality charges interest on delayed payment of dues made after the due date, on a simple interest basis.
- f. The respondents were asked whether they knew that if the municipality, after scrutiny and with approval from the Executive Officer, finds that a person has paid tax in excess, the excess amount will be refunded.
- g. The respondents were asked whether they are aware that the municipality may levy penalties for non-compliance with the provisions of the Act, including failure to pay dues, furnishing incorrect information, or willful non-compliance.

(a) Simplicity of Property Tax System:

Regarding the simplicity and ease of understanding the system of property tax, we asked the respondents if they find the system simple enough. Their responses are shown in Figure 6.18. below.

Figure 6.18: Simplicity of Property Tax System



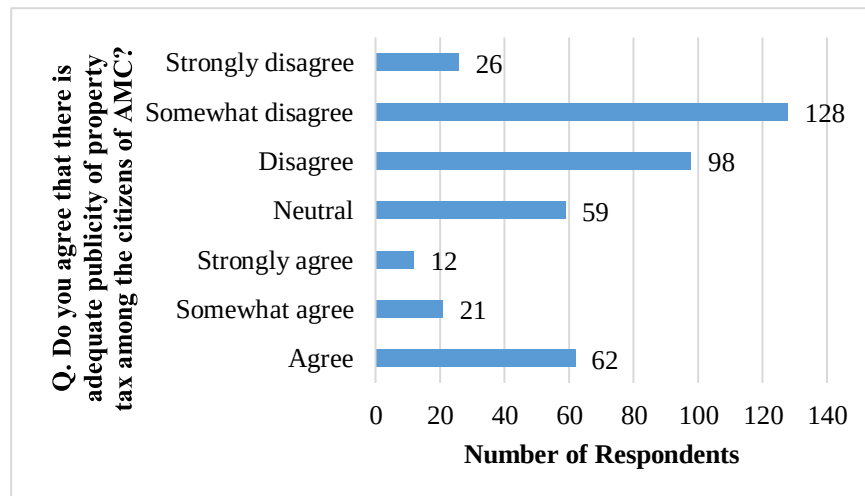
Source: Field Survey, 2025

Figure 6.18 shows how the public feels about the simplicity and understandability of the property tax system. The largest group of respondents (114) felt neutral. A good number either somewhat disagreed (91) or agreed (86), while fewer strongly disagreed (13) or strongly agreed (2). Overall, the responses are mixed, with most people taking a neutral stance

(b) Adequate Publicity of Property Tax:

Adequate publicity is necessary to generate public awareness and a better understanding of the tax system. The respondents were asked if they agree on whether there is adequate publicity regarding property tax among the citizens residing in AMC area. Their responses are shown in Figure 6.19 below.

Figure 6.19: Adequate Publicity of Property Tax



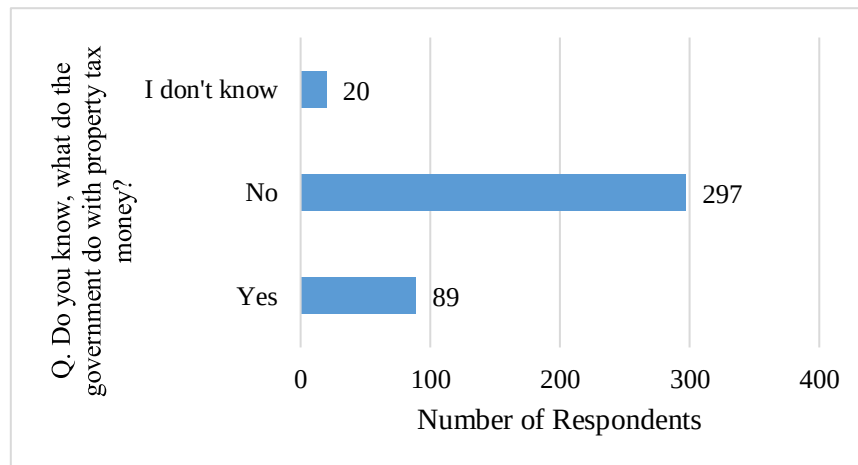
Source: Field Survey, 2025

Figure 6.19 illustrates respondents' views on the adequacy of publicity concerning property tax within the Aizawl Municipal Corporation (AMC) area. The largest group of respondents (128) somewhat disagreed that sufficient publicity is provided, followed closely by 98 respondents who disagreed and 26 who strongly disagreed. Conversely, a smaller proportion of respondents expressed positive views, with 62 indicating agreement, 21 somewhat agreeing, and 12 strongly agreeing. Meanwhile, 59 respondents remained neutral on the issue. Overall, the data reveal a prevailing perception of inadequate publicity, though a segment of taxpayers acknowledged the presence of some awareness efforts.

(c) Awareness of Tax Utilization:

Apart from general awareness of property tax, the respondents were asked whether they were aware of how tax were further utilized. Their responses are given in Figure 6.20 below.

Figure 6.20: Awareness of Tax Utilization



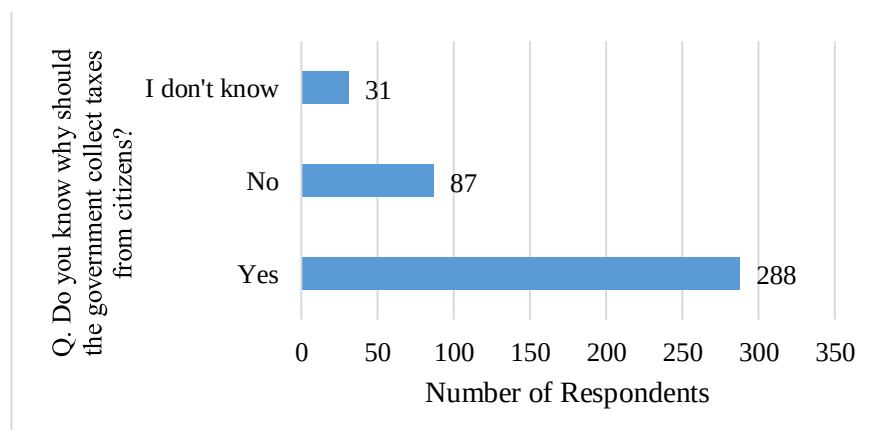
Source: Field Survey, 2025

The data in Figure 6.20 illustrates that most respondents (297) are unaware of how the government uses property tax money. Meanwhile, 89 respondents are aware, and 20 respondents have no opinion.

(d) Purpose of Tax Collection:

The respondents were also asked whether they are aware of the main purpose of collection of tax by the government from its citizens. The responses are given in Figure 6.21 as follows.

Figure 6.21: Purpose of Tax Collection

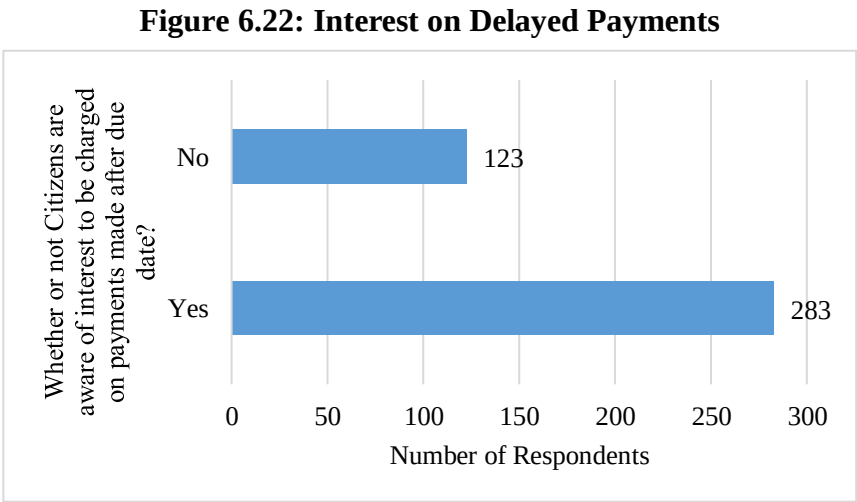


Source: Field survey, 2025

Figure 6.21 indicates that the majority of respondents (288) are aware of the purpose of tax collection. In contrast, 87 respondents expressed a negative view, while 31 respondents remained neutral or did not have an opinion on the matter.

(e) Interest on Delayed Payments

As previously mentioned, one of the components of property tax payment is the imposition of interest on delayed payments. Respondents were asked whether they are aware of such mechanism. Their responses are given in Figure 6.22. below.



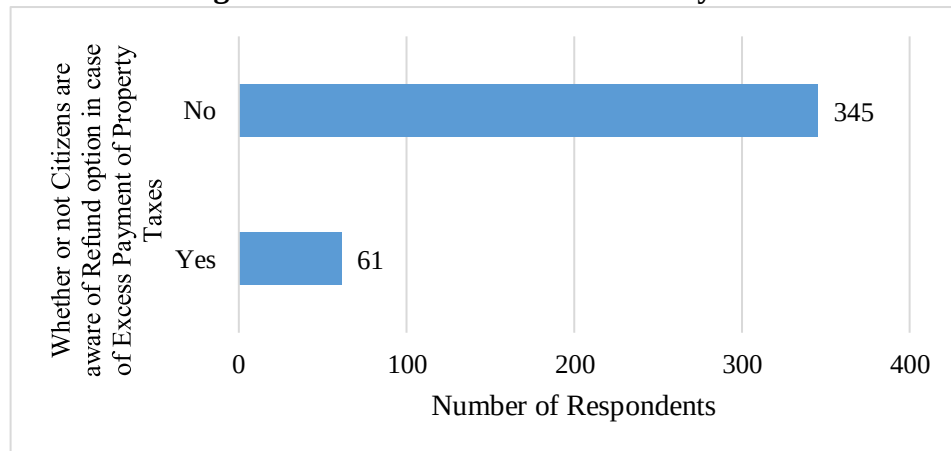
Source: Field Survey, 2025

It is clear from Figure 6.22 that most citizens (283) are aware that the municipality charges interest on tax payments made after the due date, on a simple interest basis. However, 123 respondents indicated they were unaware of this.

(f) Refund of Excess Tax Payment:

One feature of property tax payment system in AMC is the availability for refund in case of excess tax payment. However, we asked if the respondents are aware of this function. The responses are given in Figure 6.23 below.

Figure 6.23: Refund of Excess Tax Payment



Source: Field Survey, 2025

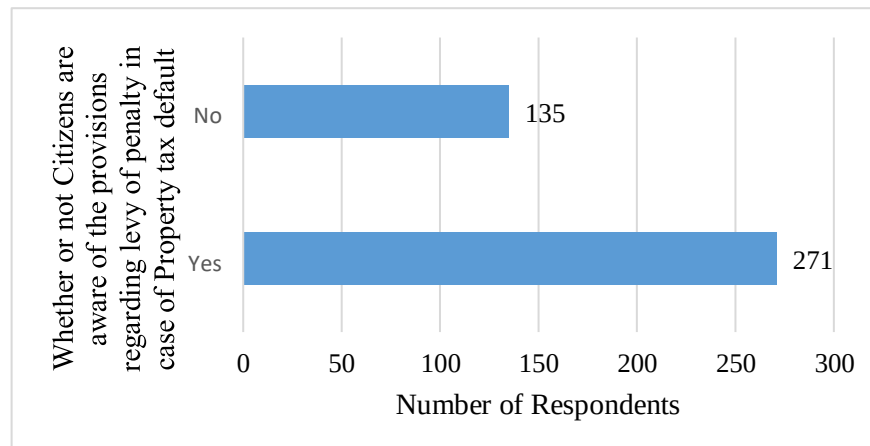
An interesting observation from Figure 6.23 is that most respondents (345) are unaware that the municipality, after thorough scrutiny, determines if a person has overpaid their property taxes and, following proper procedures and obtaining the necessary orders from the Executive Officer, refunds the excess amount. Only 61 respondents are aware of this process.

(g) Penalties for Non-Compliance:

Another feature of the property tax system in AMC is that taxpayers are liable to pay penalties in case of non compliance. We asked the respondents if they are aware of the situation and their response are shown in Figure 6.24 as follows.

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Figure 6.24: Penalty for Non Compliance



Source: Field Survey, 2025

Figure 6.24 shows that most respondents (271) are aware that the municipality may levy a penalty for default in compliance with the relevant provisions of the Act. However, 135 respondents expressed they were unaware of this.

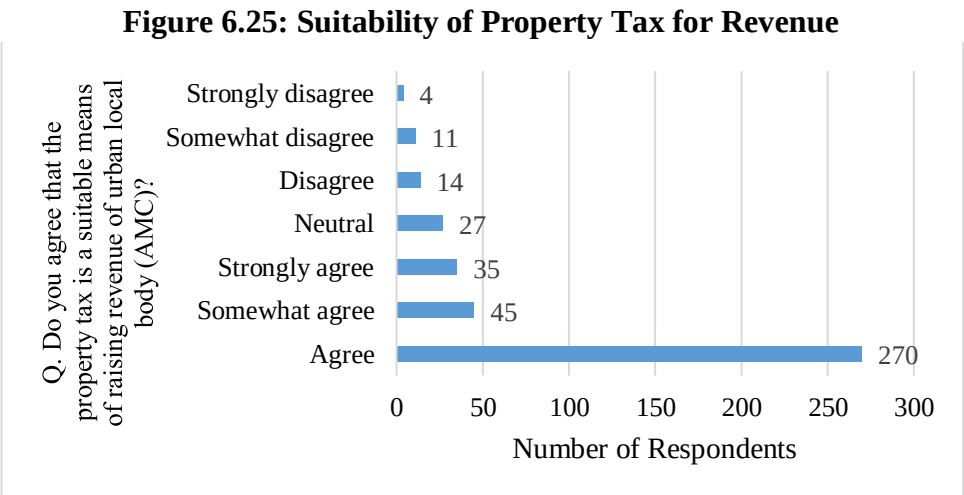
7) **Revenue Generation and Policy Implications:**

We asked the perception of the respondents regarding the revenue generation and policy regarding property tax. The following questions were asked specifically.

- a. The respondents were asked whether they agree that property tax is a suitable means of raising revenue for the urban local body (AMC).
- b. The respondents were asked whether they are aware of any provisions in the Mizoram Municipal Property Tax Management Rules regarding exemptions from property tax within the AMC area.

(a) **Suitability of Property Tax for Revenue**

The respondents are asked if they consider taxation of property as a suitable means for raising revenue by AMC. Their responses are given in Figure 6.25 as follows.



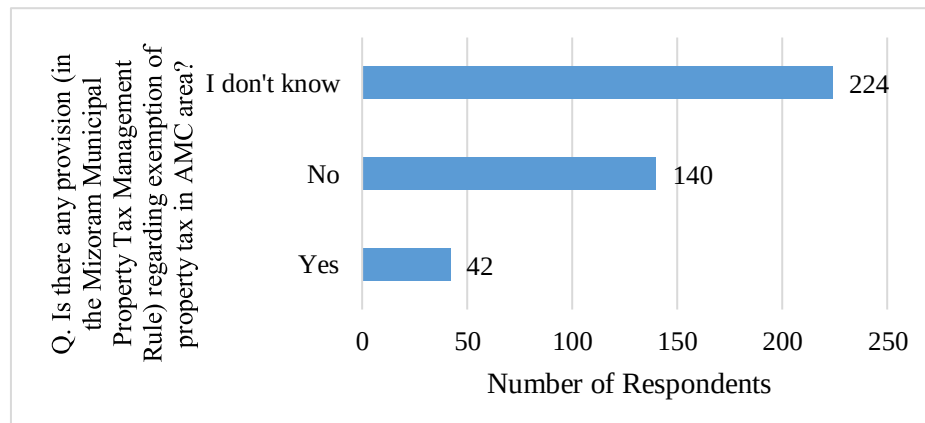
Source: Field Survey, 2025

The data in Figure 6.25 clearly shows that the majority of respondents (270) agree that property tax is a suitable means of raising revenue for the urban local body (AMC), with 45 respondents somewhat agreeing and 35 respondents strongly agreeing. Meanwhile, 27 respondents expressed a neutral stance, followed by a very small number who disagreed.

(b) Property Tax Exemption Provisions:

The respondents were also asked if they are aware of property tax exemption provision. Their response is shown in Figure 6.26 as follows.

Figure 6.26: Property Tax Exemption Provision



Source: Field Survey, 2025

The data in Figure 6.26 shows that most respondents are unsure about any provisions (in the Mizoram Municipal Property Tax Management Rule) regarding exemption of property tax in AMC area. 140 respondents clearly stated they are not aware, while only 42 respondents reported being aware.

6.3. EMPIRICAL ANALYSIS OF CITIZENS' PERCEPTION OF PROPERTY TAXATION

Due to the descriptive nature of the study, there is a limited application of statistical tools and models to make inferences about citizens' perception of property taxation. However, the study made an attempt to analyse the significance of the occupations and amount of property on the responses provided under different questions asked on three main themes, including :

- a) Perception of Property Tax Importance and Obligation
- b) Awareness of Property Tax Rate Revisions
- c) Awareness and Understanding of the Property Tax System.

Accordingly, we categorized the answers under different themes in relation to the following independent variables.

- a) Occupation, and
- b) Amount of Property Tax Paid

To determine the relationship between different factors of citizens' perception of Property Taxation in AMC, with two independent variables viz. Amount of Property Tax Paid and Occupation, Multinomial Logistic Regression (MLR) is used. MLR models the probability of each category relative to a reference category and uses the generalized logit function to model the log-odds of each category compared to the reference.

For a dependent variable with k categories, the model estimates $k-1$ equations:

$$\log(P(Y=i)/P(Y=k)) = \beta_{i0} + \beta_{i1}X_1 + \beta_{i2}X_2 + \dots + \beta_{in}X_n$$

Where,

- $P(Y=i)$ is the probability of the outcome being in category i .
- $P(Y=k)$ is the probability of the outcome being in the reference category k .
- $\beta_{i0}, \beta_{i1}, \dots, \beta_{in}$ are the coefficients for the predictors $X_1, X_2, \dots, X_n$ for category i .

6.3.1 Perception of Property Tax Importance and Obligations

We test whether occupation and amount of property tax paid have effect on the perception of property tax importance and obligation. The result is given as follows.

a) Perceived Importance or Obligation to Pay Property Tax: To assess how socio-economic characteristics such as occupation and the amount of property tax paid influence public perception of property tax, a multinomial logistic regression (MLR) analysis was carried out. The dependent variable - perception of property tax importance, was categorized into three nominal response types: Yes, No, and Do not know. Given that the categories are unordered and more than two, MLR is the appropriate analytical technique. The analysis was conducted using SPSS software.

The dependent variable was the perceived importance or obligation to pay property tax. The three response categories used were: 'Yes' (reference category), 'No',

and 'Do not know'. The independent variables included in the model were: (i) Occupation, categorized into Government Service, Business, and Others; and (ii) Amount of Property Tax Paid, grouped into Below ₹1000, ₹1000–5000, ₹5001–10000, and Above ₹10000. The results are given in Table 6.3 below.

Table 6.3: Multinomial Logistic Regression Result on Perceived Importance or Obligation to Pay Property Tax

Comparison	Predictor	B	SE	Wald χ^2	df	P-value	Exp(B)	95% CI Lower	95% CI Upper	Significance
No vs Yes	Intercept	-1.034	0.596	3.013	1	.083				†
	Occupation=1 (Govt)	-0.473	0.344	1.886	1	.170	0.623	0.318	1.224	ns
	Occupation=2 (Business)	0.115	0.413	0.078	1	.780	1.122	0.500	2.521	ns
	Amount=1 (<1000)	-0.753	0.634	1.410	1	.235	0.471	0.136	1.632	ns
	Amount=2 (1000-5000)	-0.508	0.619	0.673	1	.412	0.602	0.179	2.024	ns
	Amount=3 (5001-10000)	-0.391	0.695	0.316	1	.574	0.676	0.173	2.642	ns
Do not know vs Yes	Intercept	-3.246	1.102	8.684	1	.003				**
	Occupation=1 (Govt)	0.951	0.478	3.967	1	.046	2.589	1.015	6.600	*
	Occupation=2 (Business)	1.155	0.556	4.311	1	.038	3.173	1.067	9.436	*
	Amount=1 (<1000)	0.271	1.087	0.062	1	.803	1.311	0.156	11.044	ns
	Amount=2 (1000-5000)	0.548	1.073	0.261	1	.609	1.730	0.211	14.161	ns
	Amount=3 (5001-10000)	0.518	1.133	0.209	1	.648	1.678	0.182	15.466	ns
Model Summary	-2 Log Likelihood	70.535								
	Chi-square	11.726								p = .304
	Cox & Snell R ²	.030								
	Nagelkerke R ²	.040								
	McFadden R ²	.022								
LRT	Occupation	$\chi^2 = 9.166$			4	.057				†
	Amount of Property Tax Paid	$\chi^2 = 2.351$			6	.885				ns

Source: Own Calculation based on Field Survey, 2025

The table includes both model estimates and summary statistics, with significance levels marked as:

*** p < .001

** p < .01

* $p < .05$

† marginal significance ($p < .10$) ns

not significant

The model as a whole was not statistically significant (Chi-square = 11.726, $df = 10$, $p = .304$), indicating that the predictors do not collectively provide a significantly better fit than a null model. The pseudo R-squared values were relatively low (Nagelkerke $R^2 = 0.040$; McFadden $R^2 = 0.022$), suggesting that the model explains a small proportion of the variance in perception.

When comparing those who answered 'No' versus 'Yes', none of the independent variables were found to have a statistically significant effect. Although government employees were less likely to answer 'No' (OR = 0.623, $p = .170$), and those who paid below ₹1000 also tended to avoid the 'No' category (OR = 0.471, $p = .235$), these associations did not reach statistical significance.

In the comparison between 'Do not know' and 'Yes', occupation emerged as a significant predictor. Respondents in Government Service were more likely to select 'Do not know' (OR = 2.589, $p = .046$), and those in Business had even higher odds (OR = 3.173, $p = .038$). These results indicate that individuals from these occupational groups are more uncertain or undecided about the importance of property tax. Conversely, the amount of property tax paid did not show any significant influence on this perception.

The likelihood ratio test for Occupation was marginally significant ($\chi^2 = 9.166$, $df = 4$, $p = .057$), supporting its inclusion in the model. However, the amount of property tax paid showed no statistically significant contribution to the model ($\chi^2 = 2.351$, $df = 6$, $p = .885$).

In conclusion, while the overall model does not strongly predict property tax perception, occupation appears to play a role in shaping uncertainty, particularly among government employees and business people. The findings suggest that greater efforts may be needed to address gaps in understanding or awareness among specific

occupational groups. Future research may consider including additional explanatory variables such as educational level, civic engagement, and experience with local governance systems to enhance model performance.

6.3.2. Awareness and Understanding of the Property Tax System

The results of the multinomial logistic regression analysis that examined factors influencing taxpayers' awareness regarding the use of property tax by the government are presented in this subsection. The model assessed the effects of Occupation (three categories) and Amount of Property Tax Paid (four categories) on the likelihood of taxpayers selecting 'No,' 'Neutral,' or 'Yes' (the reference category) as their level of awareness. The result is given in Table 6.4 below.

Table 6.4: Multinomial Logistic Regression Result on Awareness and Understanding of the Property Tax System

Comparison	Predictor	B	SE	Wald χ^2	df	p-value	Exp(B)	95% CI Lower	95% CI Upper	Significance
No vs Yes	Intercept	0.924	0.554	2.78	1	0.095	2.52	0.851	7.46	†
	Occupation=1 (Govt)	-0.157	0.279	0.316	1	0.574	0.855	0.495	1.48	Ns
	Occupation=2 (Business)	0.097	0.381	0.064	1	0.800	1.10	0.522	2.32	Ns
	Amount=1 (<1000)	0.374	0.572	0.428	1	0.513	1.45	0.474	4.46	Ns
	Amount=2 (1000–5000)	0.245	0.564	0.189	1	0.664	1.28	0.423	3.86	Ns
	Amount=3 (5001–10000)	0.561	0.641	0.766	1	0.381	1.75	0.499	6.15	Ns
Neutral vs Yes	Intercept	-1.32	1.13	1.38	1	0.241	0.267	0.0294	2.43	Ns
	Occupation=1 (Govt)	-0.99	0.584	2.85	1	0.091	0.373	0.119	1.17	†
	Occupation=2 (Business)	0.118	0.654	0.033	1	0.857	1.13	0.312	4.06	Ns
	Amount=1 (<1000)	0.046	1.19	0.001	1	0.969	1.05	0.102	10.8	Ns
	Amount=2 (1000–5000)	0.216	1.16	0.034	1	0.853	1.24	0.127	12.1	Ns
	Amount=3 (5001–10000)	0.845	1.26	0.453	1	0.501	2.33	0.199	27.2	Ns
Model Summary	-2 Log Likelihood	55.7018								
	Chi-square	5.745 (p=0.836)								
	Cox & Snell R ²	.015								
	Nagelkerke R ² / McFadden R ²	.019 / .0103								
LRT	Occupation	$\chi^2 = 4.003$			4	0.4056				(ns)
	Amount of Property Tax Paid	$\chi^2 = 1.978$			6	0.9217				(ns)

Source: Own Calculation based on Field Survey, 2025

The table includes both model estimates and summary statistics, with significance levels marked as:

*** $p < .001$

** $p < .01$

* $p < .05$

† marginal significance ($p < .10$) ns

not significant

The overall model was not statistically significant (Chi-square = 5.745, $df = 10$, $p = .836$), indicating that the predictors did not significantly improve the prediction of taxpayers' perceptions compared to a model with no predictors. The Pseudo R-Square values (Cox & Snell $R^2 = .015$, Nagelkerke $R^2 = .019$, McFadden $R^2 = .010$) were also very low, suggesting that the model explained only a very small portion of the variance in responses.

In the comparison between 'No' and 'Yes' responses, neither Occupation nor Amount of Property Tax Paid emerged as significant predictors. All p-values for the predictors were greater than .05, indicating no meaningful difference in the likelihood of selecting 'No' over 'Yes' based on these variables. For example, Occupation = 1 (Government) was not significant ($p = .574$, $\text{Exp}(B) = 0.855$), and Amount Paid (<1000) was also not significant ($p = .513$, $\text{Exp}(B) = 1.454$).

In the comparison between 'Neutral' and 'Yes' responses, none of the predictors were statistically significant (all p-values > .05). For example, Occupation = 1 (Government) was close to marginal significance but still non-significant ($p = .091$, $\text{Exp}(B) = 0.373$), while Amount Paid (<1000) was clearly not significant ($p = .969$, $\text{Exp}(B) = 1.047$).

6.3.3. Awareness of Property Tax Rate Revisions

The multinomial logistic regression model examined factors influencing taxpayers' perceptions of whether the property tax rate increased as a result of the recent revision. Occupation and Amount of Property Tax Paid were used as predictors. The dependent variable was categorized into three response levels: Yes (reference category), No, and Do Not Know. The result is given in Table 6.5 below.

Table 6.5: Multinomial Logistic Regression Result on Awareness of Property Tax Rate Revisions

Comparison	Predictor	B	SE	Wald χ^2	df	p-value	Exp(B)	95% CI Lower	95% CI Upper	Significance
No vs Yes	Intercept	-1.62	0.382	18	1	<0.0001	0.198	0.0936	0.419	***
	Occupation=1 (Govt)	-0.474	0.291	2.65	1	0.104	0.623	0.353	1.10	ns
	Occupation=2 (Business)	0.0742	0.365	0.041	1	0.839	1.08	0.527	2.20	ns
	Amount=1(<5000)	0.750	0.370	4.11	1	0.043	2.12	1.02	4.37	*
Neutral vs Yes	Intercept	-4.23	1.04	16.5	1	<0.0001	0.0146	0.002	0.112	***
	Occupation=1 (Govt)	-0.014	0.374	0.001	1	0.970	0.986	0.473	2.05	ns
	Occupation=2 (Business)	0.513	0.454	1.27	1	0.259	1.67	0.685	4.07	ns
	Amount=1(<5000)	2.67	1.02	6.84	1	0.009	14.5	1.95	107	**
Model Summary	-2 Log Likelihood	62.94								
	Chi-square	23.73 (p=0.0006)								
	Cox & Snell R ²	0.0596								
	Nagelkerke R ²	0.0731								
	McFadden R ²	0.0364								
LRT	Occupation	$\chi^2 = 4.9495$			4	0.2925				ns
	Amount of Property Tax Paid	$\chi^2 = 18.801$			2	<0.0001				***

Source: Own Calculation based on Field Survey 2025

The table includes both model estimates and summary statistics, with significance levels marked as:

*** $p < .001$

** $p < .01$

* $p < .05$

† marginal significance ($p < .10$) ns

not significant

The overall model was statistically significant (Chi-square = 23.73, $df = 6$, $p = 0.0006$), indicating that the inclusion of the predictors significantly improved the prediction of taxpayers' perceptions of property taxation compared to a model with no predictors. The Pseudo R-Square values were relatively modest: Cox & Snell $R^2 = 0.0596$, Nagelkerke $R^2 = 0.0731$, and McFadden $R^2 = 0.0364$, suggesting that the model explained only a small but meaningful proportion of the variance in responses.

For the comparison between taxpayers who responded 'No' and those who responded 'Yes', Amount of Property Tax Paid emerged as a significant predictor ($B = 0.750$, $p = 0.043$, $\text{Exp}(B) = 2.12$). This indicates that taxpayers paying less than ₹5000 were over twice as likely to perceive positively (Yes) compared to those paying higher amounts. Occupation, however, was not a significant predictor in this comparison ($p\text{-values} > .05$).

For the comparison between taxpayers who selected 'Neutral' and those who selected 'Yes', Amount of Property Tax Paid again showed a strong and statistically significant effect ($B = 2.67$, $p = 0.009$, $\text{Exp}(B) = 14.5$). This finding suggests that taxpayers paying less than ₹5000 were substantially more likely to remain neutral rather than respond positively compared to higher-paying taxpayers. Occupation once again did not emerge as a significant predictor ($p\text{-values} > .05$).

In summary, the results suggest that Occupation does not significantly influence taxpayers' perceptions regarding property taxation, whereas the Amount of Property Tax Paid plays an important role. Taxpayers with lower payments were more inclined to respond positively or remain neutral, while higher-paying taxpayers were less likely to show support and more likely to hold critical views. These findings highlight the salience of tax amount in shaping perceptions of property taxation, though additional factors beyond occupation and payment levels may also contribute and warrant further investigation.

6.4. SUMMARY OF FINDINGS AND CONCLUDING OBSERVATIONS

The summary of findings and concluding observations are given as follows.

6.4.1. Summary of Findings

- 1) **Survey Scope & Demographics:** The study examined property tax issues in AMC by surveying 406 respondents across different wards. The sample was fairly balanced in terms of gender, with slightly more male respondents. Age-wise, the largest group was aged 46–60 years. Most respondents identified as Christians. Within families, fathers made up the largest group of respondents.
- 2) **Family and Economic Profile:** The family profiles showed that government employment was the dominant occupation (50.7%), followed by business and selfemployment. Most families were small to medium in size, with four to six members, though larger families were also represented. The number of dependents varied widely, highlighting different family structures and potential financial pressures.
- 3) **Property Tax Characteristics:** Most respondents began paying property taxes in 2015–16, indicating that systematic property taxation is relatively recent in Aizawl. The majority paid taxes on residential and commercial buildings, with fewer paying for vacant land or other structures. Most properties were used for residential purposes. Most respondents believed their tax was calculated based on the value of their property, indicating trust in the assessment process. Tax payments largely ranged from ₹201 to ₹5000 annually, showing a concentration of payments in lower tax brackets.
- 4) **Perceptions of Tax Rates and Revisions:** Most respondents expressed satisfaction with the current property tax rates and viewed them as fair. However, opinions were divided on accepting a future tax increase, though the majority reported that their tax did increase after reassessment. This points to potential concerns about tax burden and transparency in rate changes.
- 5) **Payment Methods and Ease:** The majority of respondents preferred offline payment methods, while fewer used online or mixed methods. A small but notable

group found paying taxes complicated. Many agreed that the system could benefit from simpler payment methods, reflecting a desire for easier tax administration.

6) Compliance and Willingness to Pay: Most respondents believed paying property tax is essential. A significant portion also indicated willingness to comply with potential future tax increases and supported the imposition of penal interest on late payments. There was strong consensus that tax evasion is a major challenge in revenue collection.

7) Consultation and Participation: A majority of respondents reported not being consulted by the AMC on tax reforms or rate revisions, indicating a communication gap between the authorities and taxpayers.

8) Awareness and Understanding of the System: Responses on understanding the property tax system were mixed. While many found the system neither too simple nor too complex, a significant portion felt there was inadequate publicity about property tax among citizens. Most respondents were unaware of how the government uses property tax revenue. However, most did understand why taxes are collected. Awareness of mechanisms like interest on delayed payments was reasonably high, but knowledge about tax refunds for overpayment was limited. Awareness of penalties for non-compliance was better, but gaps still exist.

9) Revenue Generation and Policy: Most respondents agreed that property tax is a suitable means for raising revenue in the AMC. However, awareness of exemptions or rebates under the relevant municipal rules was low, indicating an area where communication and transparency could improve.

10) Empirical Analysis of Perceptions: The multinomial logistic regression analysis explored how occupation and the amount of tax paid affected citizens' perceptions. While occupation was not a strong predictor overall, it emerged as a significant factor in shaping uncertainty about the importance of paying property taxes, especially among government employees and business owners. The amount of property tax paid was not significantly associated with perceptions of the tax system itself but was linked to perceptions of recent rate increases, where higher tax payers

were more likely to perceive increases. Overall, these models explained only a small portion of the variance in perceptions, suggesting other unmeasured factors influence citizens' views.

6.5 CONCLUSION

The study highlights that taxpayers' perceptions of property tax in AMC are multifaceted and only partially explained by occupation and the amount of tax paid. Descriptive findings and figures suggest notable levels of uncertainty and knowledge gaps among taxpayers, which align with the low explanatory power of the regression models in certain themes. These insights emphasise the importance of comprehensive taxpayer education and effective communication strategies to build awareness and trust in the municipal tax system.

CHAPTER - VII

**ANALYSIS OF SOLID WASTE
MANAGEMENT IN THE
AIZAWL MUNICIPAL
CORPORATION AREA**

7.1 INTRODUCTION

This chapter evaluates the municipal service delivery of Solid Waste Management (SWM) within the Aizawl Municipal Corporation (AMC). It assesses service quality based on citizens' perceptions using five dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy. A one-way ANOVA, conducted in SPSS, was used to compare mean differences across these service quality dimensions, thereby identifying performance variations and highlighting areas for managerial and operational improvement within the AMC's solid waste management framework.

One of the most important features of municipal service delivery in the AMC is solid waste management. While there are different types of services delivered by a municipal government, solid waste management stood out in Aizawl as it has been consistently a subject which is taken up by the AMC over the past years.

To understand the citizens' perspectives on the municipal service delivery, i.e., solid waste management in the AMC area, and to assess the service quality using customer perception, a primary survey was conducted. The survey assessed households from 83 localities of the 19 wards of AMC. From each 83 localities, 5 households were randomly selected for examination. The responses were examined by giving an overview of the responses using descriptive methods, by tables and charts. The service quality was assessed by using five dimensions commonly used in SERVPERF model, including tangibles, reliability, responsiveness, assurance and empathy. One-way ANOVA was estimated using SPSS to compare the means of these dimensions.

The remaining parts of the section are further divided into subsections as follows. Section 7.1 presents the socio-economic profile of the respondents, providing the contextual background for the analysis. Section 7.2 outlines citizens' perspectives on solid waste management in the AMC area. Section 7.3 offers an empirical assessment of service quality based on customer perceptions of AMC's solid waste management services. Finally, Section 7.4 summarizes the key findings and Section 7.5 presents concluding observations.

7.2 SOCIO-ECONOMIC PROFILE OF RESPONDENTS

The socio-economic profile of respondents were collected which include; 1) personal profile such as gender, age distribution, respondent's role in the family; 2) family profile of respondents such as educational level of family head, marital status of family head, religion of the family and the main occupation of the family and 3) economic profile of respondents such as residence status, type of dwelling and monthly income.

7.2.1 Personal Profile of Respondents

The personal profile of respondents, such as gender, age distribution and the respondent's role in the family as follows.

Table 7.1: Personal Profile of Respondents

	Category	Total	Percentage
1	Gender		
	Male	141	34.6%
	Female	267	65.4%
2	Age Distribution		
	Below 25 Years	79	19.4%
	26-35	65	15.9%
	36-45	78	19.1%
	46-55	77	18.9%
	56-65	56	13.70%
	Above 66 Years	53	13%
3	Respondent's Role in the Family		
	Father	91	22.3%
	Mother	156	38.2%
	Son	51	12.5%
	Daughter	102	25.0%
	Other	8	2.0%

Source: Field Survey 2025

Table 7.1 shows that most survey respondents are women. The age distribution is fairly balanced, with younger and middle-aged adults making up the majority of the group, while those over 55 are fewer in number. Most respondents are parents, particularly mothers and fathers, with a smaller group made up of sons, daughters, and

a tiny share listed as “Other.” Overall, the data highlights that the survey was mainly responded by women, and many of them are parents.

7.2.2 Family Profile of Respondents

The respondents’ personal profile including education level of family head, marital status of family head, religious affiliation of family, main occupation of family, and number of family member.

Table 7.2: Family Profile of Respondents

		Total	Percentage
1	Education Level of Family Head		
	Primary School	34	8.3%
	Middle School	81	19.9%
	HSLC	103	25.2%
	HSSLC	83	20.3
	Diploma	9	2.2
	Bachelor Degree	80	19.6
	Master Degree	18	4.4%
2	Marital Status of Family head		
	Single	28	6.9%
	Married	278	68.4%
	Widow/Widower	101	24.8%
3	Religion		
	Christian	406	99.5%
	Hindu	2	0.5%
	Muslim	0	0.0%
	Others	0	0
4	Main Occupation of Family		
	Business	84	20.6%
	Govt Service	170	41.7%
	Self-employment	62	15.2%
	Private employment	23	5.6%
	NGO/Church	12	2.9%
	Unemployed	11	2.7%
	Other	46	11.3%

5	Number of Family Member		
	4 or below	141	34.6%
	5	117	28.7%
	6	62	15.2%
	7	34	8.3%
	8 or above	54	13.2%

Source: Feld Survey 2025

Table 7.2 shows that most respondents have at least completed secondary education, with many finishing high school and some holding bachelor's or even master's degrees. Only a small group didn't go beyond middle or primary school. Most family heads are married, and nearly everyone identifies as Christian. Hardly anyone from other religions is represented. Government jobs are the most common form of employment among respondents, followed by business and self-employment. Only a small number are unemployed or working in other areas like NGOs or churches. Family sizes vary across households and most families are small, with up to four or five members. Some families are larger, with six or more members, but they are less common. Interestingly, fair share of families are quite large, with eight or more members. In summary, the data shows a well-educated, largely married Christian population, working mainly in government or business, and living in families that range from small to quite large.

7.2.3 Economic Profile of Respondents

The economic profile of respondents such as residence status, type of dwelling and monthly income are given in Table 7.3 below.

Table 7.3: Economic Profile of Respondents

1	Residence Status		
	H. Own house	266	65.2%
	Rented House	127	31.1%

	Quarters/Bungalow	14	3.4%
	Others	1	0.2%
2	Type of Dwelling		
	Single-family home	246	60.3%
	Apartment/condo	147	36.0%
	Other	15	3.7%
3	Monthly Income		
	Rs 5,000 or below	18	4.4%
	Rs 5,001 – Rs 25,000	131	32.1%
	Rs 25,001 - Rs 50,000	96	23.5%
	Rs 50,001 – Rs 1,00,000	91	22.3%
	Rs 1,00,001 – Rs 2,00,000	46	11.3%
	Rs 2,00,001 – Rs 5,00,000	23	5.6%
	Rs 5,00,001 or more	3	0.7%

Source: Field Survey 2025

Table 7.3 reveals insights into where people live, their type of housing, and their income levels. Most respondents own their homes, while some live in rented places. A few live in quarters or bungalows, and only a tiny number fall into other types of housing. Most people live in single-family homes, but apartments and condos are also fairly common. A small group lives in other types of housing. In terms of income, most respondents earn between Rs 5,001 and Rs 1,00,000 per month, showing that many come from middle-income backgrounds. Only a small number earn more than Rs 1,00,000 monthly, while a few earn less than Rs 5,000. To summarize, the data shows that the majority of respondents are homeowners living in single-family homes, and most of them fall into the middle-income category.

7.3 OVERVIEW OF CITIZENS' PERSPECTIVES ON SOLID WASTE MANAGEMENT IN THE AIZAWL MUNICIPAL CORPORATION AREA

The following five themes were selected for studying Citizens' perspectives on solid waste management in AMC area. They are.

- 1) Waste Disposal Practices and Household Behavior,
- 2) Satisfaction with Municipal Services
- 3) Environmental Awareness and Concerns
- 4) Improper Waste Disposal and Reporting
- 5) Service Provider Practices and Concerns.

7.3.1 Waste Disposal Practices and Household behavior

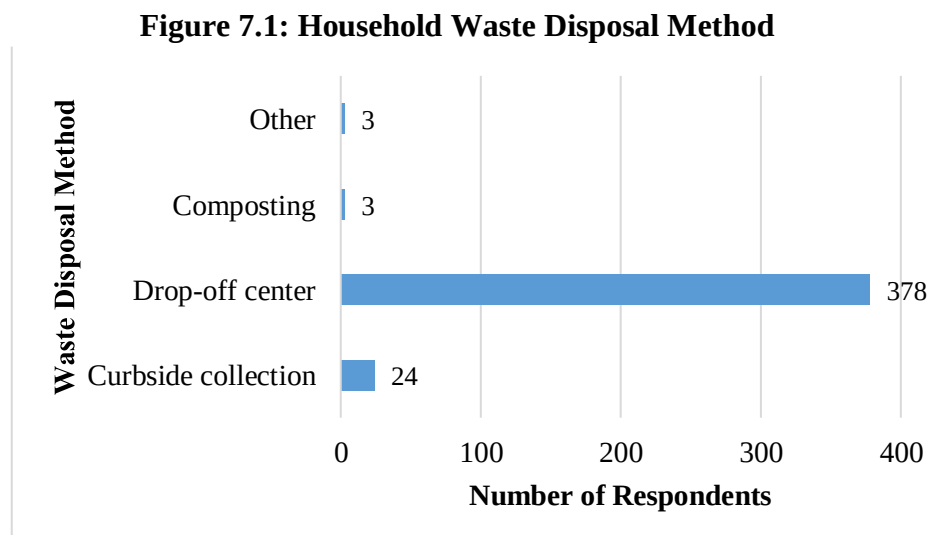
In order to understand the waste disposal practices and household behavior relating to these practices the following questions were asked.

- a. How they generally dispose of their household waste.
- b. To estimate the approximate quantity of solid waste generated by their household each week.
- c. To describe the physical characteristics of the solid waste produced in their household
- d. To specify the type of storage bin they use for storing household waste.
- e. To state the frequency at which solid waste is collected from their household.
- f. Whether they practice waste sorting in their household.
- g. Whether they have the capacity to store waste before it is collected.
- h. Whether they follow the Aizawl Municipal Corporation's (AMC) instructions on segregating waste into different bins.

Each parameter is further discussed as follows.

7.3.1.a Household Waste Disposal Method

The household waste disposal method is categorized into four categories including curbside collection, drop off center, composting and others. The responses are given in Figure 7.1



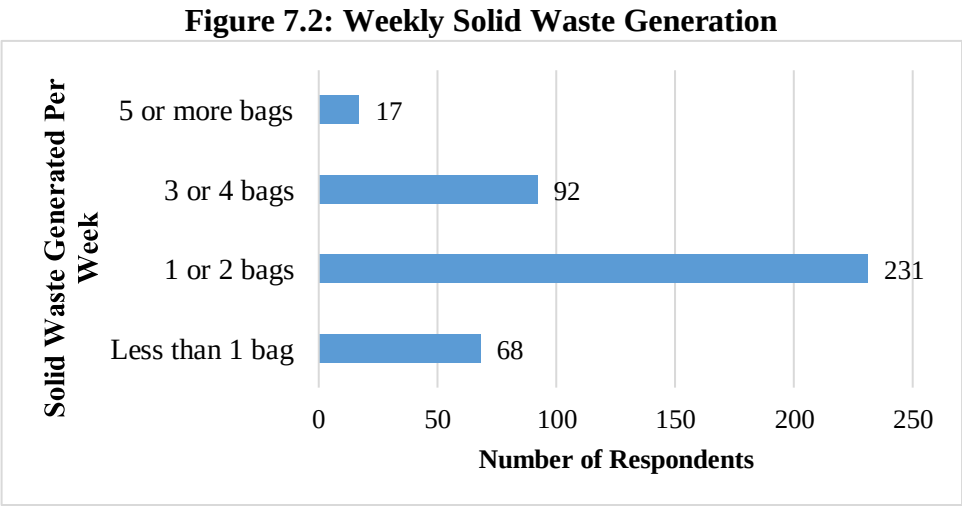
Source: Field Survey 2025

Figure 7.1 shows that the majority of households in Aizawl dispose of their waste through a drop-off centre. A smaller proportion of respondents resort to curbside collection, followed by composting and other methods. This indicates that in the AMC areas, drop-off centres arranged by municipalities are most widely utilised.

7.3.1.b Weekly Solid Waste Generation

The respondents were also asked the quantity of solid waste generated per week. One bag here is considered as one extra large garbage bag or one 50 kg rice bag. The

responses are categorized into less than 1 bag, 1 or 2 bags, 3-4 bags and 5 or more bags.



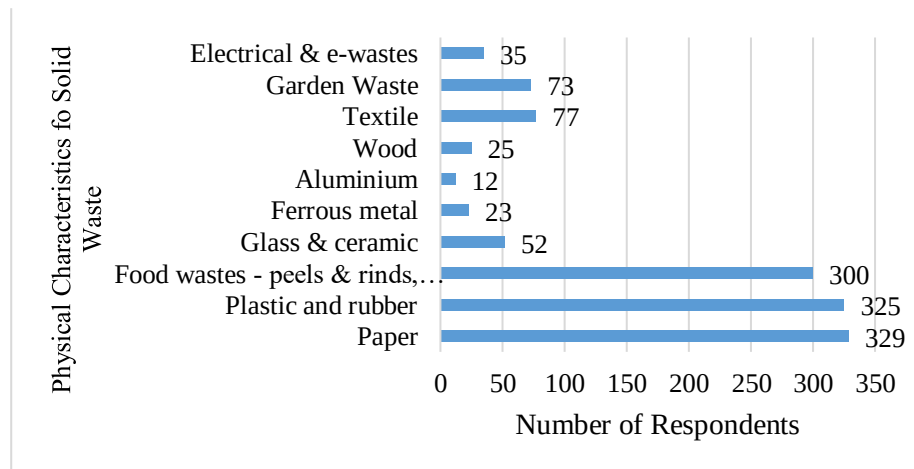
Source: Field Survey 2025

Figure 7.2 illustrates that most households generate between 1 to 2 bags of solid waste weekly. In urban areas, waste generation tends to be high, with a notable percentage of households producing more than 2 bags per week.

7.3.1.c Physical Characteristics of Solid Waste

The physical characteristics of solid waste were classified into different categories such as Electrical & e-wastes, Garden waste, Textile, Wood, Aluminium, Ferrous metal, Glass & ceramic, Food wastes-peel & rinds etc., Plastic and rubber, Paper. The responses are given in Figure 7.3 below.

Figure 7.3: Physical Characteristics of Solid Waste



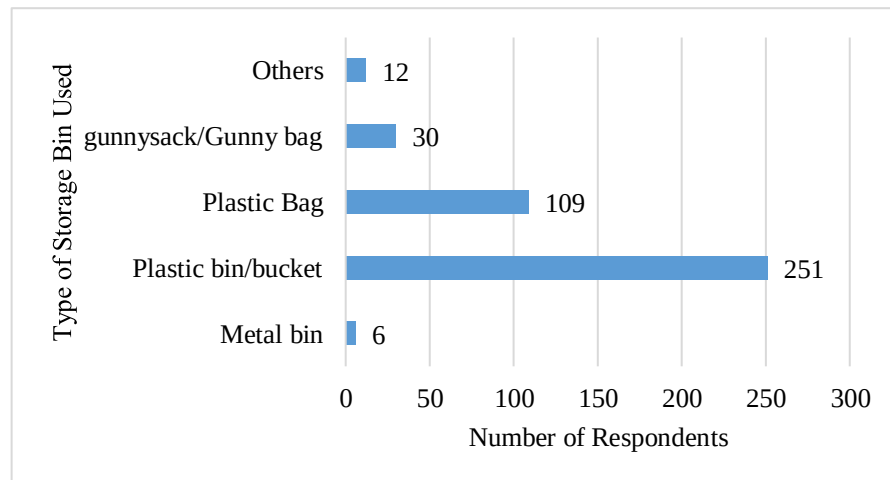
Source: Field Survey 2025

Figure 7.3 reveals that paper constitutes the largest share of household solid waste, followed by materials such as plastics and rubber which suggests great consumption of packaged goods in urban settings. Organic waste also accounts large proportion whereas hazardous waste accounts for a minimal portion across Aizawl.

7.3.1. d Type of Storage Bin Used

The respondents were also asked the types of storage bins used by them among common ones including metal bin, plastic bin/bucket, plastic bag, gunnysack/gunnybag and others. The responses are given in Figure 7.4 below.

Figure 7.4: Types of Storage Bins Used



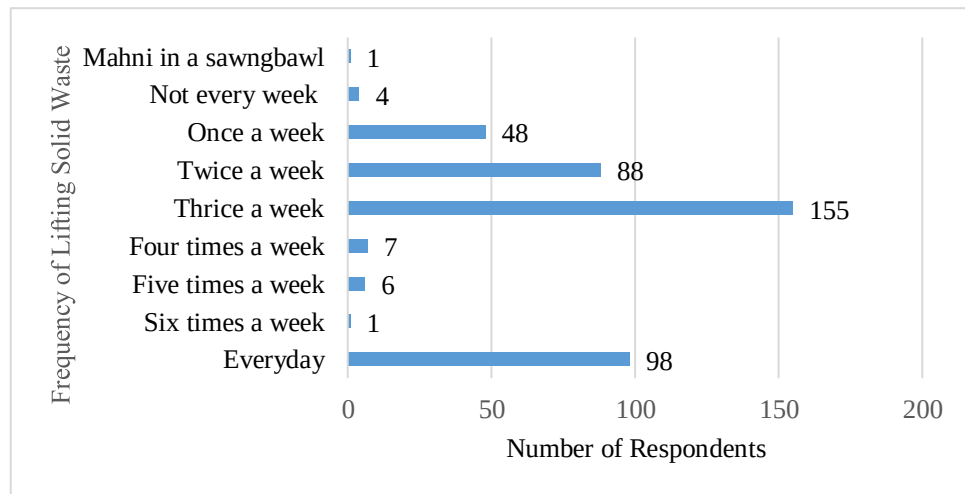
Source: Field Survey 2025

Figure 7.4 shows that most households use plastic bins and bags for storing their waste prior to disposal. Eco-friendly bins such as metal bin and gunnysack/gunny bag are less commonly used. This indicates the need to promote sustainable storage solutions across the AMC area.

7.3.1. e Frequency of Waste Lifting

In the different localities in the AMC area, wastes are lifted in a specially designed vehicles. The respondents were asked the frequency in which these wastes are lifted. Their responses are given in Figure 7.5 below.

Figure 7.5: Frequency of Waste Lifting

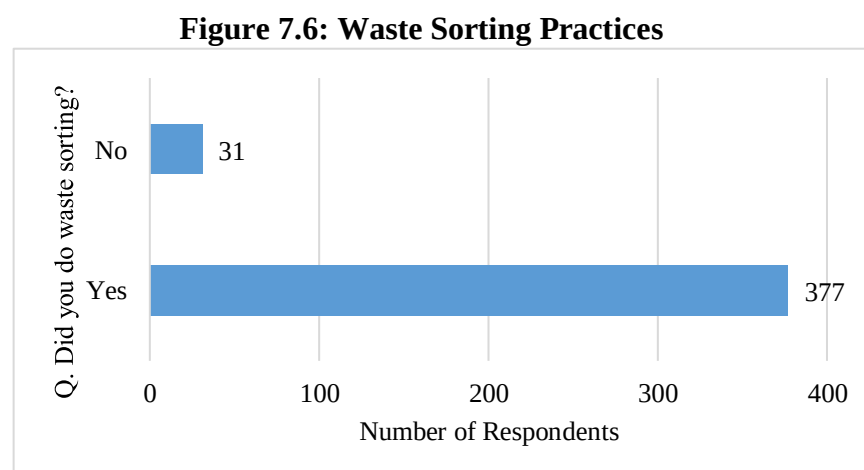


Source: Field Survey 2025

Figure 7.5 highlights the frequency of waste collection services across various households in Aizawl. In Aizawl, the majority of households receive regular waste collection on a weekly basis with a significant proportion of residents enjoying daily waste collection services. Among the respondent households, a majority reported that their wastes were lifted thrice a week.

7.3.1. f Waste Sorting Practices

The respondents were asked whether they conduct waste sorting practices or not. The responses are given in Figure 7.6



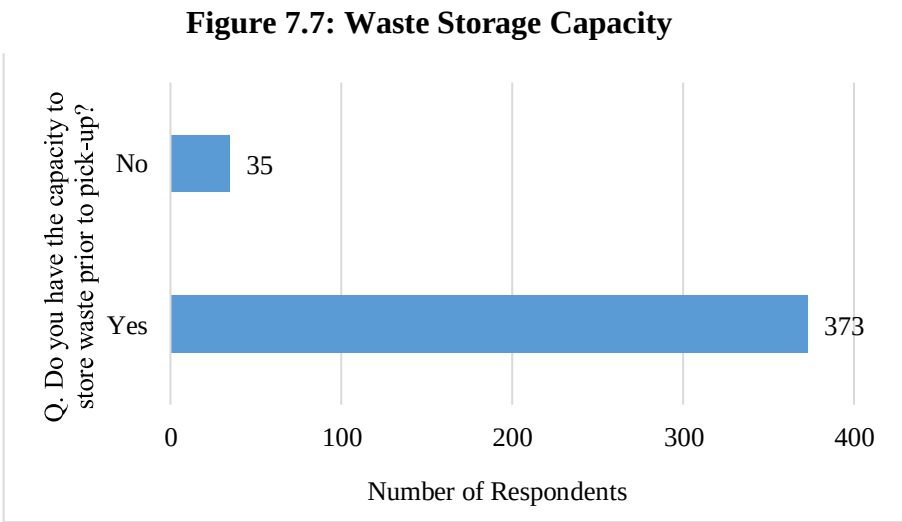
Source: Field Survey 2025

Figure 7.6 demonstrates that urban households show high compliance with AMC's segregation of waste guidelines and actively sort their waste before disposal.

Only a small number of households reported not sorting waste before disposal.

7.3.1.g Waste Storage Capacity

The respondents were also asked whether they have storage capacity to store wastes prior to pick up. The responses are given in Figure 7.7 below.



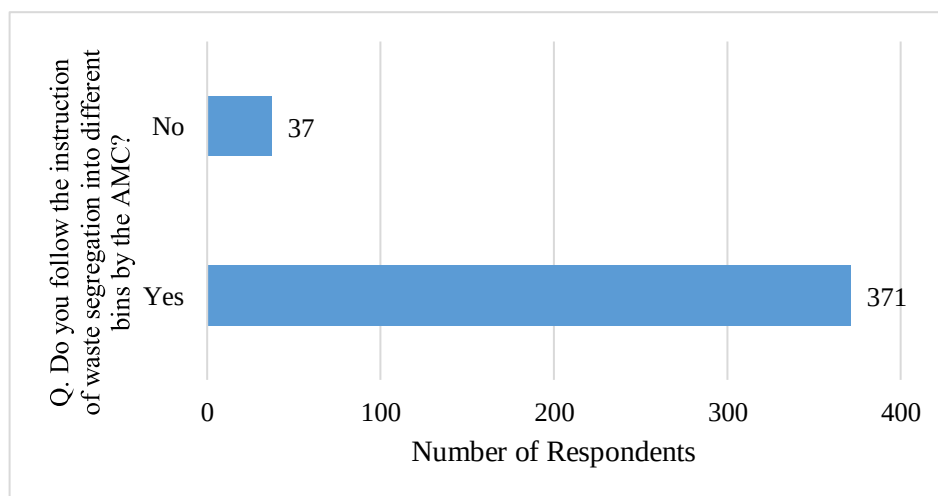
Source: Field Survey 2025

Figure 7.7 shows that the majority of respondents (373) have the capacity to store waste prior to collection, with only a small number of respondents (35) reporting not to have the capacity to store waste.

7.3.1.h Compliance with AMC Waste Segregation Instructions

The AMC provides waste segregation instructions based on the nature of the waste such as whether they are organic, plastic or paper wastes. The respondents were asked if they complied with the instructions given by the authorities and the responses are given in Figure 7.8.

Figure 7.8: Compliance with AMC Waste Segregation Instructions



Source: Field Survey 2025

Figure 7.8 shows that the majority of respondents (371) follow the AMC's instructions for waste segregation into different bins, while only a small number of respondents (37) report not doing so.

7.3.2 Satisfaction with Municipal Services

To examine the respondents' satisfaction with the different municipal services, the following questions were asked.

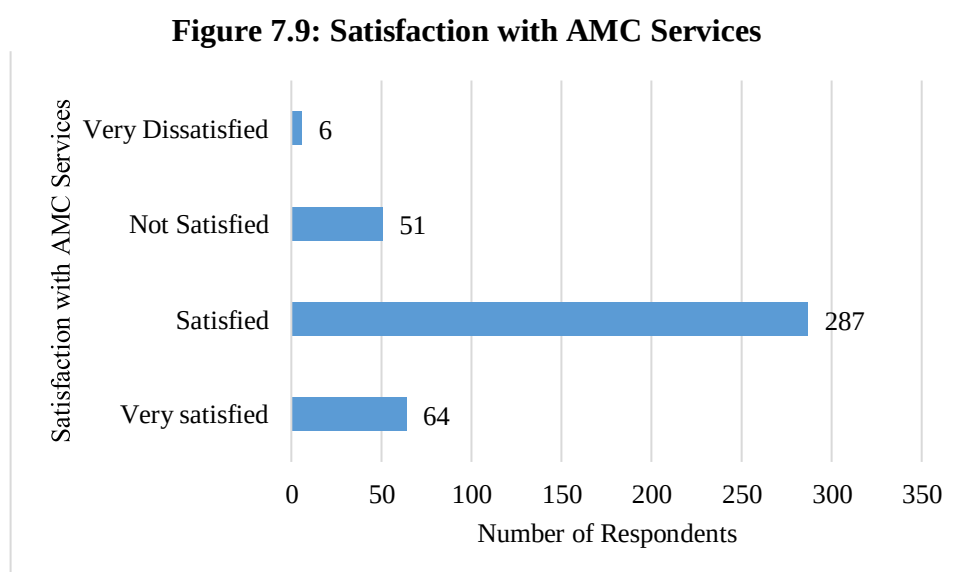
- a. To indicate their level of satisfaction with specific services provided by the AMC, including safe and hygienic storage of refuse, segregation of solid waste, and the attitude of drivers and helpers.
- b. To share their opinion on whether the current municipal waste collection system—specifically the collection of solid waste at designated points by garbage trucks—is good or bad.
- c. Whether the garbage collection point in their locality is conveniently located for nearby households.
- d. To indicate their level of satisfaction with the overall waste management system currently operated by the AMC.

- e. To give their opinion on the amount of service charges paid by residents of Aizawl to the waste collectors for collection services.

Each parameter is further discussed as follows.

7.3.2. a Satisfaction with AMC Services

The satisfaction level of respondents on services rendered by AMC regarding safe and hygienic storage of refuse, segregation of solid waste, attitude of drivers and helpers. The responses are given in Figure 7.9 below.

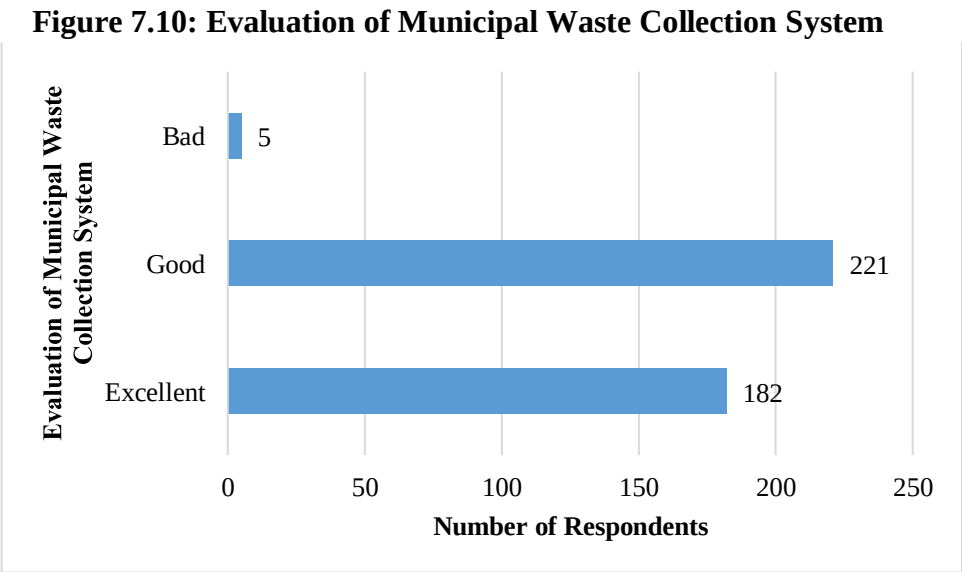


Source: Field Survey 2025

Figure 7.9 shows that satisfaction levels with services rendered by the AMC - safe and hygienic storage of refuse, segregation of solid waste, attitude of drivers and helpers- vary across households. The majority of respondents express satisfaction, with a smaller portion reporting being very satisfied. However, a minimal portion express dissatisfaction, including 6 very dissatisfied respondents.

7.3.2. b Evaluation of Municipal Waste Collection System

The respondents were asked to give their evaluation of municipal waste collection system by asking them rating them into bad, good and excellent. Their responses are presented in Figure 7.10 below.



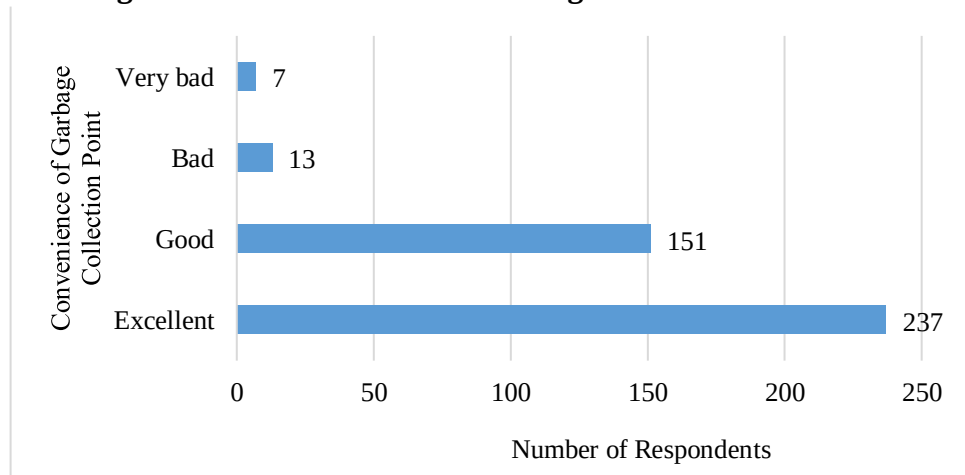
Source: Field Survey 2025

Figure 7.10 shows the evaluation of the AMC waste collection system i.e. collection of solid waste at the selected point by garbage truck, is generally positive. The majority of respondents provide a good evaluation, followed closely by respondents who report being very satisfied. However, a small portion also expresses dissatisfaction.

7.3.2. c Convenience of Garbage Collection Point

The respondents were asked to rate the convenience of garbage collection point on a scale including very bad, bad, good and excellent as given in Figure 7.11 below.

Figure 7.11: Convenience of Garbage Collection Point



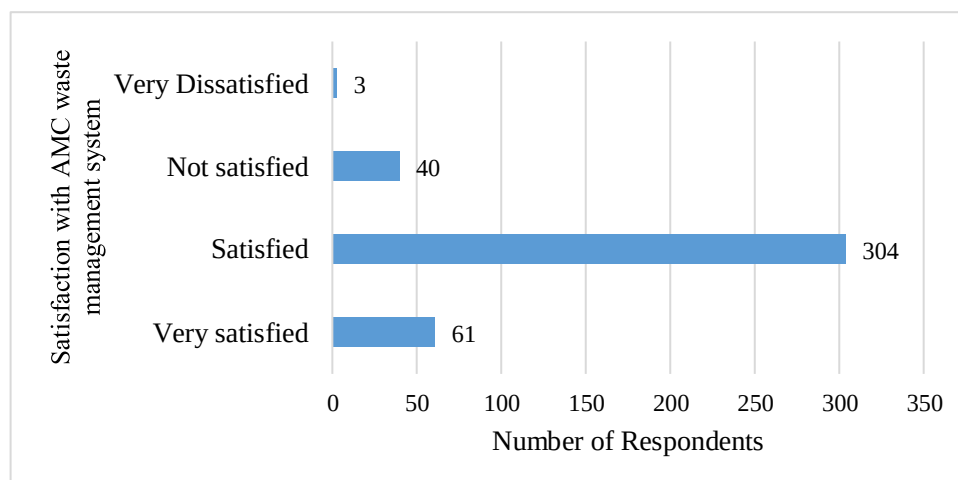
Source: Field Survey 2025

The survey results in Figure 7.11 show that most households are satisfied with the convenience of garbage collection points. With a large majority rating the convenience as excellent, while another 151 respondents described it as good. However, a small number of respondents (13) felt the convenience was bad. An even smaller group of 7 respondents rated it as very bad, possibly indicating more serious concerns such as poor maintenance or lack of accessibility.

7.3.2. d Satisfaction with AMC Waste Management System

The respondents were also asked about their level of satisfaction with the overall AMC waste management system. The respondents were classified into categories such as very dissatisfied, not satisfied, satisfied and very satisfied. The responses are given in Figure 7.12 below.

Figure 7.12: Satisfaction with AMC Waste Management System



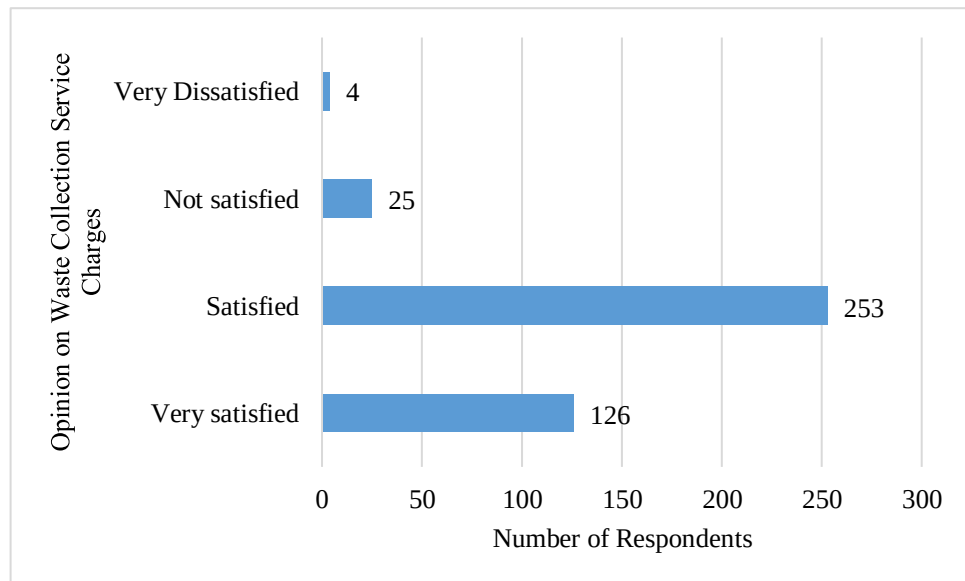
Source: Field Survey 2025

The survey results in Figure 7.12 indicate that most households are satisfied with the AMC Waste Management System. A significant majority rated being satisfied, while another 61 described it as being 'very satisfied.' A smaller group with 40 respondents reported dissatisfaction. Meanwhile, 3 respondents reported being 'very dissatisfied.' These findings suggest that, although the system is well-received by the majority of households, a small portion of the population still finds it inadequate and believes improvements are needed.

7.3.2. e Opinion on Waste Collection Service Charges

There are certain fees involved with the collection of waste in AMC area. The respondents were asked about their level of satisfaction with the waste collection charges in their respective areas. The responses are given in Figure 7.13 as follows.

Figure 7.13: Opinion on Waste Collection Service Charges



Source: Field Survey 2025

Figure 7.13 illustrates the satisfaction levels of AMC area residents regarding the service charges paid to the waste collector. The large majority of respondents reported being satisfied with the charges, while 126 reported being very satisfied, 25 respondents expressed dissatisfaction, and 4 stated they were 'very dissatisfied.' This data reveals that while most residents are satisfied with the charges, there are some who feel that improvements could be made.

7.3.3. Environmental Awareness and Concerns

The study also enquired the environmental awareness and concerns of the respondents. For this purpose, the following questions were asked.

- a) To indicate the extent of their concern regarding the environmental impacts of solid waste.
- b) Whether they believe there is sufficient public awareness about the importance of proper waste management.
- c) Whether they agree with the “polluter pays” principle as a basis for environmental accountability.

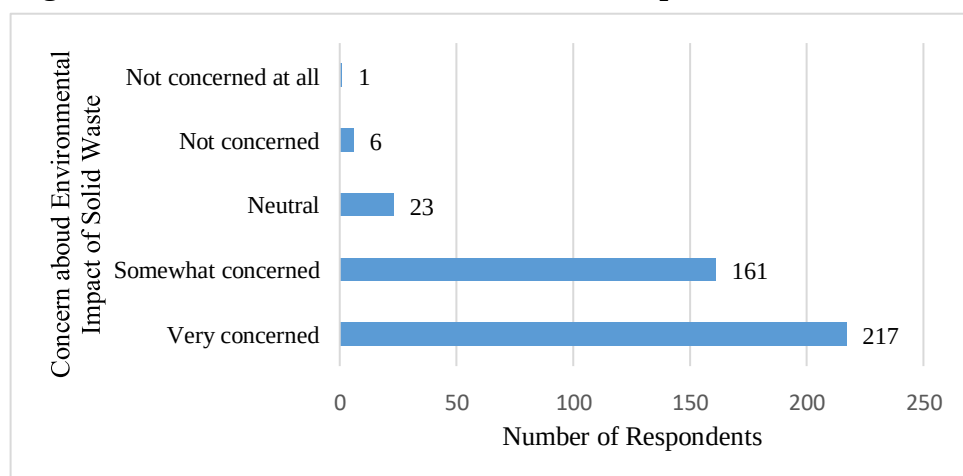
- d) Whether they consider organizing awareness programmes on municipal waste reduction and recycling as important for educating the local population.

Each of these parameters is discussed in detail in the following sections.

7.3.3.a Concern About the Environmental Impact of Solid Waste

The respondents were asked how concerned they are regarding environmental impact of solid waste. The level of concern is measured on a scale from ‘not concerned at all’, ‘not concerned’, ‘neutral’, ‘somewhat concerned’ and ‘very concerned’. The responses are given in Figure 7.14.

Figure 7.14: Concern About Environmental Impact of Solid Waste



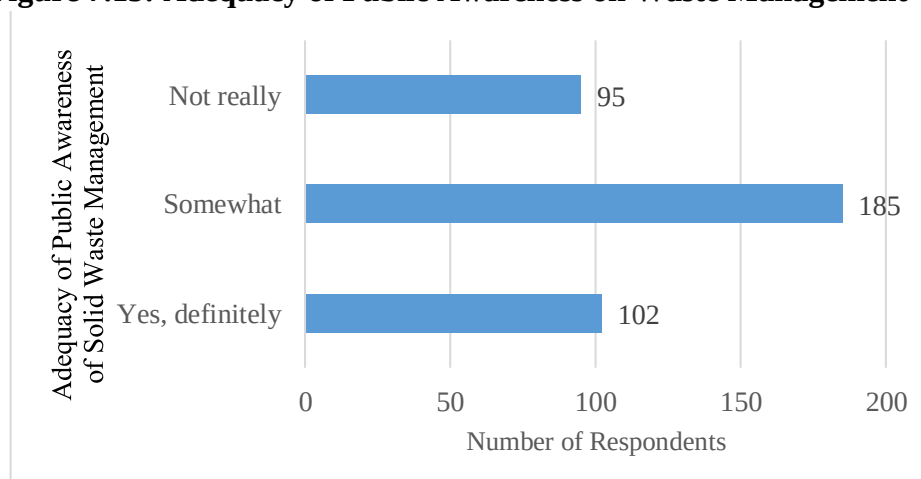
Source: Field Survey 2025

Figure 7.14 illustrates that a majority of respondents are highly concerned about the environmental impact of solid waste. A significant portion of respondents also expressed some level of concern, while only a small group reported not being concerned. The data suggests that most Aizawl residents are particularly concerned, likely due to their higher exposure to pollution and improper waste disposal practices.

7.3.3.b Adequacy of Public Awareness on Waste Management

The respondents were also asked their opinion on the adequacy of public awareness on waste management. Their responses are categorized into ‘not really’, ‘somewhat (adequate)’, and ‘yes, definitely’. Their responses are given in Figure 7.15 as follows.

Figure 7.15: Adequacy of Public Awareness on Waste Management

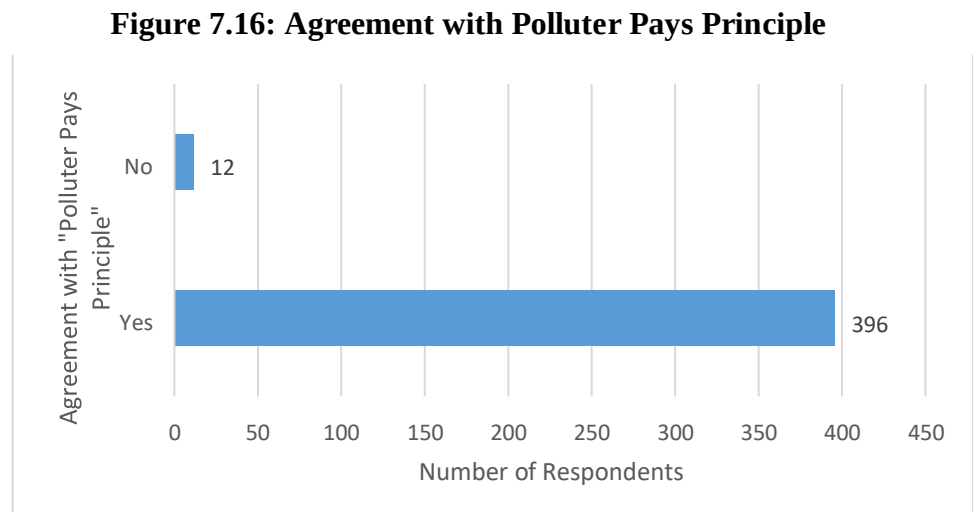


Source: Field Survey 2025

Figure 7.15 shows that while 102 respondents feel there is enough public awareness about proper solid waste management, a larger group of 185 respondents considers it only ‘somewhat’ sufficient. Additionally, 95 respondents feel the awareness is inadequate. This suggests that more awareness is likely needed to reach those who feel uninformed or disconnected from the issue.

7.3.3.c Agreement with ‘Polluter Pays Principle’

The respondents were also asked whether they agreed with ‘polluter pays principle’, which means that the polluter should bear the expenses of preventing and controlling pollution. Their responses are given in Figure 7.16 below.



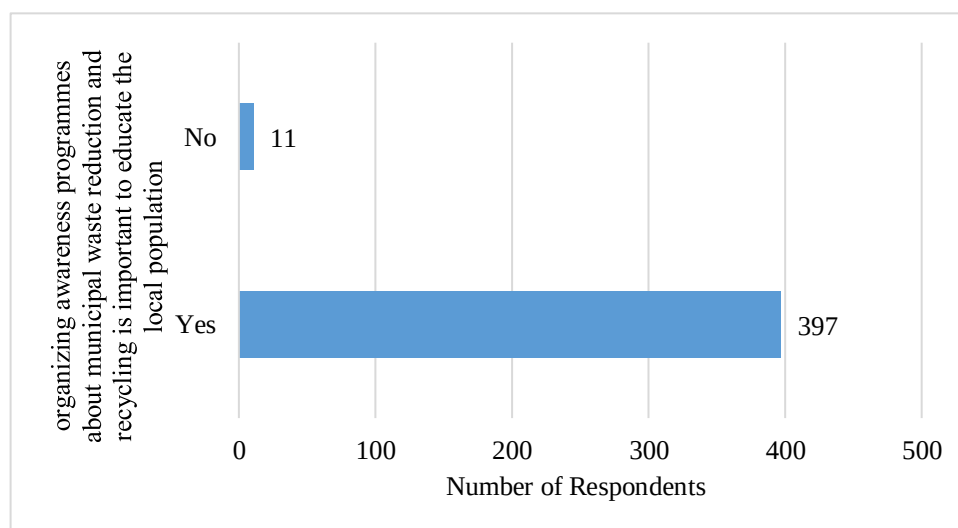
Source: Field Survey 2025

The data in Figure 7.16 shows whether respondents support the 'polluter pays principle,' which means that those responsible for environmental pollution should cover the costs of preventing or fixing the damage they cause, rather than society as a whole. A large majority of respondents believe in this principle, while only 12 do not.

7.3.3.d Importance of Awareness Programs on Waste Reduction and Recycling

The respondents were also asked their opinion on the importance of awareness programs on waste reduction and recycling. Their responses are given in Figure 7.17 below.

Figure 7.17: Importance of Awareness Programs on Waste Reduction and Recycling



Source: Field Survey 2025

Figure 7.17 shows that a large majority of respondents strongly believe that organizing awareness programs on municipal waste reduction and recycling is crucial for educating the local population. In contrast, only 11 respondents do not consider it important.

7.3.4. Improper Waste Disposal and Reporting

The respondents were also asked if they witness improper waste disposal and whether they are likely to report to the authorities. The following questions were asked.

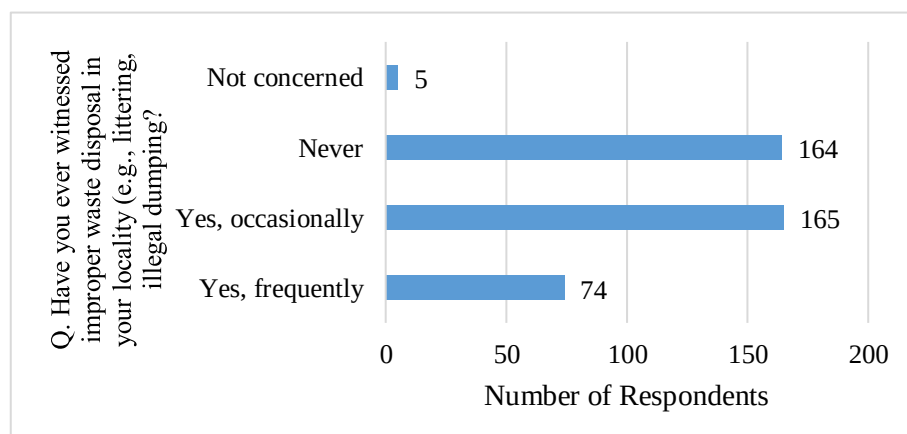
- a) Whether they have ever witnessed instances of improper waste disposal in their locality, such as littering or illegal dumping.

- b) Whether they would be willing to report cases of improper waste disposal to the authorities if they witnessed such incidents.

7.3.4. a. Observation of Improper Waste Disposal

The respondents were asked if they ever witnessed improper waste disposal in their locality, including littering, and illegal dumping. The responses are given in Figure 7.18 below.

Figure 7.18: Observation of Improper Waste Disposal



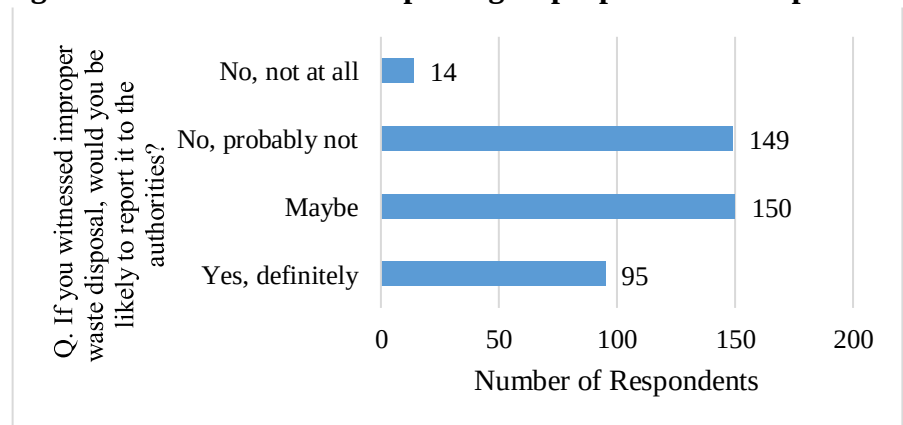
Source: Field Survey 2025

According to the data in Figure 7.18, a large number of respondents (165) have occasionally seen improper waste disposal, including littering and illegal dumping, in their areas. Meanwhile, 74 respondents have observed littering on a regular basis, while 164 respondents have never witnessed such practices. Additionally, 5 respondents indicated that they are not concerned about improper waste disposal.

7.3.4. b Likelihood of Reporting Improper Waste Disposal

The respondents were also asked if they are likely to report improper waste disposal. Their responses are given in Figure 7.19 below.

Figure 7.19: Likelihood of Reporting Improper Waste Disposal



Source: Field Survey 2025

Figure 7.19 reveals that many respondents hesitate to report improper waste disposal, mainly because they lack awareness or fear possible consequences. Only 95 said they would definitely report such incidents, while 149 said they probably wouldn't, and 150 were unsure. A small group of 14 said they would not report at all. This highlights a need for better public awareness and easier, more reassuring ways to report waste issues.

7.3.5 Service Provider Practices and Concerns

The respondents were also asked about their awareness of how their service provider/garbage collector disposes of their household waste and how concerned they are. The following questions were raised for this purpose.

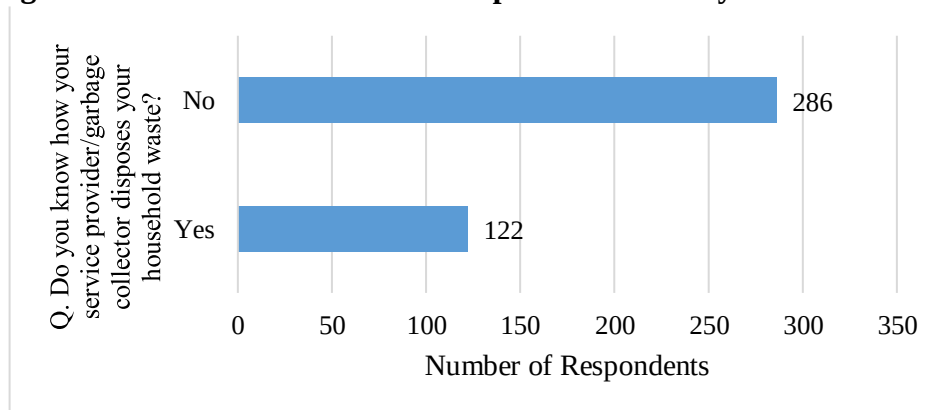
- a) Whether they are aware of how their service provider or garbage collector disposes of their household waste.
- b) Whether they are concerned about the methods used by their service provider for disposing of household waste.

- c) Impression on the neatness of the waste collection crew and their wearing of protective clothes during garbage collection.

7.3.5. a Awareness of Waste Disposal Methods by Service Provider

The awareness level of the respondents regarding how their service provider/garbage collector disposes of their household wastes was asked, and the responses is given in Figure 7.20 as follows.

Figure 7.20: Awareness of Waste Disposal Methods by Service Provider



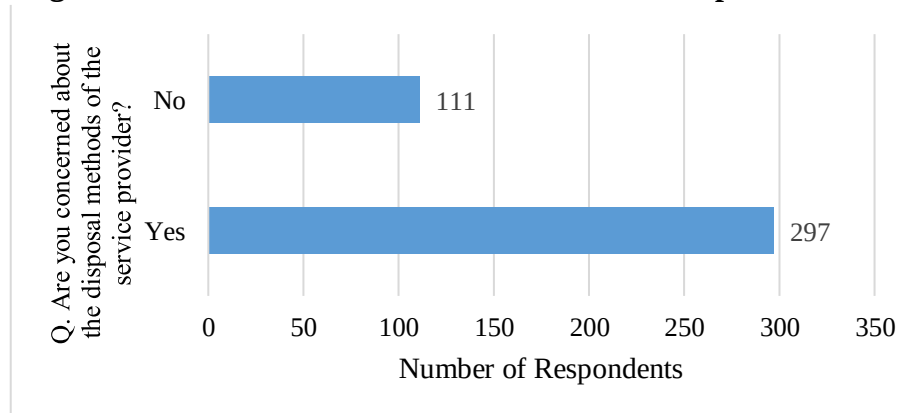
Source: Field Survey 2025

Figure 7.20 reveals that most respondents are unaware of the methods used by service providers or garbage collectors to dispose of household waste after collection, while 122 respondents are aware. This highlights low transparency in waste disposal practices within the AMC area.

7.3.5.b Concern About Service Provider's Disposal Methods

The respondents were asked whether or not they are concerned about the disposal methods of the service provider. The responses are given below.

Figure 7.21: Concern About Service Provider's Disposal Methods



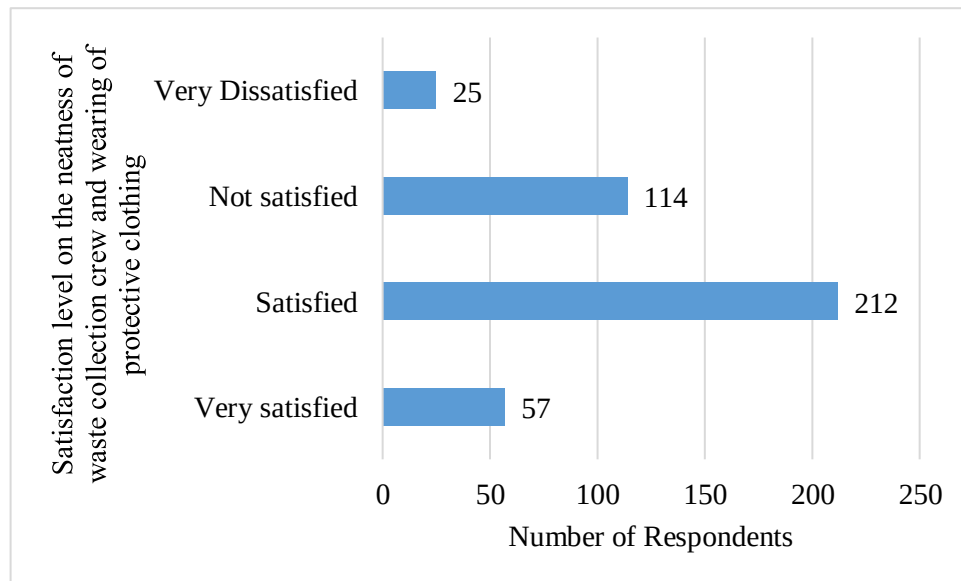
Source: Field Survey 2025

Figure 7.21 shows that the majority of respondents are quite concerned about whether service providers use environmentally responsible disposal methods. However, 111 respondents expressed no concern at all. Overall, the data reflect a notable level of environmental awareness in the AMC area.

7.3.5.c Impression on the Neatness of Waste Collection Crew and Wearing of Protective Clothing

The respondents were also asked if they are impressed by the neatness of waste collection crew and their wearing of protective clothing during garbage collection and their responses are given in Figure 7.22 below.

Figure 7.22: Impression on the Neatness of Waste Collection Crew and Wearing of Protective Clothing



Source: Field Survey 2025

As shown in Figure 7.22, a majority of the respondents are satisfied with the level of neatness of the waste collection crew and their wearing of protective clothing. On the other hand, there are a large number of respondents who are not satisfied with the same and there are a few respondents who are very satisfied and those who are very dissatisfied.

7.4 EMPIRICAL ASSESSMENT OF SERVICE QUALITY USING CUSTOMER PERCEPTION

An empirical analysis to assess service quality as perceived by customers is also conducted. The analysis follows categorisation of modelling service quality based on the five dimensions used in SERVPERF model. However, the present analysis involves one variable for each dimension. For this reason, Cronbach Alpha cannot be estimated, and Factor analysis cannot be conducted. However, descriptive analysis involving frequency in different dimensions and one-way ANOVA is conducted to see

the differences in the means of different dimensions. The different variables for Tangibles, Reliability, Responsiveness, Assurance and Empathy are listed as follows.

- a) **Tangibles** (Physical facilities, equipment, and appearance of personnel):
Convenience of garbage collection point
- b) **Reliability** (Ability to perform the promised service dependably and accurately):
Satisfaction with current waste management system
- c) **Responsiveness** (Willingness to help customers and provide prompt service):
Satisfaction with the attitude of drivers and helpers
- d) **Assurance** (Knowledge and courtesy of employees and their ability to inspire trust and confidence): Satisfaction with segregation of solid waste
- e) **Empathy** (Caring, individualized attention provided to customers): Opinion on service charges paid by residents

Each of these dimensions is ranked in a Likert scale of four categories as: 1=Very Bad/Very Dissatisfied, 2=Bad/Not Satisfied, 3=Good/Satisfied and 4=Excellent/Very Satisfied. Moreover, three socioeconomic variables, such as, Ward No., Occupation and Nature of Accommodation were also categorised for analysis of one-way ANOVA.

7.4.1 Frequency Table for Service Quality Assessed Through Customer Perception:

The results of customer perception for different customer perception dimensions, including tangibles, reliability, responsiveness, assurance and empathy, are given as follows.

a) Tangibles

The frequency table for Tangibles represented by ‘convenience of garbage collection point’ is given in table 7.4 as follows.

Table 7.4: Tangibles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Bad	7	1.7	1.7	1.7
	Bad	13	3.2	3.2	4.9
	Good	151	37.0	37.0	41.9
	Excellent	237	58.1	58.1	100.0
	Total	408	100.0	100.0	

Source: Own Calculation based on Field Survey 2025

Tangibles, as represented by convenience of garbage collection point were rated by respondents, with 58.1% considering them ‘Excellent’ and 37.0% rating them ‘Good.’ Only 4.9% viewed them negatively ("Bad" or "Very Bad"). Overall, the results suggest that most respondents were highly satisfied with the tangible aspects of the service/product.

b) Reliability

The frequency table for Reliability, represented by ‘satisfaction with current waste management system, is given in Table 7.5 as follows.

Table 7.5: Reliability

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Very Dissatisfied	3	.7	.7	.7
	Not Satisfied	40	9.8	9.8	10.5
	Satisfied	304	74.5	74.5	85.0
	Very Satisfied	61	15.0	15.0	100.0
	Total	408	100.0	100.0	

Source: Own Calculation based on Field Survey 2025

Reliability was rated by respondents, with 74.5% reporting they were ‘Satisfied’ and 15.0% indicating they were ‘Very Satisfied.’ Only 10.5% expressed dissatisfaction (‘Not Satisfied’ or ‘Very Dissatisfied’). This indicates that most respondents view the reliability of the service/product favorably, with very few dissatisfied customers.

- c) **Responsiveness:** The frequency table for Responsiveness, represented by ‘Satisfaction with the attitude of drivers and helpers’, is given in Table 7.6 as follows.

Table 7.6: Responsiveness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	25	6.1	6.1	6.1

Not Satisfied	114	27.9	27.9	34.0
Satisfied	212	52.0	52.0	86.0
Very Satisfied	57	14	14	100.0
Total	408	100.0	100.0	

Source: Own Calculation based on Field Survey 2025

Responsiveness was rated by respondents, with 52.0% indicating they were ‘Satisfied’ and 14.0% reporting they were ‘Very Satisfied.’ A smaller portion, 34.0%, expressed dissatisfaction (‘Not Satisfied’ or ‘Very Dissatisfied’). Overall, the data shows that most respondents found the responsiveness of the service/product satisfactory, with relatively fewer negative evaluations.

- d) Assurance:** The frequency table for Assurance, represented by ‘Satisfaction with segregation of solid waste’, is given in Table 7.7 as follows.

Table 7.7: Assurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Dissatisfied	6	1.5	1.5	1.5

Not Satisfied	51	12.5	12.5	14
Satisfied	287	70.3	70.3	84.3
Very Satisfied	64	15.7	15.7	100.0
Total	408	100.0	100.0	

Source: Own Calculation based on Field Survey 2025

Assurance was rated by respondents, with 70.3% indicating they were ‘Satisfied’ and 15.7% reporting they were ‘Very Satisfied.’ A smaller portion, 14.0%, expressed dissatisfaction (‘Not Satisfied’ or ‘Very Dissatisfied’). Overall, the data shows that most respondents considered the assurance aspect satisfactory, with relatively few negative evaluations.

- e) Empathy:** The frequency table for Empathy, represented by ‘Opinion on service charges paid by residents’, is given in Table 7.8 as follows.

Table 7.8: Empathy

Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Very Dissatisfied	4	1.0	1.0	1.0
	Not Satisfied	25	6.1	6.1	7.1
	Satisfied	253	62.0	62.0	69.1
	Very Satisfied	126	30.9	30.9	100.0
	Total	408	100.0	100.0	

Source: Own Calculation based on Field Survey 2025

Empathy was rated by respondents, with 62.0% reporting they were ‘Satisfied’ and 30.9% indicating they were ‘Very Satisfied.’ Only 7.1% expressed dissatisfaction (‘Very Dissatisfied’ or ‘Not Satisfied’). Overall, the data shows that most respondents perceived the empathy of the service/product positively, with a small fraction showing dissatisfaction.

7.4.2. Results of One-Way ANOVA

A one-way ANOVA was used to see whether there were differences in the means of these dimensions or not. The ANOVA determines whether mean scores differed significantly across groups. Homogeneity of variances was tested using Levene’s test, and Tukey HSD and Games-Howell post hoc tests were conducted where appropriate to identify pairwise group differences. As previously stated, due to single-item measures per dimension, internal consistency reliability could not be calculated.

The analysis aims to explore how these perceptions vary across demographic and socio-economic groups: Ward Number, Family Occupation, and Residence Status.

By examining these group differences, the study seeks to identify areas of strength and potential improvement in waste management services.

The model used a single-item measure for each dimension on a four-point Likert scale (1 = Very Dissatisfied, 4 = Very Satisfied). As previously stated, while SERVPERF traditionally uses multiple items per dimension, in this analysis, each dimension is represented by a single survey item due to data availability. The demographic variables included are: Ward Number (1–19, treated as categorical), Family Occupation (7 categories), and Residence Status (3 categories).

a) Analysis by Ward Number

The one-way ANOVA results of the five dimensions analysed by ward number are given in Table 7.9 as follows.

Table 7.9 : Summary of One-Way ANOVA Analysis by Ward Number

Dimension	N	Mean	Std. Dev.	Std. Error	F-value / Welch Statistic	pvalue	Post Hoc Results
Tangibles	408	3.51	0.646	0.032	1.351	0.153	-

Reliability	408	3.04	0.526	0.026	2.180	0.007	No significant pairwise differences
Responsiveness	408	2.74	0.773	0.038	2.930	0.000	Significant pairwise differences
Assurance	408	3.00	0.584	0.029	1.428	0.115	-
Empathy	408	3.23	0.599	0.030	1.775	0.036	Significant pairwise differences

Source: Own Calculation based on Field Survey 2025

For Tangibles and Assurance, as Levene's test indicated equal variances ($p > 0.05$), the standard ANOVA results were reported. But for Reliability, Responsiveness and Empathy, Levene's test was significant ($p < 0.05$), so the Welch's ANOVA was reported in the above table.

The ANOVA results reveal that Reliability ($p = 0.007$), Responsiveness ($p = 0.000$) and Empathy ($p = 0.036$) dimensions show statistically significant differences across Ward Numbers, indicating that perceptions of these service dimensions vary significantly between wards.

For Reliability, Responsiveness and Empathy, whose overall ANOVA was significant, Games-Howell post hoc analysis was employed as the p-value of Levene's test (test of homogeneity of variance) for these were less than 0.05. Despite the low p-value of ANOVA for Reliability, no specific pair shows a significant difference after accounting for unequal variances. The post hoc analysis also reveals that the response on Responsiveness shows significant differences between ward 2 and 19, ward 11 and ward 19, ward 17 and ward 19. For Empathy, there was a significant difference between ward 14 and ward 15, while other pairwise comparisons were not significant.

Tangibles and Assurance dimensions do not show statistically significant differences across wards ($p > 0.05$), suggesting perceptions are uniform for these dimensions.

b) Analysis by Family Occupation:

The One-Way ANOVA results of the five dimensions analysed by family occupation are given in Table 7.10 as follows

Table 7.10: Summary of One-Way ANOVA Analysis by Family Occupation

Dimension	N	Mean	Std. Dev.	Std. Error	Welch's Statistics	pvalue	Post Hoc Results
Tangibles	408	3.51	0.646	0.032	0.469	0.829	-
Reliability	408	3.04	0.526	0.026	1.731	0.129	-
Responsiveness	408	3.00	0.584	0.029	3.074	0.011	No significant pairwise differences
Assurance	408	3.00	0.447	0.022	1.467	0.204	-
Empathy	408	3.23	0.599	0.030	1.370	0.241	-

Source: Own Calculation based on Field Survey 2025

Because Levene's test of homogeneity of variances was significant for all five dimensions ($p < 0.05$), indicating unequal variances, the robust Welch's ANOVA test was used instead of the standard ANOVA.

The ANOVA result reveals that only the Responsiveness ($p = 0.011$) dimension shows a statistically significant difference across Family Occupation groups. This suggests that perceptions of responsiveness vary significantly depending on occupation.

Games-Howell post hoc test was used to detect pairwise significance in Responsiveness. The result shows that despite the overall significance of ANOVA, after accounting for unequal variances and multiple comparisons, no single pair of family occupation differed strongly enough to remain significant.

Tangibles, Reliability, Assurance and Empathy dimensions show no significant variation ($p > 0.05$), indicating uniform perceptions across different occupations.

c) Analysis by Residence Status:

The One-Way ANOVA results of the five dimensions analysed by residence status is given in Table 7.11 as follows

Table 7.11: Summary of One-Way ANOVA Analysis by Residence Status

Dimension	N	Mean	Std. Dev.	Std. Error	F-value / Welch's statistic	pvalue	Post Hoc Results
Tangibles	408	3.52	0.646	0.032	0.342	0.710	-
Reliability	408	3.04	0.526	0.026	0.903	0.406	-
Responsiveness	408	3.00	0.585	0.029	1.419	0.256	-
Assurance	408	3.13	0.448	0.022	0.463	0.630	-
Empathy	408	3.23	0.599	0.030	3.163	0.055	-

Source: Own Calculation based on Field Survey 2025

Levene's test was conducted on the dimensions and was found to be insignificant for Tangibles, Reliability and Assurance, ie, their p-values were greater than 0.05. As such the standard ANOVA results were reported for these three dimensions. But, the Levene's test for Responsiveness and Empathy was significant ($p < 0.05$) and the Welch's ANOVA was reported accordingly for these two dimensions.

The results were not statistically significant, indicating that the responses across Tangibles, Reliability, Responsiveness, Assurance and Empathy dimensions remain consistent across residence statuses ($p > 0.05$), indicating residents perceive these aspects similarly regardless of residence type (ANOVA result vs Post Hoc Result)

7.5 SUMMARY OF FINDINGS

The major findings are summarised and concluding observations are made as follows.

a) Survey Scope & Demographics: The study surveyed 83 localities within the Aizawl Municipal Corporation (AMC) area, covering 19 wards taking five households from each locality as samples with a total of 408 respondents. The majority of respondents were women (65.4%), primarily in the parental role, with a fairly balanced age distribution but fewer older adults. Most respondents identified as Christian, were relatively well-educated, and worked mainly in government service or business. The households surveyed reflected a range of family sizes, with a significant proportion falling into the middle-income category.

b) Waste Disposal Practices: In terms of waste disposal practices, most households relied on drop-off centres as their primary means of waste disposal, with smaller numbers using curb-side collection, composting, or other methods. Weekly solid waste generation was typically 1–2 bags, highlighting a moderate level of waste output in the city. Paper waste formed the largest share of household waste, followed by plastics and organic waste, reflecting consumption patterns in an urban setting. Most households stored waste in plastic bins or bags, while more eco-friendly storage options like metal bins were less common. Encouragingly, the majority of respondents reported sorting their waste in line with AMC's waste segregation guidelines.

c) Satisfaction with Municipal Services: The level of satisfaction with AMC's waste management services was generally positive. Respondents expressed satisfaction with services related to safe and hygienic storage of refuse, segregation of solid waste, and the attitude of drivers and helpers. Some dissatisfaction was noted, particularly around the convenience of garbage collection points and the perceived fairness of service charges, though these concerns were relatively minor compared to the overall satisfaction levels. Notably, the system for waste collection garbage trucks

collecting waste from selected points was generally well-received, though a small fraction rated it poorly.

d) Environmental Awareness: The study also revealed a high level of environmental awareness among respondents. Most respondents expressed significant concern about the environmental impact of solid waste. However, public awareness of waste management was seen as only “somewhat adequate,” suggesting room for improvement. There was strong support for the “polluter pays” principle, with most respondents agreeing that those responsible for pollution should bear the costs of managing its impact. A large majority also endorsed the importance of awareness programs on municipal waste reduction and recycling.

e) Improper Waste Disposal & Reporting: Improper waste disposal practices, such as littering and illegal dumping, were observed by a significant portion of respondents. Despite this, relatively few respondents indicated they would definitely report such incidents to authorities; many expressed hesitancy or uncertainty, likely due to a lack of awareness or fear of potential consequences. This finding highlights the need for better education and mechanisms that make reporting easier and more reassuring for the public.

f) Service Provider Practices: Regarding the waste disposal practices of service providers, most respondents were unaware of how waste was ultimately disposed of after collection. Despite this, many expressed concerns about whether service providers were using environmentally responsible methods. This points to a lack of transparency and the need for better communication between AMC and citizens.

g) Empirical Assessment of Customer Perception: An empirical assessment of service quality using the SERVPERF dimensions showed high levels of satisfaction across all five service dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. A one-way ANOVA revealed that perceptions of Responsiveness and Empathy differed significantly across different wards. Moreover, all five dimensions did not show significant differences across occupation and family residential status, indicating uniform perceptions in these areas.

7.6 CONCLUSION

The study highlights that while most Aizawl residents are satisfied with AMC's waste management services and show strong environmental awareness, gaps remain in public awareness, household reporting, and understanding of service provider practices. Key areas needing improvement include promoting eco-friendly waste storage solutions, fostering a culture of reporting, enhancing transparency in waste disposal methods, and targeted awareness campaigns, especially in wards where service perceptions differ.

CHAPTER - VIII

FINDINGS, RECOMMENDATIONS AND CONCLUSION

8.1: FINDINGS

1) Findings on Tax and Non-tax Revenue, Capital and Revenue Expenditure

- Property tax was introduced in 2015-16 with collections of Rs. 114.18 lakh. This collection grows steadily over the following years to Rs. 344.06 lakh in 2019-20 and Rs. 322.09 lakh in 2021-22. Although the annual increase is around 28 per cent per annum, the actual collection is still far below the projected potential. This shows the under-realisation of this critical tax base.
- The own revenue, comprising both tax and non tax revenue remained a small portion of AMC finances over the years. Before 2015, they rarely exceeded 4 per cent of receipts. Even after the introduction of property tax, the average share stood at only 9.3 per cent across 2010-11 to 2021-22, reaching its peak at 21.3 percent in 2016-17. This shows that the AMC is also facing the common issue of low own revenue generation also found in other forms of local governments across the country.
- The narrow base and volatility of AMC's own revenue underscore the urgent need for reforms. Measures such as GIS-based property mapping, stricter enforcement, rationalisation of user charges, and expansion of service fees are essential if AMC is to improve its fiscal autonomy and reduce dependence on uncertain intergovernmental transfers.
- Revenue expenditure, which covers salaries, maintenance, and operational costs, grew from Rs. 181.91 lakh in 2010-11 to Rs.2,990.40 lakh in 2021–22, recording a very high CAGR of 24.6 per cent. This suggests a steadily rising cost of administration and service delivery, reflecting both inflationary pressures and expanded municipal responsibilities.
- Capital spending, which funds infrastructure such as roads, drainage, and solid waste management, rose from Rs. 211.85 lakh in 2010-11 to Rs. 3922.52 lakh in 2021-22, with a CAGR of 19.5 per cent. The faster growth in revenue expenditure compared to capital spending indicates that operational costs are increasing more sharply than long-term investment.

- Total expenditure increased more than 17 times, from Rs. 393.76 lakh in 2010-11 to Rs. 6912.92 lakh in 2021-22. The CAGR of 21.5 per cent reflects a robust expansion in AMC's budget size, but this growth may not have been evenly matched by growth in municipal revenue sources, indicating fiscal stress and rising dependence on transfers.
- Although the general trend is upward, there were fluctuations in the composition of expenditure. For instance, in 2016-17, capital spending fell to Rs. 977.18 lakh, even as revenue expenditure increased to Rs.1986.78 lakh. Similarly, in 2017-18, capital expenditure surged to Rs. 2440.55 lakh, overtaking revenue expenditure, showing uneven allocation priorities across years.
- While both categories grew over the years, revenue expenditure expanded at a faster pace than capital outlay. By 2021-22, revenue expenditure (Rs. 2990.40 lakh) was still below capital expenditure (Rs. 3922.52 lakh), but the long-term trend of faster growth in recurrent costs raises concerns about AMC's ability to maintain fiscal space for infrastructure investments in the future.

2) Findings on Trends of Fund Devolution to the AMC

- AMC heavily relied on transfers from the central government, particularly the Central Finance Commission, especially under the 14th Finance Commission. Grants rose from Rs. 932.05 lakh in 2010-11 to as high as Rs. 5904.5 lakh in 2020-21, which accounted for over two-thirds of total revenue receipts. This heavy reliance underscores the lack of strong internal revenue generation and the importance of the Central Finance Commission in urban local government finance in the country.
- The devolution from the state government through the state finance commission was irregular and unpredictable. Devolution of funds started in 2016-17 with the recommendation of the first state finance commission till 2019-20. However, the state devolution was at halt due to lack of timely formation of the second state

finance commission and its delayed recommendations. The state transfer was continued in the form of grants in aid from 2020-21.

- Grants from the State also lacked regularity. They ranged from as low as Rs. 161.50 lakh in 2010-11 to Rs. 1528.52 in 2021-22. These allocations, though significant at times, were neither predictable nor sufficient to offset declining tax devolution. This is found particularly in the years when the tax devolution from the state finance commission is paused. It leaves AMC exposed to fiscal stress whenever central and state support weakened.
- The projected transfer by the first Mizoram State Finance Commission to the AMC was larger than the actual transfer made. Moreover, the AMC receipts also fell short of expectations, either due to delays or non-implementation of the recommendations. This mismatch demonstrates a structural gap between policy intent and fiscal reality in the intergovernmental transfer mechanism in the state.
- AMC's total revenue receipts showed volatility linked to fund devolution patterns. The revenue receipts reached a peak of Rs. 7357.26 lakh in 2020-21 but declined to Rs. 3917.35 lakh in 2021-22 as central transfers declined sharply. This pattern highlights AMC's financial vulnerability to changes in transfers from higher tiers of government.
- Over the years, the own revenue of AMC rarely exceed 15 per cent of total receipts. This means AMC relied significantly on external transfers. The irregularity of state transfers in the form of devolution and grants in aid, combined with high dependence on central transfers, restricted AMCs fiscal autonomy. This makes it difficult to pursue an independent infrastructure project or service delivery strategies.

Conclusion for Hypothesis 1: The data on the finances of the AMC clearly demonstrate that its total revenue largely depends on Central and State Government transfer through devolution and grants-in-aid. Accordingly, the study's first hypothesis—that AMC's revenue positively relates to such transfers—is self-evident,

and requires no empirical testing, but serves as a conceptual anchor for examining the structure of AMC's finances.

3) Findings on Components of Own Revenues and Relationship between Occupations and Perceptions of Property Taxation

- Property tax remains the sole source of own tax revenue for the AMC. While the First Mizoram State Finance Commission projected annual collections of ₹900 lakh by 2019–20, actual receipts were only about one-third. This shortfall highlights weak enforcement, limited taxpayer coverage, and administrative inefficiencies within AMC's property tax system.
- Non-tax sources such as parking fees, building permission charges, licensing fees, and bank interest had shown a significant increase from Rs. 20.41 lakh in 2010-11 to as much as Rs. 571.29 lakh in 2018-19. This growth reflected AMC's ability to mobilise income from urban services with a remarkable Compounded Annual Growth Rate (CAGR) of about 34.8 per cent.
- Despite rapid growth as previously mentioned, the non tax revenues proved unstable. After reaching its high in 2018-19, they fell to Rs. 321.63 lakh by 2021-22, which shows the limits of user charges and fees as a dependable income stream. This volatility illuminates broader urban economic fluctuations and enforcement challenges in revenue collection.
- The survey engaged 406 participants drawn from different wards of the AMC. The sample showed a near balance of male and female respondents, with a slight tilt towards males. The most represented age bracket was 46-60 years, and Christianity was the predominant faith. Within households, fathers were most frequently identified as the key family representatives.
- Employment in government service was the primary occupation, accounting for just over half (50.7%) of those surveyed, followed by individuals engaged in

business and self-employment. This highlights the central role of public sector jobs in sustaining household earnings within AMC areas.

- In terms of household composition, families were typically small to medium in size, ranging between four and six members, though larger households also featured. The persistence of medium-to-large families reflects continued dependence on extended kinship ties. Dependency levels were notable: more than three-quarters of families (76.5%) had between two and four dependents, with the largest segment reporting three dependents (28.3%). A very small share (3.7%) had no dependents, while 16 per cent had five or more, pointing to considerable financial pressures arising from household dependency ratios.
- Property taxation under AMC is a relatively recent phenomenon, with most participants indicating that they began making payments around 2015-16. Taxes were imposed largely on residential and commercial buildings, while vacant land and special structures were taxed less frequently. The bulk of properties were residential in nature. Most annual payments fell within the Rs. 201-Rs. 5,000 range, suggesting a clustering in the lower tax brackets.
- Finally, regression analysis explored how occupation and tax burden shaped perceptions. Occupation was not a strong overall predictor, but it did influence uncertainty about the significance of paying property tax, particularly among government workers and business owners. While the absolute tax amount was not linked to overall views of the system, those paying higher sums were more likely to express concerns about recent increases. The models explained only a modest portion of variation, pointing to the influence of other, unmeasured factors in shaping taxpayer attitudes.

Conclusion for Hypothesis 2: Multinomial Logistic Regressions was performed on the types of occupation and the three dimensions of citizen's perception of property taxation, namely: i) Perceived importance or obligations to pay property tax, ii) Awareness and understanding of the property tax system and iii) Awareness of

Property Tax revision, to analyse the effect of the citizen's occupation on their perceptions of property tax. The findings provide limited support for 'Hypothesis 2'. In the model for 'perceived importance or obligation to pay property tax', Government employees and Business owners were significantly more likely to respond 'Do not Know' rather than 'Yes'. This suggest that occupation may shape uncertainty or ambiguity towards taxation obligations. However, in the models for 'awareness and understanding of the property tax system' and 'awareness of property tax revisions', occupations do not emerge a significant predictor. The likelihood ratio test for occupation was also insignificant in all the models. Therefore, H2 is accepted only for the dimensions 'perceived importance or obligations to pay property tax'.

4) Findings on Property Tax Payment and citizens' perceptions in Aizawl Municipal Corporation

- When asked about the basis of tax determination, over 85 per cent agreed, ranging from partial to strong agreement that assessments were tied to the value of property. This reflects broad trust in valuation-based taxation and its perceived fairness.
- On the question of current property tax rates, the majority expressed satisfaction, with 65 per cent approving and 53 per cent describing the rates as fair. Still, opinions on future revisions were divided. Roughly one-third felt the rates were high or very high, and around 9 per cent described them as "very high," indicating potential resistance to future hikes. Several also reported increased liabilities after reassessment, which generated concerns about transparency and tax burden.

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Payment preferences leaned heavily towards conventional methods. About 63 per cent relied on offline transactions, 30 per cent combined offline and online options, and only 7 per cent used fully digital platforms. This suggests limited uptake of online systems due to constraints like accessibility, awareness, and digital literacy, coupled with demand for simpler mechanisms.

- Attitudes toward compliance were generally positive. Most respondents regarded property tax as essential, many signalled readiness to adjust to future increases, and a substantial share supported penal interest on delayed payments. Nearly half (47%) strongly agreed, and 30 per cent somewhat agreed, that tax evasion undermines revenue collection—demonstrating widespread recognition of its negative consequences.
- Clear gaps in communication between citizens and the AMC also emerged. Many respondents reported that they were not consulted about reforms or revisions in tax rates. Publicity efforts were widely viewed as inadequate, with dissatisfaction dominating the responses. Neutral positions also suggested either uncertainty or limited exposure to AMC’s outreach efforts.
- Perceptions of the system’s simplicity were mixed. The largest segment of respondents maintained a neutral stance, with some describing it as moderately accessible. While awareness of penalties for late payment and interest charges was relatively high, knowledge of refunds, exemptions, or rebates under municipal regulations remained limited. Many respondents were also unaware of how revenue from property taxes is applied, even though they understood the basic rationale for tax collection.

Conclusion for Hypothesis 3: The analysis indicates that property tax payments significantly shape citizens’ perceptions of taxation, in the dimensions of ‘awareness of property tax revisions’. The finding shows that citizens within a lower tax bracket are significantly more likely to be unaware of property tax revisions compared to those in a higher tax bracket. And the LRT for the model is also statistically significant,

which indicates a strong explanatory power of ‘amount of property tax paid’ in the dimensions.

However, in the model for the other two dimensions, the amount of property tax paid did not show a significant effect. Thus, H3 is accepted only for the dimensions of ‘awareness of property tax paid’.

5) Findings on Solid Waste Management

- Aizawl was declared a Plastic-Free City on 2 October 2019, and in June 2022, the Mayor announced that AMC offices would be single-use plastic-free. However, strict enforcement has been limited, with the most visible action being the ban on plastic bags. Penalties increased from 14 shops in 2020 to 218 in 2022, while the amount of seized plastic rose from 132.12 kg to 831.38 kg by 2023. The cumulative total of 1,623.09 kg seized underscores AMC’s ongoing efforts toward sustainable waste management and reducing plastic dependency, aligning with broader environmental protection goals.
- The AMC also observed Cleanliness Week in the first week of October every year by organising mass cleaning, cleanliness competitions among local councils, schools, and government offices. These programs are all very useful for raising public awareness about solid waste management.
- The Municipal Solid Waste Management Facility, along with the Solid Waste Management Centre, is located at Tuirial, approximately 20 kilometres from Aizawl City. This facility is responsible for processing all municipal waste generated within the city. Its operations include waste collection, segregation, composting, and landfilling. Importantly, only rag pickers authorized by the AMC and provided with official identification cards are permitted to segregate solid waste and recover usable or salable materials. This system ensures regulated waste handling, contributing to more efficient and organized municipal waste management.

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As of 2024, the AMC has formal recycling agreements with three private firms: NEPRA Resource Pvt. Ltd., Rapidue Technology Pvt. Ltd., and the Indian Pollution Control Association (IPCA). Additionally, in 2022, AMC partnered with Waste Tech & Bio-Energy Pvt. Ltd. for the treatment of wet waste.

- Since 2024, AMC has also operated its own treatment facility, which processes wet waste and produces bio-fertilizers. To support cost recovery, approximately 20% of garbage collection expenses are met through user fees collected by each Local Council. Furthermore, Local Councils have been instructed to complete household waste collection before 8:30 a.m. and deliver it to the Solid Waste Management Centre before peak traffic hours (9:30–10:30 a.m.), a practice that has been effectively maintained.
- During 2024–25, the AMC achieved a notable milestone by reaching 95% doorto-door waste collection coverage. This achievement marks significant progress in strengthening urban service delivery, enhancing efficiency in solid waste management, and moving closer to the targets set under the Garbage-Free Cities framework, thereby improving both environmental sustainability and public health outcomes.
- The study surveyed 83 localities within the AMC area, covering 19 wards, taking five households from each locality as samples, with a total of 408 respondents. The majority of respondents were women (65.4%), primarily in the parental role, with a fairly balanced age distribution, but fewer respondents were older adults. Most respondents who identified as Christian were relatively well-educated and worked mainly in government service or business. The households surveyed reflected a range of family sizes, with a significant proportion falling into the middle-income category.
- In terms of waste disposal practices, most households relied on drop-off centres as their primary means of waste disposal, with smaller numbers using curb-side collection, composting, or other methods. Weekly solid waste generation was typically 1–2 bags, highlighting a moderate level of waste output in the city.

Paper waste accounted for the largest share of household waste, followed by plastics and organic waste, reflecting consumption patterns in urban settings. Most households stored waste in plastic bins or bags, while more eco-friendly storage options, such as metal bins, were less common. Encouragingly, the majority of respondents reported sorting their waste in line with AMC's waste segregation guidelines.

- The level of satisfaction with AMC's waste management services was generally positive. Respondents expressed satisfaction with services related to safe and hygienic storage of refuse, segregation of solid waste, and the attitude of drivers and helpers. Some dissatisfaction was noted, particularly around the convenience of garbage collection points and the perceived fairness of service charges, though these concerns were relatively minor compared to the overall satisfaction levels. Notably, the system for waste collection, garbage trucks collecting waste from selected points, was generally well-received, though a small fraction rated it poorly.
- The study also revealed a high level of environmental awareness among respondents. Most respondents expressed significant concern about the environmental impact of solid waste. However, public awareness of waste management was seen as only "somewhat adequate," suggesting room for improvement. There was strong support for the "polluter pays" principle, with most respondents agreeing that those responsible for pollution should bear the costs of managing its impact. A large majority also endorsed the importance of awareness programs on municipal waste reduction and recycling.
- Improper waste disposal practices, including littering and illegal dumping, were reported by a significant portion of respondents. Despite this, relatively few respondents indicated they would definitely report such incidents to authorities; many expressed hesitancy or uncertainty, likely due to a lack of awareness or fear of potential consequences. This finding highlights the need for better education and mechanisms that make reporting easier and more reassuring for the public.

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Regarding the waste disposal practices of service providers, most respondents were unaware of how waste was ultimately disposed of after it was collected. Despite this, many expressed concerns about whether service providers were using environmentally responsible methods. This highlights a lack of transparency and underscores the need for improved communication between AMC and its citizens.

- An empirical assessment of service quality, using the SERVPERF dimensions, revealed high levels of satisfaction across all five service dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. A one-way ANOVA revealed that perceptions of Reliability and Empathy differed significantly across different wards, while Empathy also showed significant variation across family occupations and residence status. In contrast, Tangibles, Responsiveness, and Assurance did not show significant differences across these socio-demographic categories, indicating relatively uniform perceptions in these areas.

Conclusion for Hypothesis 4: A one-way ANOVA revealed that perceptions of Responsiveness and Empathy differed significantly across different wards. In contrast, the five dimensions did not show significant differences on occupation and residential status. Thus, H4 is accepted only for two dimensions- Responsiveness and Empathy for one of the demographic and socio-economic groups (Ward number).

8.2: RECOMMENDATIONS

Empirical Based Recommendations

- To strengthen municipal financing in Mizoram, the state government must ensure that the urban local bodies receive adequate revenue from all eligible local sources. It is equally important that the State strengthens the role of the State Finance Commissions (SFCs) by ensuring their timely constitution, adequate administrative support, and systematic follow-up of their recommendations.

Regular and transparent devolution of taxes and finances based on SFC reports will empower municipal bodies like AMC to enhance fiscal autonomy, improve service delivery, and achieve sustainable urban governance.

- AMC must also strengthen its revenue base to keep up with expenditure growth. The property tax system should be broadened, and compliance must be improved through better assessment and collection. Non-tax sources such as user charges and licensing fees should be expanded. Stronger revenue mobilisation will reduce dependence on transfers from higher levels of government and give AMC greater financial autonomy.
- AMC may adopt stricter financial management practices to contain the rapid rise in revenue expenditure. The use of e-governance tools such as digital payroll monitoring, automated billing, and transparent procurement systems can reduce leakages. Staffing structures need to be streamlined, while routine maintenance costs should be carefully managed. These measures will help AMC keep recurrent spending under control and create fiscal space for development-oriented investments.
- Spending patterns also need to be stabilised. A medium-term expenditure framework should be introduced to guide allocations over a period of several years. Annual ceilings for both revenue and capital spending will create predictability in municipal finances. Such fiscal discipline will ensure that operational costs do not overshadow infrastructure priorities, resulting in more consistent service delivery.
- It is suggested that the AMC rationalize administrative and establishment expenditure, which currently consumes a disproportionately high share of resources. By prioritizing essential services and infrastructure development, AMC can improve fiscal efficiency, ensure better allocation of funds, and

strengthen its capacity to deliver sustainable urban services and meet long-term development goals.

- **Adoption of Digital Platforms:** Expanding the use of digital platforms for property tax payments is essential to modernize tax administration. Online portals and mobile applications would simplify payment procedures, reduce administrative bottlenecks, and provide taxpayers with convenient and transparent options for fulfilling their obligations. This step would also minimise errors, delays, and opportunities for malpractice.
- **Public Consultation and Awareness:** Strengthening public consultation mechanisms is crucial for building trust in the property tax system. Awareness campaigns, citizen feedback programs, and participatory decision-making processes can improve taxpayer confidence, increase compliance, and ensure greater acceptance of future reforms. Transparent communication regarding tax policies and revenue utilisation further enhances accountability.
- Strengthening transparency, ensuring timely collection, and enhancing compliance are crucial for improving revenue sustainability and municipal capacity.
- AMC may expand enforcement of the Plastic-Free City initiative beyond plastic bags, introduce graded penalties, and incentivise biodegradable or cloth-based alternatives. Cleanliness Week should be extended into year-round awareness programmes to sustain behavioural change.
- Door-to-door collection coverage may be expanded to 100 per cent and backed with improved logistics such as GPS-enabled vehicles, optimised routes, and workforce expansion. AMC should also adopt real-time monitoring and citizen feedback systems to sustain efficiency under the Garbage-Free Cities goals.
- Strict enforcement of waste segregation at the household level into biodegradable, recyclable, and non-recyclable categories is essential.

- Community engagement remains critical for sustainable waste management. Regular awareness campaigns, the involvement of residents, and incentives for community-led initiatives should be institutionalised. The adoption of digital tools and mobile applications can also improve citizen reporting and responsiveness to waste-related concerns.

General Recommendations

- Regular training of municipal staff, adoption of e-governance, and strengthening inter-departmental coordination are essential for improving administrative efficiency and ensuring effective service delivery.
- To strengthen revenue mobilisation, AMC should broaden the property tax base, revise assessment procedures, and ensure equitable valuations. Diversification of revenue through user charges, fees, and arrear recovery is essential. Enhanced fiscal autonomy can be achieved by timely state and central grants, coupled with stronger internal resource generation.
- In order to diversify revenue sources, AMC should explore innovative financing instruments such as municipal bonds and Public-Private Partnerships (PPPs). These mechanisms can mobilize additional funds for infrastructure projects, bring in private sector expertise, and support long-term urban development in a financially sustainable manner.
- Enhancement of State Government and Finance Commission transfers is crucial for AMC's fiscal strengthening by ensuring equitable devolution, institutional support, and capacity building, thereby advancing municipal autonomy, financial resilience, and sustainable urban service delivery.
- Strengthening transparency and accountability is fundamental to improving municipal financial governance. The adoption of transparent financial management practices, such as the introduction of digital payment systems, routine

financial disclosures, and regular audits, can significantly enhance public trust in local government institutions. Moreover, prioritizing clear and accessible communication on the utilization of tax revenues is essential to fostering confidence among taxpayers.

- **Green Municipal Bonds for Sustainable Financing:** Green bonds, first adopted in the United States in 2014 and later by European municipalities, were introduced in India in 2021 when Ghaziabad Nagar Nigam raised Rs 150 crore for a tertiary water treatment plant (SEBI, 2021). For the Aizawl Municipal Corporation (AMC), issuing green municipal bonds could provide an innovative means of financing climate-resilient infrastructure. Potential applications include solid waste management, solar-powered street lighting, water recycling, and green mobility, several of which AMC is already pursuing.
- **Implementing a Geographic Information System (GIS)-enabled property tax framework in AMC** would significantly improve assessment accuracy and efficiency. Digital mapping ensures comprehensive property coverage, reduces duplication, and supports fair valuation based on size, type, and location. Incorporating satellite imagery and geocoded data enhances spatial precision, streamlines record management, expands the tax base, promotes transparency, and fosters taxpayer confidence for sustainable revenue generation.
- A larger share of resources may be directed towards capital investment. Roads, drainage systems, and waste management facilities require expansion and upgrading to meet the growing city's demands. Prioritising these investments will strengthen long-term infrastructure and improve the quality of life for residents. A stronger focus on capital projects will also balance the rising costs of day-today operations.
- The Solid Waste Management Facility at Tuirial may scale up capacity, adopt advanced technologies like bio-methanation and composting, and provide stronger institutional support for rag pickers through training, safety gear, and inclusion measures.

- Recycling partnerships with private firms may be strengthened through clear contracts, regular performance monitoring, and expanded collaboration. AMC's biofertilizer facility should develop distribution channels, while user fee collection should be standardised and digitised for better cost recovery.
- Investments in composting plants, bio-methanation units, and material recovery facilities are vital for converting organic waste into usable resources such as compost and energy. While such initiatives have already been introduced in AMC, further expansion and improvement are required.
- AMC could leverage PPPs to establish modern waste processing plants, waste-to-energy projects, and advanced recycling facilities. Such collaborations would ease financial pressures on AMC while bringing in private expertise and innovation.
- The efficiency of waste collection in AMC can be enhanced through the deployment of covered vehicles, GPS-enabled route monitoring, and IoT-based tracking of collection operations. Introducing structured door-to-door collection schedules would further minimize spillage, strengthen accountability, and improve operational efficiency. Collectively, these measures modernize AMC's solid waste management system while ensuring greater sustainability and resilience in urban service delivery.

8.3: CONCLUSION

This research examines the institutional framework, financial structure, and service delivery execution of the Aizawl Municipal Corporation, which functions as the only municipal corporation in Mizoram for long time. The findings provide valuable insights for policymakers seeking to strengthen urban governance and fiscal management. As Aizawl experiences rapid urban expansion, it has established itself as the state's principal commercial and administrative centre, playing a critical role in the state's economy. Such growth has generated increasing demands for public services and infrastructure to address population pressure and expanding economic activity. To promote sustainable urban development and improve service delivery, these findings

and recommendations provide a comprehensive framework for strengthening municipal finances and addressing the AMC's long-term developmental challenges. Future research may assess how fluctuations in Central and State transfers affect AMC's revenue stability, expenditure patterns, and service delivery. Integrating GIS-based property mapping, tax microdata, and field experiments could reveal compliance drivers, while evaluating solid waste policies and PPP models would enhance understanding of cost-efficiency and system performance.

APPENDICES

Appendix-1



Aizawl Municipal Corporation Office Building, Thuampui, Aizawl

Appendix-2



A garbage truck and a temporary makeshift solid waste site near the Solid Waste Management Centre (SWMC) at Tuirial.

Appendix-3



Entrance of Solid Waste Management Centre (SWMC) at Tuirial

Appendix-4



Bio-Medical Waste Truck

Appendix-5



Wet Garbage Truck Collecting Households' Waste

Appendix-6



***Dry/Recyclable Waste Collection Truck
 Near Tuirial Solid Waste Management Centre, Aizawl***

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- Published Article titled “The Revenue Sources of Aizawl Municipal Corporation: Tax and Non-Tax in the EPRA International Journal of Economic and Business Review(JEBR) ISSN: 2347-9671 (O), 2349-0187(P) Impact Factor: 8.808(SJIF), ISI:1.433. Volume 12, Issue 4, April, 2024
- Published Article titled “Decomposing Revenue Sources of Municipalities” in the EPRA International Journal of Multidisciplinary Research (IJMR). ISSN: 2455-

3662 (Online), Impact Factor: (SJIF)8.402(ISI)1.188. Volume 10, Issue 3, March 2024

- Published article, titled “A Review on the Issues of Vertical and Horizontal Fiscal Imbalances in India” in the International Journal of Social Science and Economic Research, ISSN: 2455-8834.

Presentations:

- Presented a Paper titled “Financing Sustainable Urban Development with Special Reference Aizawl” in the One Day National Symposium on SDGs: G-20 and Mizoram organized by Department of Economics, PUC and Akashvani, Aizawl on 6th September, 2023.
- Presented paper entitled “Socio-Economic Condition and Livelihood Pattern of Six Villages of Sialkal Range Development Council” in the International Seminar on Managing Sustainable Development with Special Emphasis on Rural Economies, organized by School of Economics, Management and Information Science, PUC
- Resource person in the Two-Day Workshop on Capacity Building Training of Street vendors under support to SUSV, DAY-NULM organized by Aizawl Municipal Corporation on 13th & 14th September, 2022

Trainings/Workshop

attended:

- Attended 7 Day National Level Online Faculty Development Program on Outcome Based Education (OBE) organised by Nirmala College, Muvattupuzha in association with The Kerala State Higher Education Council from 10 May to 17 May 2023
- Attended Eight Days Training programme on NEP Orientation and Sensitization Programme during 10-21 November, 2023
- Attended the ‘National Level Research Methodology Workshop 2024’ held on 17th - 18th January, 2024 at Pachhunga University College, Aizawl, Mizoram.
- Attended One Week National Level Online Faculty Development Program on Outcome Based Education and Application of Generative AI in Teaching and Research, organised jointly by The University of Engineering & Management Jaipur, Rajasthan and Nirmala College, Muvattupuzha (Autonomous), Kerala in association with ipsr solutions limited from 19-28 September 2024.

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ABSTRACT

MUNICIPAL FINANCES AND SERVICE DELIVERY IN
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AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DEPARTMENT OF ECONOMICS
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NOVEMBER 2025

MUNICIPAL FINANCES AND SERVICE DELIVERY IN MIZORAM

BY LALTHLAMUANA RALTE Department of Economics

SUPERVISOR PROF. LALHRIATPUII

Submitted in partial fulfillment of the requirement of the Degree of Doctor of
Philosophy in Economics of Mizoram University, Aizawl

INTRODUCTION

Aristotle's well-known statement, "Man is by nature a social animal," reflects the idea that human beings are inherently inclined to live in a polis, or community, rather than in isolation. Around 6,000 years ago, history records that early agricultural societies began to form along the riverbanks of the Tigris and Euphrates. These early settlements, which originated from basic communal living, gradually evolved into the first cities in human history. Over time, these emerging cities evolved into self-governing urban centres, or municipalities. The urban culture and ideology started around 3000 BC. After this, the ancient urban process stopped for almost 2000 years (Chen et al., 2007).

Cities emerged in Europe, the Middle East, and southern India as early as the second millennium B.C.E., if not earlier (Pounds, 2005). The origins of municipalities in Europe can be traced back to the Roman Empire, where organized urban centres first emerged. The 19th century is often regarded as the era of the 'rise of modern municipalities (Pirenne, 1925)'. India possesses a good legacy of municipal governance that dates back to ancient times. One of the most remarkable examples of early municipal administration can be traced to the Indus Valley Civilization (circa 2500 BCE – 1500 BCE). Archaeological findings demonstrate that the prominent cities, Harappa and Mohenjo-Daro, had well-laid-out street grids, sophisticated drainage systems, public baths, and water reservoirs, all indicating a high degree of urban planning and an organized administrative structure (Possehl, 2002; Kenoyer, 1998).

India's experience with modern municipal institutions dates back to the colonial period. As noted by Rao (1986), the British began introducing forms of urban governance even before they had fully established political control across the subcontinent. The evolution of municipal structures accelerated following the transfer of authority from the East India Company to the British Crown after the 1857 revolt. This transition marked a key phase in the development and expansion of municipal corporations throughout India, as emphasized by the World Bank

(2011b), which links the proliferation of such administrative frameworks directly to this political shift.

During the Colonial period (18th century–1947), India underwent significant transformation and restructuring of its municipal governance system. Both the East India Company and later the British Crown introduced Western-style municipal administration in major urban centres. These cities became not only commercial hubs but also colonial administrative centres. The earliest form of formal municipal governance began under British rule in the late 17th and early 18th centuries, with the establishment of municipal boards in Madras (1688), and later in Bombay and Calcutta. These municipalities were primarily managed and controlled by colonial officials, and their structures were designed to serve European settlements (Chandhoke,1990).

During the initial post-independence years, municipal bodies continued to function; however, they faced severe financial constraints, possessed limited fiscal powers, and were dominated by the bureaucracy, with weak political accountability (Mathew, 1994). These challenges were further exacerbated by rapid urbanisation and a sharp increase in urban populations, leading to rising demands for housing, infrastructure, and essential services in cities. Consequently, there emerged a pressing need to reform and modernise municipal governance structures to make them more responsive and effective. By the 1980s and early 1990s, the situation became more critical as urban areas faced severe service delivery deficiencies, unplanned growth, and deteriorating infrastructure. The limitations of existing municipal governance structures became increasingly apparent, necessitating strong demands for urban reforms.

A significant turning point in India's urban governance came with the enactment of the 74th Constitutional Amendment Act in 1992. This amendment granted constitutional status to urban local bodies (ULBs), thereby strengthening the institutional framework of municipal governance. Specifically, the 74th Amendment introduced provisions for Urban Local Bodies (ULBs), marking a significant step toward decentralized urban governance.

REVIEW OF LITERATURE

Urban local governments contribute substantially to India's economic output, accounting for nearly 60 per cent of the country's Gross Domestic Product (GDP) (Baxi, 2019). The governance framework for municipalities was institutionalised through the 74th Constitutional Amendment Act of 1992, which aimed to establish Urban Local Bodies (ULBs) as autonomous institutions of self-governance (Rao et al., 2017). As constitutionally recognised entities, ULBs form an integral part of the state's fiscal architecture, responsible for planning and implementing programmes related to economic growth, social justice, and welfare. The Twelfth Schedule of the Constitution assigns 18 distinct functional responsibilities to these bodies. To fulfil these functions, ULBs are empowered to mobilise resources and enhance revenue generation (Gurjar, 2009).

India's pace and level of urbanisation remain modest compared to those of several other developing and developed countries (Mohanty et al., 2007). Bandyopadhyay (2014) notes that the urban sector's share in the national economy has steadily risen since independence. Estimates from the Central Statistical Organisation (CSO) show that the contribution of the urban sector to India's GDP increased from 38 per cent in 1970–71 to 52 per cent in 2004–05 (Mathur et al., 2011). A study by Forum Dave (2020) examining municipal finances in Gujarat further reinforces the critical role of urban local governments in driving national progress and highlights their expanding involvement in India's governance framework. Municipal revenue income is generally derived from a mix of own sources—such as tax and non-tax revenues, user charges, fees, and fines—as well as grants and contributions (PAS, 2013). Serageldin et al. (2008) note that in poorer countries, local bodies often rely on central government transfers to cover deficits in operating expenditures, with external funds serving as the primary source for financing infrastructure upgrades and expanding urban services.

In the Indian context, Mohanty et al. (2007) assessed municipal finances across 35 municipal corporations, identifying considerable dependency of local bodies on state governments for funding, while state governments themselves

depend heavily on central transfers. The High Powered Expert Committee (2011), projected that intergovernmental transfers to municipal bodies in India will hover around 0.54 per cent of GDP during 2011–2012 to 2021-22. In contrast, such transfers constitute a higher share of GDP in several developing countries - approximately 2 to 2.5 per cent in the Philippines, 5.1 per cent in Brazil, 5.4 per cent in Indonesia, 1.6 per cent in Mexico (OECD, 2016), and about 6 per cent in South Africa (Afonso et al., 2006). Mathur et al. (2011) further highlight that the share of municipalities in India's total tax resources has stagnated at about 1.7 per cent, despite a national trend of increasing tax-to-GDP ratios.

The 74th Constitutional Amendment Act of 1992 provided constitutional recognition to urban local governments and led various state governments to enact municipal legislation empowering these bodies to mobilise and enhance their revenue sources (Mathur, 2007). According to the Reserve Bank of India (RBI, 2022), India's urban local bodies (ULBs) are among the weakest globally in terms of fiscal autonomy, largely due to extensive state government controls on their ability to levy taxes and user charges, set rates, grant exemptions, borrow funds, and regulate the design, amount, and timing of intergovernmental transfers. The Revenue Autonomy Ratio (RAR), which represents the ratio of own-source revenue (tax and non-tax) to total municipal income, illustrates the degree of financial dependency. Chattopadhyay (2015) documented a declining trend in RAR in West Bengal: while RAR initially increased, indicating high reliance on government funds, it later declined as ULBs made efforts to raise their own revenues. The Aizawl Municipal Corporation's (AMC) own revenue receipts have consistently remained below one-third of its revenue expenditure, showing no substantial improvement. This persistent revenue–expenditure gap highlights AMC's fiscal vulnerability, as its limited revenue capacity leaves it highly susceptible to potential fiscal shocks from higher governments amidst evolving fiscal federalism dynamics (Thanga, 2022).

Bandyopadhyay (2013) examined the implementation of property tax reforms in two major Indian metropolitan cities, Delhi and Bengaluru of which

transitioned to the Unit Area Method (UAM) of property tax assessment. Significantly, the Aizawl Municipal Corporation (AMC) is the only municipal corporation in Northeast India to have adopted the UAM, a move that received formal commendation from the Ministry of Housing and Urban Affairs, Government of India (AMC, 2022). The responsibility for property tax collection was transferred from the Land Revenue and Settlement Department to the Aizawl Municipal Council in 2012, with retrospective effect from 2011, and AMC began collecting property tax under the Mizoram Municipalities (Property Tax Management) Rules, 2014, starting in 2015–16. Although the Rules initially permitted taxation on vacant land within Aizawl city, this provision was revoked by the State Government on 23 June 2015, and currently, property tax is levied solely on buildings. In addition to property tax, non-tax revenues constitute a crucial component of AMC's financial resources, primarily derived from rental income on municipal properties, advertisement and hoarding fees, and charges collected for sanitation-related services (Thanga et al., 2023).

The provision of basic urban civic services is vital for improving citizens' living standards and advancing overall welfare, yet their administration is shaped by state legislations aligned with the Constitution of India (Nallathiga, 2016). However, studies reveal declining quality and accessibility of basic services in Indian urban areas, with many settlements facing service deficits (PRIA, 2014). Solid waste management is one of the key services provided by the Aizawl Municipal Corporation (AMC). The AMC manages a Solid Waste Management Centre at Tuirial, approximately 20 km from the city, which processes about 165.4 tonnes of waste daily-comprising 38% biodegradable, 39% recyclable, and 23% other waste-collected collaboratively with Local Councils (Thanga, 2022).

SIGNIFICANCE OF THE STUDY

ULBs play a crucial role in ensuring equitable and sustainable development, particularly in rapidly urbanising regions. In Mizoram, the AMC has taken a significant step towards structured urban governance over the last decade. Aizawl, being the state capital and the largest urban centre in Mizoram,

serves as a crucial case for studying municipal finance and service delivery. Examining its urban governance structure offers valuable insights into the performance and challenges of local government, which can inform policy development and be applied to other emerging urban areas across Northeast India.

Aizawl is situated in a hilly and geologically sensitive area, facing practical challenges in urban planning, service delivery, and building infrastructure. The city's unplanned and congested housing has made good waste management, water supply, drainage and road maintenance essential, yet logistically necessary in such a limited and narrow urban space. Our present study may be helpful in some respects for the development of this city.

Similar to many ULBs across India, the AMC has limited own-source revenue, inadequate cost recovery from service delivery, and delays in receiving funds from the government, resulting in financial constraints for the authority. These issues collectively hinder the AMC's ability to function properly and efficiently. AMC's own-source revenue (OSR) streams are mainly derived from property taxes, user charges, fees, and fines; these are very meagre compared to the funds requirements of the AMC. Own-source revenues account for less than onethird of total revenue in most years, making the Corporation heavily dependent on state and central transfers. The Second State Finance Commission of Mizoram (2023) has stressed the need to strengthen revenue mobilization through improved tax assessment, digitized property mapping, and rationalization of user charges. Understanding these dynamics allows policymakers and urban planners to design targeted interventions to improve financial sustainability. Therefore, analyzing municipal finance is essential to evaluate how the municipal government mobilizes and allocates its funds, and provides insights into the fiscal capacity of the ULB.

RESEARCH GAP

The study of municipal finance and service delivery in Mizoram, with particular reference to the AMC, is vital for advancing research on urban governance in smaller Northeastern states. AMC faces distinct challenges, including fiscal dependency on higher governments, limited revenue generation capacity, and increasing pressure to provide a wide range of urban services. Despite these realities, no comprehensive study on municipal finance and service delivery in the AMC has been undertaken so far. This absence of scholarly research creates a significant knowledge gap, limiting the understanding of AMC's financial structure, expenditure dynamics, and service mechanisms. Addressing this gap is essential for policy-making and strengthening urban governance in Mizoram.

Also, existing literature on municipal finance in India has predominantly focused on large metropolitan cities, where issues of fiscal management and governance have been well-documented. However, smaller urban local bodies such as AMC remain understudied, leaving policymakers with inadequate insights to evaluate their fiscal frameworks, revenue patterns, and efficiency in service delivery. This study seeks to address this gap by providing an empirically grounded analysis of AMC. By analyzing municipal finance and service delivery in AMC, this study contributes to policy formulation by offering evidence-based recommendations. Such research not only assists municipal authorities in designing effective strategies for resource mobilization and service improvement but also strengthens citizen participation, accountability, and transparency in local governance.

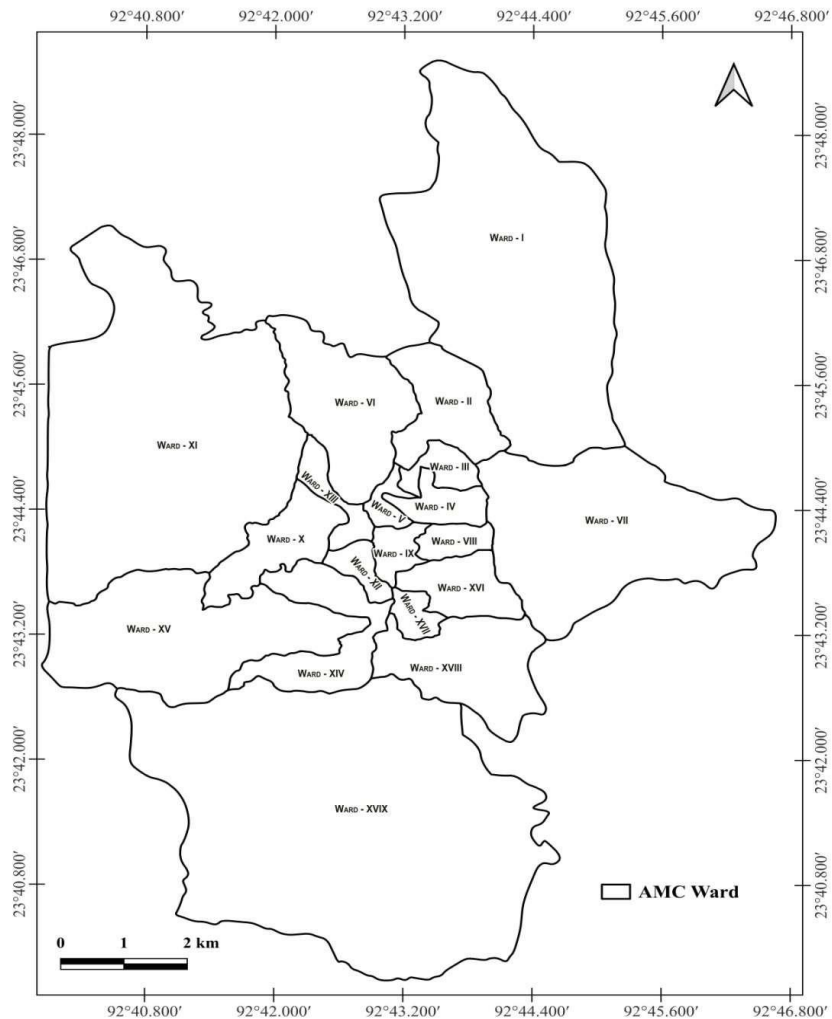
AREA OF THE STUDY

This study covers the area of Aizawl Municipal Corporation (AMC) which extends over a total area of 129 sq. km. with a population of 2,93,416 as per 2011 Census. Under the AMC, there are 19 Wards comprising of 83 Local Councils.

Aizawl, the capital of Mizoram, is situated at about 1,132 meters above sea level. It is a beautiful city set on ridges of steep hills. Flanked on the north by the craggy peaks of Durtlang, the hill city overlooks the valley of the river Tlawng and ranges of blue hill beyond. It has a mild, sub-tropical climate due to its location and elevation.

Aizawl is connected by road with Silchar through National Highway 54, with Agartala through National Highway 40 and with Imphal through National Highway 150. It is air-linked by daily flights from Kolkata and Guwahati. It is the largest city in the state. It is also the centre of administration, containing all the important government offices, the state assembly house and the civil secretariat. The population of Aizawl strongly reflects the different communities of the ethnic Mizo people.

Map 1: AMC Area and Wards



Source: AMC Ward Map prepared by Dr Zoramkhuma, Dept. of Geography, PUC
OBJECTIVES OF THE STUDY

1. To analyse the trends of fund devolution to the municipality in Mizoram from the Finance Commissions and the State Government.
2. To examine the various components of own tax and non-tax revenues of the municipality in Mizoram.
3. To examine the performance of households towards property tax payment in the Aizawl Municipal Corporation area.

4. To assess the current state of municipal service delivery in Aizawl with special focus on Solid Waste Management in the Aizawl Municipal Corporation area.

HYPOTHESES

1. There is a positive relationship between Aizawl Municipal Corporation's total revenue and grants from the Central and State Governments.
2. There is a significant relationship between the types of occupation and citizens' perception of property taxation in the Aizawl Municipal Corporation area.
3. There is a significant relationship between the amount of property tax paid and citizens' perception of property taxation in the study area.
4. Customers' perception of Solid Waste Management service quality (across five dimensions) significantly differs among demographic and socio-economic groups (Ward Number, Family Occupation, and Residence Status).

METHODOLOGY

Sources of Data

This study employed both secondary and primary data sources to ensure a comprehensive analysis. Secondary data were obtained from various official and institutional documents, including the Aizawl Municipal Corporation (AMC) budget reports, Budget documents and Economic Surveys of Mizoram, State Finance Commission reports, Central Finance Commission reports, records

from the Directorate of Economics and Statistics, Government of Mizoram, as well as publications and unpublished works from the Urban Development and Poverty Alleviation Department, Government of Mizoram. Additional references included documents from officials, organizations, and individual researchers.

In addition, two primary surveys were undertaken. The first survey targeted property taxpayers, covering 406 households, to evaluate the socio-economic profile of respondents and gather insights into public perceptions of property taxation in Aizawl. Descriptive analysis was used to interpret the results. The second survey aimed to assess citizens' perspectives on municipal service delivery, with particular focus on solid waste management within the AMC jurisdiction, and to evaluate service quality based on customer perceptions. A total of 408 households were sampled for this purpose. In both surveys, the study examined the socioeconomic profile of respondents to contextualize their views. Data collection was done through a structured questionnaire administered to the selected households, ensuring systematic and reliable information gathering.

Analytical Method

The primary objective of this research is to examine property taxpayers' perceptions and evaluate citizens' views on the quality of solid waste management services in relation to their level of awareness. To achieve this objective, appropriate statistical techniques and analytical methods are applied to systematically examine citizens' perspectives on both property taxation and municipal solid waste management.

To evaluate service quality, the study measures five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy. A one-way ANOVA is used for analysing the service quality dimensions. This model enables a structured assessment of how effectively services meet public expectations.

In addition, Multinomial Logistic Regression (MLR) is utilized to analyze the perspectives of property taxpayers on three selected dimensions, such as: i) Perceived importance or obligations to pay property tax, ii) Awareness and

understanding of property tax system, iii) Awareness of property tax rate revisions. These analyses offer additional insights into the factors influencing their views and attitudes.

Analysis of Citizens' Perception of Property Taxation

The study adopts a descriptive approach supported by data-driven explanations, employing suitable statistical tools and analytical models to infer citizens' perceptions of property taxation, while also incorporating descriptive analysis to enhance the interpretation and contextual understanding of the findings. However, the study made an attempt to analyse the significance of the occupations and amount of property on the responses provided under different inquiries on three selected themes, including:

- a) Perception of Property Tax Importance and Obligation
- b) Awareness of Property Tax Rate Revisions
- c) Awareness and Understanding of the Property Tax System.

Accordingly, we categorised the responses under different themes in relation to the following independent variables.

- a) Occupation
- b) Amount of Property Tax Paid

To determine the relationship between different factors of citizens' perception of Property Taxation in AMC, with two independent variables viz.

Amount of Property Tax Paid and Occupation, Multinomial Logistic Regression (MLR) is used. MLR models the probability of each category relative to a reference category and uses the generalised logit function to model the log-odds of each category compared to the reference.

For a dependent variable with k categories, the model estimates

k-1 equations:

$$\log(P(Y=i)/P(Y=k)) = \beta_{i0} + \beta_{i1}X_1 + \beta_{i2}X_2 + \dots + \beta_{in}X_n$$

Where,

- $P(Y=i)$ is the probability of the outcome being in category i. □
- $P(Y=k)$ is the probability of the outcome being in the reference category k. □
- $\beta_{i0}, \beta_{i1}, \dots, \beta_{in}$ are the coefficients for the predictors $X_1, X_2, \dots, X_n$ for category i. □

Assessment of Service Quality Using Customer Perception

An empirical analysis to assess service quality as perceived by customers is also conducted. The analysis follows categorisation of modelling service quality based on five dimensions. A descriptive analysis involving frequency in different dimensions and one-way ANOVA is conducted to see the differences in the mean of different dimensions. The different variables for Tangibles, Reliability, Responsiveness, Assurance and Empathy are listed as follows.

- a) Tangibles (Physical facilities, equipment, and appearance of personnel):
Convenience of garbage collection point
- b) Reliability (Ability to perform the promised service dependably and accurately): Satisfaction with current waste management system
- c) Responsiveness (Willingness to help customers and provide prompt service): Satisfaction with the attitude of drivers and helpers
- d) Assurance (Knowledge and courtesy of employees and their ability to inspire trust and confidence): Satisfaction with segregation of solid waste
- e) Empathy (Caring, individualised attention provided to customers):

Opinion on service charges paid by residents

Each of these dimensions is ranked in a Likert scale of four categories as: 1=Very Bad/Very Dissatisfied, 2=Bad/Not Satisfied, 3=Good/Satisfied and 4=Excellent/Very Satisfied. Moreover, three socioeconomic variables, such as, Ward Number, Occupation and Nature of Accommodation, were also categorised for analysis of one-way ANOVA.

CHAPTER PLAN

Chapter I - Introduction: This chapter gives an overview of the evolution and development of municipalities, municipal development history in India, municipal governance in India since independence, classification of urban settlements in India, functions of municipal government, municipal finance in India - sources, municipal service delivery in India, municipal governance in Mizoram: AMC – establishment and functions, significance of the study, theoretical background, conceptual framework of municipal finance and service delivery, area of study, scope of study, objectives and methodology of the study

Chapter II - Review of Literature: This chapter presents a review of literature on topics relevant to this research, encompassing a number of research and academic books and papers on urban local bodies in various countries, as well as urban local governance in India and the Aizawl Municipal Council/Corporation.

Chapter III - Revenue Sources, Fund Devolution & Expenditure: This chapter examines the sources of municipal finance, fund allocations in five-year plans to urban local bodies, Finance Commission recommendations on tax distribution, and expenditure patterns of the Aizawl Municipal Corporation between 2010–11 and 2021–22.

Chapter IV – An Overview of Property Taxation in India: This chapter examines secondary information on property taxation in various regions, including property tax in India and Northeast India, as well as property tax in AMC. It also highlights the assessment of property taxpayers' perception in the AMC area.

Chapter V - Solid Waste Management as Municipal Service Delivery in Aizawl Municipal Corporation Area: This chapter provides an overview of solid waste management, including its legislations and initiatives by governments and ULBs. Also, the targets of the service level benchmark with respect to solid waste management in AMC are also highlighted.

Chapter VI - Property Taxation in the Aizawl Municipal Corporation Area: An Analysis: This chapter presents the analysis of the issues and challenges of property taxation in Aizawl, highlighting the socio-economic profile of the respondents and giving an overview of citizens' perspectives on property taxation in Aizawl using descriptive analysis. An empirical analysis using multinomial logistic regression was also conducted to analyze the citizens' perception.

Chapter VII - Analysis of Solid Waste Management in the Aizawl Municipal Corporation Area: This chapter examines the municipal service delivery of solid waste management within the AMC. It presents the assessment of service quality based on customers' perceptions using five dimensions, including tangibles, reliability, responsiveness, assurance, and empathy. One-way ANOVA was estimated using SPSS to compare the means of these dimensions.

Chapter VIII -Findings, Recommendations and Conclusion: This chapter presents a summary of the study's significant findings, recommendations for improving property taxation and municipal service delivery in AMC and conclusion.

Appendices

Bibliography

FINDINGS

Findings on Tax and Non-tax Revenue, Capital and Revenue Expenditure

- Property tax was introduced in 2015-16 with collections of Rs. 114.18 lakh. This collection grows steadily over the following years to Rs. 344.06 lakh in 2019-20 and Rs. 322.09 lakh in 2021-22. Although the annual increase is around 28 per cent per annum, the actual collection is still far below the projected potential. This shows the under-realisation of this critical tax base. □
- The own revenue, comprising both tax and non tax revenue remained a small portion of AMC finances over the years. Before 2015, they rarely exceeded 4 per cent of receipts. Even after the introduction of property tax, the average share stood at only 9.3 per cent across 2010-11 to 2021-22, reaching its peak at 21.3 percent in 2016-17. This shows that the AMC is also facing the common issue of low own revenue generation also found in other forms of local governments across the country. □
- The narrow base and volatility of AMC's own revenue underscore the urgent need for reforms. Measures such as GIS-based property mapping, stricter enforcement, rationalisation of user charges, and expansion of service fees are essential if AMC is to improve its fiscal autonomy and reduce dependence on uncertain intergovernmental transfers. □
- Revenue expenditure, which covers salaries, maintenance, and operational costs, grew from Rs. 181.91 lakh in 2010-11 to Rs.2,990.40 lakh in 2021–22, recording a very high CAGR of 24.6 per cent. This suggests a steadily rising cost of administration and service delivery, reflecting both inflationary pressures and expanded municipal responsibilities. □
- Capital spending, which funds infrastructure such as roads, drainage, and solid waste management, rose from Rs. 211.85 lakh in 2010-11 to Rs. 3922.52 lakh in 2021-22, with a CAGR of 19.5 per cent. The faster growth

in revenue expenditure compared to capital spending indicates that operational costs are increasing more sharply than long-term investment. □

- Total expenditure increased more than 17 times, from Rs. 393.76 lakh in 2010-11 to Rs. 6912.92 lakh in 2021-22. The CAGR of 21.5 per cent reflects a robust expansion in AMC's budget size, but this growth may not have been evenly matched by growth in municipal revenue sources, indicating fiscal stress and rising dependence on transfers. □
- Although the general trend is upward, there were fluctuations in the composition of expenditure. For instance, in 2016-17, capital spending fell □

to Rs. 977.18 lakh, even as revenue expenditure increased to Rs. 1986.78 lakh. Similarly, in 2017-18, capital expenditure surged to Rs. 2440.55 lakh, overtaking revenue expenditure, showing uneven allocation priorities across years.

- While both revenue and capital expenditure grew over the years, revenue expenditure expanded at a faster pace than capital outlay. By 2021-22, revenue expenditure (Rs. 2990.40 lakh) was still below capital expenditure (Rs. 3922.52 lakh), but the long-term trend of faster growth in recurrent costs raises concerns about AMC's ability to maintain fiscal space for infrastructure investments in the future. □

Findings on Trends of Fund Devolution to the AMC

- AMC heavily relied on transfers from the central government, particularly the Central Finance Commission, especially under the 14th Finance Commission. Grants rose from Rs. 932.05 lakh in 2010-11 to as high as Rs. 5904.5 lakh in 2020-21, which accounted for over two-thirds of total revenue receipts. This heavy reliance underscores the lack of strong internal revenue generation and the importance of the Central Finance Commission in urban local government finance in the country. □

- The devolution from the state government through the state finance commission was irregular and unpredictable. Devolution of funds started in 2016-17 with the recommendation of the first state finance commission till 2019-20. However, the state devolution was at halt due to lack of timely formation of the second state finance commission and its delayed recommendations. The state transfer was continued in the form of grants in aid from 2020-21. □
- Grants from the State also lacked regularity. They ranged from as low as Rs. 161.50 lakh in 2010-11 to Rs. 1528.52 in 2021-22. These allocations, though significant at times, were neither predictable nor sufficient to offset declining tax devolution. This is found particularly in the years when the □ tax devolution from the state finance commission is paused. It leaves AMC exposed to fiscal stress whenever central and state support weakened.
- The projected transfer by the first Mizoram State Finance Commission to the AMC was larger than the actual transfer made. Moreover, the AMC receipts also fell short of expectations, either due to delays or non-implementation of the recommendations. This mismatch demonstrates a structural gap between policy intent and fiscal reality in the intergovernmental transfer mechanism in the state. □
- AMC's total revenue receipts showed volatility linked to fund devolution patterns. The revenue receipts reached a peak of Rs. 7357.26 lakh in 2020-□

21 but declined to Rs. 3917.35 lakh in 2021-22 as central transfers declined sharply. This pattern highlights AMC's financial vulnerability to changes in transfers from higher tiers of government.
- Over the years, the own revenue of AMC rarely exceed 15 per cent of total receipts. This means AMC relied significantly on external transfers. The irregularity of state transfers in the form of devolution and grants in aid,

combined with high dependence on central transfers, restricted AMC's fiscal autonomy. This makes it difficult to pursue an independent infrastructure project or service delivery strategies. □

Conclusion for Hypothesis 1: The data on the finances of the AMC clearly demonstrate that its total revenue is largely dependent on transfers from the Central and State Governments through devolution and grants-in-aid. Accordingly, the study's first hypothesis that there is a positive relationship between Aizawl Municipal Corporation's total revenue and grants from the Central and State Governments is self-evident and requires no empirical testing, but serves as a conceptual anchor for examining the structure of AMC's finances.

Findings on Components of Own Revenues and Relationship between Occupations and Perceptions of Property Taxation

- Property tax remains the sole source of own tax revenue for the Aizawl Municipal Corporation (AMC). While the First Mizoram State Finance Commission projected annual collections of Rs.900 lakh by 2019–20, actual receipts were only about one-third. This shortfall highlights weak enforcement, limited taxpayer coverage, and administrative inefficiencies within AMC's property tax system. □
- Non-tax sources such as parking fees, building permission charges, licensing fees, and bank interest had shown a significant increase from Rs. □

20.41 lakh in 2010-11 to as much as Rs. 571.29 lakh in 2018-19. This growth reflected AMC's ability to mobilise income from urban services with a remarkable Compounded Annual Growth Rate (CAGR) of about 34.8 per cent.

- Despite rapid growth as previously mentioned, the non tax revenues proved unstable. After reaching its high in 2018-19, they fell to Rs. 321.63

lakh by 2021-22, which shows the limits of user charges and fees as a dependable income stream. This volatility illuminates broader urban economic fluctuations and enforcement challenges in revenue collection. □

- The survey engaged 406 participants drawn from different wards of the Aizawl Municipal Corporation (AMC). The sample showed a near balance of male and female respondents, with a slight tilt towards males. The most represented age bracket was 46-60 years, and Christianity was the predominant faith. Within households, fathers were most frequently identified as the key family representatives. □
- Employment in government service was the primary occupation, accounting for just over half (50.7%) of those surveyed, followed by individuals engaged in business and self-employment. This highlights the central role of public sector jobs in sustaining household earnings within AMC areas. □
- In terms of household composition, families were typically small to medium in size, ranging between four and six members, though larger households also featured. The persistence of medium-to-large families reflects continued dependence on extended kinship ties. Dependency levels were notable: more than three-quarters of families (76.5%) had between two and four dependents, with the largest segment reporting three dependents (28.3%). A very small share (3.7%) had no dependents, while 16 per cent had five or more, pointing to considerable financial pressures arising from household dependency ratios. □
- Property taxation under AMC is a relatively recent phenomenon, with most participants indicating that they began making payments around 2015-16. Taxes were imposed largely on residential and commercial buildings, while vacant land and special structures were taxed less frequently. The bulk of properties were residential in nature. Most annual payments fell

within the Rs.201 - Rs.5,000 range, suggesting a clustering in the lower tax brackets. □

- Finally, regression analysis explored how occupation and tax burden shaped perceptions. Occupation was not a strong overall predictor, but it did influence uncertainty about the significance of paying property tax, particularly among government workers and business owners. While the absolute tax amount was not linked to overall views of the system, those paying higher sums were more likely to express concerns about recent increases. The models explained only a modest portion of variation, pointing to the influence of other, unmeasured factors in shaping taxpayer attitudes. □ Conclusion for Hypothesis 2: Multinomial Logistic Regressions was performed on the types of occupation and the three dimensions of citizen's perception of property taxation, namely: i) Perceived importance or obligations to pay property tax, ii) Awareness and understanding of the property tax system and iii) Awareness of Property Tax revision, to

analyse the effect of the citizen's occupation on their perceptions of property tax. The findings provide limited support for 'Hypothesis 2'. In the model for 'perceived importance or obligation to pay property tax', Government employees and Business owners were significantly more likely to respond 'Do not Know' rather than 'Yes'. This suggest that occupation may shape uncertainty or ambiguity towards taxation obligations. However, in the models for 'awareness and understanding of the property tax system' and 'awareness of property tax revisions', occupations do not emerge a significant predictor. The likelihood ratio test for occupation was also insignificant in all the models. Therefore, Hypothesis 2 is accepted only for the dimensions 'perceived importance or obligations to pay property tax'.

Findings on Property Tax Payment and citizens' perceptions in Aizawl
Municipal Corporation

- A significant majority (85%) confirmed awareness of the basis tax determination, ranging from partial to strong agreement that assessments were tied to the value of property. This reflects broad trust in valuation-based taxation and its perceived fairness. □
- A majority of respondents indicated they were satisfied with the prevailing property tax rates with 65 per cent approving and 53 per cent describing the rates as fair. Still, opinions on future revisions were divided. Roughly onethird felt the rates were high or very high, and around 9 per cent described them as “very high,” indicating potential resistance to future hikes. Several also reported increased liabilities after reassessment, which generated concerns about transparency and tax burden. □
- Payment preferences leaned heavily towards conventional methods. About 63 per cent relied on offline transactions, 30 per cent combined offline and online options, and only 7 per cent used fully digital platforms. This suggests limited uptake of online systems due to constraints like accessibility, awareness, and digital literacy, coupled with demand for simpler mechanisms. □
- Attitudes toward compliance were generally positive. Most respondents regarded property tax as essential, many signalled readiness to adjust to future increases, and a substantial share supported penal interest on delayed payments. Nearly half (47%) strongly agreed, and 30 per cent somewhat agreed, that tax evasion undermines revenue collection—demonstrating widespread recognition of its negative consequences. □
- Clear gaps in communication between citizens and the AMC also emerged. Many respondents reported that they were not consulted about reforms or revisions in tax rates. Publicity efforts were widely viewed as inadequate, with dissatisfaction dominating the responses. Neutral positions also suggested either uncertainty or limited exposure to AMC’s outreach efforts. □

- Perceptions of the system's simplicity were mixed. The largest segment of respondents maintained a neutral stance, with some describing it as moderately accessible. While awareness of penalties for late payment and interest charges was relatively high, knowledge of refunds, exemptions, or rebates under municipal regulations remained limited. Many respondents were also unaware of how revenue from property taxes is applied, even though they understood the basic rationale for tax collection.□

Conclusion for Hypothesis 3: The analysis indicates that property tax payments significantly shape citizens' perceptions of taxation, in the dimensions of 'awareness of property tax revisions'. The finding shows that citizens within lower tax bracket are significantly more likely to be unaware of property tax revisions compared to those in a higher tax bracket. And the LRT for the model is also statistically significant, which indicate a strong explanatory power of 'amount of property tax paid' in the dimensions.

However, in the model for the other two dimensions, the amount of property tax paid did not show a significant effect. Thus, H3 is accepted only for the dimensions of 'awareness of property tax paid'.

Findings on Solid Waste Management

- Aizawl was declared a Plastic-Free City on 2 October 2019, and in June 2022, the Mayor announced that AMC offices would be single-use plastic-free. However, strict enforcement has been limited, with the most visible action being the ban on plastic bags. Penalties increased from 14 shops in 2020 to 218 in 2022, while the amount of seized plastic rose from 132.12 kg to 831.38 kg by 2023. The cumulative total of 1,623.09 kg seized underscores AMC's ongoing efforts toward sustainable waste management and reducing plastic dependency, aligning with broader environmental protection goals.□

- The AMC also observed Cleanliness Week in the first week of October every year by organising mass cleaning, cleanliness competitions among local councils, schools, and government offices. These programs are all very useful for raising public awareness about solid waste management. □
- The Municipal Solid Waste Management Facility, along with the Solid Waste Management Centre, is located at Tuirial, approximately 20 kilometres from Aizawl City. This facility is responsible for processing all municipal waste generated within the city. Its operations include waste collection, segregation, composting, and landfilling. Importantly, only rag pickers authorized by the AMC and provided with official identification cards are permitted to segregate solid waste and recover usable or salable materials. This system ensures regulated waste handling, contributing to more efficient and organized municipal waste management. □
- As of 2024, the Aizawl Municipal Corporation (AMC) has formal recycling agreements with three private firms: NEPRA Resource Pvt. Ltd., Rapidue Technology Pvt. Ltd., and the Indian Pollution Control Association (IPCA). Additionally, in 2022, AMC partnered with Waste Tech & Bio-Energy Pvt. Ltd. for the treatment of wet waste. □
- Since 2024, AMC has also operated its own treatment facility, which processes wet waste and produces bio-fertilizers. To support cost recovery, approximately 20 per cent of garbage collection expenses are met through user fees collected by each Local Council. Furthermore, Local Councils have been instructed to complete household waste collection before 8:30 a.m. and deliver it to the Solid Waste Management Centre before peak traffic hours (9:30–10:30 a.m.), a practice that has been effectively maintained. □
- During 2024–25, the Aizawl Municipal Corporation (AMC) achieved a notable milestone by reaching 95 per cent door-to-door waste collection coverage. This achievement marks significant progress in strengthening urban service delivery, enhancing efficiency in solid waste management,

and moving closer to the targets set under the Garbage-Free Cities framework, thereby improving both environmental sustainability and public health outcomes. □

- The study surveyed 83 localities within the Aizawl Municipal Corporation (AMC) area, covering 19 wards, taking five households from each locality as samples, with a total of 408 respondents. The majority of respondents were women (65.4%), primarily in the parental role, with a fairly balanced age distribution, but fewer respondents were older adults. Most respondents who identified as Christian were relatively well-educated and worked mainly in government service or business. The households surveyed reflected a range of family sizes, with a significant proportion falling into the middle-income category. □
- In terms of waste disposal practices, most households relied on drop-off centres as their primary means of waste disposal, with smaller numbers using curb-side collection, composting, or other methods. Weekly solid waste generation was typically 1–2 bags, highlighting a moderate level of waste output in the city. Paper waste accounted for the largest share of household waste, followed by plastics and organic waste, reflecting consumption patterns in urban settings. Most households stored waste in plastic bins or bags, while more ecofriendly storage options, such as metal bins, were less common. Encouragingly, the majority of respondents reported sorting their waste in line with AMC’s waste segregation guidelines. □
- The level of satisfaction with AMC’s waste management services was generally positive. Respondents expressed satisfaction with services related to safe and hygienic storage of refuse, segregation of solid waste, and the attitude of drivers and helpers. Some dissatisfaction was noted, particularly around the convenience of garbage collection points and the perceived fairness of service charges, though these concerns were relatively minor compared to the overall satisfaction levels. Notably, the system for waste collection, garbage trucks collecting waste from selected

points, was generally well-received, though a small fraction rated it poorly.□

- The study also revealed a high level of environmental awareness among respondents. Most respondents expressed significant concern about the environmental impact of solid waste. However, public awareness of waste management was seen as only ‘somewhat adequate’, suggesting room for improvement. There was strong support for the ‘polluter pays’ principle, with most respondents agreeing that those responsible for pollution should bear the costs of managing its impact. A large majority also endorsed the importance of awareness programs on municipal waste reduction and recycling.□
- Improper waste disposal practices, including littering and illegal dumping, were reported by a significant portion of respondents. Despite this, relatively few respondents indicated they would definitely report such incidents to authorities; many expressed hesitancy or uncertainty, likely due to a lack of awareness or fear of potential consequences. This finding highlights the need for better education and mechanisms that make reporting easier and more reassuring for the public.□
- Regarding the waste disposal practices of service providers, most respondents were unaware of how waste was ultimately disposed of after it was collected. Despite this, many expressed concerns about whether service providers were using environmentally responsible methods. This highlights a lack of transparency and underscores the need for improved communication between AMC and its citizens.□
- An empirical assessment of service quality, using five dimensions, revealed high levels of satisfaction across all five service dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. A one-way ANOVA revealed that perceptions of Reliability and Empathy differed significantly across different wards, while Empathy also showed

significant variation across family occupations and residence status. In contrast, Tangibles, Responsiveness, and Assurance did not show significant differences across these socio-demographic categories, indicating relatively uniform perceptions in these areas.□

Conclusion for Hypothesis 4: A one-way ANOVA revealed that perceptions of Responsiveness and Empathy differed significantly across different wards. In contrast, the five dimensions did not show significant differences on occupation and residential status. Thus, Hypothesis 4 is accepted only for two dimensions - Responsiveness and Empathy for one of the demographic and socio-economic groups, i.e., Ward number.

RECOMMENDATIONS

Empirical Based Recommendations

- To strengthen municipal financing in Mizoram, the state government must ensure that the urban local bodies receive adequate revenue from all eligible local sources. It is equally important that the State strengthens the role of the State Finance Commissions (SFCs) by ensuring their timely constitution, adequate administrative support, and systematic follow-up of their recommendations. Regular and transparent devolution of taxes and finances based on SFC reports will empower municipal bodies like AMC to enhance fiscal autonomy, improve service delivery, and achieve sustainable urban governance.□
- AMC must also strengthen its revenue base to keep up with expenditure growth. The property tax system should be broadened, and compliance must be improved through better assessment and collection. Non-tax sources such as user charges and licensing fees should be expanded. Stronger revenue mobilisation will reduce dependence on transfers from higher levels of government and give AMC greater financial autonomy.□

- AMC may adopt stricter financial management practices to contain the rapid rise in revenue expenditure. The use of e-governance tools such as digital payroll monitoring, automated billing, and transparent procurement systems can reduce leakages. Staffing structures need to be streamlined, while routine maintenance costs should be carefully managed. These measures will help AMC keep recurrent spending under control and create fiscal space for development-oriented investments.□
- Spending patterns also need to be stabilised. A medium-term expenditure framework should be introduced to guide allocations over a period of several years. Annual ceilings for both revenue and capital spending will create predictability in municipal finances. Such fiscal discipline will ensure that operational costs do not overshadow infrastructure priorities, resulting in more consistent service delivery.□
- It is suggested that the Aizawl Municipal Corporation (AMC) rationalize administrative and establishment expenditure, which currently consumes a disproportionately high share of resources. By prioritizing essential services and infrastructure development, AMC can improve fiscal efficiency, ensure better allocation of funds, and strengthen its capacity to deliver sustainable urban services and meet long-term development goals.□
- Expanding the use of digital platforms for property tax payments is essential to modernize tax administration. Online portals and mobile applications would simplify payment procedures, reduce administrative bottlenecks, and provide taxpayers with convenient and transparent options for fulfilling their obligations. This step would also minimise errors, delays, and opportunities for malpractice.□
- Strengthening public consultation mechanisms is crucial for building trust in the property tax system. Awareness campaigns, citizen feedback programs, and participatory decision-making processes can improve

taxpayer confidence, increase compliance, and ensure greater acceptance of future reforms. Transparent communication regarding tax policies and revenue utilisation further enhances accountability. □

- Strengthening transparency, ensuring timely collection, and enhancing compliance are crucial for improving revenue sustainability and municipal capacity. □
- AMC may expand enforcement of the Plastic-Free City initiative beyond plastic bags, introduce graded penalties, and incentivise biodegradable or cloth-based alternatives. Cleanliness Week should be extended into year-round awareness programmes to sustain behavioural change. □
- Door-to-door collection coverage may be expanded to 100 per cent and backed with improved logistics such as GPS-enabled vehicles, optimised routes, and workforce expansion. AMC should also adopt real-time monitoring and citizen feedback systems to sustain efficiency under the Garbage-Free Cities goal. □
- Strict enforcement of waste segregation at the household level into biodegradable, recyclable, and non-recyclable categories is essential. □
- Community engagement remains critical for sustainable waste management. Regular awareness campaigns, the involvement of residents, and incentives for community-led initiatives should be institutionalised. The adoption of digital tools and mobile applications can also improve citizen reporting and responsiveness to waste-related concerns. □

General Recommendations

- Regular training of municipal staff, adoption of e-governance, and strengthening inter-departmental coordination are essential for improving administrative efficiency and ensuring effective service delivery. □

- To strengthen revenue mobilization, AMC should broaden the property tax base, revise assessment procedures, and ensure equitable valuations. Diversification of revenue through user charges, fees, and arrear recovery is essential. Enhanced fiscal autonomy can be achieved by timely state and central grants, coupled with stronger internal resource generation. □
- In order to diversify revenue sources, AMC should explore innovative financing instruments such as municipal bonds and Public-Private Partnerships (PPPs). These mechanisms can mobilize additional funds for infrastructure projects, bring in private sector expertise, and support long-term urban development in a financially sustainable manner. □
- Enhancement of State Government and Finance Commission transfers is crucial for AMC's fiscal strengthening by ensuring equitable devolution, institutional support, and capacity building, thereby advancing municipal autonomy, financial resilience, and sustainable urban service delivery. □
- Strengthening transparency and accountability is fundamental to improving municipal financial governance. The adoption of transparent financial management practices, such as the introduction of digital payment systems, routine financial disclosures, and regular audits, can significantly enhance public trust in local government institutions. Moreover, prioritizing clear and accessible communication on the utilization of tax revenues is essential to fostering confidence among taxpayers.
- Green bonds, first adopted in the United States in 2014 and later by European municipalities, were introduced in India in 2021 when Ghaziabad Nagar Nigam raised Rs.150 crore for a tertiary water treatment plant (SEBI, 2021). For the Aizawl Municipal Corporation (AMC), issuing green municipal bonds could provide an innovative means of financing climate-resilient infrastructure. Potential applications include solid waste

management, solar-powered street lighting, water recycling, and green mobility, several of which AMC is already pursuing.□

- Implementing a Geographic Information System (GIS)-enabled property tax framework in AMC would significantly improve assessment accuracy and efficiency. Digital mapping ensures comprehensive property coverage, reduces duplication, and supports fair valuation based on size, type, and location. Incorporating satellite imagery and geocoded data enhances spatial precision, streamlines record management, expands the tax base, promotes transparency, and fosters taxpayer confidence for sustainable revenue generation.□
- A larger share of resources may be directed towards capital investment. Roads, drainage systems, and waste management facilities require expansion and upgrading to meet the growing city's demands. Prioritising these investments will strengthen long-term infrastructure and improve the quality of life for residents. A stronger focus on capital projects will also balance the rising costs of day-to-day operations.□
- The Solid Waste Management Facility at Tuirial may scale up capacity, adopt advanced technologies like bio-methanation and composting, and provide stronger institutional support for Rag-pickers through training, safety gear, and inclusion measures.□
- Recycling partnerships with private firms may be strengthened through clear contracts, regular performance monitoring, and expanded collaboration. AMC's biofertilizer facility should develop distribution channels, while user fee collection should be standardised and digitised for better cost recovery.□
- Investments in composting plants, bio-methanation units, and material recovery facilities are vital for converting organic waste into usable resources such as compost and energy. While such initiatives have already

been introduced in AMC, further expansion and improvement are required.□

- AMC could leverage PPPs to establish modern waste processing plants, waste-to-energy projects, and advanced recycling facilities. Such collaborations would ease financial pressures on AMC while bringing in private expertise and innovation.□
- The efficiency of waste collection in AMC can be enhanced through the deployment of covered vehicles, GPS-enabled route monitoring, and IoT-based tracking of collection operations. Introducing structured door-to-door collection schedules would further minimize spillage, strengthen accountability, and improve operational efficiency. Collectively, these measures modernize AMC's solid waste management system while ensuring greater sustainability and resilience in urban service delivery.□

CONCLUSION

This study examines the institutional framework, financial structure, and service delivery execution of the Aizawl Municipal Corporation (AMC), which functions as the only municipal corporation in Mizoram. The findings provide valuable insights for policymakers seeking to strengthen urban governance and fiscal management. As Aizawl experiences rapid urban expansion, it has established itself as the state's principal commercial and administrative centre, playing a critical role in the state's economy. Such growth has generated increasing demands for public services and infrastructure to address population pressure and expanding economic activity. To promote sustainable urban development and improve service delivery, these findings and recommendations provide a comprehensive framework for strengthening municipal finances and addressing the AMC's long-term developmental challenges.

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