An Institutional Mapping of Urban Local Bodies Through the Lens of Sanitation and Solid Waste Management Services

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International Budget Partnership

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List of Abbreviations

ACC	Aurangabad City Corporation
ADB	Asian Development Bank
AEGR	Annual Exponential Growth Rate
AIIB	Asian Infrastructure Investment Bank
AMRUT	Atal Mission Rejuvenation of Urban Towns
APUFIDC	Andhra Pradesh Urban Finance and Infrastructure Development Corporation
ASCI	Administrative Staff College of India
ASI	Annual Survey of Industries
ATR	Action Taken Report
B and D	Birth and Death
BBMP	Bruhat Bengaluru Mahanagara Palike
BDA	Bangalore Development Authority
BDW	Biodegradable Waste
BIAL	Bengaluru International Airport
BMRDA	Bangalore Metropolitan Regional Development Authority
BOT	Build Operate and Transfer
BOV	Battery Operated Vehicles
BPMC Act	Bombay Provincial Municipal Corporations Act
BSUP	Basic Services for Urban Poor
BWSSB	Bangalore Water Supply and Sewerage Board
C & D	Construction and Demolition
CAG	Comptroller and Auditor General of India
CC	City Corporations
CCDU	Communication and Capacity Development Unit
CDMA	Commissioner & Director of Municipal Administration
CFC	Common Fund for Commodities
CMC	City Municipal Council
CNG	Compressed Natural Gas
CIDCO	City and Industrial Development Corporation of Maharashtra Ltd
C & R	Cadre & Recruitment
DBFOT	Design, Build, Finance, Operate and Transfer
DC	Deputy Commissioner
DMA	Directorate of Municipal Administration

DPR	Detailed Project Report
DTCP	Director of Town & Country Planning
DUDC	District Urban Development Cell
EPF	Employee Provident Fund
ES	Engineering Section
ESI	Employee State Insurance
EWS	Economically Weaker Section
FBDEAAS	Fund Based Double Entry Accrual Accounting System
FSTP	Faecal Sludge Treatment Plants
GFC	Garbage Free Cities
GHMC	Greater Hyderabad Municipal Corporation
GHMC Act	Greater Hyderabad Municipal Corporation Act
GIZ	Gesellschaft International Zusammenarbeit
GoAP	Government of Andhra Pradesh
GoT	Government of Telangana
GPF	General Purpose Fund
GSDA	Groundwater Survey and Development Agency
GSDP	Gross State Domestic Product
GVMC	Greater Vishakhapatnam Municipal Corporation
GWMC	Greater Warangal Municipal Corporation
HCMC	Hosur City Municipal Corporation
HH	Household
HHs	Households
HITEC	Hyderabad Information Technology and Engineering Consultancy
HKS	Haritha Karma Sena
HMC Act	Hyderabad Municipal Corporations Act
HR	Human Resource
HRIDAY	Heritage City Development and Augmentation Yojana
ICT	Information & Communication Technology
IDSMT	Integrated Development of Small & Medium Towns
IHHL	Individual Household Latrine
ILCS	Integrated Low-Cost Sanitation
IT	Information Technology
ITES	Information Technology Enabled Services
ITIR	Information Technology Investment Regions

JE	Junior Engineer
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KIADB	Karnataka Industrial Areas Development Board
KIUWMIP	Karnataka Integrated Urban Water Management Investment Programme
KM	Karnataka Municipalities
KM	Kerala Municipality
KMC	Karnataka Municipal Corporation
KMRP	Karnataka Municipal Reforms Project
KSIDC	Kerala State Industrial Development corporation
KSUDP	Kerala Sustainable Urban Development Project
KSWMP	Kerala Solid Waste Management Project
KUDCEMP	Karnataka Urban Development and Coastal Environmental Management Project
KUIFDC	Karnataka Urban Infrastructure Development and Finance Corporation
KUWASIP	Karnataka Urban Water Sector Improvement Project
KUWS &DB	Karnataka Urban Water Supply and Drainage Board
KUWSMP	Karnataka Urban Water Supply Modernisation Project
KWA	Kerala Water Authority
KWMA	Kerala Waste Management Authority
LCV	Light Commercial Vehicle
LGSs	local Self-Governments
LPCD	Litre Per Capita Per Day
LSGD	Local Self Government Department
LWM	Liquid Waste Management
MA&UD	Municipal Administration and Urban Development
MCC	Micro Composting Centre
MCGM	Municipal Corporation of Greater Mumbai
MCGM	Municipal Corporation of Greater Mumbai
MIDC	Maharashtra Industrial Development Corporation
MJP	Maharashtra Jeevan Pradhikaran
ML	Medical Leave
MLA	Members of the Legislative Assembly
MLD	Millions of Litter Per Day

MLC	Member of the Legislative Council
MLP	Multi Layered Plastics
MMC Act	Mumbai Municipal Corporation Act
MPBCDC	Mahatma Phule Backward Class Development Corporation Limited
MS	Manual Scavenging
MSNA	Maharashtra Sujal Nirmal Abhiyan
MSWM	Municipal Solid Waste Management
MT	Metric Tonnes
NBDW	Non Bio Degradable Waste
NCSK	National Commission for Safai Karamcharis
NIMZ	National Investment and Manufacturing Zones
NKUSIP	North Karnataka Urban Sector Investment Programme
NLNORR	Non-Loan Net Own Revenue Receipts
NMC Act	Nagpur Municipal Corporation Act
NSKFDC	National Safai Karamchari Finance and Development Corporation
NULM	National Urban Livelihood Mission
NUSP	National Urban Sanitation Policy
OBC	Other Backward Class
O & M	Operation & Maintenance
ODF	Open Defecation Free
ORR	Outer Ring Road
OSR	Own Source Revenue
OTCA	One Time Cash Assistance
OTSFA	One Time Special Financial Assistance
PAS	Performance Assessment System
PHS	Public Health Section
PF	Provident Fund
PGR	Public Grievances and Redressal system
PH&MED	Public Health & Municipal Engineering Department
PRIs	Panchayat Raj Institutions
PSC	Public Service Commission
PTIS	Property Tax Information system
RRC	Resource Recovery Centre
RRFs	Resource Recovery Facilities
RWAs	Resident Welfare Associations

SAAP	State's Annual Action Plan
SAC	Swachha Andhra Corporation
SAPCC	State Action Plan for Climate Change
SBM	Swachh Bharat Mission
SC	Scheduled Caste
SCM	Smart Cities Mission
SDGI	Sustainable Development Goals Index
SEZ	Special Economic Zones
SFCs	State Finance Commissions
SHG	Self-Help Group
SI	Sanitary Inspector
SIT	Smart Industrial Township
SLBs	Service Level Benchmarking
SLSC	State Level Sanitation Committee
SPVs	Special Purpose Vehicles
SRMS	Self-Employment Scheme for Rehabilitation of Manual Scavengers
SS	Swachh Survekshan
SSP	Slum Sanitation Programme
SSS	State Sanitation Strategy
SSS	State Sanitation Strategies
ST	Scheduled Tribes
STP	Sewage Treatment Plant
SW	Sanitary Worker
SWM	Solid Waste Management
TDR	Transferable Development Rights
TMC	Town Municipal Council
TNSUDP	Tamil Nadu Sustainable Urban Development Project
TNUDF	Tamil Nadu Urban Development Fund
TPD	Tonnes Per Day
TPD	Total Waste Generated
TUFIDC	Telangana Urban Finance and Infrastructure Development Corporation
TNUIFSL	Tamil Nadu Urban Infrastructure Financial Services Limited
TWAD	Tamil Nadu Water and Drainage Board
UAs	Urban Agglomerations

UDAs	Urban Development Authorities
UDD	Urban Development Department
UDWSP	Urban Drinking Water and Sanitation policy
UGD	Underground Drainage
UGSS	Underground Sewerage Scheme
UI&G	Urban Infrastructure & Governance
UIDSSMT	Urban Infrastructure Development Scheme for Small and Medium Towns
ULBs	Urban Local Bodies
UPA	Urban Poverty Alleviation
UWSS	Urban Water Supply & Sanitation
WCs	ward committees
WSSD	Water Supply and Sanitation Department
ZP	Zilla Parishad

Chapter 1: Introduction

1.1. Urbanisation and its Challenges

Cities have been regarded as the engines of economic growth and the top 10 cities together contribute about 1.26 trillion USD (PPP) to India's GDP of 9.49 trillion USD (PPP). Global and Indian experiences show that productivity and growth are strongly correlated with urbanisation (Pronab Sen, 2017). Urbanisation expands the product and labour markets, creates competition and enhances efficiency. Through its scale in operations, it provides opportunities for division of labour as well as specialization leading towards improved productivity. However, for cities to drive growth and sustain its productivity, urban services like water supply, sanitation, solid waste management, transport, communication, clean energy, and housing become very critical. India has 53 cities with a population of one million and above and these cities together constitute about 42 % of India's urban population. The number is likely to go up to 68 cities by 2021. The subject of local governments is in the State list and the impetus given for the local governments to flourish and deliver largely depends on the political will of the State Governments. The 74th Constitutional Amendment provided Urban Local Bodies (ULBs) / municipalities the much-required legal status as local self-governments. The 12th schedule of the Indian Constitution lists the 18 functions that may be devolved to the ULBs by the state governments. The functioning of specialized parastatal bodies[1] and Special Purpose Vehicles (SPVs)[2] has resulted in ULBs being largely confined to four core urban services of water supply, street lighting or public safety, municipal roads and solid waste management. ULBs also implement urban development schemes[3] aimed at improving urban infrastructure and services even though they have very little or no say in designing them.

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[1] Urban Water Supply and Drainage Board, Urban Infrastructure Development and Finance Corporation, Slum Development Board are urban development authorities which are funded by state and have superior powers in urban management in comparison to ULBs.

[2] Special Purpose Vehicles (SPVs) like the Smart City Mission have overarching objectives of urban development and are funded by the state/union government

[3] Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Atal Mission Rejuvenation of Urban Towns (AMRUT), Heritage City Development and Augmentation Yojana (HRIDAY) have been implemented to improve the provision of urban services and reduce the deficits in infrastructure. Basic Services for Urban Poor (BSUP), National Urban Livelihood Mission (NULM), and Housing for All have been targeted to enhance the quality of urban services provided to poor.

Indian urbanisation is characterized largely by the natural growth of the population and increase in the urban area by way of absorbing the villages in the periphery. Together they account for about 80 % of the urban growth. There is also the migrant population who come to the cities/towns seeking employment and better opportunities for living through improved health and education facilities. Challenges of urbanisation in India are many and often very complex. Absorbing of villages in the urban periphery poses huge challenges in terms of providing basic services to these areas.

The paucity of funds, lack of planning and excessive state control as some of the problems which have resulted in inefficient and substandard urban governance[4]. Urban experts conclude that the three challenges of Indian urbanisation are - a) investments for urban infrastructure; b) reforming institutions; and c) capacity building of local government.[5] Adding to these challenges is the fact that there is no clean slate to start with. There are already institutions, laws and structures in place which can make even the best-laid plans go astray. Hence, in the Indian context governance structures also assume significant importance.

1.2. Urban Governance

Much of the existing literature has listed issues of municipal governance viz. poor institutional capacities and finances, state control, lack of ownership of schemes by ULBs and inefficient capacity building efforts from an external viewer perspective. There are very few studies that have looked into the underpinnings of both supply and demand side of urban governance from within (the ULB). Supply side of urban governance looks deep into various functional aspects of ULB and attempts to seek answers to the following critical questions. How are the basic services planned and delivered? What is the governance structure and how are decisions taken and political will exercised? What is the role of data in decision making? How are finances planned and budgeted for provision of public services? What are the various ways of resource generation? What do budgets of ULB reveal and how does the ULB interact with the state government as well as its citizenry? How does the ULB proactively disclose the information to citizenry to enable their participation in urban governance? Demand side of governance tries to understand and seek answers regarding stakeholder engagement with the ULB. Questions in these aspects include, who engages with the

[4] http://rnlkwc.org/pdf/anudhyan/18_04_2016/Urban_Local_Government_In_India.pdf
[5] http://www.epw.in/system/files/pdf/2014_49/42/Understanding_the_Urban_Challenge.pdf

ULB through ward committees (WCs) or Resident Welfare Associations (RWAs)? How do they participate in these interactions? How do they use the information provided by the ULB?

1.3. Municipal Reforms

In the last two decades, state governments have taken many initiatives and have implemented various municipal reforms to strengthen and improve service delivery mechanisms, enhance community participation and increase accountability of ULBs. Reforms include computerization of ULBs, introduction of fund based double entry accounting system on the lines of national municipal accounting manual, business process re-engineering, training and handholding of ULBs. Service Level Benchmarking (SLBs) for urban services provide the framework for monitoring of performances of ULBs across various dimensions wherein the basic minimum standards of services are measured through benchmarking which could be used to make better decisions, improve services and understood by all stakeholders. Reforms were also introduced for increased citizen participation and engagement in urban governance.

1.4. Context to the Study

Management of Urban Waste (including both sanitation and solid waste) is one of the important urban services that has a bearing on urban productivity and sustainability in the long run. SDGs 6 and 11 also emphasize the importance of urban sanitation and SWM services. Successive Finance Commissions have taken cognizance of the importance of urban services including SWM and Sanitation. The terms of reference for 15th Finance Commission also highlighted the need for improving the quality of basic services including the solid and liquid waste management through incentivization of ULBs. It has also stressed the need for focusing on behavioural change communication to achieve the objective of ending open defecation and to put an end to the inhuman practice of manual scavenging[6] by putting proper sewerage systems in place. The Integrated Low-Cost Sanitation (ILCS) Scheme which facilitates building of low-cost sanitation units and the Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) which focuses on rehabilitation of manual scavengers by providing cash assistance and capital subsidy for entrepreneurial activity are very important

[6] The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 was amended in 2013 to form the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act.

schemes in this regard. It is of utmost importance to ensure the effective implementation and reach of these critical schemes to the intended beneficiaries.

The underlying issues of solid and liquid waste management in an ULB relating to institutional capacity, cost recovery, regulatory mechanism and citizen participation needs to be addressed in a comprehensive manner to achieve this objective. It then becomes imperative to understand how these services are provided at an ULB level and what is its role in implementing the schemes like ILCS and SRMS apart from understanding the challenges of providing quality services with respect to solid and liquid waste management.

Chapter 2: Study Objectives and Methodology

2.1. Study Objectives

a. How do the ULBs plan and implement sanitation and SWM services? To map - 1) The role of data 2) Governance structure 3) Implementation of Schemes 4) Budgeting process and 5) The roles and implications on both the frontline staff and citizenry.

b. What is the interaction of the ULB with the State government including parastatal bodies in the provisioning of sanitation and SWM services?

c. What is the specific role played by the ULBs in eradicating manual scavenging? What is their involvement in the effective implementation of schemes like ILCS and SRMS?

d. What are the implications of the recommendations of 15th Finance Commission specifically relating to Sanitation and SWM services in ULBs?

e. What are the potential ways of resource mobilization for ULBs to fund the Sanitation and SWM services efficiently?

2.2. Methodology

SI. No	Method	Tools and Techniques
1.	Review the devolution of functions under the 12th schedule across the six south Indian states (Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Telangana and Maharashtra) including the existence of parastatal bodies with urban functions to provide a context for the study with a greater focus on the services of sanitation and SWM. The review also focuses on the devolution of funds and functionaries for these services.	This will be done through a **web-search** of acts and documents. This will include the web-sites of various governments, urban bodies and parastatals as well as a few research agencies working on these issues. If necessary, we will have a few **phone-interviews** with key stakeholders
2.	An analysis of the budgets of these six states to understand the devolution to urban services as a whole and sanitation and SWM in particular in the last 4-5 years.	Budget analysis to understand the expenditure trend for eight years (2012-13 to 2019-20) with respect to solid and liquid waste management.
3.	**An in-depth institutional mapping of 2 ULBs, one in Karnataka (Doddaballapura) and one in Tamil Nadu (Hosur)** which have proximity to Bangalore. This would specifically entail a deeper understanding of their sanitation and SWM services. It will include:	The in-depth study will involve **field work** in two identified sites for the purposes of both data collection and conducting interviews.

3a	A **detailed budget analysis** of the two ULBs (last 3 years). This would also involve studying the various mechanisms for raising municipal revenues (taxes and user charges), other sources of revenue generation and total operational costs.
3b	**Analyse sectoral data being collected and maintained by the two ULBs** pertaining to sanitation and solid waste management (including relevant scheme related data)
3c	**Building an understanding of the governance structure, planning and decision making on sanitation and SWM services**. This will be achieved through document analysis and semi-structured interviews.

Chapter 3: Urban Administration and Devolution of 3 Fs in Six States

The economic reforms that took place in the early 1990s led to Indian cities becoming hubs of economic activities, as they were able to provide the basic minimum infrastructure requirements. These cities were able to increasingly attract both investment and talent and this meant that the supporting infrastructure such as roads, public transport, housing and other amenities had to also keep up pace with the city's growth. Hence, there was a serious need to devolve powers and authorities to the lower tiers of the government – the municipal bodies that are largely responsible for creating and maintaining these infrastructure facilities. However, the framework for urban administration and the extent of devolution of the 3 Fs – Funds, Functions and Functionaries varies from state to state.

In the context of this particular study, apart from understanding the framework for urban administration and the extent of devolution in each of the six states of interest, it would be of value to also simultaneously gain some perspective on the following aspects:

1. Urbanization trends of the state (Causes, Rate and Challenges).
2. Provisioning of Sanitation and SWM services in the state.
3. Urban reforms in relation to Sanitation and SWM.
4. Sanitation and SWM: State level targets and progress made.
5. Manual scavenging and welfare of sanitation workers in the state.

Annexure 2 provides the above details for Karnataka, Annexure 5 for Tamil Nadu, Annexure 6 for Maharashtra, Annexure 8 for Telangana, Annexure 12 for Andhra Pradesh and Annexure 14 for Kerala.

3.1. Urban Administration and Devolution of 3 Fs in Karnataka

The history of urban local self-governing bodies in Karnataka state dates back to more than a century. Based on the population urban local bodies are classified into various categories like City Corporations, City Municipalities, Town Municipalities and Town Panchayats. The Municipal bodies are now governed by the provisions contained in Karnataka Municipalities Act, 1964 (for City Municipalities, Town Municipalities and Town Panchayats) and Corporation Act, 1976 (for Corporations).

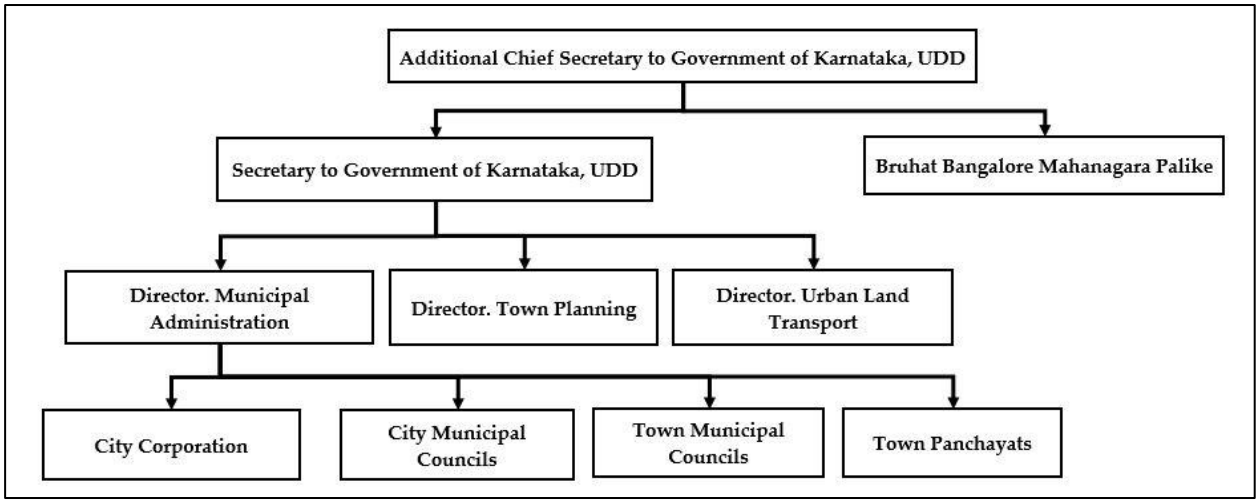
When Karnataka emerged as a unified state after the linguistic reorganisation of states in 1956, there was no uniformity in the rules and regulations governing the urban

government. The Karnataka Municipal Corporation (KMC) Act was enacted with an intention to consolidate the Bangalore Municipal Corporation Act, 1949 and the Hubli-Dharwar Municipal Corporation functioning under the Bombay Provincial Municipal Corporations Act, 1949 which was in force in the Belgaum Area. Similarly, the municipal councils in the state were governed by seven different enactments in force in different areas, and to unify them, the Karnataka Municipalities (KM) Act, 1964 was introduced.

After the 74th Constitutional Amendment, in order to delegate powers to the urban local bodies, the KM and the KMC Acts were amended. As a result of this amendment, a four-tier system was introduced and ULBs were categorised into – 1) Town Panchayats (Population with 10000 to 20000), 2) Town Municipal Council (Population with 20000 to 50000), 3) City Municipal Council (Population 50000 to 300000) and 4) City Corporation (Population 3 lakhs and, above). Each Corporation/Municipal area has been divided into wards, which are determined and notified by the State Government for the purpose of election of Councillors. In January 2007, the Karnataka Government issued a notification to merge the areas under the existing Bangalore Mahanagara Palike with seven City municipal council (CMC)'s, one Town municipal council (TMC) and 111 villages around the city to form a single administrative body, the Bruhat Bangalore Mahanagara Palike (BBMP). The process was completed by April 2007 and the body was renamed as 'BBMP' (Karnataka State Pollution Control Board, 2016).

The Urban Development Department (UDD) is the apex body for urban governance and is headed by Additional Chief Secretary to Government of Karnataka. The Directorate of Municipal Administration (DMA), established in December 1984, is the nodal agency to control and monitor the administrative, development and financial activities of the ULBs except the BBMP, which functions directly under the UDD. The organisational structure with respect to functioning of ULBs in the state is as shown below:

Figure 3. 1: Organisational Structure with Respect to Functioning of ULBs In Karnataka State



Source: Report of the Comptroller and Auditor General of India on Local Bodies. Report 2009
Link:
https://cag.gov.in/webroot/uploads/download_audit_report/2009/Karnataka_Local_Bodies_2009-10.pdf

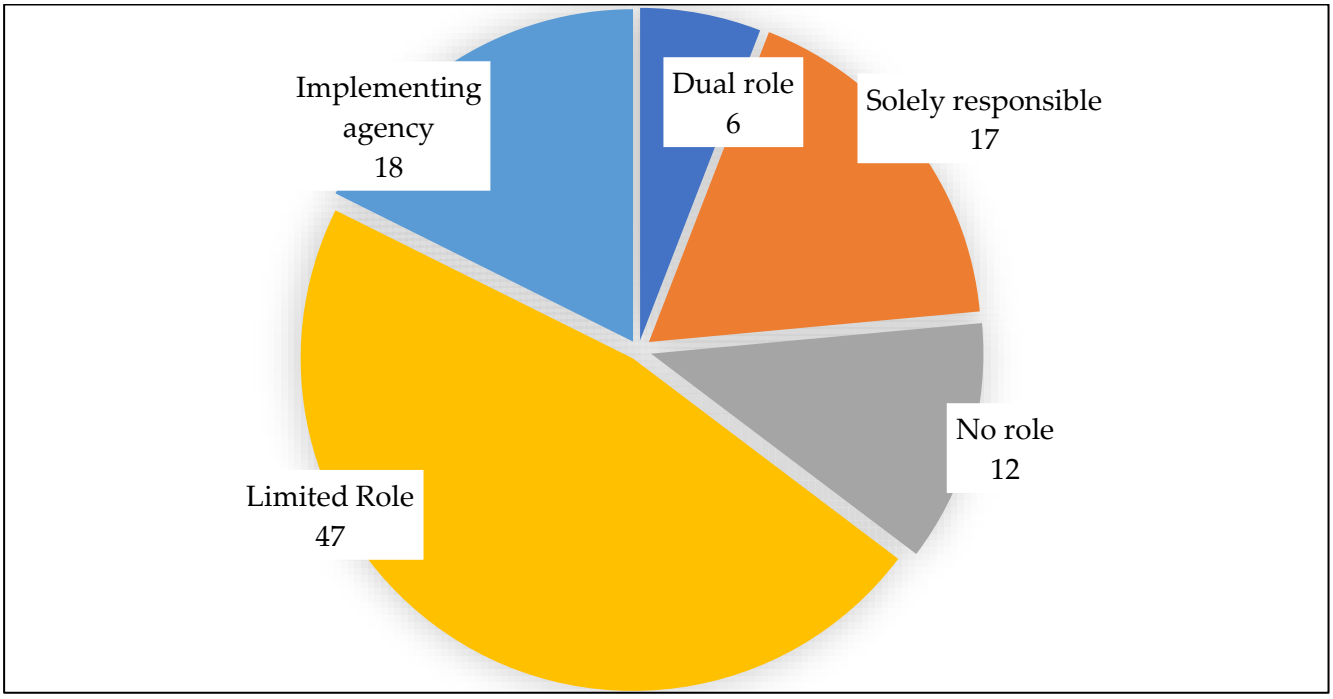
3.1.1. Functions

After the enactment of the 74th CAA, the State Government through amendments to KM & KMC Acts transferred 17 out of 18 functions to ULBs. The only function not transferred was Fire Services. Though all the devolved functions were to be made mandatory, the state further classified these functions as obligatory and discretionary. Out of the 17 functions, 12 were obligatory and 5 were discretionary functions for City Corporations, whereas it was 11 obligatory and 6 discretionary functions for all the other categories of ULBs (Obligatory and discretionary functions from both the KM and KMC Acts have been enclosed in Annexure - 1).

Apart from urban local bodies, there are a host of other parastatal bodies and state departmental agencies that are involved in the planning and implementation of urban services. This is particularly true in metropolitan cities where there are separate government agencies dealing with water supply and sewerage, transport, land and infrastructure development. For example, in the case of Bangalore, there are far too many parallel urban governance organisations—the local body, the BBMP, the Bangalore Water Supply and Sewerage Board (BWSSB), the Bangalore Development Authority (BDA), the Bangalore Metropolitan Regional Development Authority (BMRDA), to name a few are competing for political space. This multi-institutional structure has led to a lack of holistic approach to urban development.

According to a recent performance audit report of Karnataka ULBs by the Comptroller and Auditor General of India (CAG), several overlaps in discharge of the functions was observed between ULBs and parastatals/ government departments. Out of the 17 devolved functions, the ULBs had complete jurisdiction on only three functions; had absolutely no role in two functions; had limited role in eight functions; were mere implementing agencies in three functions; and in respect of one function, while they were responsible for implementation within their jurisdiction, they also functioned as an implementing agency. Please find below a chart that illustrates the function wise role of ULBs in Karnataka.

Figure 3. 2: Function-Wise Role of ULBs



Source: Comptroller and Auditor General of India, 2020

The function-wise role of ULBs is depicted in Figure 3.1.2 (Comptroller and Auditor General of India, 2020).The actual implementation of the devolved functions by the various authorities and the overlap in discharge of functions is detailed in Table 3.1.

Table 3. 1: Showing the Actual Implementation of Functions

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
Functions where ULB has full jurisdiction			
1	Burials and burial grounds; cremations, cremation grounds (O)	Construction and O&M of crematoriums and burial grounds and electric crematoriums	ULBs were wholly responsible for discharging this function
2	Cattle pounds; prevention of cruelty to animals (O)	Catching and keeping strays	ULBs were wholly responsible for discharging this function
		Sterilisation and anti-rabies	
		Ensuring animal safety	
3	Regulation of slaughter houses and tanneries (O)	Ensuring quality of animals and meat	ULBs were wholly responsible for discharging this function
		Disposal of waste	
		O & M of slaughter houses	
Functions with no role for ULBs			
4	Urban planning including town planning (O)	Master Planning / Development Plans / Zonal Plans	Master plans prepared by UDAs/TPAs. Members of ULBs and Executive heads are nominated to the Planning authority.
		Enforcing master planning Regulations	Enforcement is by UDA/TPA.
		Enforcing building byelaws and licenses	ULBs role is limited to issue and renewal of building licenses
		Group Housing, Development of Industrial areas	ULBs role is to identify beneficiaries for group housing.
5	Slum improvement and upgradation (D)	Identifying beneficiaries	ULBs have no role in Slum improvement and upgradation
		Affordable Housing	
		Upgradation	

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
ULBs as mere implementing agencies			
6	Planning for economic and Social development (O)	Program implementation for economic activities	**ULBs -** Implementation of Welfare schemes in sectors such as Housing, Employment, Health, Education and Basic necessities by reserving 34.35% of both the SFC untied grants and own revenue of the ULBs. The funds are allocated at 24.10% for SC/ST, 7.25% for OEWS (Other Economically Weaker Sections) and 3% for differently abled persons in the ratio of 40:60 between individual welfare activities and community development. The State Government issues the guidelines for implementation of these schemes. **Social Welfare Department –** Safeguarding welfare of SC/ST and other weaker sections of the population, implementation of various programmes and schemes for the upliftment of SC/ST for their socio-economic and educational advancement, implementation of Special Component Plan and Tribal Sub Plan schemes, various scholarships and maintenance of hostels.
		Policies for social development	
7	Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded (D)	Identifying beneficiaries	State departments such as Social welfare, Tribal welfare, Empowerment of Differently abled and senior citizens and parastatal such as Rajiv Gandhi Rural Housing Corporation were
		Providing tools/benefits such as tricycles	
		Housing programs	
		Scholarships	

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
			responsible for these functions. ULBs were only an implementing arm for central and state government schemes.
8	Urban poverty alleviation (D)	Identifying beneficiaries Livelihood and employment Street vendors	**ULBs –** Welfare schemes through SFC and own funds Department of Skill Development, Entrepreneurship and **Livelihoods –** Central and State Government schemes
Function with dual role			
9	Roads and bridges (O)	Construction and maintenance of roads Construction and maintenance of bridges, drains, flyovers and Footpaths	While ULBs played a significant role in the construction and maintenance of roads, bridges, drains, flyovers and footpaths within the jurisdiction of ULBs, they are required to implement projects under the State's Nagarothana scheme. ULBs lacked autonomy in execution of works under Nagarothana as the action plans approved under this scheme by the Council can be taken up only after the approval from District and State Committees. These works are monitored by the District Commissioner through District Urban Development Cell (DUDC).
Functions with minimal role and / or having overlapping jurisdictions with state departments and / or parastatals			
10	Regulation of land-use and construction of buildings (O)	Regulating land use Approving building plans/high rises	Regulation of land use was primarily vested with the Department of Revenue whereas

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
		Demolishing illegal buildings	construction of buildings was regulated by various bodies such as UDAs, BDA, Karnataka State Fire and Emergency Services and ULBs. The role of ULBs was limited to issue and renewal of building licenses and enforcement of building byelaws.
11	**Water supply for domestic, Industrial and commercial purposes (O)**	**Distribution of water** **Providing connections** **Operation & Maintenance (O&M)** **Collection of charges**	**Parastatals were in charge of creation of assets. ULBs' role was restricted to operation and maintenance. KUWS&DB is involved in O&M for 101 ULBs, which was entrusted to it.**
12	**Public health, sanitation conservancy and solid waste management (O)**	**Maintaining hospitals, dispensaries** **Immunisation/Vaccination** **Registration of births and deaths** **Cleaning and disinfection of localities affected by infectious disease** **Solid waste management** **Control and supervision of public markets**	**ULBs only had limited role in case of public health allied responsibilities, as Department of Health and Family Welfare played a significant role in maintaining hospitals and dispensaries. Only BBMP and HDMC had maternity homes. ULBs along with the state department undertook immunization / vaccination programs. ULBs were also responsible for cleaning and disinfection of localities affected by infectious disease, solid waste management and control and supervision of public markets.**
13	Urban forestry, protection of the environment and promotion of ecological aspects (D)	Afforestation Greenification Awareness drives Protection of the environment and promotion of ecological aspects	Forest Department played a significant role in the discharge of this function. Only City Corporations (CCs) undertook afforestation and awareness drives along with the Forest

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
		Maintenance of natural resources like water bodies etc.	Department. Protection of the environment and promotion of ecological aspects was solely vested with the Forest Department
14	Provision of urban amenities and facilities such as parks, gardens, playgrounds (O) (D)	Creation of parks and gardens	This function was obligatory for CCs and discretionary for other ULBs. **ULBs -** O & M of parks, gardens, playgrounds, installation of play and gymnasium equipment in parks. **UDAs -** Reservation of not less than 15 % of the total area of the layout for public parks and play grounds and an additional area of not less than 10 % of the total area of the layout for civic amenities at the time of approval of residential layouts.
		Operation and Maintenance	
15	Promotion of cultural, educational and aesthetic aspects (D)	Schools and education	Schools and education were handled by Education Department. BBMP was the only ULB to run schools. ULBs along with the State Departments such as Kannada & Culture, Archeology and UDAs undertake activities allied with public space beautification, organizing fairs and festivals.
		Fairs and festivals	
		Cultural buildings / institutions	
		Heritage	
		Public space beautification	
16	Vital statistics including birth and death registration (O)	Coordinating with hospitals / crematoriums *etc.* for obtaining information	Both ULBs and the Department of Health and Family Welfare maintained database of births and deaths. ULBs register and issue certificates of birth and death.
		Maintaining and updating database	
17	Public amenities including street lighting, parking lots,	Installation and maintenance of street lights	ULBs were in-charge of creation and maintenance of parking lots and public toilets and maintenance of street lighting.
		Creation and maintenance of parking lots	

Sl. No	Functions Obligatory(O) / Discretionary (D)	Activities	Actual status of implementation
	bus stops and public conveniences (O)	Creation and maintenance of public toilets	The State Road Transport Corporations share jurisdiction in respect of provision of bus shelters.
		Deciding and operating bus routes	
Function not devolved			
18	Fire Services	Establishing and maintaining fire brigades	This function was vested with Karnataka State Fire and Emergency Services Department.
		Providing fire NOC / approval certificate in respect of high-rise buildings	

Source: Comptroller and Auditor General of India, 2020

It is important to note that almost all functions that ULBs are performing are merely managerial, overseeing, or implementation. They have very little space in planning. Provisioning of basic services such as water, sanitation and solid waste management have been more or less taken over by parastatal bodies. With regard to these services, the ULBs are largely confined to operation and maintenance. Thus, the existence of these parastatal bodies has significantly eroded the autonomy of the ULBs in the implementation of functions especially urban planning and regulation of land use, slum improvement, water supply and sanitation.

Since 2003 onwards, The District Urban Development Cell (DUDC) under the control of the Deputy Commissioner (DC) were formed to develop, formulate and implement Central and State Government schemes in the Municipality areas in co-ordination with ULBs. The action plans prepared by ULBs are placed before the respective Councils for their approval and subsequently forwarded to the DCs for further approval. Only upon approval from the DCs, ULBs invite tenders for execution of works. The system of seeking approval by DUDC after approval by the Council is against the intention of the 74th CAA to provide autonomy to ULBs.

The state Government also has the following powers for monitoring the proper functioning of all ULBs:

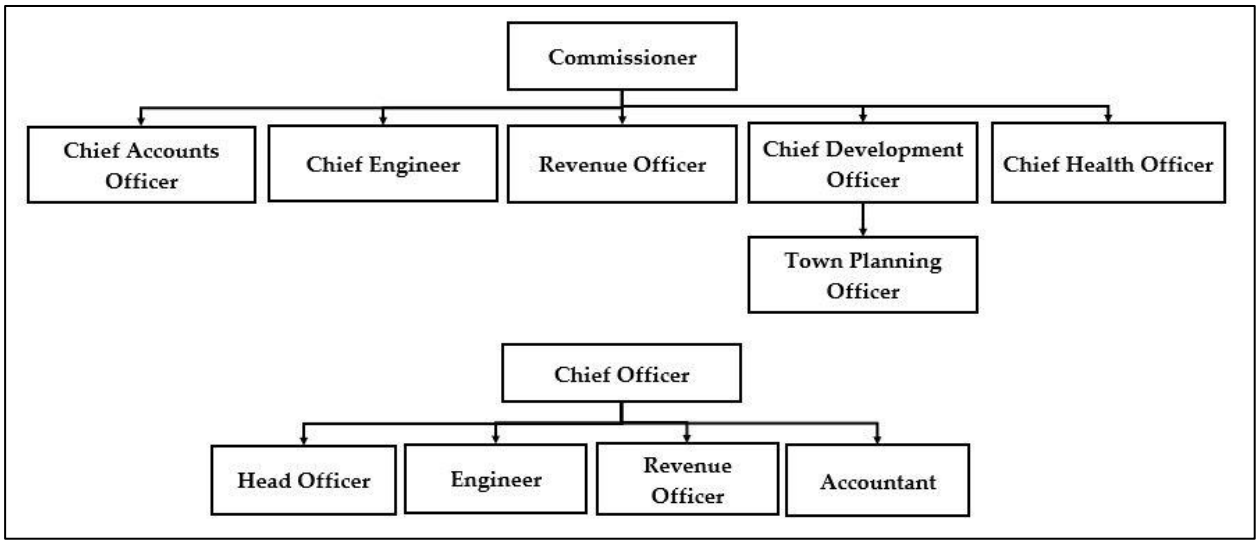
- To frame rules to carry out the purposes of KMC and KM Acts.
- To dissolve those ULBs which fail to perform or default in the performance of any of the duties imposed on them.

- To cancel a resolution or decision taken by the ULBs if the state government is of the opinion that it has not been legally passed or is in excess of the powers conferred by provisions of the Acts.
- To regulate classification, method of recruitment, conditions of service, pay and allowance, discipline and conduct of the staff and officers of ULBs.

3.1.2. Functionaries

As per the KM and KMC Acts, the Corporations and Municipalities consist of elected Corporators/councillors, nominated Corporators/councillors, Member of Legislative Assembly, Member of Legislative Council, Member of Lok Sabha, Member of Rajya Sabha representing the constituencies which comprise wholly or partly the Municipal area. The nominated members do not have voting power. The Mayor/President is elected from amongst the councillors and is assisted by the Standing Committees. The City Corporations (CCs) have four Standing Committees[7] while the other types of municipalities have only one Standing Committee. The Commissioner/Chief Officer is the executive head of ULB. The officers of ULBs exercise such powers and perform such functions as notified by the State Government from time to time. The executive set-up of CCs and other ULBs are as shown below:

Table 3. 2: Executive Set-Up of City Corporations and Other ULBs



Source: Report of the Comptroller and Auditor General of India on Local Bodies. Report 2009
Link:
https://cag.gov.in/webroot/uploads/download_audit_report/2009/Karnataka_Local_Bodies_2009-10.pdf

[7] Taxation, finance and appeals; public health, education and social justice; town planning and improvement; and accounts

In Karnataka, the term of office of the Mayor and Deputy Mayor in the case of CCs is limited to only one year from the date of election. A period of one year for a Mayor would be too little for carrying out effective reforms and there exists the possibility of change in priorities each time there is a change in leadership. Most of the time, the Mayor may not even get to see the projects announced by him/her reaching their conclusion.

Karnataka has a well-established municipal cadre and has allocated training budgets for the same. Even the selection methods for recruitment and promotions are well laid out[8]. However, in accordance with the Acts, the State Government regulates the classification, method of recruitment, conditions of service, pay and allowance, discipline and conduct of staff and officers of ULBs. The Karnataka Municipalities (Recruitment of Officers and Employees) Rules, 2010 and the Karnataka Municipal Corporations (Common Recruitment of Officers and Employees) Rules, 2010, lists out the appointing authorities for various categories of posts. The appointing authority for Group A (high ranking officials) is the state government, The DMA is the appointing authority for Group B and C, and the Municipal Commissioner / Deputy Commissioner are responsible only for Group D category.

The objective of the 74th CAA was to entrust delivery of major civic functions to ULBs. However, functions such as urban/town planning, regulation of land use, water supply & sanitation and slum development continue to be delivered by parastatals as already indicated in Table 3.1. These parastatals were controlled by the state government and have their own governing bodies which do not include elected representatives of ULBs. They are only accountable to the state government rather than the ULBs. Although many of these parastatals had been established even before the constitutional amendment through notifications and governed by the respective Acts, the state government chose not to amend these Acts to ensure that they are accountable to the ULBs. The key parastatals in services related to water supply and sanitation are: Karnataka Slum Development Board which is responsible for slum improvement and, Karnataka Urban Water Supply and Drainage Board (KUWS&DB) which is responsible for water supply and underground drainage works (UGD) and Karnataka Urban Infrastructure Development and Finance Corporation (KUIFDC) which is also responsible for water supply, UGD and other infrastructure projects.

[8] Departmental examinations –subjects, marks, percentage for passing, selection committee constitution, weightage for other factors such as seniority etc. are given and practiced accordingly

A recent CAG audit report notes that there were no Municipal Councils in 210 of the 273 ULBs in the state. In the absence of an elected council, the involvement of elected representatives in decision making and implementation which is an essential element of democracy was missing. Further, a ULB without a council cannot be held accountable by citizens. The CAG audit noticed that the state government had appointed Administrators[9] for these 210 ULBs. Though the Acts provided for constitution of an advisory committee[10] through notification to assist the Administrator, this was not done in any of the ULBs. This affected the discharge of functions in matters of policy involving public interest such as identification of eligible beneficiaries for welfare schemes and prioritisation of development works. The Constitution provides for Wards Committees in all Municipalities with a population of three lakh or more[11]. The audit observed that Ward Committees were not constituted in any of the CCs except BBMP. The audit also observed that ULBs neither had the powers to assess the staff requirement nor to recruit the required staff. These powers are vested primarily with the state government. The state government independently assessed the requirement of staff without seeking any inputs from the ULBs. (Comptroller and Auditor General of India, 2020).

3.1.3. Funds

The devolution of funds to ULBs is a natural corollary to the implementation of transferred functions. The state government directly releases grants to the ULBs to implement the devolved functions. In addition, grants are also released to implement state and centrally sponsored schemes. After the 74th Amendment Act was implemented, the various state finance commissions (SFCs) of Karnataka recommended a share in the total tax revenues of the state instead of individual taxes. Hence, the ULBs get grants from the state on the basis of the recommendations of SFC. The main sources of income for the municipalities are derived from (a) taxes on building and lands, (b) user charge for water supply (c) license fee for regulating the building construction activities and fee from other trade license (d) taxes on advertisement (e) duty on certain transfers of property. Property tax is the most important source. While power to collect certain taxes is vested with the ULBs, powers pertaining to the rates and revisions thereof, procedure of collection, method of assessment, exemptions, concessions, etc.

[9] Sections 99 and 100 of KMC Act and sections 315 and 316 of KM Act.

[10] As per Section 99(6) of KMC Act, an advisory committee shall consist of not less than fifteen and not more than twenty-five persons who shall be qualified to become councillors under this Act. The provisions of KM Act do not specify any such condition.

[11] As per section 13H of KMC Act, Wards Committee shall be constituted by all the Corporations.

are all vested with the state government. The own non-tax revenue of ULBs comprise of fee for sanction of plans/mutations, water charges, etc. The ULBs, thus have lacked complete autonomy in generating own revenue. The share of own revenue to total revenue of ULBs for the period 2014-15 to 2018-19 was only 37 %. Fiscal transfers are another important source of revenue for ULBs. The transfers consist of central and state government grants (specific schemes), Central and State Finance Commission grants, and external grants (select ULBs and schemes). ULBs were largely dependent on these fiscal transfers, since they constituted the balance 63 % of their total revenue.

Capital expenditure is usually met through budget provision and institutional finance. Multilateral institutions like ADB and World Bank have been extending financial assistance to ULBs and other urban development authorities to build infrastructure and housing. Cities like Bengaluru have been raising funds through municipal bonds as well. It is essential to enhance credit worthiness of municipalities to raise funds from the capital market. Multilateral institutions provide long term debt with comfortable terms of repayment. Karnataka has been availing funds from various multilateral institutions since the last 10-12 years.

The 4th SFC Karnataka had recommended devolving 48 % of the Non-Loan Net Own Revenue Receipts (NLNORR) to both urban and rural local governments during its award period 2018-19 to 2022-23. However, the state government accepted to transfer 48 % of NLNORR in a phased manner - 43 % in 2018-19 and then gradually increasing to 48 % in 2022-23, the terminal year of its award period. The Table 3.2 shows the status and percentage split of devolution of funds to both ULBs and Panchayat Raj Institutions (PRIs) during the period between 2011-12 to 2016-17. It is evident that the actual amount devolved to ULBs was less than what was prescribed in all the years except 2011-12.

Table 3. 3: Status of Devolution of Funds to ULBs and PRIs

Year	Percentage to be devolved		Percentage actually devolved	
	ULBs	PRIs	ULBs	PRIs
2011-12	8.5	32	8.59	30
2012-13	9.0	32	6.96	32
2013-14	9.5	32	7.53	31
2014-15	10	32	8.02	33
2015-16	10	32	7.51	33
2016-17	10	32	6.41	33

Source: Finance accounts

Between 2015-16 and 2019-20, Karnataka had the highest per capita recommended devolution[12] by SFC's (Rs. 6101.04) while the all-state average per capita recommended devolution was Rs.1136.10. Transfers Recommended by SFCs as a percent of GSDP was around 3 % for Karnataka and clearly an outlier since the all state average recommendation was only 1.02 % of GSDP. The 4th SFC Karnataka also decided upon a horizontal sharing of funds (between PRIs and ULBs) based on eleven indicators under three domains which are common to both rural and urban areas: (i) Demography (net increase in population, area, SC/ST population, Illiteracy), (ii) Decentralised Governance, and (iii) Basic Household Amenities (2011 census). (Distribution: PRI 75%, ULBs 25%) (CEPT University, 2013).

The CAG Audit report highlighted that ULBs had spent on an average about 69 % of the funds available with them and as per the audit finding this was largely due to the state government limiting the financial and administrative powers of ULBs which hampered the utilisation of funds.

3.2. Urban Administration and Devolution of 3 Fs in Tamil Nadu

History of Urban Administration

The legal framework for urban governance prior to the 74th CAA comprised of multiple legislations and the administrative thinking on urban governance, influenced by the distinct histories of the city of Madras, other municipalities and the large number of smaller towns. The Corporation of Chennai (CoC) was governed from 1919 by the Madras Municipal Corporation Act, 1919, now known as the Chennai City Municipal Corporation Act. Municipal corporations formed in the 1970s and 1980s had legislations closely modelled on the Madras Municipal Corporation Act, namely Madurai (The Madurai City Municipal Corporation Act 1971) and Coimbatore (The Coimbatore City Municipal Corporation Act, 1981). Aside from the Municipal Corporations, larger towns and cities in Tamil Nadu were under the jurisdiction of the District Municipalities Act 1920. The governance of smaller towns —Town Panchayats— evolved within a legal framework shared with villages, i.e. the Tamil Nadu Panchayats Act, 1958. The state amended existing laws in 1994 and carried out a re-assignment of the rural-urban for enacting conformity to the 73rd and 74th CAA at the national level. The Tamil Nadu Panchayats Act of 1958 was amended in 1994 to constitute the

[12] Devolution in Karnataka includes salaries of government staff (including teachers, health workers etc.) placed on deputation with Zilla Panchayats, Taluka Panchayats and Gram Panchayats, over which the latter have very little supervisory control. Most plan allocations are towards tied schemes over which the departments maintain tight control. In fact, there is very little untied component in devolution in the State

conformity legislation for the 73rd Amendment, dealing only with rural areas, while Town Panchayats were re-designated as transitional areas from rural to urban and hence ULBs, and brought under the purview of the Tamil Nadu District Municipalities Act, 1920. Amendments were made to the District Municipalities Act to bring it into conformity with the 74th Amendment, with a separate chapter on Town Panchayats inserted into the Act, and the administrative section, Directorate of Town Panchayats, brought under the administrative control of the MAWS Department at the Secretariat.

All sections of the Act[13] except sections 85, 7 12-c, 13-b, 43, 68, 77-aa and 77-b, were made applicable to the town panchayats by a government order in 2014. The various Municipal Corporation Acts (by this time numbering six) were amended suitably to provide for the various provisions of the 74th CAA, essentially pertaining to ULB structure, as was the Tamil Nadu District Municipalities Act, 1920, and also for defining the roles of the State Election Commission (SEC) and State Finance Commission (SFC). The SEC and the SFC were created in 1994. Elections to Local Bodies were held after a long break in October 1996 and subsequently in 2001, 2006 and 2011 (TNSEC, n.d.).

Under state legislation, Tamil Nadu had constituted various tiers of ULBs prior to the 74th CAA. After adopting the 74th CAA in 1994, Tamil Nadu reclassified transitional village areas as ULBs and brought them under the jurisdiction of the municipal administration department; and streamlined income and population-based criteria for classifying ULBs. Even though ULBs were in existence, elections had not been conducted for the local bodies since the year 1968, except once in 1986. After the 74th CAA, elections to local bodies were held under an independent State Election Commission in the year 1996. Prior to 74th CAA, the state established autonomous parastatal organisations for urban functions such as Chennai Metropolitan Water Supply and Sewage Board, Tamil Nadu Water and Drainage Board, Chennai Metropolitan Development Authority (CMDA), Tamil Nadu Housing Board and Tamil Nadu Slum Clearance Board. Further, the Directorate of Town Planning was responsible for town planning functions.

Urban Administration After the 74th Amendment

The State Legislature amended the Tamil Nadu District Municipalities Act, 1920, for transferring the powers and responsibilities to ULBs in order to implement schemes for economic development and social justice including those in relation to the matters listed

[13] Tamil Nadu District Municipalities Act, 1920

in the Twelfth Schedule of the Constitution. Currently, the number and type of ULB are as follows[14]:

Table 3. 4: Number and Type of ULB in Tamil Nadu

Type of ULB	Number
Municipal Corporations (MC)	15
Municipalities	121
Town Panchayats (TP)	528
TOTAL	**664**

Source: Tamil Nadu State Election Commission

The ULBs are classified into classified into different grades based on their annual revenues and population.

Table 3. 5: Category of ULB Based on Their Annual Revenues

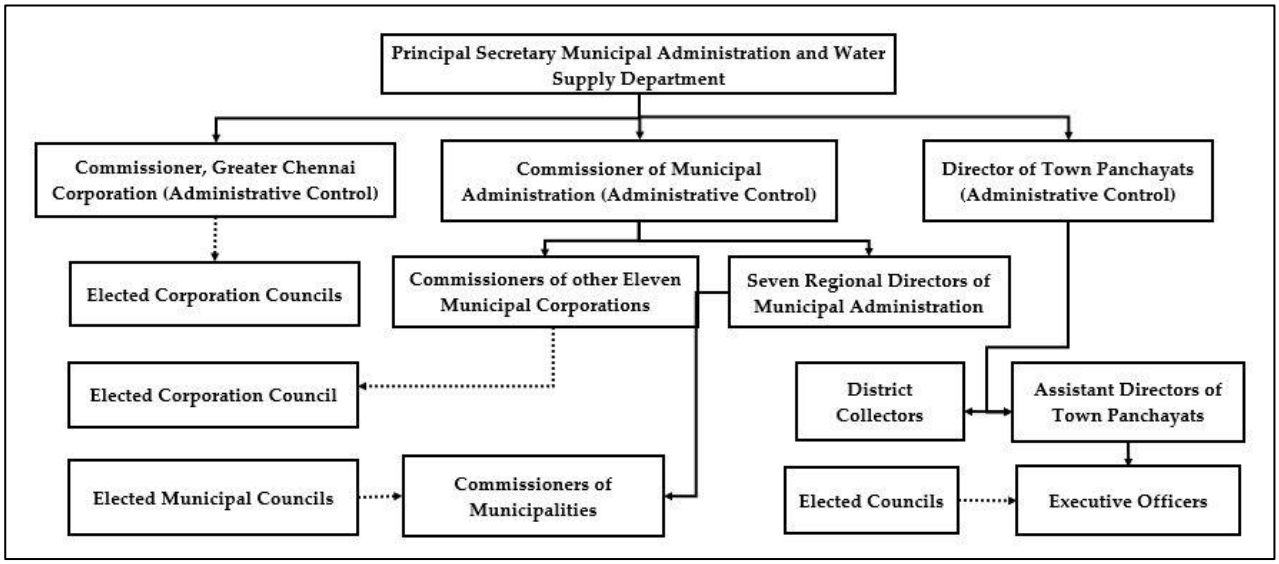
Category of ULB	Grade	Annual Income
Municipalities	Special Grade	Above Rs. 10 crores
	Selection Grade	Rs. 6 crore and above but below Rs. 10 crores
	First Grade	Rs. 4 crore and above but below Rs. 6 crores
	Second Grade	Below Rs. 4 crores
Total		
Town Panchayats	Special Grade	Above Rs. 20 lakhs
	Selection Grade	Above Rs. 16 lakhs but below Rs. 20 lakhs
	Grade- I	Above Rs. 8 lakhs but below Rs. 16 lakhs
	Grade- II	Above Rs. Rs. 4 lakhs but below Rs. 8 lakhs
Total		

Source: (An overview of Urban Local Bodies, 2017).

For a ULB to become a municipal corporation, income must be above Rs.50 crores with minimum population of 5 lakhs (An overview of Urban Local Bodies, 2017).

[14] Tamil Nadu State Election Commission - https://tnsec.tn.nic.in/tnsec_upload/about_us/introduction.html

Figure 3. 3: Organisational Structure for Administration of ULBs in Tamil Nadu



Source: An overview of Urban Local Bodies, 2017

The State administration in Tamil Nadu manages the urban governance, infrastructure and development domain through two key departments, namely Municipal Administration and Water Supply (MAWS) Department and Housing and Urban Development Department (HUDD). The MAWS Department is headed by an officer of the rank of Principal Secretary, while the HUDD is headed by an officer of the rank of Secretary. Both these key departments have a number of departments within, with clear delineation of roles. Each of these departments is part of different ministerial portfolios and hence ministers. While these departments function independently, it is reported that the HUDD delegates its powers of building approval (Ground plus one level) to ULBs, which are in turn administered by MAWS Department.

Under MAWS, there are three institutions which operate independently of each other – Chennai City Corporation (CoC), Commissionerate of Municipal Administration (CMA) - which handles affairs of 14 municipal corporations other than CoC and 121 municipalities and Directorate of Town Panchayats-which handles 528 town panchayats. In all other states, C/DMA is responsible for functioning of all ULBs except the capital city corporation, which functions independently (Capacity Building for Urban Development project (CBUD) , 2014).

In Tamil Nadu, unlike most states, the City Corporation and Water Supply & Sewerage Board work together. In Tamil Nadu, Municipal Administration & Water Supply [MAWS] is headed by Secretary under whom CMA, Directorate of Town Panchayat, Chennai Corporation, CMWSSB and TN Water & Drainage Board [TWAD] function together.

Composition of Municipalities and Corporations

Municipalities comprise of a council, a chairperson and an executive authority. The number of councillors as stipulated by the Act[15] was to be decided by the State government once in five years, but were to be not less than 20 and not more than 52. MPs and MLAs whose constituencies fell within or overlapped with the municipality were also members of the council, but would not have the right to vote.

Chairpersons and 43 vice-chairpersons were to be elected indirectly by, and from among, the members of the council (excepting MPs and MLAs). Each municipality (listed under schedule IX of the District Municipalities Act) and others notified by the state government were to have a commissioner appointed by the state government

Municipalities can also appoint up to three standing committees for specific functions, as well as a Taxation Appeals Committee. Special Committees comprising experts from outside the council (number of such persons not to exceed one-third of the strength of the committee) can be appointed by a council resolution. Wards committees can be constituted by the state government, for one or more wards having a population of three lakhs or more, and will comprise of the councillors from the relevant ward(s). Joint committees comprising representatives of other local authorities can also be constituted, with provision for outside experts (not to exceed one-third of strength of the committee).

Amendments following the 74th Amendment, introduced wards committees into the council structure. In 1996, the Chennai Municipal Corporation comprised, apart from 155 councillors representing the 155 wards of the city, MPs, and MLAs whose constituencies comprised the area of the corporation, and members of Council of State registered as electors in the area. Wards committee is to comprise of several wards and the number of wards within a wards committee and the number of wards committees within a corporation is to be decided by the state government. Each wards committee would comprise all the 44 councillors of the wards included in the territorial area of the wards committee, and a chairperson to be elected from among members of the committee. The Mayor was, from 1996 until 2006, elected directly by voters. In 2006, an amendment made the post, along with that of the deputy mayor, subject to indirect election by council members. A government order issued in 1997 (GO No.27, MAWS, dated 7 Feb 1997), stipulated rules for the constitution of Standing Committees: councils of the corporations could constitute a maximum of 6 Standing Committees, each with a

[15] The District Municipalities Act 1920.

minimum of 6 and a maximum of 15 councillors, of which no less than a third had to be women, and a chairman elected by the members (THE MADRAS INSTITUTE OF DEVELOPMENT STUDIES (MIDS), 2011).

3.2.1. Functions

The functions of Town Panchayats, Municipalities and Municipal Corporations became as defined by the TN District Municipalities Act. The obligatory functions include:

a) Provision and maintenance of water supply; b) Provision and maintenance of street lights; c) Provision and maintenance of public drainage; d) Provision and maintenance of latrines; e) Arrangements for sweeping streets and removing solid waste; f) Provision and maintenance of public streets and roads; g) Planting and maintenance of trees on the sides of roads.

Except that in the case of the Chennai Corporation, water supply and drainage is completely managed by the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) - A state level parastatal Board.

As of November 2017, out of 18 functions enlisted in the Twelfth Schedule of the Constitution, 12 functions were devolved to the Town Panchayats (TPs) and 17 functions (except Fire Services) were devolved to the Municipalities and Municipal Corporations by the State Government. In respect of Greater Chennai Corporation (GCC), 13 out of 18 functions were devolved until September 2017, of which, the function of water supply is handled by the Chennai Metropolitan Water Supply and Sewerage Board.

While the 74th Amendment in 1993 recommended that planning be handed over as one of the functions of ULBs, the legacy of the Town Planning Act of 1971 has remained fairly strong in the state, in the form of specialized parastatal Metropolitan Development Authorities, like the Chennai Metropolitan Development Authority (CMDA) and the Directorate of Town and Country Planning (DTCP), that have kept planning functions in the hands of bureaucrats and expert planners accountable to the state government. The CMDA has, since the 1970s, carried out all the planning and development functions that were supposed to be devolved to local bodies. It published the first master plan in 1975, and the second in 2008. In recent years, the CMDA has gradually delegated some limited powers to local bodies, as discussed in the future sections. The DTCP was established in 1972 under the provisions of the Town and Country Planning Act, 1971, and has performed the role of producing master plans and

detailed development plans, issuing building permits and licenses, and enforcing land-use and building regulations in all local bodies across the state.

The Tamil Nadu Housing Board (TNHB) is another parastatal body created in 1961 as a successor to the City Improvement Trust, and constituted by the Tamil Nadu Housing Board Act, 1961. Its role is to provide affordable housing for various categories of the population in tune with their economic status, to developing house sites and plots across the state, and to create satellite towns and developments with the required infrastructure (such as roads, water, sanitation, etc) in appropriate areas (THE MADRAS INSTITUTE OF DEVELOPMENT STUDIES (MIDS), 2011).

3.2.2. Functionaries

Tamil Nadu has a well-established municipal cadre and has allocated training budgets. Selection methods for recruitment and promotions are well laid out. Among the states that have a municipal cadre, Tamil Nadu ranks fifth in overall performance of ULBs, according to JNNURM Reform Score Card[16] (Capacity Building for Urban Development project (CBUD) , 2014). In 1970, Tamil Nadu adopted a series of rules for various municipal services, which provincialized many cadres of municipal staff, bringing them within a statutory framework for recruitment, grades and salaries, and regulating transfers and promotions. These rules included the Tamil Nadu Municipal Town Planning Rules, 1970; the Tamil Nadu Municipal Medical Service Rules, the Tamil Nadu Municipal Engineering Service Rules, 1970; the Tamil Nadu Municipal General Service Rules, 1970; and the Tamil Nadu Municipal Educational Service Rules, 1970. At present, Tamil Nadu has a cadre of municipal officers for key roles such as chief officers of ULBs, engineering, finance, town planning and public health. Senior positions are recruited by the state governments which increases the attractiveness of these job positions to potential applicants. The positions are transferable across the state which ensures good practices are replicated across ULBs. Transfer of staff from small to large towns also provides opportunities for career progression. However, the average vacancy is 18.8% in key positions (STATE LEVEL BACKGROUND PAPER ON TAMIL NADU, 2011).

The elevation of Town Panchayats (TPs) to the status of urban local bodies after 1994 created expectations of higher service levels from these bodies. The first SFC (1996), examining these enhanced service roles of ULBs, recommended an increase in levels of staffing for civic services, particularly in order to support O&M of existing assets. In

[16] http://jnnurm.nic.in/scoring.html

general, the report recommended slight reduction in technical staff, but enhancement in the semi-skilled, and unskilled staff. A special task force was formed by the first SFC to make recommendations on restructuring of ULBs with a view to better financial viability, efficiency and economy. Between 1996 and 1998, the government issued orders fixing norms for enhancing the staffing levels and regularizing casual workers in TPs. In 1998, a separate engineering wing was also created for TPs, with one Junior Engineer (JE) appointed for seven TPs, and one AEE for a region, resulting in a total of 90 JEs and 16 AEEs for TPs. The table below shows Municipal staffing norms recommended by the Second SFC for Tamil Nadu:

Table 3. 6: Municipal Staffing Norms in Tamil Nadu

Categories of ULBs	Recommended staff per 1000 population
Chennai Corporation	3.5
All other corporations	3
Municipalities	2.5 to 3
Town Panchayaths	1.75 to 1.90

Source: State Level Background Paper On Tamil Nadu, 2011

In the case of municipalities, it was found that staffing ratios were unjustifiably high, averaging about 3.87/1000, and going up to 6.85 in some cases. In Corporations, it was found that the existing staff strength worked out to a ratio of 5.11 per 1000, about 71% higher than the desired norm. Reductions were to be made by abolishing posts on retirement of existing staff, and/or transferring them to other departments or positions when vacancies arose. Wherever feasible, computerisation and privatization of operations was recommended to accompany the ban on filling up new posts, and SFC recommended a continuous review of workload and sanctioned strength in order to "right-size" the ULBs (STATE LEVEL BACKGROUND PAPER ON TAMIL NADU, 2011).

3.2.3. Funds

The major sources of finances for ULBs in Tamil Nadu are own revenues that include tax and non-tax revenues, and assigned revenues that include grants and loans from the government (Entertainment tax, Surcharge on Stamp Duty and Local Cess/Local Cess Surcharge). According to the Tamil Nadu District Municipalities Act 1920, tax revenues that can be levied by an ULB or municipal council (as described under Sec 78, Sec 78A, Sec 79, Sec 88, Sec 88 –A, Sec 93, Sec 98, Sec 116) are Property tax, Professional tax, tax on carriage and animals, tax on carts, tax on advertisements other than advertisements published in the newspaper and advertisements broadcast by radio or television, hill

station municipal council may also levy a tax on servants, pilgrim tax, surcharge on transfer of Property and miscellaneous income such as income from interest on deposits. Though there are a range of taxes that the ULB can derive its revenue from, property tax and professional tax are the two major sources. Property Tax is the most important tax source revenue to Urban Local Bodies, particularly in a non-Octroi State like Tamil Nadu. According to the State Finance Commissions reports, property tax alone constitutes anywhere between 30-60% of municipal revenues. Other taxes and assigned revenues are Advertisement, tax on cable tv, entertainment tax and surcharge on stamp duty.

Non-Tax Revenue Income from regulatory fees and user charges form part of Non-Tax Revenue. A major portion of this income comes from water charges, Dangerous & Offensive license fees (D&O), building fees, development charges, lease rental and other fees and fines. From these incomes, a sizeable investment is made for water supply and sewerage schemes, and water charges. In some states such as Tamil Nadu, some of these taxes are adjunct to property tax so that the effective cost of collection is reduced. In effect, people from different economic strata are charged at different rates for the same level of services such as street lighting and collection of recyclable waste from garbage scavenging (JLL India, 2018).

A sum of 1,416.82 crore was sanctioned by GoI as Fourteenth CFC grant to the ULBs in Tamil Nadu for the year 2016-17 and the same was released by GoTN to the ULBs. Tamil Nadu was one of the first States to set up a State Finance Commission (SFC) as mandated by the 74th CAA. The First SFC submitted its report for the period FY 1998–2002, the Second SFC constituted in 2001 submitted its report for the period FY 2003–2007, the Third SFC constituted in 2006 for the period FY 2008–2012 and the Fourth SFC for FY 2013–2017 (GoTN, 2011). The Fifth SFC for FY 2018-22, submitted in 2017 (Gupta & Chakraborty, 2019).

The first SFC was set up in 1994 and submitted its recommendations in 1996 which were accepted in March 1997 by the state government. Based on the SFC recommendations, the GoTN decided to share 8% of its own tax revenues with the ULBs. Tamil Nadu was amongst the first states to follow this approach of sharing a part of its total revenues. This encouraged other SFCs to recommend this approach and has now been adopted by other states. Tamil Nadu since set up four more SFCs periodically and the share of own tax revenues to ULBs has increased to 10%. In addition, the SFCs made important recommendations which have been accepted by the state government such as - (i) reclassification of ULBs, (ii) incentive and equalization funds, (iii) limiting

salary expenditure of ULBs to less than 49% of revenues, (iv) debt relief for ULBs, (v) property tax reforms, and (vi) award and incentive for best practices.

The devolution package provided by the State to local bodies was initially meant for maintenance of existing assets and for those that are newly created and also for the payment of salaries to staff of local bodies. Apart from this, An Infrastructure Gap-Filling Fund and an Operation and Maintenance Gap-Filling Fund were also created in order to fund the creation of new infrastructure by local bodies as well as their regular maintenance which were essential for provision of basic services such as water supply and sewerage. The current allocation is 3% towards the Infrastructure Gap-Filling Fund and 2% for Operation and Maintenance Gap Filling Fund from out of the share of each tier. These two funds have provided the much-needed scope to local bodies for the maintenance of their assets as well as to meet certain operational expenses.

Table 3. 7: Receipts and Expenditure of ULB's

(Rs. In crores)

	2012-13	**2013-14**	**2014-15***	**2015-16***	**2016-17**
Own Revenue	2,467	2,957	2,875	3,364	3,776
Assigned Revenue[17]	1,084	1,211	1,047	1,717	1,469
Grants	4,020	4,391	4,073	5,033	5,468
Loans	323	903	772	724	1,964
Total Receipts	**7,894**	**9,462**	**8,767**	**10,838**	**12,677**
Revenue Expenditure	3,461	4,985	5,331	6,704	6,895
Capital Expenditure	3,117	5,107	4,954	6,750	6,406
Total Expenditure	**6,578**	**10,092**	**10,285**	**13,454**	**13,301**

Source: Report of the Comptroller and Auditor General of India (Local Bodies) for the year ended March 2017

Note: * Figures differ from the figures of Audit Report 2015-16 due to furnishing of revised figures by GCC.

The Fourth SFC, constituted in December 2009, recommended a vertical sharing ratio of 56:44 between rural and urban local bodies. GoTN accepted (June 2013) the recommendations with modifications to adopt the vertical sharing ratio between rural and urban local bodies at 58:42 and the horizontal sharing ratio of SFC devolution funds at 40:31:29 among Municipal Corporations, Municipalities and Town Panchayats respectively. The amount of SFC grants released to the ULBs during 2016-17 was

[17] Ninety per cent of Entertainment Tax and 50 per cent of Surcharge on Stamp Duty collected within the jurisdiction of the local body were assigned to the concerned local body

3,075.35 crore. The 5th SFC also maintained the vertical sharing ratio of 56:44. It recommend that the composition of the divisible pool be 10% of the state's net own tax revenue (net of surcharge on Stamp Duty of RLBs/ULBs and other surcharges) (Gupta & Chakraborty, 2019).

3.3. Urban Administration and Devolution of 3 Fs in Maharashtra

All ULBs in Maharashtra are governed by 4 Municipal Acts namely: 1. Mumbai Municipal Corporation Act, 1888 (MMC Act), 2. The City of Nagpur Municipal Corporation Act, 1948 (NMC Act), 3. Bombay Provincial Municipal Corporations Act, 1949 (BPMC Act), and 4. Maharashtra Municipal Councils, Nagar Panchayats, and Industrial Townships Act, 1965 (hereafter The Maharashtra Municipal Councils Act). These Acts have laid down the provisions for constitution, composition, election of members, functions, municipal authority and staff, municipal funds, sources of revenue, audit of ULBs i.e. the framework within which all municipal bodies are expected to function. This framework has been then expanded, detailed out, modified through creation of institution, practices pertaining to financial and human resources and introduction of reporting formats.

According to the provisions in 'The Maharashtra Municipal Councils Act 1965', every municipal area was classified by the state government as 'A' Class, 'B' Class or 'C' Class, based on their population. After the 74th CAA, municipal laws of Maharashtra were amended by the Maharashtra Amendment Act No.41 1994, section 109 (A); as per the Article 243Q of 74th CAA[18]. Accordingly, all ULBs in Maharashtra were categorized as Municipal Corporations, Municipal Councils and Nagar Panchayats. The state government then considered population and proportion of people engaged in non-agricultural activities as a major criterion for the constitution of ULBs. The Maharashtra Municipal Councils Act 1965 defines a Municipal Council and Nagar panchayat[19], while BPMC Act defines a Municipal Corporation (Annexure 3). Further, Municipal Councils were classified into type A, B, and C based on the population (Table 3.8).

[18] Article 243Q of the 74th CAA has stipulated the criteria for 3 types of ULBs.
[19] See Section 3, 4, 341A and 341F the Maharashtra Municipal Councils Act 1965.

Table 3. 8: Types of Urban Areas According to the Municipal Acts in Maharashtra

Type		Population Criteria	Type of Local Body
Larger Urban Area		Population more than 3,00,000	Municipal Corporation
Smaller Urban Area	Type A	Population more than 1,00,000	Municipal Council
	Type B	Population of more than 40,000 but not more than 1,00,000	
	Type C	Population of 40,000 or less but more than 25,000	
Transitional Area		10,000 to 25,000	Nagar Panchayat

Link: https://en.wikipedia.org/wiki/Local_government_in_Maharashtra

Table 3.9 shows the classification of total number of 387 ULBs of the state into Municipal Corporations, Councils, and Nagar Panchayats (Maharashtra Pollution Control Board, 2019).

Table 3. 9: Classification of cities of Maharashtra

Sl. No	Name	Statistic
1	Municipal Corporation	27 Cities
2	Municipal Council	236 Cities
3	Nagar Panchayat	124 Cities
4	**Total Number of ULBs**	**387**

Source: Annual Report on Solid Waste Management Rules, 2016

Twenty-seven Municipal Corporations have been created for urban agglomerations having a population of more than three lakhs. The amended BPMC Act also further categorized these corporations based on population. These categories determine the number of councillors in the city. The 27 Municipal Corporations have been categorised into five categories namely A+, A, B, C and D based on the criteria of population and per capita income. At present only the Municipal Corporation of Greater Mumbai (MCGM) falls in category of A+, 2 in category A, 3 in category B, 4 in category C and the remaining 17 Municipal Corporations in category D. Similarly, 358 Municipal Councils including Nagar Panchayats have been created for smaller areas and categorised based on their population. At present there are 17 A class, 69 B class and 145 C class Municipal Councils and 127 Nagar Panchayats in the state.

3.3.1. Functions

In view of the 74th CAA, the state Govt. of Maharashtra amended the legal provision related to "duties and responsibility" in all four existing municipal laws in the State[20]. The 18 functions under the 12th Schedule are suggestive in nature and not mandatory.

[20] These have been amended under the Maharashtra Municipal Corporations and Councils (Amendment) Act 1994 [41st Amendment Act of 1994].

It is the state government's decision to treat some of them as obligatory/mandatory or discretionary/non-mandatory functions. However, some of the functions enlisted in the 12th Schedule of 74th CAA, already existed in the municipal laws of Maharashtra even before the enforcement of the 74th CAA.

Functions like Planning for economic and social development, Urban Forestry, Protection of environment and ecology, Slum improvement and up gradation, Urban Poverty Alleviation, Cattle Pounds, prevention of cruelty to animals, Public amenities including parking lots, bus stops and Regulation of tanneries were incorporated for the first time in the Municipal Laws after enactment of the 74th CAA. Maharashtra is one of the very few states to have transferred all 18 subjects listed in the 12th Schedule to ULBs. Table 3.10 details among the 18 functions, the ones considered obligatory/mandatory or discretionary/non-mandatory according to the amendments made to the four Acts that govern municipal functions in Maharashtra.

Table 3. 10: Status of Functions in the 12th Schedule

Sl. No	Functions under 12th Schedule	Mumbai Municipal Corporation Act 1888 (MMC Act)	The City of Nagpur Municipal Corporation Act 1948 (NMC Act)	Bombay Provincial Municipal Corporation Act 1949 (BPMC Act)	Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act 1965
1	Urban Planning including Town Planning	Obligatory	Obligatory	Obligatory	Obligatory
2	Regulation of land use and construction of Building	Obligatory	Obligatory	Obligatory	Obligatory
3	Planning for economic and social development	Obligatory	Obligatory	Obligatory	Obligatory
4	Roads and Bridge	Obligatory	Obligatory	Obligatory	Obligatory
5	Water supply for domestic, industrial, and commercial purpose	Obligatory	Obligatory	Obligatory	Obligatory
6	Public Health, Sanitation, Conservancy and Solid Waste Management	Obligatory	Obligatory	Obligatory	Obligatory
7	Fire Services	Obligatory	Obligatory	Obligatory	Obligatory
8	Urban Forestry, Protection of environment and ecology	Obligatory	Obligatory	Obligatory	Obligatory

Sl. No	Functions under 12th Schedule	Mumbai Municipal Corporation Act 1888 (MMC Act)	The City of Nagpur Municipal Corporation Act 1948 (NMC Act)	Bombay Provincial Municipal Corporation Act 1949 (BPMC Act)	Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act 1965
9	Safeguarding the interest of weaker section including handicapped and mentally retarded	Discretionary	Absent	Absent	Obligatory & Discretionary
10	Slum improvement and upgradation	Discretionary	Discretionary	Discretionary	Discretionary
11	Urban Poverty Alleviation	Discretionary	Discretionary	Discretionary	Discretionary
12	Provision for urban amenities and facilities like parks, gardens, and playgrounds	Discretionary	Obligatory	Discretionary	Discretionary
13	Promotion of cultural, educational and aesthetics aspects	Discretionary	Discretionary	Discretionary	Discretionary
14	Burials and burials ground, cremation grounds and Electronic crematoriums	Obligatory	Obligatory	Obligatory	Obligatory
15	Cattle Pounds, prevention of cruelty to animals	Absent	Discretionary	Discretionary	Discretionary
16	Vital Statistics including registration of births and deaths	Obligatory	Obligatory	Obligatory	Obligatory
17	Public amenities including (a) street lightening, (b) parking lots, bus stops (c) public conveniences	Obligatory Discretionary Obligatory	Obligatory Discretionary Obligatory	Obligatory Discretionary Obligatory	Obligatory Discretionary Obligatory
18	a) Regulation of slaughter houses. b) Regulation of tanneries	Obligatory Discretionary	Obligatory Discretionary	Obligatory Discretionary	Obligatory Discretionary

Source: Maharashtra Municipal Councils, Nagar Panchayats 233 and Industrial Townships Act, 1965

Functions and duties related to basic services like water supply, public health, sanitation, conservancy and solid waste management (SWM), fire services, roads and bridges (Function no. 4,5,6,7) are obligatory to all municipal councils and municipal corporations. Every ULB is expected to make provision in its municipal budget and management of human resources to deliver these services to its citizens. The state government provides special grants to perform these functions to ULBs. Function no. 10 and 11 are related to urban poor. In all Municipal laws these functions are treated as discretionary functions. That means for any corporation or council it is not mandatory to perform these functions. Officials of Municipal bodies state that even though they are willing to perform these functions, the major constraint is lack of funds. For these functions, ULBs are mainly dependent on the Central Govt. or the State Govt. (Singh, 2011).

Any duty imposed or any function assigned under these municipal laws to these ULB's under this Act or any other law for the time for which it is in force, or a Corporation which has been entrusted with the implementation of a scheme by the state government or any other authority , the corporation may either discharge such a duty or perform such a function or implement such schemes by itself or subject to directions given by the state government cause it to be discharged, performed or implemented by any agency provided that the corporation may also specify terms and conditions for such an agency which are consistent with the terms and conditions of the state government[21].

3.3.2. Functionaries

The state of Maharashtra has a well-established dedicated municipal cadre, where the selection methods are well laid out. State Public Service Commission is the cadre management authority for group services as well as selecting officers for all India services. The state allocates training budgets to get the staff trained in various reputed institutions within and outside the state and is in the process of establishing training institutions to cater to urban development capacity building[22]. However, numerous functions that are significant are being managed by different parastatal organisations in the state in varied forms – as corporation, board, authority, etc. specifically with respect to housing and slum rehabilitation (Capacity Building for Urban Development project (CBUD) , 2014). Provisions for municipal staff, their appointments, appointing authority, term for the posts and authority determining rules and regulations of service

[21] Section 63-A of Mumbai Municipal Corporation Act, Section 66-A and 67-A of Bombay Provincial Municipal Corporation Act, Section 58-B and 58-C of the city of Nagpur Corporations Act and section 77 (1-A) of the Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act.

[22] YASHADA in Maharashtra are currently catering to urban training requirements.

have been specified in the Act[23]. The power of appointing municipal officers in all leadership positions in corporations is either vested fully with the state government or with different authorities like the municipal commissioner, the Brihan Mumbai Electric Supply and Transport Committee, the Standing Committee and Education Committee subject again to approval from the state government. All recruitments of municipal officers and staff are carried out with the prior approval of the state government[24].

3.3.3. Funds

The 74th CAA envisages that states should devolve additional taxation powers to ULBs so as to make them financially competent for performing additional functions and responsibilities. All the four Acts governing municipalities in the state have provisions for 'Imposition of compulsory and voluntary taxes.'[25] ; compulsory taxes are those which are compulsorily levied by every ULB while voluntary taxes are left to the discretion of ULB. Tables comparing "Powers of Taxation" in all four municipal Acts, during pre and post 74th CAA period can be found in Annexure 4. For example - prior to the 74th CAA, there were four compulsory taxes which were levied by Nagpur Municipal Corporation. However, by Mah.13 of 1992, section 11, a latrine or conservancy tax, a tax for the construction and maintenance of public latrines and water–rate were abolished. At present there are only two compulsory taxes namely Property Tax and Cess on animals or goods that could be levied by the corporation. (Singh, 2011).

Overall, it is seen that compulsory taxes were reduced post 74th CAA. Further it is also seen that there is very little flexibility for ULBs in exercising the power to impose taxes. The rates of taxes, the rules pertaining to the same are all decided by the state government. However, the 74th CAA also provides for State Finance Commissions to establish a sound basis for these decisions. Mumbai Municipal Corporation has no autonomy regarding the components and rate for each component of the tax. However, the ceilings are fairly high. Nagpur Municipal Corporation has very limited autonomy to decide rate for Water Benefit tax and Street tax. All other municipal corporations under the BPMC Act have sufficient autonomy compared to Mumbai and Nagpur

[23] The Mumbai Municipal Corporation Act 1888 has [under sections 60A, 73A, 76A, 76B, 77,78, 78A, 78B, 78C,79, 80, 80A and 80 B]

[24] In 2006, the Government of Maharashtra took a major step in bringing uniformity in the staffing pattern of all municipal corporations except Mumbai. Until then every municipal corporation had the power to decide all regulations related to their staff according to provisions in the said acts.

[25] Section 139 of MMC Act, 1988, Section 127 of BPMC Act, 1949, Section 114 of NCMC Act 1948, Sections 105 and 108 of Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act.

Municipal corporations, especially regarding Water and Water Benefit Tax and Sewerage Tax. However, there is no freedom or power to any municipal corporation to levy any new component of property tax or changing the tax base. The sources of revenue for ULBs are listed in Table 3.11.

Between 2006-07 to 2014-15, on an average own source revenue (Rents, Taxes etc., Income from Commercial Enterprises, Other Income) accounted for nearly 87.49 % of the total receipts, while government grants accounted for a meagre 4.77 % of the total receipts and loans and deposits accounted for the remaining 7.73 %.

Table 3. 11: The Various Sources of Revenues of ULBs

Item	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Average %
Rent, taxes etc. including octroi, property tax and water charges	11147 (68.74)	12094 (65.91)	12253 (51.11)	12712 (44.05)	15989 (53.05)	17800 (55.22)	19233 (51.92)	20173 (50.92)	21647 (49.93)	54.48
Government grants	636 (3.92)	990 (5.40)	1084 (4.52)	1217 (4.22)	972 (3.23)	1198 (3.72)	1867 (5.04)	3036 (7.59)	2302 (5.31)	4.77
Commercial enterprises	199 (1.23)	198 (1.08)	2387 (9.96)	2650 (9.18)	13 (0.04)	82 (0.25)	17 (0.05)	75 (0.19)	89 (0.21)	2.46
Deposits, loans, etc.	640 (3.95)	2525 (13.76)	4111 (17.15)	6242 (21.63)	1280 (4.25)	1853 (5.75)	496 (1.34)	251 (0.63)	477 (1.10)	7.73
Other income	3595 (22.17)	2541 (13.85)	4138 (17.26)	6039 (20.93)	11883 (39.43)	11302 (35.06)	15433 (41.66)	16477 (41.18)	18840 (43.46)	30.55
Total	**16217**	**18348**	**23973**	**28860**	**30137**	**32235**	**37046**	**40012**	**43355**	

Source: Report on State Finances of Maharashtra Submitted to the 15th Finance Commission
Note: Numbers in parenthesis are %

The Revenue Composition of ULB's In Graphical Terms Is as Follows

Maharashtra is one of the few states where it's ULBs have the capacity to provide core services using its own resources. It can meet the entire expenditure of basic services from the funds it raises on its own. Maharashtra has shown extensive experience in mobilisation of resources for financing urban development. The land banking model was developed by Magarpatta City (near Pune) with active participation of the citizens, under which they would surrender land for an equal share in the development company. The development company would develop and sell land for various uses and utilise the proceeds for the development of infrastructure. Pune has used Transferable Development Rights (TDR) for acquiring land for development, which is modelled on the already successful experience of using TDR in Mumbai for a wide range of purposes like road, reservation, and slum development. Likewise, e-tendering in Aurangabad has

resulted in a better contract awarding system and lowered the cost by 5-10% (JLL India, 2018).

The 4th SFC of Maharashtra had recommended devolution of 40 % of the state's own tax and own non-tax revenues to local government. The state government did not accept the recommendation of the 4th SFC. It also did not provide reasons for not accepting the recommendation of the Commission (Gupta & Chakraborty, 2019). In Maharashtra, it is observed that nearly 72 % of non-plan SFC grants are united in nature. This gives ULBs the autonomy and freedom to use the funds in a manner they deem fit. Currently most ULBs use these funds to meet their institutional and salary expenditures. All other grant and scheme funds (Plan funds) represent tied funding, with different degrees of freedom of use by the ULBs (CEPT University, 2013).

3.4. Urban Administration and Devolution of 3 Fs in Telangana

The State of Andhra Pradesh was bifurcated as State of Andhra Pradesh and State of Telangana on 2nd June 2014. Andhra Pradesh (then including Telangana) was formed in 1956 by merging the state of Andhra with the Telugu-speaking districts of the then Hyderabad state; the municipalities in Andhra area continued to be governed by the Andhra District Municipalities Act, 1920, whereas the municipalities belonging to the then Hyderabad State were governed by the Hyderabad District Municipalities Act, 1956. To maintain uniformity in service provisions, a uniform municipal act for the entire state covering both the Andhra as well as Hyderabad areas was enacted in 1965, called the Andhra Pradesh Municipalities Act. In 2015, this Act was adapted by the state of Telangana, and came to be known as the Telangana Municipalities Act, 1965.

In the erstwhile Hyderabad State, there were two municipal corporations, one at Hyderabad and the other at Secunderabad and they were both governed by the Hyderabad Municipal Corporations (HMC) Act, 1955. The two corporations were merged in 1960 to become the Hyderabad Municipal Corporation. Subsequently, in 2007, 12 nearby municipalities around Hyderabad were merged with HMC to become the Greater Hyderabad Municipal Corporation (GHMC) and the Hyderabad Municipal Corporations Act, 1955 (HMC Act) was renamed as the Greater Hyderabad Municipal Corporation Act, 1955 (GHMC Act). After the State of Telangana was formed, the Andhra Pradesh Municipal Corporations Act, 1994 was adapted in the State and the Act became the Telangana Municipal Corporations Act, 1994. Currently, while the municipalities in the State are governed by the Telangana Municipalities Act, 1965, the municipal corporations are governed by the Telangana Municipal Corporations Act, 1994 (with GHMC Act, 1955 as the mother Act).

As per Art. 243 Q of the Constitution of India which was introduced through the 74th Amendment of 1992, Municipalities include Municipal Councils and Municipal Corporations. The Government of Telangana desired to bring forth an integrated act covering all municipalities and municipal corporations excluding GHMC, to ensure uniform, effective and responsive governance and to meet the growing needs of people. It was contemplated that the age-old enactments be replaced with a fresh legislation brought out with new contents as per the felt needs of the urban population. This resulted in the present Telangana Municipalities Act, 2019. The Act governs all municipalities and municipal corporations in the State except the GHMC. To extend better services to the citizens of Greater Hyderabad, the State government is looking to enact a new GHMC Act on the lines of the Telangana Municipalities Act.

The state of Telangana has 141 ULBs/municipalities, of which 128 are Municipal Councils (smaller urban area) and the remaining 13 are Municipal Corporations (larger urban area)[26]. The power to constitute municipalities vests with the legislature of the state. Most of the provisions, either (i) require government approval, or (ii) implemented as prescribed (under rules issued by government). The Council or the Corporation consists of: (i) elected members, (ii) ex-officio members and (iii) co-opted members. The municipality is divided into wards and voters in each ward elect a member who is called a ward member. Ex-officio members are either members of the Legislative Assembly (MLA), representing the constituency, or members of the House of People (MP – Lok Sabha), representing the constituency, or member of the Legislative Council (MLC)[27], or member of the Council of States (MP -Rajya Sabha). Co-opted members are two persons in the case of Councils and three persons in the case of Corporations and having special knowledge or experience in municipal administration, and two persons belonging to minority community.

[26] A smaller urban area or a larger urban area means such area as the Governor may, having regard to the population of the area, the density of the population therein, the revenue generated for local administration, the percentage of employment in non-agricultural activities, the economic importance or such other factors as he may deem fit, specify by public notification.

[27]The MLCs are elected through (i) electorate of local authorities, (ii) electorate consisting of graduates, (iii) electorate consisting of teachers and (iv) members of the Legislative Assembly; and, through (v) nomination by Governor.

3.4.1. Functions

The duties and responsibilities of a municipality are covered in sections 51 to 58 of the Telangana Municipalities Act, 2019 (Chapter IV). The functions of a municipality include[28]:

- Developmental activities or urban planning, including town planning
- Regulation of land use and construction of buildings
- Construction and maintenance of roads, drains and bridges
- Water supply for domestic, industrial and commercial purposes
- Public health, sanitation, conservancy and solid waste management
- Urban forestry and urban lung spaces, protection of environment and promotion of ecological aspects
- Slum improvement and up-gradation
- Night shelter for urban homeless
- Urban amenities and facilities such as community halls, sports complexes and bus shelters
- Promotion of cultural, educational and aesthetic aspects
- Development of burial grounds (vaikuntadhamams) and electric crematoriums, and arrange vaikuntarathams
- Vital statistics including registration of births and deaths
- Public amenities, including street lighting, parking spaces, bus stops and public conveniences
- Regulation and scientific management of slaughterhouses and tanneries
- Use of Information Technology in service delivery and citizen centric services
- Census-related functions
- Any other function or responsibility entrusted by State Government from time to time.

The functions listed in the XII Schedule of Constitution of India except planning for economic and social development, fire services, safeguarding the interests of the weaker sections of society, including the physically handicapped and mentally unsound, promotion of cultural, educational and aesthetic aspects, cattle ponds and prevention of cruelty to animals are covered in the list. Additionally, use of Information Technology in service delivery, citizen centric services and census related functions are also covered. The administration of a municipality rests with the municipal council, and

[28] Listed in Section 52

other authorities like the Chairperson/ Commissioner and Ward Members have detailed duties and responsibilities. The responsibilities as a member of Council include:

- Calling the attention of Chairperson to any grievance
- Moving resolution on any matter relating to municipal administration
- Consideration by Council and taking appropriate resolution on any matter or subject raised or submitted by him/her.

As maybe observed, they are not specific actionable items, nor are they sector specific, they are in-general largely managerial and administrative in nature. The duties and responsibilities of the Commissioner are detailed in Section 53. Besides performing the functions of the Municipality listed in section 52, the Commissioner is also responsible to keep the municipality clean and take measures for general upkeep of sanitation ensuring human safety. Duties and responsibilities of ward member are detailed in section 56 and can be found in Annexure 7. Most of the functions are with respect to provisioning and maintenance of water supply, sanitation, and waste management. It is to be noted that, in provisioning of sanitation and waste management services, both, the executive and deliberative wings (state appointed and elected) are equally involved and responsible. Sections 57 and 58 are the novel features of the Act relating to municipal functions. The municipality has to strive to transform the town into a model town by preparing a perspective plan and delivering municipal services through online services. For this purpose, the municipality has to:

- Adopt e-governance system for citizen services on anytime-anywhere basis for better, speedy, accountable, and transparent administration.
- Deliver municipal services online for the convenience of citizens in a time bound manner as per the Citizens Charter.
- Recover penalty from the person responsible for the delay, if timeline as per Citizen Charter not adhered.
- Establish one or more Citizen Services Centres for the purpose of providing online services, and for facilitating redressal of citizen grievances.

Sections such as these are seldom found in the legislation of other states despite several amendments. This amounts for legal provisioning of more transparency, accountability and time-bound delivery of services.

3.4.2. Functionaries

A well-established Municipal cadre exists in the State of Telangana. The organisational set up dividing municipal functions into various sections and designating different

categories of officers and employees with different skill set-up is an inbuilt system within the state. The creation of state common municipal service provides career growth as well as vertical and lateral movement of officers and employees. Table 3.12 lists the various sections of municipal functions as designated by the state.

Table 3. 12: Functional Distribution in Municipality

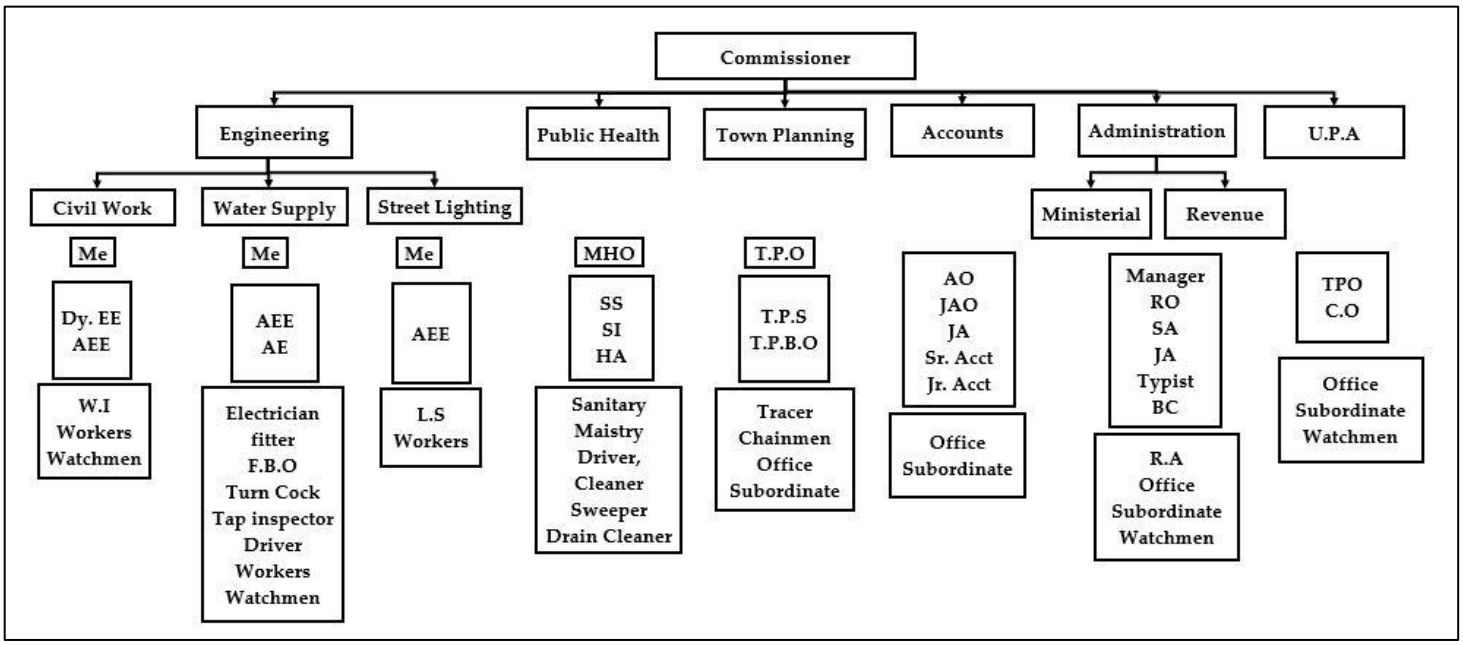
Sl. No	Section	Broad functions
1	Administration	To look after general administration, including meetings of council and committees
2	Revenue	To assess and collect various taxes and collection of rents from municipal properties
3	Accounts	To maintain accounts, prepare annual accounts and budget, attend to audit of accounts
4	Public health and sanitation	To look after sanitation, scavenging, solid waste management and other public health related activities
5	Engineering	To look after public works like roads, drains, buildings, parks and play grounds; water supply and sewerage; and street lighting
6	Town Planning	To regulate town planning activities including land uses, lay outs, building activities, advertisements and encroachments
7	Urban Poverty Alleviation (UPA)	To look after urban poverty alleviation programmes

Source: Centre for Good Governance
Link: https://www.cgg.gov.in/core/uploads//2017/07/Municipal_cadres_in_Telangana-1.pdf

There are three services which cater to the personnel requirements of municipalities in Telangana as per the provisions of the Andhra Pradesh Municipalities Act, 1965. These are – 1) State services that cater to both municipalities and various departments of the state government (Sections 29 and 71). These officers are at the top of the hierarchy and the state government is the appointing authority. 2) State municipal subordinate service i.e. a common service consisting of mid-level officers and employees to cater exclusively for municipalities on state-wide basis. (Section 80). In this cadre, for categories I to III, the CDMA is the appointing authority whereas the Regional Director of Municipal Administration is the appointing authority for categories IV to VI. 3) Municipal service to cater to the requirements of each municipality in the lower levels of hierarchy. (Section 73). The Chairperson of the municipality is the appointing authority for municipal services but as per Section 75 of the Act, the state government has the power to transfer any officer or employee of a municipality to the service of any other municipality or local authority.

The commissioner specifies the duties of the officers and employees of the municipality, exercises supervision and control, and initiates disciplinary action over them[29]. Figure 3.4 shows the hierarchy, and the functionaries in the executive wing, as per the Act.

Figure 3. 4: Functionaries and Hierarchy of the Executive Wing



Source: Centre for Good Governance,
Link: https://www.cgg.gov.in/core/uploads//2017/07/Municipal_cadres_in_Telangana-1.pdf

The District Collector is empowered with authority over the municipal functionaries. He/she has the power to suspend the Commissioner or any other employee, if in his/her opinion, the said officer has failed to carry out the duties entrusted under this Act or for any other form of impropriety or dereliction of duties.

3.4.3. Funds

Telangana, the newest state of India, was formed out of Andhra Pradesh in June 2014. It constituted its first SFC in December 2017. The inter-se-share of Telangana state in the total divisible pool according to the 14th Central Finance Commission is 2.437%. The total award to the state is Rs.1,06,344.50 crores over the five-year period (2015-16 to 2019-2020) of which Rs. 3,388 crores were allocated as grants to ULBs (approx. 3.2 %). The following table provides the yearly break up of Urban local bodies grants allocated to Telangana.

[29] Section 48 of the Telangana Municipalities Act, 2019

Table 3. 13: Yearly Break Up of ULBs Grants Allocated to Telangana

(Rs. In Crores)

Year	Basic	Performance	Total
2015-16	325.23	0.00	325.23
2016-17	450.33	132.91	583.24
2017-18	520.32	150.41	670.73
2018-19	601.92	170.81	772.73
2019-20	813.32	223.66	1036.98
Total	**2711.12**	**677.78**	**3388.90**

Source: Telangana State Financial Commission, Government of Telangana

Link:
http://tsfc.cgg.gov.in/preview.htm?fileName=F_FAQs%20on%20SFC2.pdf&filepath=pdfPath

Municipal Revenue is detailed in chapter III of the Telangana Municipalities Act, 2019 (sections 82-113 A). The sources of revenue for the ULBs, as detailed in the Act are:

- Taxes or cesses or fees levied by the municipality
- Levy of user charges for civic services
- Reimbursement of any cost or expenditure made by the municipality.
- Sanction of building plans and issue of occupancy certificates
- Issue of municipal licenses for various non-residential uses of lands and buildings
- Licensing of various categories of professionals such as plumbers and surveyors and of activities such as sinking of tube-wells, sale of meat, etc. which require a license or permission under the provisions of this Act
- Issue of birth and death certificates, and
- Development charges on any layouts, residential buildings, or non-residential buildings.

Over and above the regular taxation avenues, improved and modern system of collection of taxes and fees are provided in the Act. They include:

- Provision of online services for the licenses and other services
- Provision of electronic or other machines, which enables auto updation of collections in online applications and accounting applications
- Arrears towards municipal revenue be recovered through the procedure contemplated for recovery of land revenue under the provisions of Telangana Revenue Recovery Act, 1864
- Property tax is payable by the owner, or by the occupier of the building. If tax is paid by the occupier on behalf of owner, he is entitled for reimbursement or deduction of such amount from the rent due.

The resource base of the ULBs in the state of Telangana include mainly own income raised through taxes, service charges, license fee, penalties, earning on own assets, sundry receipts, assigned revenues from the state government (entertainment tax, stamp duty etc.) and grants from the state and central government. In addition to this, ULBs are also provided loans by the state government and they are allowed to borrow from markets through bonds for which the CDMA has been implementing independent credit rating system which looks at their financial performance, economic growth prospect, capital utilization, infrastructure, and reduction in dependency on the State government grants, etc. Over the past three years (2014-15 to 2016-17) there is a fluctuation in the cumulative expenditure and receipts of the state's ULBs. In the year 2014-15 and 2016-17 the receipts were more than the expenditure whereas in 2015-16 the expenditure was more than the receipts. The ULBS own revenues as a percentage of the total revenues constantly decreased over the years from 81 % in 2014-15 to 54 % in 2016-17 (Indian Audits and Accounts Department, 2018).

According to a study by the Administrative Staff College of India (ASCI)[30], the estimated additional financial requirement for improving the delivery of services across all the ULBs of Telangana including the GHMC is estimated at Rs 40,720 crores over five years. As per the findings, the current financial situation of ULBs in the state is weak and they are barely able to cover the cost of administration, and operations and maintenance (O&M) expenditure. The capital investment required to address the infrastructure needs cannot be financed through the modest revenues being generated by ULBs. The study highlighted those significant reforms are needed to address these financial needs for service delivery improvement in ULBs. These could include improving coverage and collection efficiency of property tax, vacant land tax and other non-tax revenues, land monetisation measures, promoting public private partnership for amenable municipal infrastructure areas and increasing the share of assigned revenues from the state to ULBs. GHMC has taken some proactive steps in this regard and is one of the few ULBs in the country to have raised funds for service delivery improvement projects by selling multiple bonds in 2018 and 2019[31] (Business Standard, 2019).

3.5. Urban Administration and Devolution of 3 Fs in Andhra Pradesh

When the state of Andhra was formed in 1953, by the bifurcation of the then Madras state (now Tamil Nadu), it adopted the Madras District Municipalities Act, 1920 as the Andhra District Municipalities Act, 1920. Later, when Andhra Pradesh was formed in 1956 by merging the state of Andhra with the Telugu-speaking districts of the then Hyderabad state, the municipalities in Andhra area continued to be governed by the

[30] The SFC had engaged ASCI to give reports and recommendations on strengthening ULB

[31] Raised Rs 100 crore through an issue of municipal bonds as part of its Rs. 300 crores fund raising plan, in 2019. Raised Rs. 195 crores by selling municipal bonds in 2019.

Andhra District Municipalities Act, 1920, whereas the municipalities belonging to the then Hyderabad State were governed by the Hyderabad District Municipalities Act, 1956.

Though the basic structure of both the Acts are similar, there was no uniformity in provisions relating to elected representatives, municipal functionaries, functions, powers and responsibilities. It was therefore proposed to legislate a uniform municipal act for the entire state covering both the Andhra as well as Hyderabad areas. This resulted in the passage of the Andhra Pradesh Municipalities Act, 1965, which now forms the statutory basis for the municipal government in Andhra Pradesh. The State of Andhra Pradesh was subsequently bifurcated as State of Andhra Pradesh and State of Telangana on 2nd June, 2014.

The Andhra Pradesh Municipalities Act, 1965 was amended through Act No. 17 of 1994 to bring it in conformity with the provisions of 74th Constitutional Amendment Act, 1992. Few important amendments were - constitution of finance commission, ward committees, provision for conducting elections and representation for all. According to section three of the Andhra Pradesh Municipalities Act, the government is empowered to declare a local area as a municipality with a population of not less than twenty-five thousand. After the reorganisation of the state in 2014, Andhra Pradesh currently has 120 urban local bodies[32];

Table 3. 14: Number of ULBs

Category	Number
Municipal corporations	16
Municipalities	77
Nagar panchayats	27

Source: Socio Economic Survey 2019-20

The legal constitution of Nagar panchayats and municipalities is in the realm of Andhra Pradesh Municipalities Act, 1965 and municipal corporations are formed under Andhra Pradesh Municipal Corporations Act, 1994. As per the Andhra Pradesh Constitution of Nagar Panchayats and Municipalities Rules, 2019 the criteria for the constitution of Nagar panchayat and municipalities are specified based on several parameters (Annexure 9), while municipal corporations are constituted based on notification issued by the governor specifying the population limits for 'larger urban area[33]'. These limits

[32]Socio Economic Survey 2019-20.

[33] 'larger urban area' means such area as the Governor may, having regard of the population therein, the revenue generated for local administration, as may be prescribed, specify by notification for the purposes of the Andhra Pradesh Municipal Corporations Act, 1994.

may also be altered from time to time. The apex administrative authority of all the ULBs is the Commissioner and Director of Municipal Administration (CDMA). The CDMA plays a supervisory role; for which it has to co-ordinate with other departments such as Public Health Engineering Department, Town and Country planning department, State Audit Department, Urban Developmental Authorities, Municipal Corporations and Water boards to enable service delivery.

The governance structure and administrative set up differ among the ULBs. While there are 26 ULBs falling directly under the administration of Directorate of Town and Country Planning, the remaining 94 ULBs are under various Urban Development Authorities (UDAs). There are 16 UDAs along with two special development authorities[34]. The UDAs are constituted under the Andhra Pradesh Metropolitan region and Urban Development Authorities Act, 2016.

3.5.1. Functions

The 74th Constitutional Amendment Act, 1992 identified 18 functions in the Twelfth Schedule of the Constitution to be devolved to ULBs by the state government. All the functions mentioned in this schedule were devolved to ULBs in AP except 'Fire Services'.[35] The following functions are assigned to ward committees through the Andhra Pradesh Municipal Councils (Constitution of Wards Committees, election of chair persons, powers and functions, etc.,) Rules, 1995. Rule 21 states the powers and functions of these ward committees:

(i) Maintenance of sanitation;

(ii) Maintenance of water supply and drainage;

(iii) Maintenance of street lighting;

(iv) Maintenance of roads;

(v) Maintenance of markets;

(vi) Maintenance of parks and play grounds; and

(vii) Maintenance of school buildings wherever they are under the control of the Municipality.

It may be noted that all of the functions under Rule 21 are restricted to 'maintenance' and 'regulation', rather than planning and execution. Additionally, there is no mention of functions relating to urban and town planning or planning for economic and social

[34] http://dtcp.ap.gov.in/dtcpweb/ULBS.html

[35] Report of the Comptroller and Auditor General of India on local bodies. Report No.6 of 2018, Government of Andhra Pradesh.

development. These are essential functions that need to be devolved to the municipalities if local-self-governance[36] needs to be implemented in its fullest spirit. With limited scope for resource mobilization at the ULB level, infrastructure projects (which are highly capital intensive) are carried out through national and state level missions[37], with limited autonomy of ULBs, since these grants and loans are tied to certain reforms. These projects generally target larger towns and do not provide coverage for ULBs with a population of less than 100,000 inhabitants leaving a significant share of the population underserved in the state (Asian Infrastructure Investment Bank, 2018).

The powers and functions of the commissioner and other officers as detailed in the Andhra Pradesh Municipalities Act, 1965[38], largely encompass tax collection, imposition of disciplinary action, accounts keeping, record keeping and data collection (Annexure 10). However, none of these functions directly affect urban planning. Nevertheless, all of these functions are of prime importance in efficient governance and maintaining overall health of the municipality. The municipal health officer is the key functionary responsible for the management of functions such as urban sanitation and solid waste management.

3.5.2. Functionaries

Municipal authorities charged with carrying out the provisions of the Act[39] are: (a) council; (b) a Chairperson; (c) a commissioner; (d) the Wards Committee. This arrangement is similar to the one envisioned at the national level after the 74th CAA.

Andhra Pradesh Municipalities (Gradation of Municipal Councils and Nagar Panchayats) Rules, 1995, classified municipalities into five grades based on their annual income[40] (Annexure 11). The gradation of municipalities was done to deploy functionaries. For instance, it is only at the selection, special and first grade municipalities; specialized functionaries like the Public Health Officer, Municipal

[36] The term "Local Government" or "Local-self-government' as envisioned by the 74 CAA, means the government by freely elected local bodies which are endowed with power, discretion and responsibility to be exercised and discharged by them, without control over their decisions by any other higher authority.
[37] According to a report by AIIB in 2018, under AMRUT, 55 water supply projects (USD388 million), 25 sewerage projects (USD120 million), seven stormwater drains (USD53.8 million) and nine parks at (USD14 million) are under implementation in AP. A World Bank funded project, covering water supply systems in 6 ULBs (USD161 million) is nearing its completion.
[38] Chapter III, Section 56 of the Andhra Pradesh Municipalities Act, 1965, details the powers and functions of commissioner and other officers.
[39] Chapter II, Section 4 of the Andhra Pradesh Municipalities Act, 1965, lists the municipal authorities.
[40] "Annual Income of the Municipality" means, the amount realised through all sources during the last financial year except teaching grants and loans.

Engineer, Town Planning Officer and Revenue Officer (all belonging to the state cadre) are appointed. In the smaller municipalities, the locally recruited, sanitary inspector, municipal supervisors and others attend to these tasks (Kannaiah, 2013).

The state of Andhra Pradesh has a well-established, dedicated municipal cadre. The reforms contemplated under AMRUT on 'constitution and professionalization of municipal cadre' has been functional in the state of Andhra Pradesh[41]. It is well tested and is in operation for the last 2-3 decades effectively. Three milestones under the reform, which are (i) establishment of municipal cadres, (ii) cadre-linked training, and (iii) right-sizing the number of municipal functionaries is already in place in the state. The organisational set up of dividing municipal functions into various sections and designating different categories of officers and employees with different skill set-up is an inbuilt system in the state. Roles and responsibilities of various functionaries have been defined and norms for the creation of posts in different sections have also been notified by the state govt. through the 'Manual of Roles and Responsibilities of Various Functionaries in Urban Local Bodies in AP,2009'. Functionaries are created for each of the sections provided to municipalities, as shown in Table 3.15 Apart from efficient division of roles, the creation of state common municipal service provides career growth as well as vertical and horizontal movement of officers and employees (Centre for Good Governance, 2017).

Table 3. 15: Sections in Municipalities in Andhra Pradesh

Sl. No	Section	Broad functions
1	Administration	To look after general administration, including meetings of council and committees
2	Revenue	To assess and collect various taxes and collection of rents from municipal properties
3	Accounts	To maintain accounts, prepare annual accounts and budget, attend to audit of accounts
4	Public health and sanitation	To look after sanitation, scavenging, solid waste management and other public health related activities
5	Engineering	To look after public works like roads, drains, buildings, parks and play grounds; water supply and sewerage; and street lighting
6	Town Planning	To regulate town planning activities including land uses, lay outs, building activities, advertisements and encroachments

[41] 11 reforms including milestones and implementation timelines have been set under AMRUT Mission. One of the reforms (No.2) reads as 'constitution and professionalization of municipal cadre'.

Sl. No	Section	Broad functions
7	Urban Poverty Alleviation (UPA)	To look after urban poverty alleviation programmes

Source: Manual of Role and Responsibilities of various functionaries in Urban Local Bodies in Andhra Pradesh, 2009. Centre for Good Governance
Link: https://cgg.gov.in/core/uploads/2017/07/Rolesresponsibilities-of-ULB-functionaries1.pdf

3.5.3. Funds

According to the recommendations made by the 3rd State Finance Commission (SFC) of Andhra Pradesh, the definition of divisible or sharable pool of resources is not specified, instead the devolution is decided by assessing the needs of local bodies by way of grants and assignments, in order to fill the gap between expenditure demand and revenue demand. As per the 14th Finance Commission, GoI have allocated an amount of nearly Rs. 3635 crores to Urban Local Bodes in the State of Andhra Pradesh. Out of which basic grant allocated to Urban Local Bodies is around Rs. 2908 crores (80 %) and performance grant is approximately Rs.727 crores (20 %) which are used to disburse grants to Urban Local Bodies (ULBs) based on their performance on 28 SLB indicators (Government of Andhra Pradesh, 2016).

Taxes that can be levied by the municipality[42], are: (i) property tax; (ii) tax on carriages and carts; and (iii) tax on animals. The council may, by resolution and with the previous sanction of the state government also levy a tax on advertisements. Additionally, the government can by notification levy new taxes. The method of assessment of property tax and rate needs to be determined by the municipality. It is one of the most important sources of own revenue for the Andhra Pradesh state municipalities. AP is one of the very few states where the own revenue of ULBs account for more than 50 % of their total revenues (58.5 %) (National Institute of Public Finance and Policy, 2011).

ULBs in AP have been facing several challenges as they are not truly independent and remain incapable of maintaining and delivering services. The cities are largely being governed by the state appointed bureaucrats or agencies (ASICS, 2017). Many ULBs in AP (For E.g. Vishakhapatnam) have not had directly elected mayors[43]. While it is fundamental to have an elected municipal government with regular elections, ULBs in

[42] Part 4, Chapter I, Section 81 of the Andhra Pradesh Municipalities Act, 1965 specifies the Taxes that can be levied by municipalities.
[43] V R Vachana, (2018), India's cities without ownership: A continuing tale of deficiency, Economic and Political Weekly.

AP seem to have done away with them. Vishakhapatnam district which is the most urbanized in the state and houses a lot of urban investments has not held municipal elections for 13 years now[44]. Although state wide municipal elections were conducted in 2014, the Greater Vishakhapatnam Municipal Corporation (GVMC) along with several other municipal corporations such as Kakinada, Guntur, Kurnool, Ongole and Tirupati did not conduct elections due to various reasons including court cases[45]. This shows the pathetic state of accountability and how peoples' representation has been suffering in the state. With no effective elected body in place, the state appointed bureaucrats continue to govern these cities.

The CAG audit reports have also observed huge underutilization of funds in various projects and that ULBs of AP haven't submitted utilization certificates for various projects and public works, thus depriving its citizens with their intended benefits. These lapses have been observed mainly in road works. The 2018 CAG audit report indicates close to Rs. 75 crores of expenditure as wasteful, avoidable and infructuous.

3.6. Urban Administration and Devolution of 3 Fs in Kerala

Kerala is one of the few states in the country where a concerted attempt has been made to ensure that local bodies can function as institutions of self-governance. Citizen engagement from the grassroots level has brought better devolution of local self-governance in Kerala. Under the British rule, Kerala was divided into three areas - Travancore and Cochin were two princely states, while Malabar was part of the Madras Presidency. However, the social conditions in all the three areas were almost similar, with the upper castes oppressing the lower castes. Kerala witnessed a string of social reform movements in the late 19th and early 20th century. The reform movements at the grassroots helped the people to understand the rights, duties and responsibilities of the state and encouraged them to articulate their needs. These social movements played an important role in laying a strong foundation for decentralisation in Kerala.

As early as in 1958, the Administrative Reforms Committee pushed for the need to set up panchayats (for rural areas) and municipalities (for urban areas) and empowering them with revenue administration and other regulatory functions. Taking into account the recommendations of the Administrative Reforms Committee, the Kerala Panchayat Act, 1960, the Kerala Municipalities Act, 1960 and the Kerala Corporation Act, 1961

[44]https://www.thehindu.com/news/cities/Visakhapatnam/gvmc-to-go-to-elections-on-march-23-after-a-long-gap/article31027359.ece
[45]https://timesofindia.indiatimes.com/city/hyderabad/Civic-elections-in-AP-unlikely-this-year/articleshow/53295453.cms

were passed, unifying the laws governing the local bodies in the Travancore–Cochin–Malabar regions. However, the local self-governments (LGSs) were limited to only civic duties. Though the successive governments in the state introduced several bills for empowering LSGs in Kerala, all the initiatives failed to meet the desired results, as they were poorly executed. Few decades later, the74th Constitutional Amendment stipulated an amendment of the state laws by April 24, 1994 to conform to the constitutional requirements on urban LSGs.

The government of Kerala considered that instead of making amendments to the existing Kerala Municipalities Act,1960 and the Kerala Municipal Corporations Act, 1961 it would be better to enact a new Municipalities Act applicable uniformly to the Municipal Councils, Municipal Corporations and Nagar Panchayats, incorporating the provisions in accordance with the 74th Constitutional Amendment Act, 1992. As a result, the Kerala Municipality (KM) Act was enacted in 1994. As per this Act, the government shall constitute by notification of the Gazette: (a) a "Town Panchayat" for a transitional area; (b) a "Municipal Council" fora smaller urban area; and (c) a "Municipal Corporation" for a larger urban area, and conduct direct elections to all seats in the municipalities. The Act mandates the establishment of either ward sabhas or ward committees in each ward of the municipality. In case the municipality has less than one lakh population, then every ward should form a ward sabha and every person from the ward on the electoral roll becomes a member of this ward sabha. If the population of the municipality is more than one lakh, then a ward committee is formed and the following become members:

- The Councillor of the ward;
- Fifteen persons to be elected in the manner prescribed, from among the members of the resident's association of that ward, which are registered in the municipality;
- Twenty members to be elected in the manner prescribed from among the members of the registered neighbourhood groups of that ward which are registered in the municipality;
- One person each nominated by every political party having representation in the municipality;
- The Heads of all recognised educational institutions functioning in that ward;
- Twenty persons nominated jointly by the chairperson and councillor of the Ward

In both cases, the local Councillor is the chairperson/convenor of the ward Committee. The Kerala Municipality (Constitution of Ward Committee and Procedure for Meeting) Rules, 1995 provides further rules for the setting up and functioning of these

committees. Ward Committees have been set up in Kerala and their effective functioning are often cited as a good example of micro level urban governance in India.

There are 93 ULBs in Kerala and the Table 3.16 shows the types of municipalities, no. of wards within them and the average population, as per 2011 census (Comptroller and Auditor General of India, 2018).

Table 3. 16: Types of Municipality No. Of Wards Within Them and The Average Population

Municipality	Number	Number of wards	Average area (sq.km)	Population
Municipal Corporations	6	414	95.60	491240
Municipalities	87	3122	23.65	51664

Source: Report of the Comptroller and Auditor General of India on Local Self-Government Institutions for the year ended March 2017 and 2011 Census report

The Principal Directorate of Local Self Government is the office bearer for the formation of a unified Local Self Government Department (LSGD) by coordinating the five services of Panchayat, Rural Development, Urban Affairs, Local Self Government Engineering and Urban and Rural Planning under the Local Self Government Department.

3.6.1. Functions

Of the 18 functions specified in Schedule XII, the state government has transferred 17 functions mandated under the Kerala Municipality Act, 1994 to ULBs and the function relating to fire services is the only one yet to be transferred (Comptroller and Auditor General of India, 2018).Functions of the municipality have been clearly listed and bucketed into mandatory functions, general functions, and sector-wise functions[46]. This list covers all the functions specified in Schedule XII. The sector-wise functions detail the responsibilities under each sector.

The Mandatory Functions Are as Follows:

1. Regulating building construction.
2. Protection of public land from encroachment.
3. Conservation of traditional drinking water sources.
4. Preservation of ponds and other water tanks.
5. Maintenance of waterways and canals under the control of the Municipality.
6. Collection and disposal of solid waste and regulation of disposal of liquid waste.
7. Stream water drainage.

[46] First Schedule, Functions of Municipality, Kerala Municipality Act, 1994.

8. Maintenance of environmental hygiene.

9. Management of public markets.

10. Vector control.

11. Regulation of slaughtering of animals and sale of meat, fish and other easily perishable

food stuffs etc.

12. Control of eating houses.

13. Prevention of food adulteration.

14. Maintenance of roads and other public properties.

15. Street lighting and its maintenance.

16. Adopt immunisation measures.

17. Effective implementation of National arid State level strategies and programmes for prevention and control of diseases.

18. Establishment and maintenance of burial and burning grounds.

19. Issue of licenses to dangerous and offensive trades and industries.

20. Registration of births and deaths.

21. Providing bathing and washing ghats.

22. Arranging ferries.

23. Providing parking spaces for vehicles.

24. Construction of waiting sheds for travellers.

25. Providing toilet facilities and bathing ghats at public places.

26. Regulating the conduct of fairs and festivals.

27. Issue license to domestic dogs and destroy stray dogs.

28. Providing basic facilities in slum areas.

29. Amenities including foot path and road crossing facilities for pedestrians.

30. Preparation of detailed town planning and Action plan for implementation in a phased

manner.

General functions are on the lines of data collection, awareness building, mobilising local resources, etc., the list of which can be found in Annexure 13. In practice however the devolution of functions to ULBs is only partial, as the Kerala Municipality Act, 1994

gives the state government overriding powers over ULBs. Some of the provisions of the Act that allow the state government to prevail over ULBs are:

• **Section 56:** The state government may, by notification in Gazette make rule to carry out all or any purpose of KM Act subject to approval by the State Legislature.

• **Section 64:** State government may dissolve LSGIs if the Government is of the opinion that the LSGIs persistently make default in performing the duties imposed on it law. The dissolution of the LSGIs is subject to approval by State Legislature.

• **Section 57:** State government may cancel a resolution or decision taken by LSGIs if it is of the opinion that it is not legally passed or in excess of the power conferred by KM Act/any other law or likely to endanger human life, health, public safety or communal harmony or in violation of directions issued by Government.

• **Section 58:** State government has the power to issue directions to urban local bodies in accordance with the national and state policies in matters of finance, maintenance of accounts, office managements, selection of schemes, sites, and beneficiaries, proper function of ward sabhas and ward committees, welfare programs, environmental control etc.

The above provisions illustrate that ULBs in Kerala are functioning in a restrictive setting. The result is that ULBs are unable to exercise the powers that are transferred to them to the fullest.

3.6.2. Functionaries

The success of decentralisation lies on the deployment of staff with necessary expertise and authority for discharging the functions that are devolved to the local bodies. Kerala does not have a dedicated municipal cadre. ULBs in the state of Kerala have their own staff, but the state government is responsible for staff recruitment and creation of posts. ULB staffs are recruited through the Public Service Commission (PSC). Yet, each ULB takes on the task of salary dispersal of its staff. Thus, in the whole recruitment process, only the payment of salary comes under the purview of ULBs, while GoK determines staff creation and other terms and conditions. The post of the mayor is just a ceremonial position with limited powers. As ULBs in the state are unable to exercise their powers, mayors enjoy only limited powers in making decisions related to local issues. The mayor's post is neither attractive nor lucrative in Kerala. It was only in 2016 that the salary of the mayor was revised to Rs 15,800 from Rs 7900. The salary of councillors of a city corporation is Rs 8200. Hence, competent candidates are not attracted to the post of

mayor or councillor; instead, everyone aspire to be an MLA, as the real power vests with the state government (Mathew & Dhanuraj, 2017).

Since urban local bodies are required to provide better urban services to the citizens and also to ensure planned development of the urban areas, there is a need to have a dedicated municipal cadre to meet the requirement of functional domain of the urban local bodies. Significant increase in urban population as well as financial transactions of ULB and implementation of urban reforms along with centrally sponsored/externally aided projects are added responsibilities of ULBs. These challenges necessitate separate municipal cadres in administrative, accounts, engineering and other technical services. Creation of municipal cadre will help in improving the performance of the urban local bodies and attract qualified people to the services. A cadre will facilitate career opportunities for officials working in the municipalities and also sharing of best practices across cities.

3.6.3. Funds

The funds available to ULBs in Kerala comprise of own revenues (tax and non-tax), grants given by the state and central Governments and loans or aids. ULBs in the state are entitled to collect property tax, professional tax, entertainment tax, advertisement tax, service tax, surcharge, cess on conversion of land use and tax on animals, vessels, vehicles, timber and surcharge[47]. The 5thstate finance commission recommended that the composition of the divisible pool be 20% of the state's net own tax revenue in 2016-17; and for subsequent years to increase by 1% every year. Devolution comprises of General Purpose Fund (GPF), Maintenance Fund and Development Fund. Each Fund has its own distribution criteria (Gupta & Chakraborty, 2019).

Even though the Kerala Municipality Act, 1994 lays down the need to revise tax rates regularly, it hasn't happened for the last 20 years. This is because the state government takes the final decision in taxation matters, while the urban local bodies only act as implementing agencies. While there is a large scope for ULBs to increase their tax revenue, the provisions in the Kerala Municipality Act giving excessive power to the state government has hindered the growth of the local tax base. As per a report submitted by the 5thState Finance Commission, own revenues of ULBs in Kerala constitute only 32.5 % of their total revenues. It shows that ULBs are highly dependent on the State Government for funds. The report recommends periodical revision of tax

[47]Section 243-X, Kerala Municipality Act: The Legislature of a State may, by law, - (a) authorise a Municipality to levy, collect and appropriate such taxes, duties, tolls and fees in accordance with such procedure and subject to such limits; (b) assign to a Municipality such taxes, duties, tolls and fees levied and collected by the State Government for such purposes and subject to such conditions and limits.

and non-tax revenue sources and improvement in the efficiency of tax collection as important steps to be taken for making ULBs financially independent.

In Kerala, it's the state government that collects most of the taxes, with only a limited number of taxes assigned to the local bodies. Even though the Kerala Municipality Act claims to widen the scope of ULBs in taxation, the status of ULBs in Kerala has not changed much since 1994. The current tax domains of local governing bodies are almost similar to those of the pre-1994 period, when resources were insufficient to meet the responsibilities of the local bodies. This proves how ULBs are ill equipped in the matter of taxation to execute their functions effectively.

The limited power of ULBs in taxation negatively affects their efficiency in the collection of taxes assigned to them. This in turn negatively affects the growth rate of own resources of ULBs. As per the Comptroller and Auditor General (CAG) report, the growth rate of own resources of 21 ULBs in Kerala declined from 23 % in 2010-11 to 8 % in 2013- 14. ULBs were blamed for their inefficiency in collecting taxes, as they did not take any stringent measures to make up for the loss. However, Kerala follows a complicated taxation structure, and ULBs in the state are only assigned agencies while the primary control rests with the state government (Comptroller and Auditor General of India, 2018). While ULBs in Kerala have access to funds, they are mostly tied funds, which serve only specific purposes of the local bodies. It has been observed that these funds are underutilised in most cases. For instance, the Cochin Municipal Corporation spent only 20 % of its total plan allocation by the state government for the FY 2016-17 (Mathew & Dhanuraj, 2017).

ULBs in Kerala do not access the bond market for capital, because credit rating is mandatory for the issue of debt instruments such as municipal bonds with a maturity exceeding 18 months. But the revenue and expenditure pattern of ULBs in Kerala[48] prevents them from securing a good credit rating. Major factors that prevent the Kerala ULBs from achieving high rating are heavy dependence on central and state grants, low tax collection efficiency, shortage of trained and professional manpower, limited resource mobilisation strategies and large investment requirements of the city to

[48] The tax and non-tax revenues form a small proportion of the total revenue receipts of the Cochin Municipal Corporation. There is considerable decline in the share of tax revenue to the total revenue receipts in the five-year period. The share of non-tax revenue also declined from 0.075 in 2009-10 to 0.062 in 20 14-15. Grants still occupy the highest share (0.392) in the total revenue receipts of the Corporation. However, a declining trend is visible even under this head. Capital expenditure (excluding the repayment of loans) meant to create new stocks of infrastructure is also declining. The share of capital expenditure declined from 0.55 in 2009-10 to 0.38 in 2014-15. Thus, it can be concluded that the fiscal condition of the Cochin Municipal Corporation is deteriorating.

improve its urban infrastructure. Given these constraints, it will be difficult for ULBs to enter into the debt market for mobilising resources. It is ironic that a state known for its success in decentralisation is unable to tap the debt market due to low credit ratings.

Overall, ULBs in Kerala are struggling to improve access to municipal services owing to significant challenges in their planning, financial and implementation systems. Further, the ULBs continue to face a significant investment gap despite increasing fiscal transfers due to a substantial pending backlog of municipal investments and growing risk of natural disaster. ULBs lack adequate preparedness to be able to face natural disasters which are on the rise as there are effectively no guidelines or systems at the local level to incorporate urban resilience into infrastructure planning for disaster risk reduction. Moreover, the lack of adequate manpower to design projects, manage contracts and supervise the implementation leads to sub-optimal quality of implementation, which is also often significantly delayed. This is also reflected in the annual performance of ULBs, wherein on an average ULBs implemented around 50-70% of the total planned expenditure for capital investments (Kerala Economic Review 2016).

Chapter 4: A Comparative Summary of Six States: Urbanisation, State/ULB Finances & Sanitation/SWM Indicators

An attempt to summarize the six states of the study on various parameters such as urbanization levels, size of the economy, devolution of the 3 Fs (functions, funds and functionaries), state expenditure on water supply and sanitation as well as urban development, indicators of municipal finances, sanitation and SWM was undertaken by forming a matrix. The matrix consists of 60 indicators across 10 important parameters and this gives a snapshot of the state of affairs of ULBs including the SWM and sanitation aspects (Table 4.2)

Out of the 60 parameters across 10 important indicators, 13 parameters (listed below) relating to sanitation were picked to form the **SWM and Sanitation Index** to facilitate the comparison among the 6 states (Table 1):

1. Urban households having access to some form of latrine facilities
2. Urban households with flush/pour-flush latrine connected to a pipe sewer system
3. Urban households with no drainage system
4. Percentage of Districts verified to be ODF
5. Percentage of urban households with individual household toilet
6. Percentage of installed sewage treatment capacity to the total sewage generated in urban areas
7. Percentage of Wards with 100% door to door waste collection
8. Percentage of wards with 100 % source segregation
9. Percentage of MSW treated against MSW generated
10. Percentage of waste processed
11. 2019 Swachh Survekshan State Ranking
12. 2019 Swachh Survekshan State Ranking in SWM (ULBs < 1 Lakh population and ULB > 1 lakh population)
13. 2019 Swachh Survekshan State Ranking in SWM (ULBs > 1 Lakh population)

Table 4. 1: SWM and Sanitation Index and Ranking Among Six States

State	Maharashtra	Telangana	Karnataka	Tamil Nadu	Andhra Pradesh	Kerala
Index Value	0.79	0.55	0.52	0.50	0.43	0.12
Rank	1	2	3	4	5	6

The state of Maharashtra stood first followed by the states of Telangana and Karnataka while the Kerala took the last position. Maharashtra ranked higher owing to the higher

proportion of households who are connected to sewer systems, more districts being ODF and higher installed capacity of the sewer systems along with high ranking in Swachh Survekshan survey. Kerala performed better in SWM but poor in terms of sewer systems.

Tamil Nadu has highest urbanisation followed by Kerala, Maharashtra and Karnataka. All the southern states have higher urbanisation than the All-India average except Andhra Pradesh. The growth rate of urbanisation is also higher in the southern states. All of the southern states have devolved 17 functions while Maharashtra has devolved only 12 functions to the ULBs. While Kerala and Tamil Nadu has constituted 6th state finance commission, the state of Karnataka and Maharashtra had their 4th and 5th SFCs constituted. The per-capita own revenue of ULBs was highest in Maharashtra. The percentage share of own revenues in the total revenues of the ULB was highest in Telangana followed by Maharashtra and Andhra Pradesh. The own revenue share was less than the all-India average in the states of Tamil Nadu Kerala and Karnataka.

Table 4. 2: Comparative summary of six states on Urbanisation, State/ULB Finances & Sanitation/SWM Indicators

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
1. State Urbanization									
1.1	Percentage of Urban Population (Level of Urbanisation)	Census, 2011 (Handbook of Urban Statistics, 2019)	38.7	48.4	45.2	38.7	29.6	47.7	31.14
1.2	Annual Exponential Growth Rate (AEGR) of Urbanisation from 2001 to 2011 (Rate of Urbanization)	Census, 2011 (Handbook of Urban Statistics, 2019)	2.74	2.39	2.12	NA	3.05	6.56	2.76
1.3	State Share of Slum Population to Total Slum Population of India	Census, 2011 (Handbook of Urban Statistics, 2019)	5	8.9	18.1	NA	15.6	< 1%	NA
1.4	Number of Urban Local Bodies (ULBs)	State Election Commission Websites	273	728	387	73	120	93	
2. State Economy									
2.1	2018-19 GSDP at Current Prices *(Crore Rs)* / (Rank)	Ministry of Statistics & Program Implementation	1544399 / (4th)	1630208 / (2nd)	2632792 / (1st)	861031 / (9th)	862957 / (8th)	781653 / (11th)	19220355
2.2	2018-19 GSDP % Growth over previous year / (Rank)	Ministry of Statistics & Program Implementation	13.76 (5th)	11.27 (20th)	10.5 (24th)	14.33 (1st)	8.8 (28th)	11.41 (18th)	11.4
2.3	2018-19 Per Capita NSDP at Current Prices *(in Rs)* / (Rank)	Ministry of Statistics & Program Implementation	212477 / (5th)	193964 / (10th)	191736 / (11th)	204488 / (6th)	151173 (14th)	204105 / (7th)	167578
3. Devolution of the 3Fs									
3.1	Number of Functions Devolved (12th Schedule)		17	17	12	17	17	17	NA
3.2	No. of municipal elections conducted since 1994	State Election Commission / Newspaper Articles / National Institute of Public Finance and Policy (NIPFP) Report	4	4	5	2	4	6 (Including Dec 2020)	NA

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
3.3	Constitution of State Finance Commissions (SFC)	SFC Documents / NIPFP Report	4	6	5	1	4	6	NA
3.4	Number of months taken by SFC to submit their report	SFC Reports of respective states / NIPFP Report	30 Months (4th SFC)	24 Months (5th SFC)	80 Months (4th SFC)	Report is still pending (1st SFC constituted in 2015)	37 Months (3rd SFC)	27 Months (5th SFC)	NA
3.5	Accept/Reject SFC Recommendations regarding Devolution	ATR of respective states / NIPFP Report	Accepted with Modifications (4th SFC)	Accepted with very minor modifications (5th SFC)	Rejected without Reasons (4th SFC)	NA	Accepted with very minor modifications (3rd SFC)	Rejected with Reasons (5th SFC)	NA
3.6	Number of months taken for placing the Action Taken Report (ATR) before the state legislature	SFC Reports and ATR of respective states / NIPFP Report	Under Process	3 Months (5th SFC)	7 Months (4th SFC)	NA	28 Months (3rd SFC).	23 Months (5th SFC)	NA
3.7	Average per Capita Devolution Recommended by SFCs (Rs)	NIPFP Report	6101 (2015-16 to 19-20)	1428 (2015-16 to 19-20)	1088 (2010-11 to 14-15)	NA	250.19 (2010-11 to 14-15)	3004 (2015-16 to 19-20)	1136 (2015-16 to 19-20)
3.8	Average Devolution Recommended by SFCs as a percentage of the state's GSDP (Rs)	NIPFP Report	3.09 (2015-16 to 19-20)	0.76 (2015-16 to 19-20)	0.98 (2010-11 to 14-15)	NA	0.36 (2010-11 to 14-15)	1.50 (2015-16 to 19-20)	0.96 (2015-16 to 19-20)
3.9	Constitution of DPC / Regular Meetings of DPC	Strengthening of Panchayats in India: Comparing Devolution across States (2012-13)	Yes / No	Yes / Yes	Yes / Yes	NA	Yes / Yes	Yes / No	NA
3.10	Constitution of MPC / Enacted specific MPC Act	Ministry of Urban Development	Yes / No	Yes / Yes	Yes / Yes	Yes / Yes	Yes / Yes	Yes / No	NA
3.11	Presence of Dedicated Municipal Cadre	Ministry of Urban Development	Yes	Yes	Yes	Yes	Yes	No	NA
3.12	Completed 5 years after implementation of municipal cadre	Ministry of Urban Development	Yes	Yes	Yes	Info not available	NA	NA	NA

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
3.13	Presence of Parastatals & State Departments related to Water Supply, Sanitation and SWM Services	State Websites	KUWS&DB, KUIDFC, KCDC	Tamil Nadu Water and Drainage Board (TWAD)	Water Supply and Sanitation Department (WSSD)	PH&MED, TUIFDC	PH&MED, Swachha Andhra Corporation (SAC), APUIFDC	Kerala Water Authority (KWA), KWMA (Kerala Waste Management Authority), Clean Kerala Company Limited	NA
4. State Expenditure - 1) Water Supply & Sanitation & 2) Urban Development									
4.1	Water Supply & Sanitation Services Expenditure to Developmental Expenditure (2018-19 Accounts)	https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets	3.12	1.53	1.97	5.36	1.96	1.65	3.42
4.2	Water Supply & Sanitation Services Expenditure to Total Expenditure (2018-19 Accounts)	https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets	0.44	0.24	0.39	1.44	0.35	0.22	0.58
4.3	Urban Development Expenditure to Developmental Expenditure (2018-19 Accounts)	https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets	3.12	4.14	5.68	2.39	4.54	2.05	4.26
4.4	Urban Development Expenditure to Total Expenditure (2018-19 Accounts)	https://www.rbi.org.in/Scripts/AnnualPublications.aspx?head=State%20Finances%20:%20A%20Study%20of%20Budgets	0.44	0.66	1.14	0.64	0.83	0.27	0.72
5. ULB / Municipal Finances									
5.1	Percentage share of Total Municipal Revenue in GSDP (2017-18)	State of Municipal Finances in India, ICRIER	1.133	1.044	1.942	0.599	0.483	0.516	1.004

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
5.2	Per capita Total Municipal Revenue for all ULBs (2017-18)	State of Municipal Finances in India, ICRIER	5211.6	3971.7	8772.4	1466.1	2541.7	3822	4624.2
5.3	Per capita Total Expenditure for all ULBs (2017-18)	State of Municipal Finances in India, ICRIER	3198.1	3455.1	7854.2	1454.1	2540.4	2583.9	3569.9
5.4	Per capita Own Revenue for all ULBs (2017-18)	State of Municipal Finances in India, ICRIER	1393.3	1184.4	5730.4	965	1595.3	885.7	1975
5.5	Percentage share of Municipal Own Revenue in Total Municipal Revenue for all ULBs (2017-18)	State of Municipal Finances in India, ICRIER	26.7	29.8	65.3	65.8	62.8	23.2	42.7
6. Sanitation Indicators									
6.1	Percentage of Urban Households having no Latrine	2011 Census	15.1	24.9	28.7	NA	13.9	2.6	18.6
6.2	Percentage of Urban Households having pipe sewer system	2011 Census	53.3	27.4	37.8	NA	33.7	14.3	32.7
6.3	Percentage of Urban Households having to defecate in the open	2011 Census	10.7	16.2	7.7	NA	11.9	1.7	12.6
6.4	Urban households having access to some form of latrine facilities	NSSO 76th round data – 2018	95.7	93.9	98.6	98.4	97	100	96.2
6.5	Urban households with flush/pour-flush latrine connected to a pipe sewer system	NSSO 76th round data – 2018	61.3	30.3	64.2	53	9.7	1.1	39.1
6.7	Urban households with flush/pour-flush latrine connected to a septic tank	NSSO 76th round data – 2018	20.2	67.2	33.3	42.3	85.3	37.7	48.9
6.8	Urban households with flush/pour-flush latrine connected to a single/twin pit	NSSO 76th round data – 2019	15	0.5	1.9	4.3	2.8	56.4	8.7
6.9	Urban households connected to underground drainage system	NSSO 76th round data – 2018	60	41.5	71.5	79.6	59.9	43.5	53.5
6.10	Urban households with no drainage system	NSSO 76th round data – 2018	3.8	8.8	2.3	2.7	9	17.5	8

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
6.11	Percentage of Districts verified to be ODF	SDG6 Indicators, NITI Aayog - 2019	93.33	100	100	67	100	100	88.5
6.12	Percentage of urban households with individual household toilet	SDG6 Indicators, NITI Aayog - 2019	93.36	85.73	109	76	129	47.5	97.2
6.13	Percentage of installed sewage treatment capacity to the total sewage generated in urban areas	SDG11 Indicators, NITI Aayog - 2019	35	32	63	41	9	6	38
7. Solid Waste Management Indicators									
7.1	Total Waste Generated (TPD)	The Ministry of Housing and Urban Affairs (June 2018)	10000	15347	22570	7371	6384	624	1,45,133
7.2	Percentage of Wards with 100% door to door waste collection	SDG11 Indicators, NITI Aayog - 2019	88.5	94	81.8	94	100	85.46	91
7.3	Percentage of wards with 100 % source segregation	SDG12 Indicators, NITI Aayog - 2019	46.4	83	74.9	48	90.9	95.43	67.7
7.4	Percentage of MSW treated against MSW generated	SDG12 Indicators, NITI Aayog - 2019	34.5	11.08	32	48	7.76	29.13	20.75
7.5	Percentage of waste processed	SDG11 Indicators, NITI Aayog - 2019	41	60	55	78	48	32	56
8. Swachh Survekshan Survey									
8.1	2019 Swachh Survekshan State Ranking	Swach Survekshan Report	21	15	2	18	6	27	
8.2	2019 Swachh Survekshan State Ranking in SWM (ULBs < 1 Lakh population)	Swach Survekshan Report	8	16	2	10	4	20	
8.3	2019 Swachh Survekshan State Ranking in SWM (ULBs > 1 Lakh population)	Swach Survekshan Report	9	12	3	8	5	18	

SI. No	Comparative Indicators / Parameters	Source	Karnataka	Tamil Nadu	Maharashtra	Telangana	Andhra Pradesh	Kerala	India
9. Implementation of SRMS Scheme									
9.1	The number of new manual scavengers identified as per 2013 & 2018 NSKFDC Surveys (As on 14/9/2020)	NSKFDC Website	3204	425	7378	NA	2061	600	66692
9.2	Percentage of Manual Scavengers provided with One Time Cash Assistance / Amount in Lakh Rs (As on 14/9/2020)	NSKFDC Website	91 / 1156	93 / 158.8	85 / 2504.4	NA	85 / 703.2	86 / 207.2	86 / 22958.4
9.3	Percentage of Manual Scavengers provided with Capital Subsidy / Amount in Lakh Rs (As on 14/9/2020)	NSKFDC Website	5.9 / 148.63	17.6 / 18.71	0 / 0	NA	0 / 0	0 / 0	1.64 / 779.6
9.4	Percentage of Manual Scavengers provided with Skill Development Training during FY 2018-19	NSKDFC Annual Report	2.1	76	7.7	NA	16.3	52.3	14.78
9.5	Number of sewer deaths between 1993 to 2019	NCSK Annual Report	71	203	19	4	18	3	774
10. Implementation of Swachh Bharat Mission (Urban) - Individual Household Toilets									
10.1	Estimated number of Urban Households (As on Oct 1st 2018)	NSSO 76th round data – 2018	6695200	10184800	10831700	4569100	4824500	4196400	92723900
10.2	Number of Urban Households not having Individual toilets (As on Oct 1st 2018)	NSSO 76th round data – 2018	836900	2434167	2707925	1041755	1153056	247588	20770154
10.3	Number of Urban Households not having access to any form of toilet (As on Oct 1st 2018)	NSSO 76th round data – 2018	287894	621273	151644	73106	144735	0	3523508
10.4	Individual toilets (IHHL) constructed under SBM-U between May 2019 to Jan 2020	Swachh Bharat Mission-Urban Website	24880	13321	17586	2134	712	0	293053
10.5	Percentage of IHHL constructed to Urban Households not having individual toilets (Between May 2019 to Jan 2020)		2.97	0.55	0.65	0.20	0.06	0.00	1.41
10.6	Percentage of IHHL constructed to Urban Households not having access to any form of toilet (Between May 2019 to Jan 2020)		8.64	2.14	11.60	2.92	0.49	NA	8.32

Chapter 5: Analysis of Expenditures on Sanitation and Solid Waste Management Across Six States

The expenditure on sanitation and SWM has been extracted from state budgets, accounts of parastatals as well as the special purpose vehicles meant for the purpose of executing the sanitation and SWM projects in the ULBs. While the expenditures from the state budget do flow to ULBs directly in the form of general and special grants, the expenditures from the parastatals and SPVs have many urban development components in which the sanitation would be one of them. Extracting the expenditure involves knowing the exact expenditures for sanitation and SWM or arriving at expenditures through the shares in the project costs. Apart from these expenditures incurred by the State and parastatals, the ULBs will also incur expenditure through their own sources (tax and non-tax revenues) which can only be ascertained from the books of the ULBs. Often the devolution meant for ULBs (as prescribed by State Finance Commission to be shared with ULBs-and in turn accepted by state government) are diverted to parastatals for creating assets pertaining to sanitation and SWM in ULBs. The ULBs often do not get to know the deductions unless it is communicated to them.

The information on sanitation and SWM expenditures available through state budget and from the books of the parastatals presented below is limited to the available data. The SFC reports were used for Tamil Nadu to ascertain the expenditures of the SWM and Sanitation in the absence of the state budget documents and expenditure through the parastatal agencies.

Compilation of the expenditures on sanitation and SWM indicated the following.

1. The interception[49] of the grants meant for ULBs and transferring it to parastatals/SPV is being done despite several state finance commissions recommending making the payments to parastatals from ULBs. The ULBs do not know of these deductions unless it is communicated to them
2. Often these deductions do not get reflected in the books of accounts of ULBs.

[49] https://www.tnurbantree.tn.gov.in/wp-content/uploads/2021/01/7188-SFC-December-2020-Mty_0001.pdf

3. The transfer of funds to parastatals may be from both gross budgetary support or from the devolutions to ULBs which often gets clarified only during the response of the state to the State Finance Commission or the CAG (during their audit)
4. It is highly difficult to comment upon the expenditures indicated in the state budgets and parastatals for their adequacy since they reflect only part of the picture.

The sanitation and SWM expenditure for six states is provided below. (Table 5.1 to 5.6)

Table 5. 1: Karnataka Sanitation and SWM Expenditures

(Rs. in crore)

	Karnataka	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**Total**
	State budget documents	31.82	46.90	60.00	247.81	261.40	384.32	8.00	175.20	**1215.45**
KUIDFC	KUDCEMP-S, S&LWM				0.25	0.08	0.01			**0.34**
	NKUSIP-S, S&LWM				148.53	185.44	118.38	80.56		**532.91**
	KIUWMIP-S, S&LWM				14.06	21.49	52.09	103.36		**191.00**
	KMRP-S, S&LWM				37.08	20.30	25.82	18.44		**101.64**
	JNNURM-S, S&LWM				59.26	118.82	81.77	42.66		**302.51**
	KIUWMIP-S, S&LWM						6.25	21.94		**28.18**
	SCM-S, S&LWM				0.42	55.26	60.83	19.76		**136.28**
	SWM				167.94	711.37	20.53	14.55		**914.39**
KUWSDB	KUWSDB UGD			246.14	257.84	233.93	260.17	172.94	520.00	**1691.02**
	JNNURM-S, S&LWM			4.36	9.30	13.65	24.79	11.84	52.07	**116.02**
	UIDST-S, S&LWM			1.44	3.29	1.67	0.62	1.18	0.17	**8.37**
	AMRUT-Sewerage			0.00	0.00	15.32	328.63	422.94	525.86	**1292.75**
	Water and waste water learning centre- Yelahanka			0.09	0.02	0.08	0.22	0.15	0.60	**1.16**

	Karnataka	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
	Smart city-S, S&LWM	0.00	0.00	0.00	0.84	0.00	60.26	28.16	28.16	**117.43**
	AMRUT-S, S&LWM	0.00	0.00	0.00	92.84	134.88	453.48	628.44	426.25	**1735.89**
	KMRP-S, S&LWM	64.24	128.17	127.88	19.22	0.00	3.20	6.40	16.00	**365.11**
	NKUSIP-S, S&LWM	71.50	115.50	77.90	0.00	165.00	165.65	0.00	0.00	**595.55**
	BBMP (O&M)	276.53	354.05	16.85	513.84	639.89	1021.50	923.29	1141.80	**4887.75**
	SWD	21.24	7.60	7.85	25.56					**62.25**
	BBMP (Capital)	33.38	13.21	95.70	71.97					**214.26**
	Own	175.48	190.05	219.46	243.49	244.44	303.52	317.28	288.41	**1982.13**
Total		**674.19**	**855.48**	**857.67**	**1913.56**	**2823.02**	**3372.03**	**2821.89**	**3174.52**	**16492.37**

Source: State budget reports and Annual accounts of parastatals

Table 5. 2: Tamil Nadu Sanitation and SWM Expenditures

(Rs. in Lakhs)

Tamil Nadu	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC
Sewerage and Sanitation	1360.00	1500.00	1999.00	760.00	640.00
Grant Fund 1	2260.67	278.00	9377.33	9935.67	5661.00
Sewerage and Sanitation	1518.00	0.00	0.00	0.00	0.00
Capital Development	1274.57		2374.63	1186.07	544.39
Slum	61645.00	8222.19	17584.09	8687.61	
Other Schemes	1063.26	685.98	707.42	711.70	
Natural Calamities		36870.52	7500.00	3608.98	5460.00
3604	137626.32	151088.40	191165.20	176956.57	183914.77
	107834.06	119889.45	147071.44	129775.24	133724.19
	103370.97	105571.03	140286.87	136110.21	142139.42
	412814.18	422327.57	506689.65	457036.38	465782.77
Share of Sanitation	0.08598005	0.0859801	0.0859801	0.0859801	0.0859801
	35493.7856	36311.747	43565.204	39296.013	40048.028
Total Sanitation Exp	**40632.45**	**38089.75**	**54941.54**	**49991.68**	**46349.03**

Source: TNUIFSL website and 5th SFC Report annexure

Table 5. 3: Maharashtra Sanitation and SWM Expenditures

(Rs. in crore)

Maharashtra	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Sanitation /SWM/LWM (State budget)	24.68	62.30	361.75	1236.90	1710.33	1594.92	4979.65	3411.27	**13381.79**
AMRUT				184.16	581.86	364.41	5472.64	899.28	**7502.35**
JNNURM/UIDSSMT/IDSMT	21.96	2.67	38.90	7.98	5.05	2.56	0.32		**79.44**
SMART CITIES				1.51	91.78	61.39	99.49	99.94	**354.12**
CIDCO			9.69	2.48					**12.17**
Total	**46.64**	**64.97**	**410.34**	**1433.02**	**2389.02**	**2023.28**	**10552.10**	**4410.49**	**21329.86**

Source: State budget reports and Annual accounts of parastatals

Table 5. 4: Telangana Sanitation and SWM Expenditures

(Rs. in crore)

Telangana	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Sanitation /SWM/LWM (State budget)	274.58	1925.58	1000.00	1194.50	1420.50	825.00	**6640.17**
AMRUT COST							**224.97**
JNNURM Cost							**71.49**
SMART Cities Mission							**84.04**
GHMC SWM	570	534	425	509	509	509	**3056.00**
GHMC SWM	212	220	218	216	216	216	**1298.00**
Sanitation-est GHMC		122.46	132.26	169.62	192.47	149.39	**766.19**

Source: State budget reports and Annual accounts of parastatals

Table 5. 5: Andhra Pradesh Sanitation and SWM Expenditures

(Rs. in crore)

Andhra Pradesh	2015-16	2016-17	2017-18	2018-19	2019-20	Total	Sanitation/SWM/LWM Expenditures
Sanitation /SWM/LWM (State budget)	155	1523	106	481	191	**2457**	2457
Andhra Pradesh Urban Water Supply and Septage Management Improvement Project					25	**25**	8
Smart cities	382	630	348	190	200	**1750**	123
AMRUT	94	114	645	140	374	**1366**	533

Andhra Pradesh	2015-16	2016-17	2017-18	2018-19	2019-20	Total	Sanitation/SWM/LWM Expenditures
JNNURM						**1449**	304
OTSFA						**1365**	1365
SWM						**46**	46
Swachh Andhra Mission						**605**	605
Swachh Andhra Corporation				200	10	**210**	210
Total	**632**	**2267**	**1099**	**1011**	**800**	**9273**	**5650**

Source: State budget reports and Annual accounts of parastatals

Table 5. 6: Kerala Sanitation and SWM Expenditures

(Rs. in crore)

Kerala	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Sanitation /SWM/LWM (State budget)	47.24	76.24	92.46	62.25	2188.19	351.53
Sanitation /SWM/LWM (local government transfer)	3.17	1.75	1.16	10.70	28.44	12.09
	50.41	**77.99**	**93.63**	**72.95**	**2216.62**	**363.61**
Smart cities			390.80	13.20	165.32	290.92
AMRUT			214.75	113.88	525.34	359.76
JNNURM			25.89	19.64		
total			631.44	146.72	690.66	650.68
20% for sanitation			126.29	29.34	138.13	130.14
Total	**50.41**	**77.99**	**219.91**	**102.30**	**2354.75**	**493.75**

The above tables which include the sanitation expenditures under different urban development schemes/ Swachh Bharat Mission assumes the proportion as present in the project documents. However, the actual expenditures do vary depending upon the field requirements.

At the level of ULB, more often than not, the sanitation and Solid Waste Management are handled together by a section. The managerial staff are often common for both under the name of public health. The staff and the expenditure under these two services form significant portion of the ULB expenditure often accounting for 30-35% of the expenditure at the ULB. Thus, the expenditure compilation at state level including the parastatal provides only part of the story.

Chapter 6: Planning and Implementation of Sanitation and SWM Services in ULBs

While the 74th Constitutional Amendment Act formally recognised ULBs as the third tier of government, it only 'recommended' that state governments assign to the ULBs a set of 18 functions under the 12th Schedule - Public health, sanitation conservancy, and solid waste management being one of the functions. However, as described in the earlier chapters, many of the state governments have only partially complied with devolution. Despite this, ULBs are expected to play a critical role in the delivery of services in relation to sanitation and SWM. For example, the National Urban Sanitation Policy (2008) envisions the role of ULBs as creating assets and managing systems to meet the sanitation related service norms along with fixing tariffs and collecting revenues for its O&M. Similarly, the Solid Waste Management Rules (2016) makes the ULBs responsible for door-to-door collection and transportation of segregated waste, setting up of material recovery facilities, facilitating the construction and O&M of solid waste processing facilities and sanitary landfill. While the ULBs have been prescribed to collect SWM user fees as deemed appropriate, the SWM Rules have also clearly directed the ULBs to make adequate provisions of funds for both capital investments as well as O&M of SWM services in their annual budgets and to also ensure that funds for discretionary functions are only allocated after meeting the requirement of necessary funds for SWM and other obligatory functions.

To study in more detail how ULBs plan and implement sanitation and SWM services, we have selected two disparate ULBs – 1) Doddaballapura ULB in Karnataka which is a City Municipal Council and a Class II city[50] and 2) Hosur ULB in Tamil Nadu which is a City Municipal Corporation and a Class 1C city[49]. The following sections would describe in more detail our findings with regard to:

1. Profile of the ULB.
2. The existing water supply, sanitation and SWM system.
3. ULB Organizational Chart and Governance Structure in relation to provisioning Sanitation/SWM services.
4. Staffing Process and Assets in relation to Sanitation/SWM services.

[50] As per the reclassification of Census Classes by the High Powered Expert Committee (HPEC) set up by the Ministry of Urban Development. Class II city has a population size between 50000-100000 while Class 1C city has a population size between 100000-1 million.

5. ULB Finances.
6. Status and welfare of Manual Scavengers.

6.1. Doddaballapura City Municipal Council (CMC) (Karnataka State)

6.1.1. Profile of Doddaballapura CMC

Doddaballapura is a City Municipal Council (CMC) in Bengaluru Rural district of Karnataka and is located about 40 kms north of Bengaluru city. For centuries Doddaballapura has been an important trading and textile centre. It was once dotted with innumerable cotton and silk handloom units and while a majority of them have fallen silent today, it has given way to a much bigger and modern apparel park established by the Karnataka Industrial Areas Development Board (KIADB). This apparel park spread over almost 450 acres along with other nearby industrial areas employ thousands of people from in and around Doddaballapura city. Doddaballapura's proximity to the Bengaluru International Airport (BIAL) is further accelerating its urbanization. The proposed Rs. 22 billion, 12,000-acre BIAL IT Investment Region, the largest IT Park in India is going to come up near Doddaballapura as well. The profile of Doddaballapura CMC has been summarized in the below table:

Table 6. 1: Profile of Doddaballapura CMC

SI. No	Indicator	Doddaballapura
1	Population (2011 Census)	93105[51]
2	Category wise-breakup (2011 Census)	81874 (General & OBC) 9290 (SC) & 1941 (ST)
3	Percentage of Population living in Slums (2011 Census)	17.5
4	Sex Ratio (2011 Census)	955 females for 1000 males
5	Total Number of Households (2011 Census)	22365[52]
6	Geographical Area (Sq. Kms)	18
7	Number of Wards	31
8	Length of Roads (Kms)	165.8
9	Water Supply (LPCD)	63
10	Percentage of Households having individual toilets	Not Available

[51] 115465 as per 2019, Population projected by City Sanitation Plan (SBM)

[52] 26059 as per SWM DPR 2018

SI. No	Indicator	Doddaballapura
11	Percentage of households with flush/pour-flush latrine connected to a **septic tank***	0
12	Percentage of households with flush/pour-flush latrine connected to a **single or twin pit****	35
13	Percentage of households with flush/pour-flush latrine that are connected to a **piped sewer system*****	60
14	Length of Sewer System (Kms)	121.7
15	Length of Drainage (Open/Closed/Stormwater) (Kms)	160.4
16	Percentage of household with no drainage system (No underground, covered pucca, open pucca or open kutcha drainages)	0
17	Percentage of households whose sewage generated is treated.	95
18	STP Capacity (MLD)	12
19	Total solid waste generated (TPD)	42
20	Percentage distribution of various types of solid waste (Wet waste, Dry waste and Other waste)	Wet Waste-57 Dry Waste-31 #Other Waste- 12
21	Percentage of households having door to door waste collection	100
22	Percentage of households with waste segregation at source	70
23	Percentage of MSW processed	54

Source: Data collected from Doddaballapura CMC and compiled by CBPS

Note: *septic tank: With or without a separate soak pit but is a complete water tight tank made of concrete. May or may not have a partition wall in-between.

**** single/twin pit:** The liquid infiltrates/leaches into the soil through the bottom.

*****Piped sewer system:** A system of sewer pipes, also called sewerage that is designed to collect human excreta and waste water and remove them from the household environment.

#**Other Waste:** Hazardous Waste, E-Waste, C & D Waste and Inert Waste.

In the above table, many of the data pertaining to sanitation and SWM indicators were obtained by interviewing ULB officials and not based on any official documents maintained by the ULB. The data management in relation to sanitation and SWM indicators is fairly poor and hence may also have a bearing on the future

planning of the ULB's sanitation and SWM infrastructure. For example, while the ULB had maintained data regarding the number of households that had paid the one-time Underground Drainage (UGD) connection fees (5505 households), almost all the ULB officials we spoke to concurred that the actual number of households connected to the UGD are much higher (around 14,000 households) but they haven't paid the UGD connection fees and that only a door-to-door survey can verify the exact numbers.

6.1.2. Water Supply, Sanitation and SWM System

In regard to water supply and sanitation, households in Doddaballapura have traditionally depended on private borewells and either soak pits or open drains to dispose blackwater. However, over the years this has resulted in severe pollution of the ground water and nearby water bodies. With an aim to better manage the disposal of waste water, in 2017 the Doddaballapura CMC built a comprehensive UGD network. The World Bank provided a loan of Rs. 35 crores for this project and it was implemented by the Karnataka Urban Infrastructure Department and Finance Corporation (KUIDFC) – a state owned parastatal agency. The project aimed to connect 14,000 households to the UGD network which transports the city's faecal sludge to a Sewage Treatment Plant (STP) located 5 kms from the city.

Figure 6. 1: Cleaning of Open Drain

Source: Photograph taken by CBPS Team during field visit

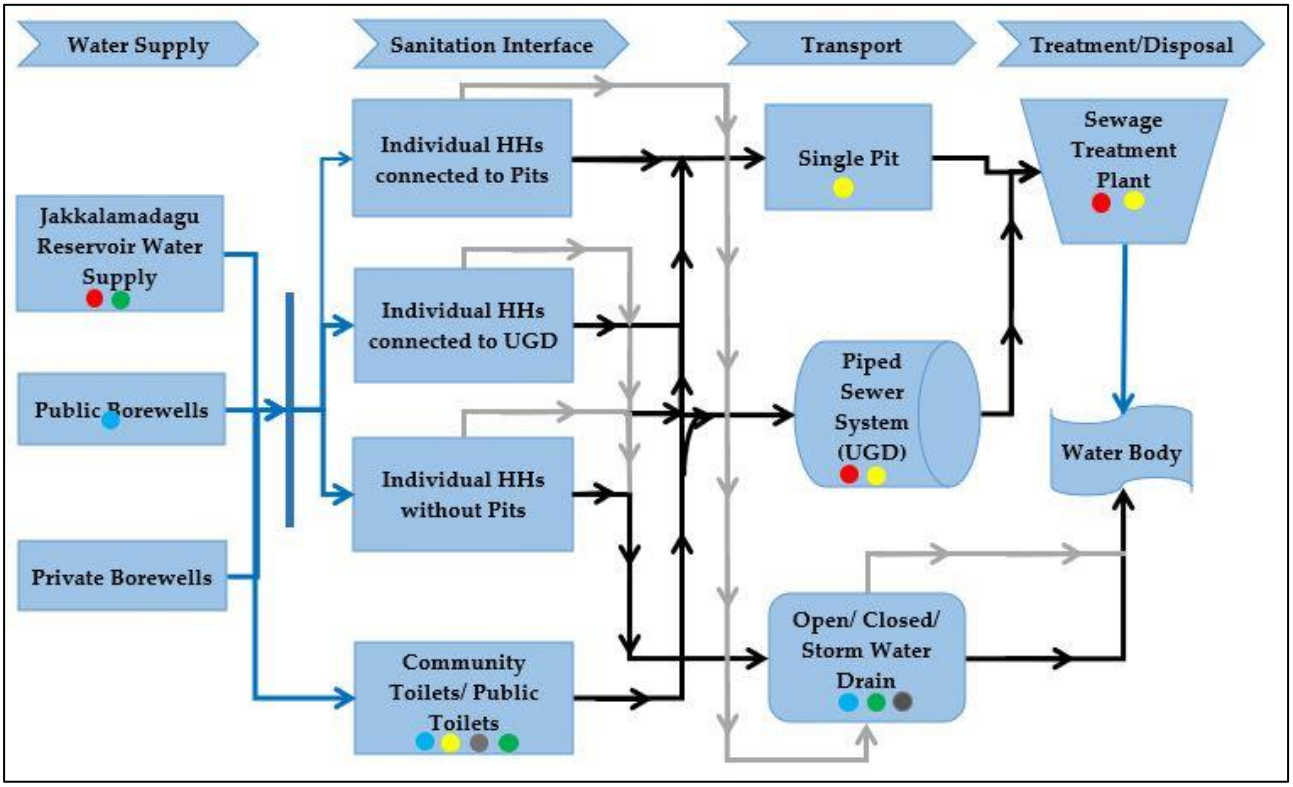
Figure 6.1 gives an overview of the entire water supply and sanitation system of Doddaballapura CMC. The water supply pipelines were laid by the Karnataka Urban Water Supply & Drainage Board (KUWS&DB) – a state owned parastatal body while its operation and maintenance (O&M) is the sole responsibility of the

ULB. Households do not have individual meters and hence pay flat charges of Rs. 180/month for residential and Rs. 800/month for a commercial water connection. A similar arrangement also exists for the UGD network. While the capital asset was created by the KUIDFC, its O&M is once again the sole responsibility of the ULB. To get a UGD connection, households have to pay a one-time fee to the ULB that ranges from Rs. 2500 to Rs. 5000 along with an additional Rs. 3000 for material and labour. To recover the O&M costs, the CMC is also planning on levying a flat user fee of Rs. 60 per month. For households that aren't connected to the UGD, the desludging of their leach pits is being carried out using suction machines owned by the ULB for which the households have to pay Rs. 1700. It is interesting to note that while the ULB has taken on the responsibility of supervising the potentially hazardous cleaning of sewers and septic tanks, the actual work is carried out only by labour that is outsourced from private agencies. The ULB has also constructed a network of open, closed and storm water drains to primarily transport household greywater and rainwater to nearby lakes. However, a certain level of contamination is occurring due to a small percentage of households in the old city discharging their blackwater directly into these drains. The sewage being transported through the UGD and faecal sludge from emptying the pits is treated in a nearby Sewage Treatment Plant (STP) that is fully owned and operated by the ULB.

Figure 6. 2: Sewage Treatment Plant at Doddaballapura

Source: Photograph taken by CBPS Team during field visit

Figure 6. 3: Water Supply and Sanitation Ecosystem



Code	Definition
→	Black Water
→	Clean Water
→	Grey Water
●	Asset Creation by Parastatal
●	Asset Creation by ULB
●	Maintenance by ULB- Permanent Staff
●	Maintenance by ULB (Direct Labour)
●	Maintenance by ULB- Outsourced to Private Agencies (Labor)

Source: Compiled by CBPS Team

Note: Grey Water: Water from kitchen and bathroom sinks, showers, tubs and washing machines.

Black Water: Water from toilets that contains urine and faecal matter.

Figure 6.3 gives an overview of the entire solid waste management (SWM) system of Doddaballapura CMC. Segregated waste from both households and commercial establishments are collected in two rounds by 25 GPS enabled auto tippers. Four tractor trailers and one tipper truck are used to collect unsegregated roadside waste while one compactor is used to collect unsegregated waste from the markets. According to the ULB's environmental engineer, the overall waste generated by the ULB is 35 TPD. From this about 30 TPD is being collected through the above-

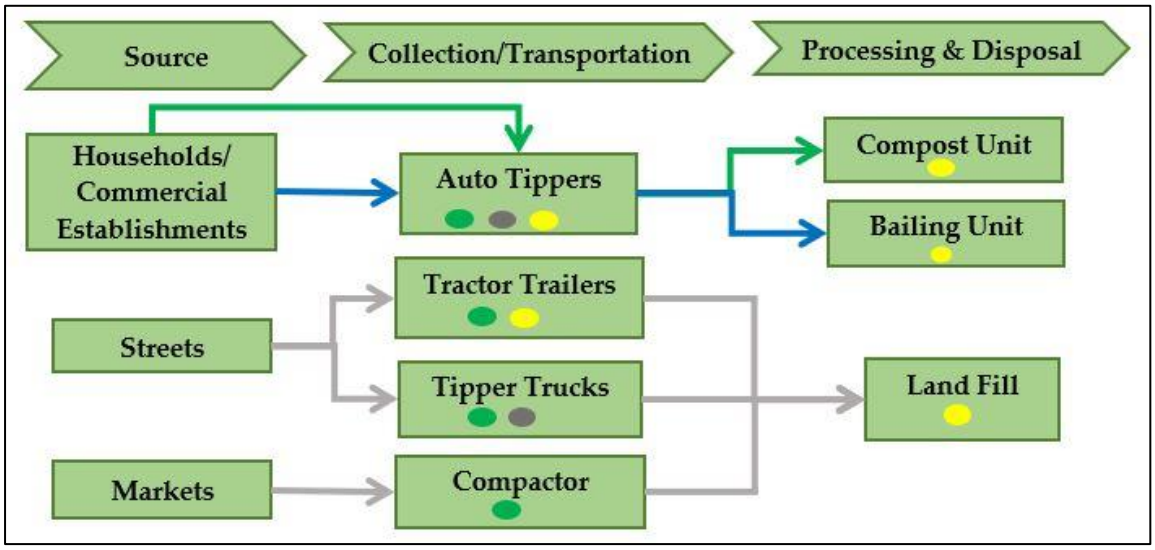
mentioned ways while 5 TPD remains uncollected. Among the waste collected, 19 TPD gets segregated at source while the remaining 11 TPD is unsegregated. The entire cleaning staff (Pourakarmikas) is engaged in street sweeping, collection of segregated household waste and cleaning of open drains on a daily basis. The ULB charges an annual SWM cess of Rs. 540 per household and Rs. 3000 for commercial establishments and is collected along with the Property Tax.

Figure 6. 4: Paper and Plastic Waste Compressed by Belling Machine

Source: Photograph taken by CBPS Team during field visit

The vehicles transport the waste directly to a 15-acre centralized Municipal Solid Waste (MSW) processing and disposal facility that is located about 9 kms from the city. At this centralized facility, the segregated wet waste is directly composted to produce manure. From the segregated dry waste, the combustible portion goes to a bailing unit after removing all the waste that is resalable. However, according to the environmental engineer the revenue generated from the above two processes is negligible. From the unsegregated waste, only waste that is resalable gets separated, while the remaining waste is directly dumped into a landfill site without any processing. Currently, in the landfill site about 12000 tons of legacy waste has gotten accumulated of which only 4000 tons has been scientifically disposed through bio-capping. Other kinds of wastes such as electronic, bio-medical and inert wastes are also being collected from households and other commercial establishments. However, there was a lack of clarity among the ULB officials as to how these other types of wastes are being processed. Some officials mentioned that they are unscientifically dumped into the landfill while others were of the opinion that it was being handed over to authorized waste management vendors.

Figure 6. 5: Solid Waste Management Ecosystem



Code	Definition
→	Wet Waste
→	Dry Waste
→	Unsegregated Waste
●	Asset Creation by Parastatal
●	Asset Creation by ULB
●	Maintenance by ULB- Permanent Staff
●	Maintenance by ULB (Direct Labour)
●	Maintenance by ULB- Outsourced to Private Agencies (Labor)

Source: Compiled by CBPS Team

Figure 6. 6: Legacy Waste Dumped in Landfill Site

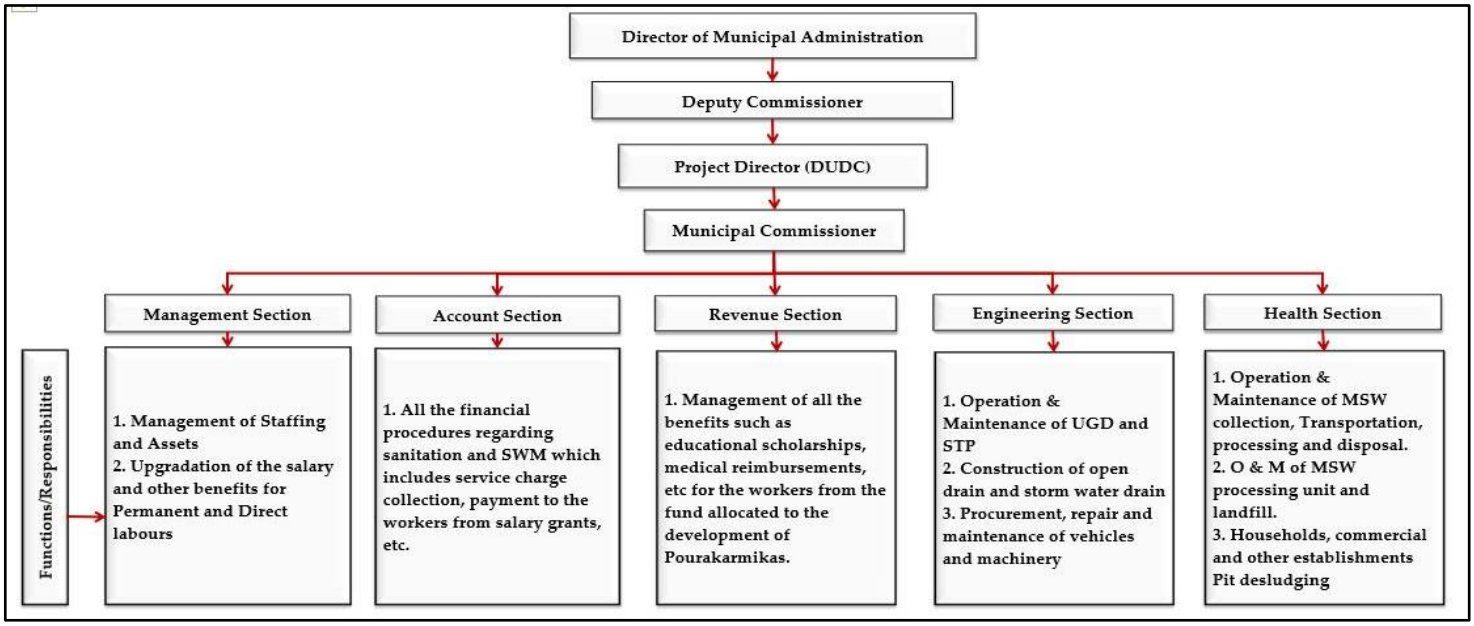
Source: Photograph taken by CBPS Team during field visit

6.1.3. Organisational Chart and Governance Structure in Relation to Sanitation/SWM

Figure 6.1.7 illustrates the Doddaballapura CMC Organisational Chart. The sanitation and SWM services are the joint responsibility of both the health and

engineering sections. While the engineering section is exclusively responsible for the O&M of the UGD network and the STP, the rest of the sanitation related activities such as the supervision of public and community toilets, road and open drain cleaning along with the entire SWM is the responsibility of the health section. The health section is headed by an environmental engineer along with 3 senior health inspectors and one junior health inspector. The main officials who deal with this in the ULB are environmental engineer and junior engineer. All the various activities of the frontline sanitation and SWM workers (be it permanent staff, direct labour or outsourced to private agencies) are supervised by the health inspectors. The procurement, repair and maintenance of both sanitation and SWM related equipment, vehicles and machinery is the responsibility of the engineering section. While the accounts section maintains the revenue and expenditure statement, the municipal commissioner is the key nodal officer responsible for planning and coordinating with other institutions such as the Directorate of Municipal Administration (DMA), Deputy Commissioner (DC), District Urban Development Cell (DUDC) and state-owned parastatals. The CMC also has a Manager who is responsible for all Human Resource (HR) operations such as payroll, staffing, asset management and staff welfare. The DMA functions as an interface between the State Government and ULBs and in accordance with the powers conferred under the KMC Act, it monitors these ULBs through a network of DUDC's headed by a Project Director who reports to the DC of the concerned district on a day-to-day basis.

Figure 6. 7: Organisation Chart



Source: Compiled by CBPS Team

With the approval of the local municipal council, the ULB can independently take up any sanitation or SWM related project as long as the total project estimate is below Rs. 50 lakhs. For projects of this scale, the municipal commissioner is empowered as the final signing authority. If the work estimates fall between Rs. 50 lakhs and Rs. 2 crores, then it needs to be first signed off by the Project Director (DUDC) followed by the DC. Work estimates that goes beyond Rs. 2 crores require the approval from the DMA. Since 2018, the municipal council (elected body) of Doddaballapura CMS has not been in existence due to an ongoing court case in relation to the state government's reservation policy in regard to a few wards. In the absence of a municipal council, even work estimates that are below Rs. 50 lakhs now require the approval of the DC who plays the dual role of a state appointed administrator. However, any major work in relation to the water supply and UGD systems that exceed Rs. 50000 will be the sole responsibility of KUWS & DB. Other works such as construction of overhead tanks, STPs and water treatment plants that require specialized technical expertise are also assigned to KUWS&DB. On the other hand, irrespective of the work estimate, work in relation to open, closed and storm water drains will be the sole responsibility of the ULB.

The governance structure for planning and implementing any sanitation or SWM related work depends on various factors such as the nature of work, source of funding, scheme and project. One example that we would like to illustrate here is the Karnataka Municipal Reform Project (KMRP) in which one of the sub-components was to construct a UGD network and STP for Doddaballapura CMC. The State government appointed KUIDFC – a parastatal body as the nodal agency for implementation, monitoring and management of funds for this project. Apart from borrowing a loan on behalf of Doddaballapura CMC from the World Bank, KUIDFC also received a 10 % contribution from the ULB to implement the project. The remaining 90 % of the implementation cost will be a loan which the ULB has to repay. KUIDFC conducted an initial feasibility study by also seeking inputs from the ULB. Subsequently KUIDFC was required to obtain two types of approval – an administrative approval from a state level empowered committee and technical approval from the chief engineer of KUWS&DB. After obtaining the approvals, KUIDFC appointed a Project Management Consultant (PMC) to prepare a detailed project report (DPR) along with cost estimation. Based on this, Doddaballapura CMC called for a tender and finalized a contractor for executing the work. The day-to-day supervision of the contractor was the responsibility of KUIDFC which it managed through the PMC. Based on the PMC/KUIDFC's signoff on the progress made, the

payment to the contractor was made by the ULB. KUIDFC in turn released the loan amount to the ULB in a phased manner. Once the project was completed it was handed over to the Doddaballapura CMC for the O&M of these assets.

6.1.4. Staffing and Assets in Relation to Sanitation/SWM

There are four different modes of employing Sanitation/SWM workers in Doddaballapura ULB – As Permanent Staff, Direct Labour, Outsourced to Private Agencies (Labour) and Outsourced to Private Agencies (Service). The term 'Direct Labour' refers to sanitation/SWM workers employed by the ULB without any formal contract and on a daily wage basis. Apart from this, the ULB also either outsources some of the labour work to private agencies or engages with them on a service contract basis. Doddaballapura CMC currently has 74 sanitation/SWM workers who are permanent staff of the ULB, 88 have been hired as direct labour and 12 workers are under Private Agencies. The number of workers employed by private agencies who have a service contract with the ULB (for specific sanitation/SWM related activities such as maintenance of public toilets) could not be ascertained. Apart from cleaning of drains, the permanent staff and direct labour is mostly engaged in SWM related work such as door to door waste collection, street sweeping and roadside shrub clearing. There is no fixed task or responsibility assigned to either the permanent staff or direct labour and hence they should be flexible to take up any of the above mentioned activities. However, the scenario is a bit different for the 12 workers employed by private agencies. Among them, 5 are dedicated to the maintenance of the MSW processing and disposal facility while the remaining 7 are responsible for the maintenance of the UGD and the STP facilities. Within the 5 workers working in the SWM processing facility, 1 is responsible for operating the bailing and compost screening machines while the remaining 4 are engaged in manual work such as loading and waste segregation. Out of the 7 workers responsible for the maintenance of the UGD and STP facilities, 3 are dedicated to operating the jetting & suction machine for clearing blockages in the UGD, 2 for desilting manholes and the other two 2 are for maintenance of the STP facility. The same workers who operate the jetting and suction machines are also responsible for the desludging of household pits. The below table when perused column-wise, provides more details on the 4 different modes of employment of Sanitation/SWM workers, the type of sanitation/SWM work being carried out by each one of them and the nature of interaction between the ULB and the private agencies.

Table 6. 2: Modes of Employment of Sanitation/SWM Workers

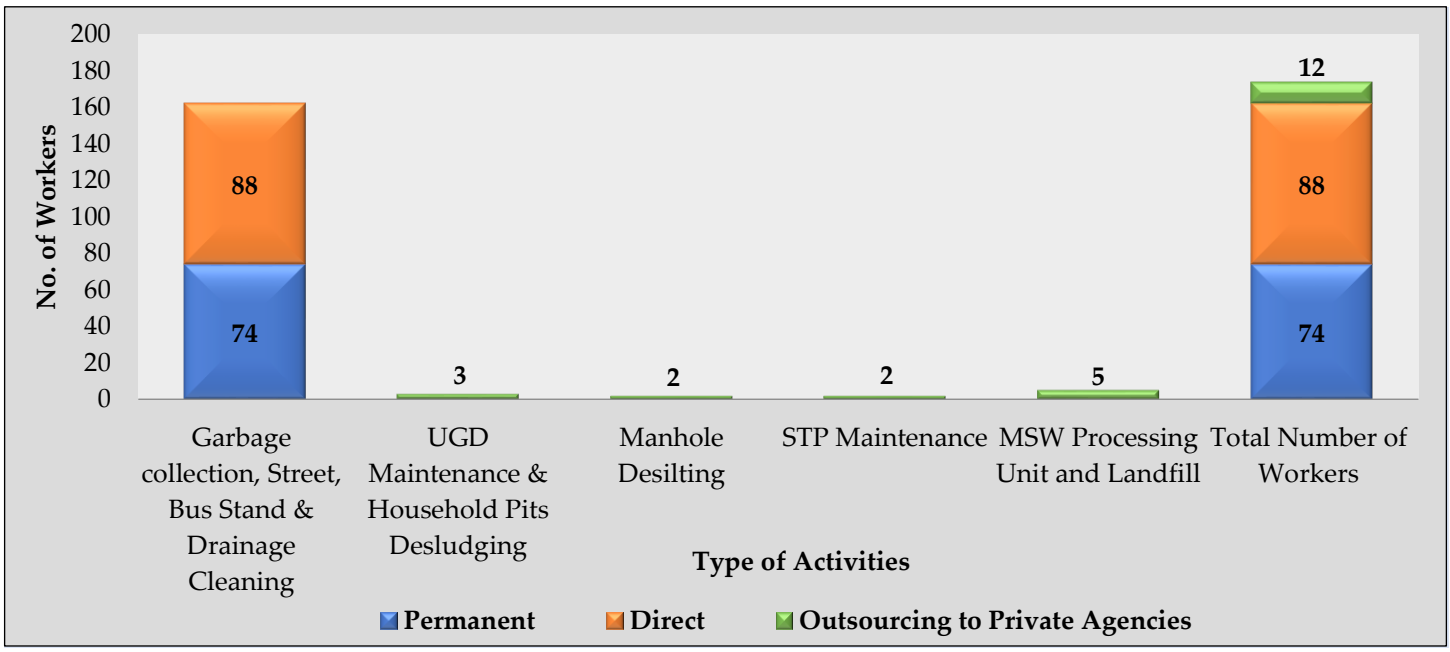
Employer		Doddaballapura CMC		Private Agencies (Labour)	Private Agencies (Service)
Mode of Employment		Permanent Staff: On ULB Payroll	Direct Labour: Daily wagers hired locally	Outsourced to private agencies who supply labour that is dedicated only for ULB related work.	Based on Multi-year Service Contracts. Work allocation is completely managed by the Private Agency.
Type of Work	Sanitation	1. Drainage Cleaning 2. Maintenance of Community Toilets		1. Maintenance of UGD and STP 2. Desludging of Household Pits.	1. Maintenance of Public Toilets
	SWM	1. Waste collection 2. Waste Transportation 3. Waste Processing & Disposal 4. Street Sweeping		1. Waste Segregation 2. Composting and Bailing of Dry Wastes	Not Applicable
Stakeholder Roles	Government (ULB)	1. Recruits the workers 2. Provides Safety Gear/PPE. 3. Provides vehicles and equipment. 4. Provides land for the SWM processing and disposal facility. 6. Payment to workers		1. Selection of the Contractor 2. Payment to the contractor 3. Provides Safety Gear / PPE 4. Provides vehicles and equipment. 5. Work Supervision.	1. Preparing DPR and Service Contract 2. Calling tender 3. Payment to the contractor
	Non- Government	Not Applicable		1. Recruiting the workers 2. Payment to the workers along with benefits.	1. Recruiting workers 2. Construction and maintenance as per the service contract. 3. Payment to the workers along with benefits.

Source: Compiled by CBPS Team

All the sanitation work that is typically classified as 'hazardous' such as the maintenance of UGD and STP and the desludging of household pits have been outsourced to private agencies by the Doddaballapura CMC. According to the

officials we spoke to, the main reason behind this is that posts such as UGD operator or UGD helper haven't been sanctioned as per the Cadre & Recruitment (C&R) Rules for Karnataka State Municipalities[53] and hence the ULB does not have the approval to hire them as permanent staff of the ULB. To circumvent this, it was suggested to the ULB by the DMA to outsource this to private agencies and make payments using own revenue which is an additional financial burden to the ULB. However, Municipal Corporations in the state have approvals to hire workers as UGD operators or UGD helpers and going ahead the ULB hopes that the C&R rules for Municipalities will also be amended so that they too can employ workers for UGD and STP maintenance as permanent staff of the ULB. The current strength of 174 sanitation/SWM workers matches with what is stipulated in the C&R Rules and hence there are no additional vacant posts. When asked as to why the number of workers hired as direct labour (88) is even higher than the number of workers hired as permanent staff of the ULB (74), the officials informed us that all staffing related decisions are made by the DC office and according to them this situation arises when the job applicants have not met the eligibility criteria for being hired as permanent staff of the ULB. The below Figure gives an idea about various types of sanitation/SWM work mapped to the various modes of employment.

Figure 6. 8: Distribution of Type of Sanitation/SWM Work Versus Mode of Employment



Source: Doddaballapura CMC

[53] Karnataka Municipalities (Recruitment of Officers and Employees) Rules, 2010

The below table 6.3 provides details on the range of salaries, working hours, leaves and other staff benefits being provided to sanitation/SWM workers across the various modes of employment. From the 24% funds reserved for SC/ST in the State Finance Commission (SFC) grants, 20 % from that is allocated for the welfare of only those sanitation/SWM workers who have been hired as permanent staff of the ULB. The medical reimbursement and educational scholarship for their children is disbursed from these funds. The DC can approve medical reimbursement up to Rs. one lakh and beyond that the DMA is empowered to approve on a case-to-case basis. The children of permanent staff are also being provided an annual education scholarship of Rs. 5000 to 6000 applicable from the secondary education level. Under the Pourakarmika Gruha Bhagya Yojana – A housing scheme launched by Karnataka, permanent sanitation/SWM workers are also entitled to receive Rs. 7.5 lakhs (Rs. 6 lakhs as contribution from the State Government and Rs. 1.5 lakhs from convergence with the Pradhan Mantri Awas Yojana). Any additional cost beyond Rs. 7.5 lakhs towards house construction should either be borne by the ULB or the beneficiary.

The compensation and benefits for workers either employed as direct labour or outsourced from private agencies is not on par with those working as permanent staff of the ULB. Workers belonging to both these categories are paid a fixed renumeration irrespective of the number of years of experience. Apart from free health check-ups, the only other major benefits that they are entitled to are the Employee Provident Fund (EPF) and Employee State Insurance (ESI), wherein the employer's contribution to both EPF and ESI is being paid by either the ULB or private agencies.

Table 6. 3: Salaries and Other Benefits Given to Workers Based on Their Mode of Employment

	Monthly Gross Salary Range (In Rs.)		Working Hours	Off Days	Leaves	Other Benefits
	Min	Max				
ULB Permanent Staff	11059	42516	8	Wednesday and Sunday (Only Second half)	Casual Leaves: 10 Encashment Leaves: 30	1. Medical Reimbursement 2. Health Check-ups 3. Over Time Payment 4. Annual Increment. 5. Education Scholarship for children 6. Housing Scheme

	Monthly Gross Salary Range (In Rs.)		Working Hours	Off Days	Leaves	Other Benefits
	Min	Max				
Direct Labour	Not applicable	13600	8	Wednesday and Sunday (Only Second half)	Casual Leaves: 12	1. Health Check-ups 2. PF 3. ESI
Private Agencies (Labour)	10439	13628	No fixed time	No official Off days. The workers need to negotiate it with their superior.	No official leaves. The workers need to negotiate it with their supervisor	1. Health Check-ups 2. PF 3. ESI

Source: Compiled by CBPS Team

Only the DC office is empowered to appoint sanitation/SWM workers either as permanent staff or direct labour by adhering to a prescribed set of guidelines as set by the Urban Development Department and based on factors such as age, caste and work experience. It's only when the applicants do not meet these guidelines, does the DC office consider about hiring sanitation/SWM workers as direct labour. The private agencies are responsible for their own hiring and they either directly supply labour or engage with the ULB through multi-year service contracts.

All sanitation/SWM related vehicles[54] and equipment[55] in Doddaballapura city such as garbage vehicles, suction machines, plastic bailing machine etc. are only owned by the ULB. As per the guidelines issued by the state government, it is more economically feasible for the ULBs to own these machines than depend on private agencies for the same. However, there is a provision for these vehicles and machinery to be operated by workers employed by private agencies with whom the ULB has a contract.

[54] Compactor- 1, Tipper Truck- 1, Tractor- 3, Tractor Tiller- 1, Dumpster Truck- 2, Auto Tipper- 25, String and fogging vehicle- 1 and JCB- 2

[55] Disinfecting Machine- 1, Jetting Machine- 1 Sucking Machine- 1 and Belling Machine- 1

6.1.5. Doddaballapura CMC Finances

The municipalities in Karnataka are governed by the Karnataka Municipalities Act 1964, Karnataka Municipal Corporation Act. The accounts of the municipalities are maintained as per the Karnataka Municipal Accounting and Budgeting Rules 2006 (KMABR-2006)[56] in the lines of National Municipal Accounting Manual. The important sources of revenues of an ULB in Karnataka include the grants as recommended by State Finance Commission (and accepted with or without changes by state government) both in the form of tied (specific purpose) and untied grants, Own source revenues (OSR) and assigned revenues. The own source revenues include the property tax, advertisement tax, water supply charges, solid waste management cess and trade license fees. All of these own source revenues are to be collected by the ULB while the rates are stipulated by the state government. The trade license fee is stipulated to be revised in every three years by the ULBs. The assigned revenue is the surcharge on stamp duty levied for the registration of properties in the jurisdiction of the ULB. The state will collect on behalf of the ULB and retain 10% of it as the collection charges and the rest 90% is to be shared with the ULB. However, this revenue is delayed in reaching ULB more often than not and ULB has no clue till it gets it. Overall, the own revenues of the ULB are subject to tax effort and updated tax base with very little or no scope to do in terms of tweaking the rates.

The grants from state government usually referred to as State Finance Commission grants or SFC grants comes in the form of both tied and untied nature. The tied grants are for salaries (also referred to as SFC salary grants), specific purposes such as for implementation of schemes and even for repayment of loan by the ULB.

The property tax collected by the ULB also has a component of cess collected as a proportion of property tax. These cesses include health cess @15%, library cess@6%, beggary cess @3% and urban transport cess @2% amounting to 26% of the property tax. These cesses have to be remitted to the respective authorities[57]after retaining 10% of the cess as collection charges except for the urban transport cess which has to be remitted in full. The ULBs are also expected to collect the solid waste management cess (SWM cess) at the rates prescribed by the state government (latest rates being

[56] This also stipulates double entry accrual-based accounting system.

[57] Health Cess to Health Department, Beggary Cess to Directorate of Beggary, Library Cess to Department of Libraries and UTC to Urban Transport Fund being administered by Director of Urban Land Transport

given in Karnataka Government Gazette dated October 10 2019) along with the property tax. The SWM cess are fixed based on the area of the buildings and the category of the municipalities. The SWM cess also vary for residential and commercial properties and bulk generators. The SWM cess bye-laws also has rates fixed for fines to be imposed by the ULBs for various categories of SWM generators including fines for dumping on roads. However, the government buildings, places of worship, educational institutions are being exempted from the SWM cess.

The analysis of finances of the Doddaballapura City Municipal Council (CMC) covers the period 2014-15 to 2020-21 with the last two years being the revised estimates (RE) and budget estimates (BE) respectively. The analysis focuses on the aggregate finances of the ULB, the share of OSR and grants, the revenue and capital expenditures along with the expenditures on sanitation and SWM.

The aggregate finances of the ULB indicate that the revenues have grown from Rs. 2063 lakhs in 2014-15 to Rs 2935 lakhs in 2019-20 (Table 6.4)[58]. The year-on-year growth rates indicate that the revenues have declined over the previous year during the years 2016-17 to 2018-19 while the highest increase was during 2015-16 when it reached over Rs. 3106 lakhs recording 50% increase over the year 2014-15. The revenues grew at an average annual growth rate of 10% over the period 2014-15 to 2019-20. The expenditure increased from Rs. 1796 lakhs in 2014-15 to Rs. 2826 lakhs during the year 2019-20. The expenditure had declined during the years 2016-17 and 2018-19 over the previous year while it recorded an increase during the years 2015-16 and 2017-18 over the previous year. The average annual growth rate of expenditure was 11% over the period 2014-15 to 2019-20.

The expenditure as a proportion of total revenue (revenue + opening balance) hovered between 49% to 63% during the period 2014-15 to 2019-20 while the average for the period was 58%. The expenditure as a proportion of the revenue for the year stood at an average of 96% for the period 2014-15 to 2019-20. The lower proportion of expenditure in relation to the total revenues indicate the issues of flow of funds to the ULBs. Despite a higher revenue available at the disposal of the ULB, the utilisation has not crossed 63%. The expenditures as proportion of revenues for the year seemed to be better and has crossed 100% to utilise the revenues from the previous years during the years 2017-18 and 2018-19.

[58] The last year 2020-21 being the Budget Estimates are not considered for the interpretation as it seemed to be highly inflated.

Table 6. 4: Aggregate finances of the Doddaballapura City Municipal Council

(Rs. in lakhs)

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE
Opening Balance	957.12	1224.41	1970.04	2276.22	1977.46	1582.75	1691.29
Revenue	2063.53	3104.63	2473.50	2385.09	2218.53	2934.66	4265.08
Total Revenue	3020.65	4329.05	4443.54	4661.31	4195.98	4517.41	5956.37
Expenditure	1796.23	2359.01	2167.31	2683.85	2613.24	2826.12	5806.37
Closing Balance	1224.41	1970.04	2276.22	1977.46	1582.75	1691.29	150.00
Exp as % of Total Revenue	59	54	49	58	62	63	97
Exp as % of revenue for the year	87	76	88	113	118	96	136
Year on year growth of revenue		50%	-20%	-4%	-7%	32%	45%
Year on year growth of exp		31%	-8%	24%	-3%	8%	105%

Detailed Receipts and Expenditure of Doddaballapura CMC

The receipts of the CMC include own source revenue (OSR), Grants (specific and untied) and extra-ordinary receipts. The extraordinary receipts of the CMC include those which are temporarily held by the CMC to be paid later. These include EMD, security deposits, deductions pertaining to GST, royalty, income tax, cesses payable to the respective authorities and recoveries of loans or advances to employees. Similarly, the extraordinary payments include the refund of EMDs, security deposits, cesses paid to authorities, deductions paid to authorities and advances for employees. These extraordinary receipts and payments need to be excluded to arrive at the true picture of the finances of ULBs.

The OSR has increased from Rs. 509.31 lakhs in 2014-15 to Rs. 1077.01 lakhs in 2019-20 (Table 6.5). The growth of OSR was positive on all the years except the year 2016-17 when it was reduced by 2 percent. The average year-on-year growth of the OSR, for the period 2015-16 to 2019-20 was 18% while the grants grew at an average of 11%. The revenue expenditure grew from Rs. 1003 lakhs in 2014-15 to Rs. 1841 lakhs in 2019-20 recording an annual average growth of 15%. The capital expenditure grew from Rs. 497 lakhs in 2014-15 to Rs 1132 lakhs in 2017-18 and reduced to Rs. 496 lakhs in 2019-20 and recorded an annual average growth of 9% for the period.

The share of OSR increased from 25% of total revenues in 2014-15 to 37% in 2019-20 (Figure 6.1.9). The average share of the OSR and grants in the total revenues for the period 2014-15 to 2019-20 stood at 32% and 59% respectively indicating a higher

dependency of the ULB on the grant receipts. The share of revenue expenditure increased from 56% in 2014-15 to 65% in 2019-20 while the share of capital expenditure reduced from 28% to 18% during the same period. The average share of revenue and capital expenditure in total expenditure for the period 2014-15 to 2019-20 stood at 55% and 34% respectively (Figure 6.10).

Table 6. 5: Categories of revenues and expenditure of Doddaballapura CMC

(Rs. in Lakhs)

Sources	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20 RE**	**2020-21 BE**
Own source revenue	509.31	752.2	737.13	801.2	813.88	1077.01	1595.75
Grants	1282.86	2179.46	1535.81	1315.34	1174.97	1618.28	2351.58
Extraordinary receipts	271.36	172.97	200.55	268.55	229.68	239.37	317.75
Total Rev	**2063.53**	**3104.63**	**2473.5**	**2385.09**	**2218.53**	**2934.66**	**4265.08**
Revenue Expenditure	1003.70	1328.16	1214.43	1510.29	1323.32	1841.15	2561.26
Capital Expenditure	496.92	786.43	717.90	949.04	1132.23	496.20	2672.05
Extraordinary Payments	295.62	244.41	234.98	224.52	157.68	488.77	573.06
Total Exp	**1796.23**	**2359.01**	**2167.31**	**2683.85**	**2613.24**	**2826.12**	**5806.37**
Sources	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20 RE**	**AVE**	
Own source revenue	48%	-2%	9%	2%	32%	18%	
Grants	70%	-30%	-14%	-11%	38%	11%	
Sources	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20 RE**	**AVE**	
Extraordinary receipts	-36%	16%	34%	-14%	4%	1%	
Total Rev	**50%**	**-20%**	**-4%**	**-7%**	**32%**	**10%**	
Revenue Payments	32%	-9%	24%	-12%	39%	15%	
Capital Payments	58%	-9%	32%	19%	-56%	9%	
Extraordinary Payments	-17%	-4%	-4%	-30%	210%	31%	
Total Exp	**31%**	**-8%**	**24%**	**-3%**	**8%**	**11%**	

Figure 6. 9: Share of sources of revenues of Doddaballapura CMC over years

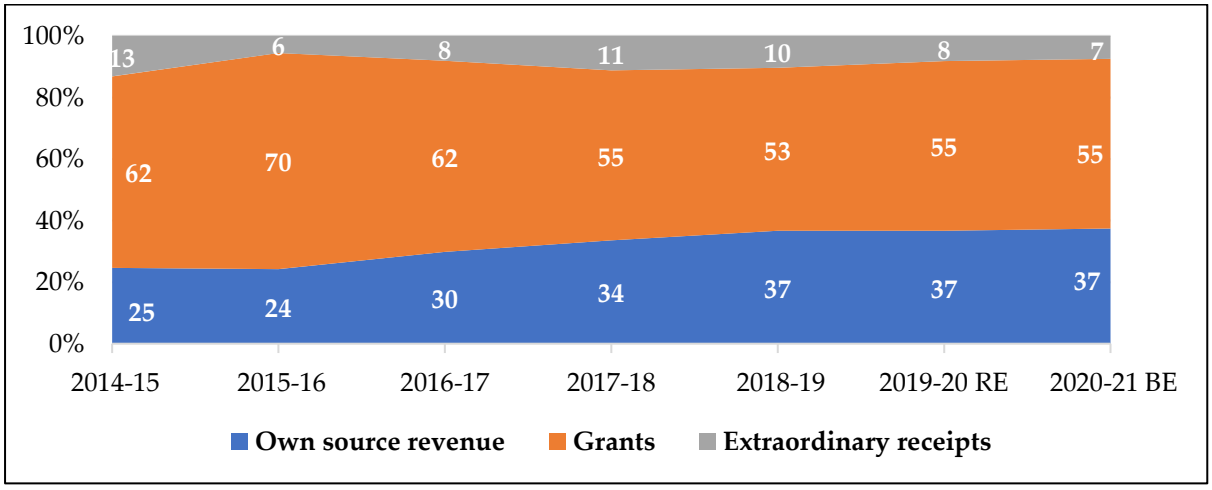
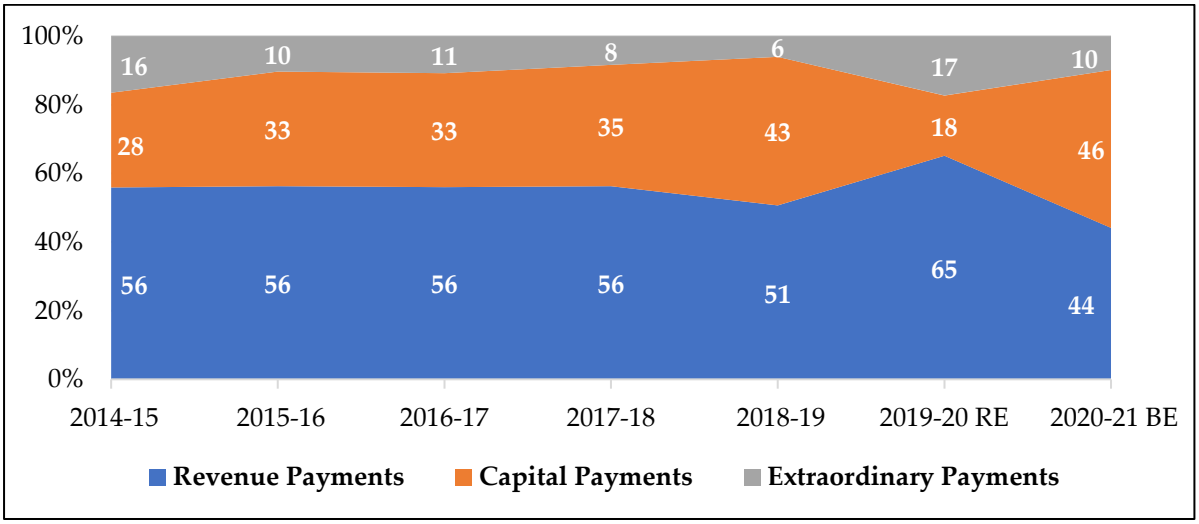


Figure 6. 10: Share of sources of expenditure of Doddaballapura CMC over years



Given that extraordinary receipts and extraordinary payments do not really form the receipts and payments of the CMC, the real receipts of the CMC confine to the OSR and the grants received. Similarly, the revenue and capital payments would constitute the real expenditure of the CMC. This becomes more important to understand the utilisation of funds of CMC (Table 6.6)[59]. The opening balance along with the OSR and Grants together make up the funds available for the expenditure in a year. The utilisation ranged between 53% to 73% between the years 2014-15 and 2019-20. The utilisation based on the receipts of the year excluding opening balance was 116% and 123% in the years 2017-18 and 2018-19 the arrears from the previous years have also been used while during the other years the CMC could not fully utilise even the receipts of that year. While the shortage of funds has been a cause of concern, this lower utilisation also points out to the flow of funds. The funds from state reaching the CMC in late February or March has an impact on utilisation and the next year utilisation is also delayed since the expenditure cannot happen without making the budget provision for the year.

[59] Extraordinary receipts - include EMD, security deposits, deductions pertaining to GST, royalty, income tax, cesses payable to the respective authorities and recoveries of loans or advances to employees. Extraordinary expenditure- include the refund of EMDs, security deposits, cesses paid to authorities, deductions paid to authorities and advances for employees

Table 6. 6: Receipts and Expenditure of Doddaballapura CMC

(Rs. in lakhs)

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE
OB	**253.92**	**545.47**	**1362.54**	**1703.14**	**1360.36**	**893.65**	**1251.59**
OSR+ grants	1792.17	2931.66	2272.94	2116.54	1988.85	2695.29	3947.33
Total	**2046.09**	**3477.13**	**3635.48**	**3819.68**	**3349.21**	**3588.94**	**5198.92**
Revenue exp+ Capital exp	1500.62	2114.59	1932.33	2459.33	2455.55	2337.35	5233.31
CB	**545.47**	**1362.54**	**1703.14**	**1360.36**	**893.65**	**1251.59**	**-34.39**
Utilisation % total	73%	61%	53%	64%	73%	65%	101%
Utilisation % for the year*	84%	72%	85%	116%	123%	87%	133%

Note: *based on receipts for the year

Analysis of Own Source Revenues (OSR) of Doddaballapura CMC

The Own source revenues (OSR) comprises of property tax, advertisement tax, trade license, rents from properties, water supply charges, charges related to sanitation and SWM related as well as fees related to town planning. General revenues include the fees fines, RTI fees, birth and death certificate, sale of tender forms, road cutting charges, empanelment of plumbers, registration of contractors etc.

Property tax has the largest share among the OSR accounting for 45% followed by water supply charges, charges under town planning and sanitation accounting for 20%, 8%, 8% of OSR respectively. The property tax and trade license revenues recorded a steady positive growth rate over previous years while the water charges and sanitation and SWM charges (including SWM cess) recorded negative growth for at least one year in between the years 2015-16 to 2019-20. The fluctuations in the rent revenues, advertisement tax, water and sanitation revenues also partly indicate the changes in the tax effort owing to personnel availability at the CMC.

Table 6. 7: Own Source Revenues of Doddaballapura CMC over years

(Rs. in lakhs)

Own Source Revenue	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	AVE	Share
Property tax related	237.82	288.13	303.54	350.53	411.53	513.10	350.77	45%
General revenues	30.73	27.02	88.58	55.46	70.47	152.44	70.78	9%
stamp duty surcharge	0.00	0.00	7.48	22.50	18.01	10.00	9.66	1%
Advertisement tax	1.08	1.87	2.02	1.72	11.13	2.08	3.32	0%
Trade license	9.45	11.70	12.77	12.94	14.04	14.85	12.63	2%

Own Source Revenue	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	AVE	Share
Rents from properties and land	44.62	48.34	50.78	43.80	60.05	64.07	51.94	7%
Water supply related	111.65	149.95	159.89	212.95	129.85	186.26	158.43	20%
Sanitation and SWM related	12.05	83.28	72.06	54.00	77.59	72.75	61.96	8%
Town planning related	61.91	141.89	40.02	47.29	21.21	61.45	62.30	8%
Total	**509.31**	**752.20**	**737.13**	**801.20**	**813.88**	**1077.01**	**781.79**	**100%**

Own Source Revenue (year on year growth)	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20 RE**	**AVE**
Property tax related	21%	5%	15%	17%	25%	17%
General revenues	-12%	228%	-37%	27%	116%	64%
stamp duty surcharge			201%	-20%	-44%	-32%
Advertisement tax	74%	8%	-15%	546%	-81%	106%

Own Source Revenue (year on year growth)	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20 RE**	**AVE**
Trade license	24%	9%	1%	8%	6%	10%
Rents from properties and land	8%	5%	-14%	37%	7%	9%
Water Supply related	34%	7%	33%	-39%	43%	16%
Sanitation and SWM related	591%	-13%	-25%	44%	-6%	118%
Town planning related	129%	-72%	18%	-55%	190%	42%
Total	**48%**	**-2%**	**9%**	**2%**	**32%**	**18%**

As discussed earlier the grants form significant proportion of revenues of the CMC accounting for nearly 60% of the receipts. Among the grants, the grants from SFC account for major proportion. The SFC grants are provided for salary, paying the electricity bills (for water supply and streetlighting) and also for development purposes. The Central Finance Commission (CFC) grants are for development (infrastructure creation) purposes and this include basic grant and performance grant (14th CFC). Specific purpose grants include the grants for implementation of schemes such as Swacch Bharat Abhiyaan, National Urban Livelihoods Mission, Calamity Relief Fund/water supply grant, census grants, Karnataka Municipal Reforms Project grants (KMRP) grants and Grants for repaying Karnataka urban water supply and drainage board (KUWSDB) loan. The grants were also provided for manual scavengers survey and sanitary workers housing scheme (Pourakarmika Gruhabhagya) (Table 6.9). The salary grants together with electricity grants accounted for 44% of the grant expenditure which is spent on salary and power charges. The SFC untied grants, CFC grants and specific purposes grants are spent to

augment the basic infrastructure in the CMC area and this account for 56% of the grant revenue. The share of untied grants was about 17% for the period 2014-15 to 2019-20.

Table 6. 8: Grant Revenues of Doddaballapura CMC Across Years

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	Share
SFC grants untied	302.90	438.29	183.03	198.15	188.71	200.00	98.00	17%
SFC Salary grants	364.86	384.54	344.51	370.04	483.55	464.20	617.02	26%
SFC electricity grants	70.93	778.90	27.91	138.80	139.00	447.96	460.00	18%
CFC grants	242.86	292.03	267.32	228.42	267.95	417.09	430.00	19%
Specific purpose grants	300.54	285.70	713.05	363.93	84.26	69.04	596.56	20%
Manual scavengers survey grant	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0%
Pourakarmika Gruhabhagya grant	0.00	0.00	0.00	16.00	11.50	20.00	150.00	1%
Total Grants	1282.86	2179.46	1535.81	1315.34	1174.97	1618.28	2351.58	100%
Share of untied grants	24%	20%	12%	15%	16%	12%	24%	

Source: Budget books of Doddaballapura CMC

Analysis of Expenditures of Doddaballapura CMC

Analysis of Revenue expenditures of Doddaballapura CMC

The average share of revenue expenditures was 55% of the total expenditures for the period 2014-15 to 2019-20. Of the revenue expenditures, the expenditures on general administration (office), water supply, sanitation, streetlighting, poverty alleviation programmes form the major part. Sanitation and SWM accounting for 36% has the highest share among the revenue expenditures while the water supply accounts for 30% of revenue expenditure. Streetlighting and poverty alleviation expenditures account for 8% and 7% of revenue expenditure respectively (Table 6.9).

The average share of wage expenditure (salaries, outsourced expenditures, direct payment workers, daily wages, professional fees, leave encashment etc) accounted for 50 % of the revenue expenditure during the period 2014-15 to 2019-20. The expenditure on outsourced/non-permanent staff accounted for an average of 30% of the wage expenditure over the period 2014-15 to 2019-20. Majority of the outsourced

staff work for sanitation and SWM section accounting for 74% of the outsourced expenses while the other work for office administration and tax collections.

Table 6. 9: Components of Revenue expenditure of Doddaballapura CMC

(Rs. in lakhs)

Revenue expenditure	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	Share
General Administration	113.15	115.03	126.51	189.13	252.66	290.19	344.64	13%
General Revenues	22.27	30.73	26.89	28.27	41.25	27.95	23.60	2%
Water supply	394.20	500.05	330.24	345.51	357.73	527.02	717.94	30%
Town planning	22.49	46.75	53.46	33.87	32.74	60.70	207.77	3%
Street lighting	30.40	103.98	93.39	205.77	90.93	148.37	172.00	8%
Sanitation and SWM	322.73	421.62	491.51	597.94	468.59	680.73	1005.20	36%
Poverty alleviation	98.46	110.00	92.43	109.80	79.43	106.20	90.10	7%
Total	**1003.70**	**1328.16**	**1214.43**	**1510.29**	**1323.32**	**1841.15**	**2561.26**	**100%**
Salary expenditure	472.40	586.39	610.08	743.34	821.19	842.08	1074.29	
Salary expenditure %	47%	44%	50%	49%	62%	46%	42%	50%
outsourced	134.07	201.37	241.00	339.28	184.60	305.70	424.00	
% Outsourced salary	28%	34%	40%	46%	22%	36%	39%	34%

Source: Budget books of Doddaballapura CMC

Capital expenditure of the CMC include monies spent on general administration which included the office buildings and furniture while town planning included the expenditure on welcome boards, display boards, playgrounds and parks, community halls while expenditure on sanitation and SWM include equipment, sewer systems, investments at crematorium and at segregation and land fill site. Poverty alleviation expenditure include structures built under urban livelihood mission, welfare funds for poor and physically challenged. The average capital expenditure for the period 2014-15 to 2019-20 was highest for sanitation and SWM accounting for 29% followed by roads at 25% and water supply at 13% (Table 6.10). The general administration also included the capital grants surrendered for the years 2014-15, 2015-16 and 2016-17 amounting to Rs195.29 lakhs under different schemes. However, the capital expenditures do not include the expenditure incurred by the parastatals in the ULB area.

Table 6. 10: Capital expenditure of Doddaballapura CMC over years

(Rs. in lakhs)

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	Share
General Administration	74.49	142.57	130.73	25.68	266.17	206.52	526.75	18%
Poverty Alleviation	13.77	9.32	44.51	0.00	16.34	32.52	246.28	3%
Roads	154.56	199.48	153.85	364.38	249.83	31.04	320.64	25%
Sanitation and SWM	124.03	308.99	181.51	261.05	338.09	120.14	825.48	29%
Streetlighting	29.74	37.08	61.45	63.12	51.00	16.53	35.00	6%
Town planning	0.00	36.72	7.95	79.75	115.09	13.60	543.25	6%
Water supply	100.33	52.27	137.91	155.06	95.72	75.86	174.65	13%
Grand Total	**496.92**	**786.43**	**717.90**	**949.04**	**1132.23**	**496.20**	**2672.05**	100%

Source: Budget books of Doddaballapura CMC

Sanitation and SWM expenditure Analysis

The SWM and sanitation management are being done together by the ULB under the public health section and engineering section. Thus, the salaries of the section (comprising of environment engineer, senior health inspector, health inspector and others) who supervise both the sanitation and SWM in the ULB is combined and is difficult to separate this component between SWM and sanitation. However, the salaries have been split between SWM and sanitation in the ratio of their expenditures excluding the salaries to arrive at expenditures of SWM and sanitation separately.

The expenditure on sanitation includes the construction and maintenance of sewer systems, Sewerage treatment plants, public toilets and road side drains. This expenditure is highest under capital expenses followed by salaries paid for sanitation activity accounting for 37% and 32% respectively. The wages account for 10% of the sanitation expenditure (Table 6.11) and these expenditures are payments made for workers who work on daily wage basis or being outsourced to agencies (which supply human labour) for carrying out the activity while the O&M sanitation which include non-wage expenditures (fuel charges, maintenance of road side drains including cleaning and repairs, protective gears, consumables and repairs of sewer systems) accounted for 21% for the period 2014-15 to 2019-20.

Table 6. 11: Sanitation expenditure of Doddaballapura CMC over years

(Rs. in lakhs)

Sanitation	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	Ave	Share
Wages Sanitation	31.79	41.26	38.09	0.00	18.49	126.00	144.00	42.60	10%
O&M Sanitation	33.85	63.75	87.18	120.19	82.66	152.56	334.04	90.03	21%
Capital Sanitation	31.61	156.44	132.67	235.45	295.69	119.84	600.06	161.95	37%
Salaries Sanitation	79.67	111.79	114.97	102.20	216.82	216.24	274.02	140.28	32%
Total	**176.92**	**373.24**	**372.91**	**457.84**	**613.67**	**614.63**	**1352.12**	**434.87**	**100%**

Source: Budget books of Doddaballapura CMC

The expenditure on SWM includes door to door collection of waste, segregation of waste, maintenance of segregation site, MSW processing unit, bio mining and land fill site. The wages accounted for 8% of the SWM expenditure (Table 6.12) and these expenditures are payments made for workers who work on daily wage basis or being outsourced to agencies (which supply human labour) for carrying out the activity. Salaries paid under SWM accounted for 32% while the capital expenditure accounted for 21% of the expenditure. The O&M sanitation which include non-wage expenses (fuel charges, segregation activity including cleaning, protective gears, consumables and repairs of vehicles meant for SWM) expenditure was highest which accounted for 39% for the period 2014-15 to 2019-20.

Table 6. 12: SWM expenditure of Doddaballapura CMC over years

(Rs. in lakhs)

SWM	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	Ave	Share
O&M SWM	55.91	95.88	144.64	250.01	43.94	70.41	148.65	110.13	39%
Capital SWM	92.42	152.54	48.84	25.60	42.40	0.30	225.42	60.35	21%
Wages SWM	0.00	1.90	14.10	35.99	38.48	50.00	7.50	23.41	8%
Salaries SWM	121.51	107.03	92.52	89.54	68.20	65.52	96.98	90.72	32%
Total	**269.84**	**357.36**	**300.10**	**401.15**	**193.01**	**186.23**	**478.55**	284.62	100%

Source: Budget books of Doddaballapura CMC

The Salaries paid to Permanent Staff (Sanitation and SWM together) is 64% whereas Wages paid to Direct Labour and Outsourced from Private Agencies (Sanitation and SWM together) is only 18%. On the other hand, when it comes to the headcount Permanent Staff are 74/ 42.5% and Direct Labour & Outsourced from Private

Agencies are 100 / 57.5%. This shows the huge disparity in salaries which varies depending upon the mode of employment even though they are all performing the same sanitation/SWM task.

The revenues from the SWM by way of collection of SWM cess, sale of recyclable materials, scrap, sale of compost together averaged at about Rs. 22 lakhs per year for the period 2014-15 to 2019-20 (Table 6.13). The sanitation revenues averaged about Rs. 40 lakhs per year for the same period. The SWM collections has seen a big dip during the year 2018-19 and 2019-20. The UGD monthly maintenance charges has been proposed to be collected every year however, no collections have been done till date against the estimates while the one-time UGD connection charges have been collected (but yet to be 100% collected from all the households that have UGD connection).

Table 6. 13: Revenues from SWM and Sanitation of Doddaballapura CMC

(Rs. in lakhs)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE
Sale of Compost				0.94	2.91	1.78	10.00
Sale of Stores & Scrap	4.91	2.51	0.05	2.84	0.52	0.00	2.00
SWM cess		23.49	23.38	27.39	15.36	25.51	30.00
Receipts from SWM	**4.91**	**26.00**	**23.43**	**31.18**	**18.79**	**27.30**	**42.00**
Pay & Use toilet user Charges	3.64	2.72	14.40	1.68	3.49	18.85	9.00
UGD Monthly Charges	0.00	0.00	0.00	0.00	0.10	0.00	84.00
UGD Connection Charges	0.00	52.95	33.82	20.77	55.20	26.51	100.00
User Charges (Sucking Machine)	3.50	1.61	0.42	0.38	0.00	0.10	0.30
Receipts from Sanitation	**7.14**	**57.28**	**48.63**	**22.82**	**58.80**	**45.46**	**193.30**
Total Receipts from SWM and Sanitation	**12.05**	**83.28**	**72.06**	**54.00**	**77.59**	**72.75**	**235.30**

Source: Budget books of Doddaballapura CMC

The expenditure of sanitation and SWM was compared with the receipts obtained by providing these services including that of the charges obtained for these services. The average revenues collected from the SWM and sanitation for the period 2014-15 to 2019-20 was Rs 62 lakhs while the amount spent was about Rs. 497 lakhs for O &M and Rs. 222 lakhs as capital expenditure for the same period (Table 6.14). The revenues accounted for 12% of the revenue expenditure incurred for the period 2014-15 to 2019-20.

Table 6. 14: Costs and Revenues from Sanitation and SWM in Doddaballapura CMC

(Rs. in lakhs)

Sanitation and SWM	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE	AVE
Revenue expenditure	322.73	421.62	491.51	597.94	468.59	680.73	1005.20	497.19
Capital expenditure	124.03	308.99	181.51	261.05	338.09	120.14	825.48	222.30
Total expenditure	446.76	730.60	673.02	858.99	806.68	800.87	1830.67	719.49
Revenue receipts	12.05	83.28	72.06	54.00	77.59	72.75	235.30	61.95
Share of Receipts	4%	20%	15%	9%	17%	11%	23%	12%

Source: Budget books of Doddaballapura CMC

Efficiency Parameters

The own source revenues form only about 32% of the total receipts of the CMC. The OSR when covered only 57% of the revenue expenditure for the period 2014-15 to 2019-20 (Table 6.15). This also indicate the dependency of the ULB on the state grants for incurring significant portion of revenue expenditure (about 45%). This metric can be very useful in grading municipalities for their efficiency.

Table 6. 15: Share of OSR in the Revenue expenditure of the CMC

(Rs. in lakhs)

Sources	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 RE	2020-21 BE
Own source revenue	509.31	752.2	737.13	801.2	813.88	1077.01	1595.75
Revenue expenditure	1003.70	1328.16	1214.43	1510.29	1323.32	1841.15	2561.26
OSR/Rev Exp	51%	57%	61%	53%	62%	58%	62%

Source: Budget books of Doddaballapura CMC

The other important parameter to look into is the collection of different tax and non-tax revenues of the ULB. The CMC has been able to collect OSR which is only 55% of the budget estimate (Table 6.16) The year wise actual realisation against the budget estimates in provided in the Annexure. The highest realisation was with respect to water supply connection charges at 93% followed by property tax at 80% and SWM cess at 72%. The realisation of OSR from sanitation was lowest at 9 percent.

Table 6. 16: Average collections against budget estimates of revenue for the period 2015-16 to 2018-19

(Rs. in lakhs)

SI. No	Revenue Sources	BE	Actuals	Collection
1	Own Source Revenue	1377.59	764.11	55%
2	Fees for Trade License	22.04	12.87	58%
3	Property Tax & Penalties and Fines for Property Tax	407.22	325.05	80%
4	SWM Cess	31.25	22.41	72%

SI. No	Revenue Sources	BE	Actuals	Collection
5	Water supply User Charges	321.92	143.37	45%
6	Water supply connection Charges	20.50	19.06	93%
7	OSR From SWM (sale of products)	11.55	2.44	21%
8	UGD connection charges	175.00	40.68	23%
9	OSR From Sanitation	65.52	6.20	9%

Source: Budget books of Doddaballapura CMC

Different respondents shared their own personal views on how the ULB can mobilize more resources. According to the municipal commissioner Doddaballapura CMC needs to construct new municipal buildings in commercial areas and get rental income for the same. He also felt that construction of new parks and creating tourism spots around lakes can also help generate revenues for the ULB. On the other hand, the environmental engineer felt that the revenue collection system should be first improved as there is significant gap between the projected demand and actual collection of revenues. Timely collection of UGD connection fees, service charges and rigorously implementing fines on those who violate sanitation and SWM rules can itself help in generating more revenues for the CMC. The accounts superintendent gave a fairly interesting perspective on newer ways to mobilizing revenues. According to him, all agencies and institutions that use land owned by the ULB for activities such as laying electric posts, pipelines and underground cables should pay the ULB monthly rent apart from the one-time fees.

6.1.6. Observations from the Budget books and audit reports of the Doddaballapura CMC

The budget books were not sufficient to understand the receipts and payments and the abstract of receipts and payments maintained by the ULB were also used to ascertain the finances. The budgets were not prepared fully in line with the KMABR 2006.

The audit reports (conducted by State Accounts Department) for the year 2016-17 and 2017-18 were also referred to understand the issues with the municipal finances. The budget estimates for both receipts and expenditure are very high and un realistic. The budget copies were not sent to the local audit circle despite the requirement for the same.

About Rs. 10.35 crore received as grants from centre and state was kept in the PD account as the action plans were not prepared. Instead of 4 bank accounts for 4

schemes (NULM, SBM, Ashraya housing, SAS) to be implemented by ULB, 17 bank accounts were opened against the instructions of the state government. Of the 46 bank accounts maintained by the ULB, 5 are current accounts (has amounts over 80 lakhs) which yield no interest and this seems to be overlooked by the ULB.
The cesses collected have not been paid by the ULB to the respective authorities and the pending amount by the end of the year 2017-18 was Rs. 1.66 crore. The deductions in the form of Income tax, royalty, service tax collected by ULB during the process of implementation of works has not been remitted fully and the balance stands at Rs. 1.26 crore.

The Demand Collection and Balance (DCB register) for shops owned by the ULB is not maintained properly and the difference between the collections and the estimates by the auditors amounted to Rs. 36 lakhs more than what was collected by the ULB.

The audit fees have not been paid in full by the ULB since 2010-11 and the balance to be paid at the end of the year 2017-18 was Rs. 36 lakhs. (Average annual fees was about 8 lakhs)

The amount placed under objection due to non-production of vouchers and details of expenditure has been increasing over the years.

6.1.7. Status and Welfare of Manual Scavengers

At present there aren't any officially recognised manual scavengers working within Doddaballapura CMC limits. During a survey carried out in 2013, seven manual scavengers were identified by the ULB to receive benefits under the Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS). However, till date, only two out of the seven identified manual scavengers have been provided housing under the SRMS scheme. Incidents of death due to manual scavenging has also been reported in Doddaballapura CMC. In 2016, four people died of asphyxiation in a manhole while trying to unclog a blockage in the UGD. After the 2013 survey, two additional surveys were conducted in 2018 and 2019 but no new manual scavengers were identified. During our field work, a few sanitation workers informed us that they continue to clear faecal matter that clog open drains within the old city limits or in the STP. According to the ULB officials, only if a person touches faecal matter with his/ her bare hands can it be considered as manual scavenging while cleaning and carrying faecal matter with proper safety gears such as gloves and shovels isn't.

During the 2013 National Manual Scavengers (MS) Survey carried out by the Ministry of Social Justice and Empowerment, seven manual scavengers were identified to be working within Doddaballapura ULB limits and hence eligible for receiving benefits under the Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS). A report submitted by the ULB to the local district administration mentions that it coordinated with the NSKFDC to provide an OTCA of Rs 40,000 for six out of the seven identified manual scavengers via the Dr. B. R. Ambedkar Development Corporation Limited (The State Channelizing Agency). Apart from this, no other loans or skill development training was provided to these identified manual scavengers through the various other schemes being implemented by the NSKFDC. On the other hand, the ULB provided direct financial assistance to some of these identified Manual Scavengers by utilizing the Karnataka Scheduled Castes Sub Plan and Tribal Sub Plan (Planning, Allocation and Utilisation of Financial Resources) that mandates them to spend 24.1% of their total budget on SC/ST welfare (17.15% for SCs and 6.95% for STs). From this fund, the ULB provided Rs. 25000 to one of the manual scavengers to open a vegetable stall, Rs. 50000 to another manual scavenger to support his existing business and Rs. 71000 each to two manual scavengers to start a handloom business and a provision store. Each year, the ULB also allocates about 20% from this fund towards the welfare of sanitation/SWM workers who have been hired as permanent staff. This is being used towards medical expenses reimbursement and providing education scholarship for the children of sanitation workers. The Deputy Commissioner (DC) can approve medical expense reimbursement of up to Rs. one lakh and beyond that the Directorate of Municipal Administration (DMA) is empowered to approve on a case-to-case basis. The children of sanitation workers (only those who are permanent staff of ULB) are also being provided with an annual education scholarship of Rs. 6000 which is applicable from the secondary education level onwards. Additionally, through the Pourakarmika Gruha Bhagya Yojana – A scheme launched by Karnataka government, permanent sanitation/SWM workers are entitled to receive Rs. 7.5 lakhs (Rs. 6 lakhs as contribution from the State Government and Rs. 1.5 lakhs from convergence with the Pradhan Mantri Awas Yojana) towards the construction of pucca houses. Any additional expenses beyond the ceiling of Rs. 7.5 lakhs should either be borne by the ULB or the beneficiary. Table 6.8 in the ULB finances section provides details about the grants received by the ULB under the Pourakarmika Gruha Bhagya scheme. It also indicates a budget estimate of Rs 1.50 Crores for the year 2020-21. The ULB also provides free health checkups to all its's sanitation/SWM

workers – both permanent staff and private agencies. Other benefits include the Employee Provident Fund (EPF) and Employee State Insurance (ESI), wherein the employer's contribution to both EPF and ESI is being paid either by the ULB or private agencies. Apart from these, the ULB does not specifically interact with the state government on any other components such as educational loans, skills training and loans.

After the 2013 MS survey, an additional MS survey was conducted in 2018 but no new manual scavengers were identified by the ULB. The ULB has a quarterly meeting with the NSKFDC wherein details regarding the implementation of various schemes along with the list of eligible beneficiaries are discussed. The NSKDFC then independently acts on providing scheme related benefits to the beneficiaries identified by the ULB. The NSKFDC also interacts with the ULB whenever a complaint regarding a manual scavenging incident gets reported to them through either citizens or NGOs. The NSKFDC then coordinates with the ULB to ensure legal action is taken against the concerned authorities and penalize them if found guilty of committing this act.

It is interesting to note that while the ULB has taken on the responsibility of supervising potentially hazardous tasks such as cleaning of sewers and septic tanks, the actual work is carried out only by labour that is outsourced from private agencies and not by any of the permanent staff of the ULB. The ULB informed us that the latest technological appliances for cleaning of sewers and septic tanks (such as jetting, desilting and suction machines) are being used so that it eliminates the need for any manual handling of excreta. However, incidents of death due to manual scavenging has also been reported in Doddaballapura CMC. In 2016, four people died of asphyxiation in a manhole while trying to unclog a blockage in the UGD. The ULB has been regularly conducting awareness sessions on manual scavenging and the legal ramifications associated with it. During our field work, a few sanitation workers informed us that they continue to clear faecal matter that clog open drains within the old city limits or in the STP. According to the ULB officials that we interviewed, only if a worker directly touches faecal matter with his/ her bare hands does it get defined as a manual scavenging act while doing the same with proper safety gears such as gloves and shovels isn't.

6.2. Hosur City Municipal Corporation (HCMC)Tamil Nadu State

6.2.1. Profile of HCMC

Hosur is an industrial hub in Krishnagiri district (Tamil Nadu), located 40 kms southwest of Bangalore. It is home to 1500+ automobile and manufacturing industries such as TVS Motors, Ashok Leyland, Hindustan Lever, Titan and many more. There are plans for the development of Special Economic Zones near Hosur which will further boost urbanisation and development of the region. Proximity to Bangalore is seen as a huge advantage with many IT companies setting up their operations in Electronic City which is less than a half hour drive from Hosur. The estimated population growth of Hosur between the years 2015-2020 was a staggering 49.88%. Thus, Hosur was upgraded as Hosur City Municipal Corporation (HCMC) in March 2019. The profile of HCMC has been summarized in the below table:

Table 6. 17: Profile of HCMC

SI. No	Parameter	Hosur
1	Population as per 2011 census	245354[60]
2	Category wise-breakup (General, OBC, SC/ST etc) as per 2011 census	General & OBC- 220694 SC- 24005 ST-655
3	Sex Ratio as per 2011 census	933
4	Total Number of Households as per 2011 census	82220
5	Percentage of Population living in Slums	5.17
6	Geographical Area (Sq. Km)	72.41
7	Number of Wards	45
8	Length of Roads (Km)	666.34
9	Water Supply in LPCD	90
10	Percentage of Households having individual toilets	98
11	Percentage of households with flush/pour-flush latrine connected to a **septic tank***	56
12	Percentage of households with flush/pour-flush latrine connected to a **single or twin pit****	0
13	Percentage of households with flush/pour-flush latrine that are connected to a **piped sewer system*****	16
14	Length of Sewer System	Not Applicable
15	Length of Drainages (Km)	334
16	Percentage of household with no drainage system (No underground, covered pucca, open pucca or open kutcha drainages)	20
17	Percentage of households whose sewage generated is treated.	16
18	STP Capacity (MLD)	Not Applicable

[60] 328880 as per 2020 survey

SI. No	Parameter	Hosur
19	Total solid waste generated (TPD)	72
20	Percentage distribution of various types of solid waste (Wet, Dry, Hazardous and Other wastes)	50 Wet Waste, 37 Dry Waste & 13 Other Waste##
21	Percentage of households having door to door waste collection	80
22	Percentage of households with waste segregation at source (dry and wet waste)	80
23	Percentage of MSW processed.	89

Source: Data collected from HCMC and field interview.
Note: *Septic Tank: With or without a separate soak pit but is a complete watertight tank made of concrete. May or may not have a partition wall in-between.
** **Single/Twin Pit:** The liquid infiltrates/leaches into the soil through the bottom.
*** **Piped Sewer System:** A system of sewer pipes, also called sewerage that is designed to collect human excreta and waste water and remove them from the household environment.
# Projected population by ULB.
Other Waste: Hazardous Waste, E-Waste, C & D Waste and Inert Waste.

At HCMC, the availability and management of data in regard to sanitation and SWM is pretty poor. During the entire duration of our field work, HCMC was unable to provide us with any supporting documents that gave details on the number of households having individual toilets and their type and number of households having access to some form of drainage. Thus, most of the data provided in the above table is based only on interviewing ULB officials. Lack of a proper data management system can impact the planning and implementation of sanitation and SWM related activities.

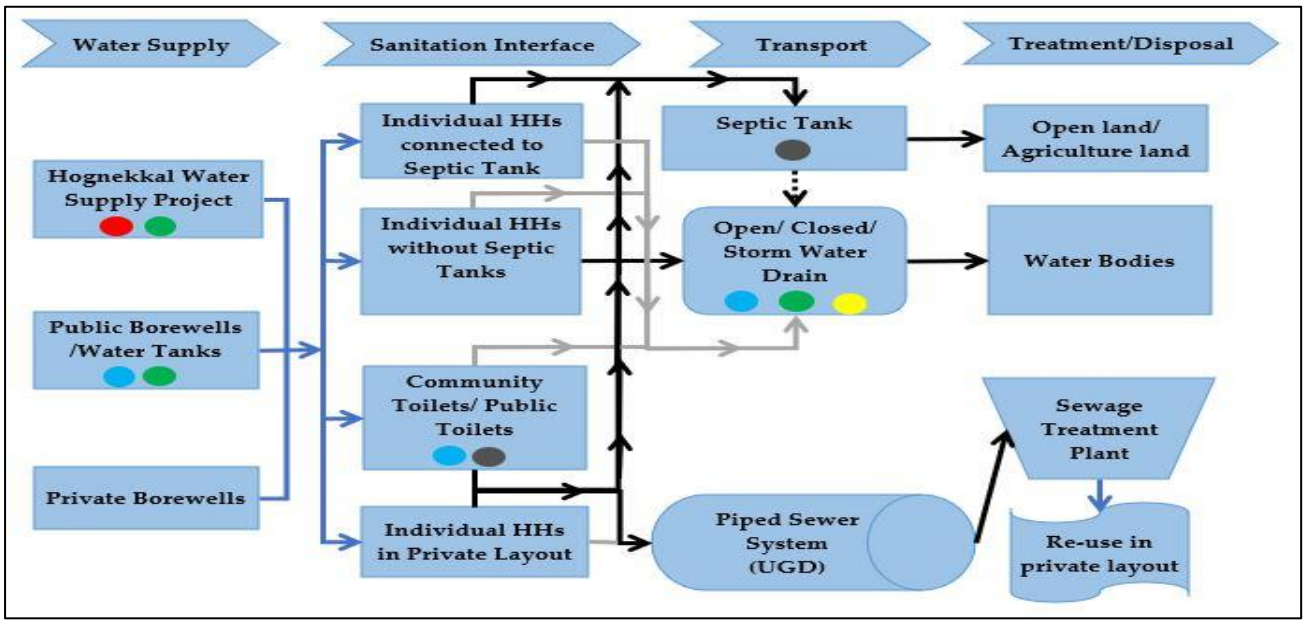
An exponential increase in population and economic activity in and around Hosur city has also led to an increase in demand for clean water, efficient sanitation facilities and management of solid waste. Additional challenges include the pollution of ground water resources since about 40% of untreated sewage from Bengaluru gets discharged into the South Pennar river[61] that flows nearby to the city. In 2017, an improvement of the water supply distribution system under AMRUT was taken up at a cost of Rs. 87.91 crores. This project was implemented by the Tamil Nadu Water Supply and Drainage Board (TWAD) – a state owned parastatal body. Despite being upgraded to a Municipal Corporation, Hosur city still does not have a centralised Underground Drainage (UGD) system that is connected to a centralised Sewage Treatment Plant (STP). A majority of the blackwater from the city gets discharged

[61] https://www.deccanchronicle.com/151217/nation-current-affairs/article/40-cent-bengaluru-sewage-flows-tamil-nadu

into nearby open land or water bodies. The Tamil Nadu Sustainable Urban Development Project (TNSUDP)[62] funded by the World Bank aims at improving urban services delivery in the participating ULB's, HCMC being one of them. Under the TNSUDP, a UGD system along with a STP is currently being undertaken by the HCMC.

6.2.2. Water Supply, Sanitation and Solid Waste Management (SWM) system

Figure 6. 11: Water Supply and Sanitation Ecosystem



Code	Definition
→	Black Water
→	Clean Water
→	Grey Water
⇢	Effluent
●	Asset Creation by Parastatal
●	Asset Creation by ULB
●	Maintenance by ULB - Permanent Staff
●	Maintenance by ULB - Outsourced to Private Agencies (Labour)
●	Maintenance by Private Agencies (Service)

Source: Compiled by CBPS Team

Note: Grey Water: Water from kitchen and bathroom sinks, showers, tubs and washing machines.

Black Water: Water from toilets that contains urine and faecal matter.

[62] The Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) – a parastatal body manages the Tamil Nadu Urban Development Fund (TNUDF) to financially implement the Tamil Nadu Sustainable Urban Development Project (TNSUDP) being externally funded by the World Bank for an amount of USD $600 million.

The above figure gives a brief description about the water supply and sanitation system in Hosur ULB. Due to lack of an UGD system, a majority of HHs and other buildings discharge their black water to septic tanks from which the floating liquid effluents are further discharged to a nearby open drain along with grey water as well. The desludging of the remnant faecal sludge from septic tanks is being carried out only by private agencies that are registered with HCMC. These private agencies charge anywhere between Rs. 3000 to Rs. 4000 for one load. Around 21 private agencies with 31 suction machines amongst them operate within the corporation limits. Prior to commencing any desludging activity, a Sanitary Inspector visits the location to ensure that there is no manual scavenging being carried out. Off late, some of the newer planned layouts that have come up in the outskirts of the city have a private UGD system facility connected to a STP that has been built exclusively for only the HHs of that layout.

Figure 6. 12: Open Drain Cleaning – Work Process

Source: Photograph taken by CBPS Team during field visit

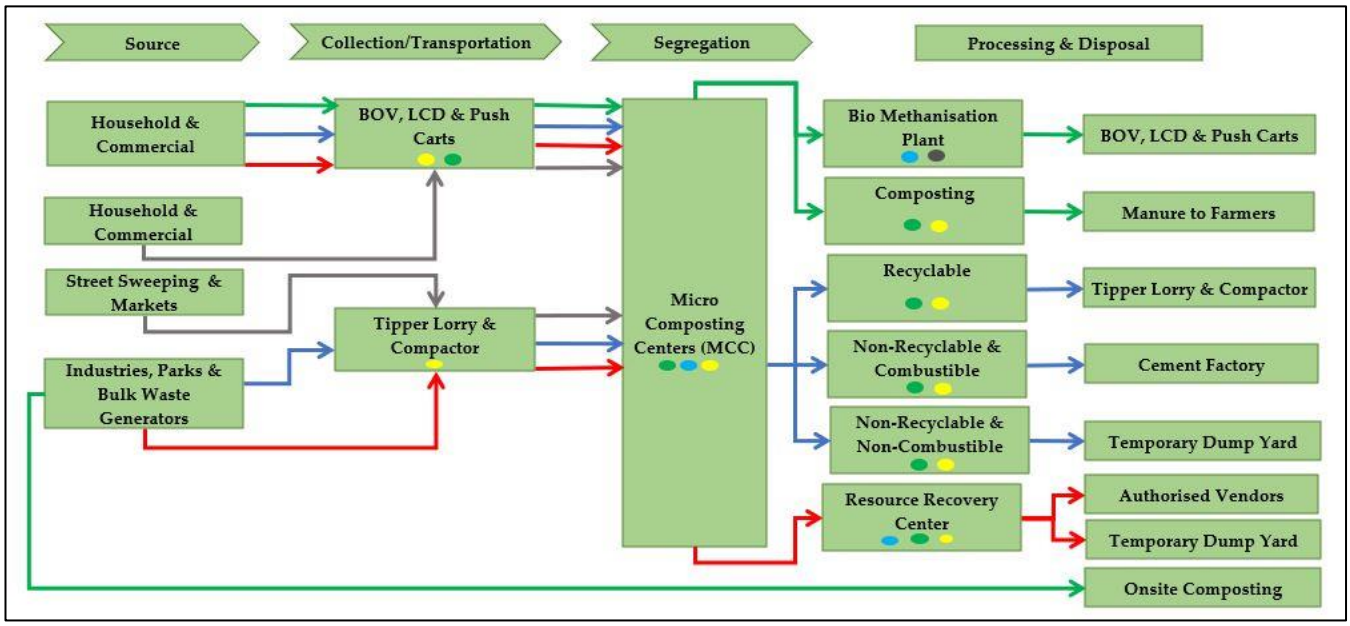
HCMC is responsible for the construction and maintenance of open drains. In some of the older congested localities of the city, households haven't even built septic tanks and hence discharge both black water and grey water directly to the open drain. One of the local NGO representatives we spoke to told us that the even though HCMC has provided sanitation workers with protective gear, they continue to clean open drains without them. He felt that the Sanitation Inspectors need to take more effective measures to ensure that the workers carry out such work with protective gear. All the waste collected from cleaning the open drains will be kept aside till it becomes dry and it is then transported to the nearest Micro Composting Centre (MCC). These open drains eventually discharge the grey water and other effluents to near nearby lakes. One of the Sanitary Inspector's also emphasised on the need for frequently disinfecting open drains to ensure that residents do not face any major health issues.

Figure 6. 13: Public and Community Toilets in Hosur

Source: HCMC

HCMC has outsourced the operation and maintenance of public toilets to private agencies on a lease basis. The lease is for a period of 3 years and is Rs. 31 lakhs for the first year and it increases by 5% each year. The lease amount adds to HCMC's own source revenues. On the other hand, the community toilets are being independently operated and maintained by a local Self-Help Group (SHG).

Figure 6. 14: Solid Waste Management Ecosystem



Code	Definition
→	Wet Waste
→	Dry Waste
→	Other Waste
→	Unsegregated Waste
●	Asset Creation by Parastatal
●	Asset Creation by ULB
●	Maintenance by ULB - Permanent Staff
●	Maintenance by ULB - Outsourced to Private Agencies (Labour)
●	Maintenance by Private Agencies (Service)

Source: Compiled by CBPS Team

Note: Other Waste: Hazardous Waste, E-Waste, C & D Waste and Inert Waste

The above figure describes the SWM system of HCMC. HCMC generates about 72 Metric Tonnes (MT) of waste per day. About 80% of the waste is being collected door to door and is segregated at the source itself while the remaining 20% is dumped at various locations/black spots and remains unsegregated. HCMC charges an annual SWM cess of around Rs. 365 per household and Rs. 1200 for a commercial establishment and this is collected along with the Property Tax. All the unsegregated waste is also transported and segregated at the nearest MCC. There are a total of 11 MCCs that operate in a decentralised manner with the city being divided into 11 segments (covering 45 wards). This also eliminates the need for any secondary collection of waste. About 72% of the wet waste gets composted at the MCC and is then distributed to farmers as manure. The remaining 28% is sent to a Bio – Methanation Plant to produce Biogas. Dry waste is segregated and disposed using three different pathways – 1) saleable dry waste (recyclable)[63] is segregated and sold to a local vendor and income from the sale is distributed among all sanitary workers responsible for garbage collection, 2) Non-Saleable waste[64] (non-recyclable) which is combustible is given to cement industries and 3) The remaining waste is stored in a temporary dump yard.

Figure 6. 15: Waste Collection, Transportation, Segregation and Compost

Source: HCMC

In 2019, HCMC constructed a Material Resource Recovery Centre (RRC) in the Municipal Compost Yard at Hosur to store hazardous and E-waste that can be subsequently disposed in a safe manner. HCMC is spending close to Rs. 6.65 crores (From Swachh Bharat Mission - Solid Waste Management 2018-19 scheme) to remove legacy waste dumped in a compost yard through the bio-mining process, thus,

[63] Papers, Glass, Metal objects, Milk and Oil covers, Thermocol, Iron, Packing cotton box, Coconut shells etc.,

[64] Multi Layered Plastics (MLP)

reclaiming about 7.90 acres of land. As on August 2020, 18000 m3 of the total 102968 m3 of legacy waste has been disposed in a scientific manner.

Figure 6. 16: Onsite Compost Center in Hosur Municipal

Source: HCMC

Since 2017, a Bio-Methanisation plant is being operated under a twenty-year Design, Build, Finance, Operate and Transfer (DBFOT) basis in collaboration with a local private company. Build Operate and Transfer (BOT) basis. The optimal capacity of this plant is 10 MT per day, and the total project cost was Rs. 1.9 crores (50% ULB grant + 50% private company contribution). The cost per tonne of CNG produced is fixed at Rs.222 and is a promising revenue source, but due to a legal dispute, the private company has stalled payment to the ULB.

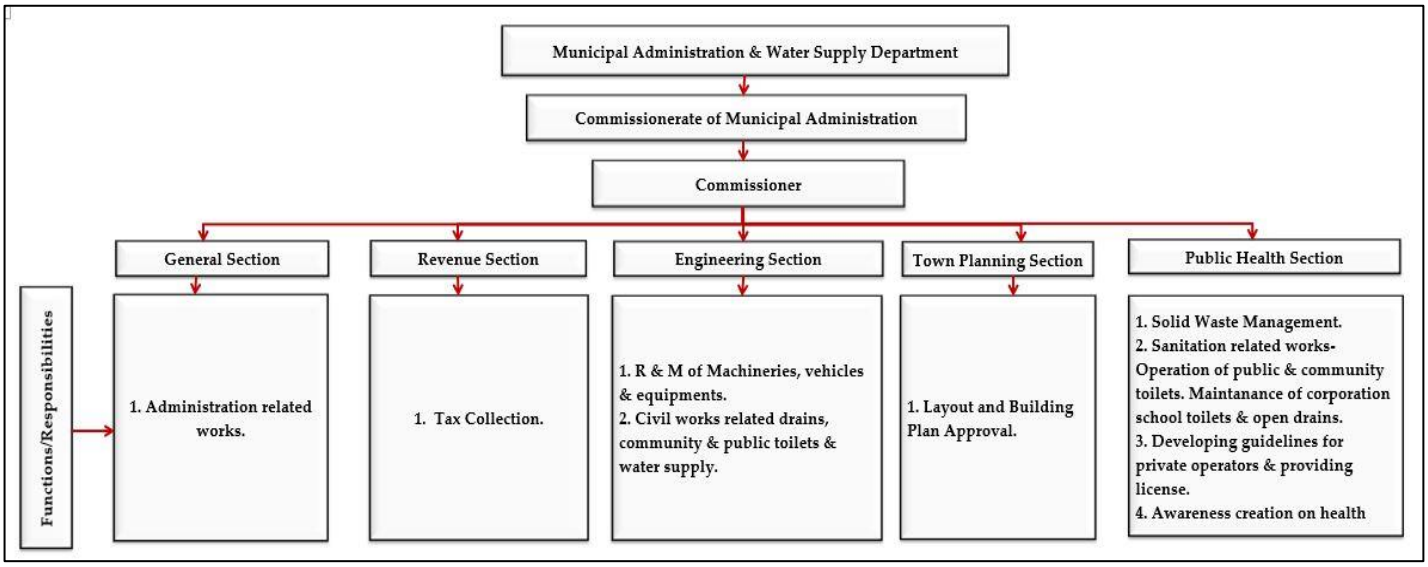
Figure 6. 17: CNG Bio-Methanisation Bottling Plant

Source: HCMC

6.2.3. Organisational Chart and Governance Structure in Relation to Sanitation/SWM

The figure below describes the functions and responsibilities of the HCMC in relation to SWM and sanitation related activities. The Engineering Section (ES)[65] and Public Health Section (PHS)[66] are responsible for SWM and sanitation activities in Hosur ULB. All the civil works,[67] procurement, repair and maintenance of equipment, vehicles and machinery will be handled by the ES. The PHS is responsible for cleaning open drains, street sweeping, waste collection, waste transportation, segregation, waste processing and disposal. The revenue section is responsible for tax collection while the general section looks into all the administration related activities. The municipal commissioner is the key nodal officer and is responsible for planning and coordinating with other departments and parastatals. The CMA acts as a bridge between the HCMC and the state government.

Figure 6. 18: Organisation Chart



Source: Compiled by CBPS Team

HCMC can independently take up any civil work in relation to sanitation and SWM as long as the cost estimate of the work is less than Rs. 2 crores. Beyond Rs. 2 crores, HCMC needs to get an administrative sanction from the CMA. Subsequently, the ULB can identify a contractor and is also responsible for the overall supervision of

[65] Engineering Section: Municipal engineer, Junior Engineer, Overseer and Draughtsman

[66] Public Health Section: Six sanitary workers, 11 sanitary supervisor, 179 permanent sanitary workers and 520 sanitary workers outsourced from private agency

[67] Construction of drains, public & community toilets

the work. The governance structure involved in the planning and implementation of Sanitation and SWM-related projects vary depending upon the source of funds, type of schemes and nature of work involved.

One such example to better illustrate the governance structure is in regard to the planning and implementation of a centralised UGD network that is currently underway for the HCMC. The Underground Sewerage Scheme (UGSS) is being executed by the TWAD. Under this scheme, a UGD network for HCMC is being funded by the TNSUDP – one of the projects under the Tamil Nadu Urban Development Fund (TNUDF) – one of the funds being managed by the Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL) - a parastatal body. TNUISFL plays the role of a fund manager and has raised loans from The World Bank on behalf of various ULBs, HCMC being one of them.

The initial cost estimate for the UGD network was Rs. 283.94 crores of which 20% would be raised in the form of sub-loan from TNUDF, 70% as a sub-grant from TNUDF and the remaining 10% as ULB contribution from HCMC. However, a modified Detailed Project Report (DPR) with a revised cost estimate of around Rs. 525 crores was recently prepared by TWAD and has been submitted to the CMA for approval. After getting the approval from CMA, the TWAD will call for a tender and will finalize a contractor to construct the UGD network. TWAD will be the implementing agency responsible for creating this capital asset and along with HCMC will supervise all the activities during the construction phase. The bills submitted by the contractor to TWAD needs to be also approved by HCMC and will then be sent to the CMA office for the release of funds to the contractor against the progress made. After the completion of the project, the assets will be transferred to the HCMC and the O&M of the UGD network will then become the sole responsibility of the HCMC.

6.2.4. Staffing and Assets in Relation to Sanitation/SWM

The main objective of looking at the staffing process is to better understand the various modes of employment of frontline sanitation/SWM workers and how the type of sanitation/SWM work and the staff benefits being provided depended on the mode of employment. There are three different modes of employing Sanitation/SWM workers in HCMC – As Permanent Staff, Outsourced to Private Agencies (Labour) and Outsourced to Private Agencies (Service Contract / Licensing). Apart from workers being appointed as a permanent staff of the ULB, it also either outsourced some of the labour work to private agencies or engaged with them on a service

contract / licensing basis. The below table when perused column-wise, provides more details on the three different modes of employment of Sanitation/SWM workers, the type of sanitation/SWM work being carried out by each one of them and the nature of interaction between the ULB and the private agencies.

Table 6. 18: Modes of Employment of Sanitation/SWM Workers

Employer		Hosur City Municipal Corporation (HCMC)	Private Agencies (Labour)	Private Agencies (Services & Licensing)
Mode of Employment		Permanent Workers (Part of the ULB staff)	1.Labour is outsourced to private agencies 2.Workers are fully dedicated only for work allocated and managed by the ULB.	1. Private agencies either have a multi-year service contract or operate through a licensing mode. 2. The work allocation is completely managed by the private agency.
Type of work	Sanitation	1. Cleaning of Open Drains.	1. Cleaning of Open Drains.	1. Desludging of Septic Tanks 2. Maintenance of Public & Community Toilets
	SWM	2. Waste collection, transportation, segregation, processing & disposal. 3. Street & Bus stand sweeping.	1. Waste collection, transportation, segregation, processing & disposal. 2. Street & Bus stand sweeping. 3. Machine Operator/ Helpers at MCC	1. Processing of Hazardous & E-Wastes. 2. Collection and Processing of Bio-Medical Waste.
Stakeholder roles	Government (ULB)	1. Recruitment of Workers 2. Providing Training to Workers 3. Payments to sanitation and SWM workers 4. Periodic Health Check-ups for workers 5. Providing Safety Gears/ Equipment and Vehicles for Sanitation and SWM activities	1. Selection of the Contractor 2. Payment to the Contractor 3. Work Supervision. 4. Providing Equipment and Vehicles for Sanitation and SWM activities	1. Developing Standard Operating Procedures (SOPs) / Service Contract. 2. Registration and providing license to Desludging Operators 3. Monitoring Work

Employer		Hosur City Municipal Corporation (HCMC)	Private Agencies (Labour)	Private Agencies (Services & Licensing)
		7. Providing Land MCC, MRC and temporary dump yard		
	Non-Government	Not Applicable	1. Recruiting the Workers 2. Payment to the Workers (PF & ESI) 3. Providing Training to Workers 4. Periodic Health Check-ups 5. Providing Safety Gears / PPE	1. Execute as per terms of license/service contract 2. Providing Safety Gears / PPE. 3. Informing sanitary inspector before desludging 4. Providing suction machine for desludging. 5. Processing & Disposal of Faecal Sludge.

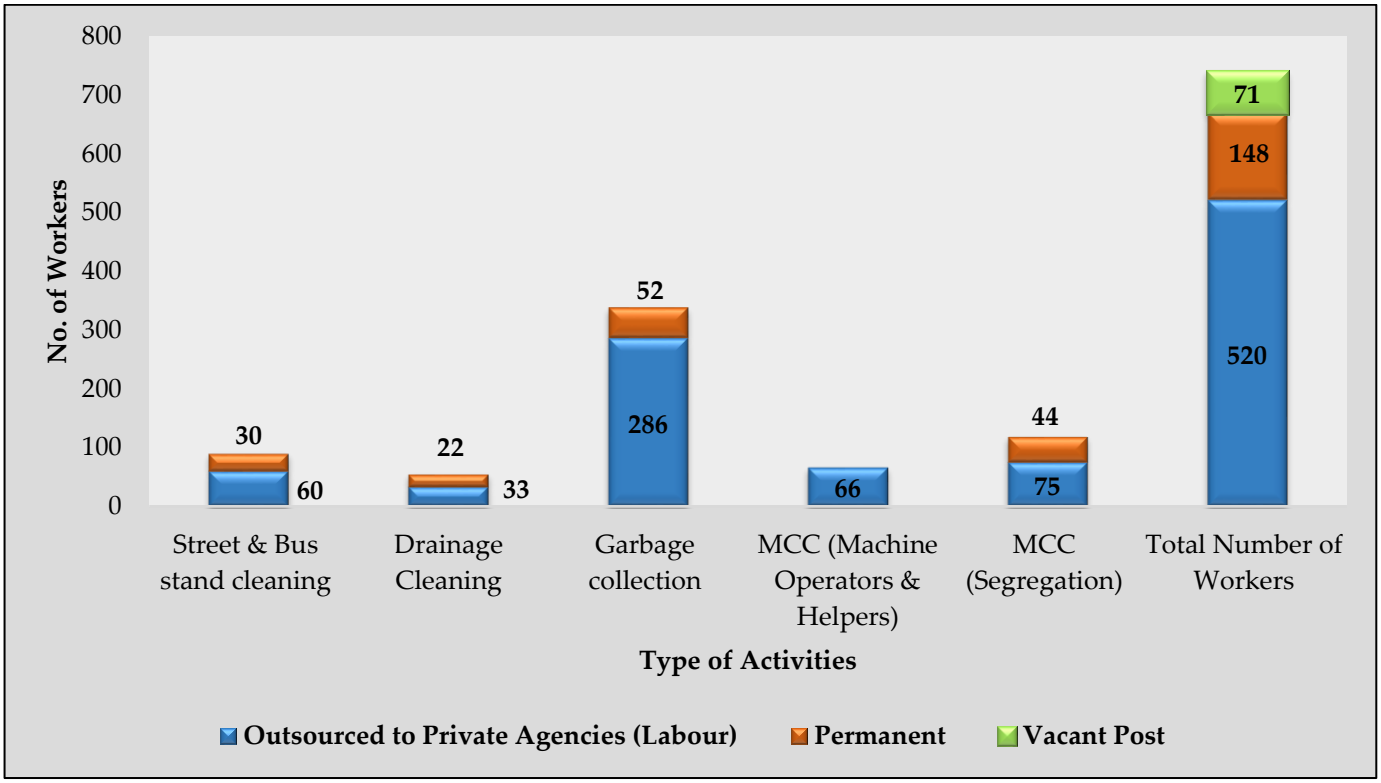
Source: Compiled by CBPS Team

As per the government order68, HCMC is entitled to engage 1250 permanent sanitation/SWM workers but CMA has sanctioned only 250 of them. At present the HCMC has appointed 179[69] permanent workers and remaining 71 posts are still vacant. To manage the work load HCMC has also outsourced 520 more workers from private agencies. A majority of these outsourced workers are involved in door-to-door garbage collection and segregating waste at the MCC's. Compared to the number of workers hired as permanent staff of the ULB, the strength of workers outsourced from private agencies is almost three times more. According to an ex-councillor, one of the main reasons for this disparity is that outsourced workers are paid lesser than permanent staff and hence it results in a lesser financial burden to the HCMC. Apart from this, about 124 sanitation workers are involved only in the desludging of septic tanks which is completely being handled by private operators on a licensing basis.

[68] GO Ms. No. 101. dated 30.4.97

[69] Currently 148 permanent workers are working as SW. The remaining 31 permanent workers are divided in the following manner - 25 workers diverted to water supply; 6 workers are involved in office cleaning.

Figure 6. 19: Distribution of Type of Sanitation/SWM Work Versus Mode of Employment



Source: HCMC

All workers who are employed as permanent staff of the HCMC receive a salary that is not only commensurate with their work experience but are also entitled for annual increments as well. On the other hand, the wages given by private agencies to their workers are either fixed at daily rates or fall within a bracket that is much lesser than what is being paid to a ULB permanent staff for performing the same type of sanitation/SWM work. In addition, the CMA also provides free skill development training to the children of permanent staff. Depending upon their interest, children are given training on skills such as tailoring, electrical, welding, plumbing, construction and data entry so that it enhances their chances of employment. The HCMC has also created an incentive-based system wherein the revenue generated from the sale of recyclable plastic waste is given to workers (permanent staff and outsourced from private agencies) who are involved in garbage collection and segregation work.

Table 6. 19: Salaries and Other Benefits Given to Workers Based on Their Mode of Employment

	Monthly Gross Salary Range (in Rs.)		Working Hours	Off Days*	Leaves	Other Benefits
	Min	Max				
ULB Permanent Staff	23494	51269	8	Sunday	**1. Casual Leaves:** 12 days **2. Encashment Leaves:**15 days **3. Medical leave (ML)**[70]	1. Health Check-up 2. Annual Increment 4. PF 5. Skill Develop Training to Children
Outsourced to Private Agencies (Labour)	Not Applicable	495 per/day [71]	8	No official off days. The workers need to negotiate it with their superiors.	No official leaves. The workers need to negotiate it with their superiors.	1. Health Check-up 2. PF 3. ESI
Private Agencies (Services)	10000	15000	No fixed time	No official off days. The workers need to negotiate it with their superiors.	No official off days. The workers need to negotiate it with their superiors.	1. Provide Housing facilities.

Source: CBPS field interviews

Note: *During rainy season, both permanent workers and workers who are outsourced to private agencies need to work seven days.

CMA also sanctions the number of posts based on the population of the ULB. Through the Government Employment Exchange, the ULB will screen applications that matches with the job description. In case, they do not find a suitable match in terms of the application, they will advertise the same in local newspapers. The

[70] Workers with 5 to 10 years of experience can get one month of Medical Leave (ML), workers with 10 to 15 years of work experience can take up to 60 days of ML and workers with more than 15 years of experience can avail up to 180 days of ML.

[71] Rs. 330/- in hand after PF and ESI deduction.

applicants will be shortlisted by the ULB based on their qualification and experience and a list of shortlisted applicants will be sent to CMA to get an approval. To outsource the workers from a private agency, the ULB calls for a tender. The private agencies will then quote their tender amount. The first criterion for selection is the agency that has quoted the least amount. The second criterion for selection is the experience of the company in providing sanitation/SWM related services. The private agencies are fully responsible for their own staffing and the ULB does not involve in the same.

The HCMC owns all the machineries[72] and vehicles[73] required for sanitation/SWM related activities except suction machines that are required for desludging septic tanks. According to the junior engineer we interviewed, from many decades private operators have been in the business of desludging household septic tanks and hence the ULB decided to bring in only a registration/licensing process so that all the private operators adhere to standard operating procedures and inform the ULB prior to undertaking any desludging work. About 31 suction machines are currently in operation across the 21 registered private agencies.

6.2.5. HCMC Finances

The municipalities in Tamil Nadu are governed by the Districts Municipalities Act 1920, Municipal Corporation Act. The accounts of the municipalities are maintained as per the Tamil Nadu Municipal Accounting Manual (MAM)[74] in the lines of National Municipal Accounting Manual. The important sources of revenues of an ULB in Tamil Nadu state government both in the form of tied (specific purpose) and untied grants, Own source revenues (OSR) and assigned revenues.

The key own source revenues include the property tax- general, water supply and drainage tax and elementary education tax. The other important tax sources include professional tax, advertisement tax and tax on carriage and animals. The important fees include metered/tap water charges, trade license fees, market fees, slaughter house fees, parking fees and fees for pay and use toilets. All of taxes which are part

[72] Machineries- Fogging Machineries- Mini - 12, Mega – 6, Waste Processing Machines- 11 and Waste Shredding Machines- 4.

[73] Vehicles: BOV- 136, LCV- 25, Tractor Trailer - 1, Tipper Truck - 9 and Compactor -1

[74] https://www.tnurbantree.tn.gov.in/wp-content/uploads/2020/10/Municipal-Account-Manual.pdf - This also stipulates double entry accrual-based accounting system.

of these own source revenues are collected by the ULB while the rates are stipulated by the state government.

The assigned revenue includes the surcharge on stamp duty levied for the registration of properties in the jurisdiction of the ULB and the entertainment tax which are collected by the state and transferred to the ULB. However, this revenue is delayed in reaching ULB more often than not and ULB has no clue till it gets it. Overall, the own revenues of the ULB are subject to tax effort and updated tax base with very little or no scope to do in terms of tweaking the rates.

The grants from state government usually referred to as State Finance Commission grants or Devolution fund comes in the untied form. The other grants include CFC grants and the grants for capital works or capital grants.

The Tamil Nadu municipal budgets are to be prepared on the lines of the Municipal Budget Manual[75] both in abstract (Appendix VI) and detailed form (Appendix VII). However, the budgets of the Hosur City Municipal Corporation did not prepare the budgets in the prescribed manner. The financial status of the ULB has been analysed using the audited statements for the year 2014-15 to 2018-19 which had Income-Expenditure statements and Trial Balance sheets[76]. While the statements were available, the observations of the audit were not available.

Total Receipts and Expenditure of Hosur City Municipal Corporation

The receipts and expenditure of Hosur City Municipal Corporation[77] is presented in the table 6.21 The receipts have grown significantly at an average annual rate of 18% from 2014-15 to 2018-19 from Rs. 6501 lakhs to Rs. 11905 lakhs. The expenditure also has grown from Rs. 4766 lakhs to Rs. 8919 lakhs for the same period recording an average annual growth of 17%. The yea-on-year growth was highest for receipts during 2018-19 while it was highest for expenditure during 2016-17.

[75] http://117.202.8.226/SSII_DOCUMENTS/MUNICIPAL_BUDGET_MANUAL_TNUDPIII.pdf

[76] http://www.tnbudget.tn.gov.in/tnweb_files/SFC/5th%20SFC%20REPORT.pdf (page 163- extraction of actual receipts and charges code wise is not possible with the existing software)

[77] Few clarifications are being sought about the receipts and expenditure with the HCMC accountant and the figures would be revised soon. (minor changes)

Table 6. 20: Receipts and Expenditure of HCMC (Rs. in lakhs) with year-on-year growth (%)

	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC
Receipts	6501.15	6253.14	6900.28	8318.23	11905.43
Expenditure	4766.83	5934.13	7395.04	8208.75	8919.45
Savings/deficit	1734.33	319.01	-494.76	109.48	2985.99
Receipts (Y-o-Y)		-4%	10%	21%	43%
Expenditure		24%	25%	11%	9%

Source: Audited Accounts of HCMC

The chief Own source revenues (OSR) comprises of property tax general, water and drainage tax, elementary education[78] along with library cess collected at the rate of 14.6% of the annual rateable value[79] which is collected twice a year on a half yearly basis. Others include the professional tax, advertisement tax, trade license, rents from properties, water supply charges, charges related to sanitation related as well as fees related to town planning. Other revenues include the fees fines, sale of tender forms, interests from investments, rent from buildings owned by HCMC and road cutting charges. SFC grants/ Devolution fund, CFC grants and Capital grants from state government also form part of the revenues of the ULB.

The revenues of the HCMC have grown significantly over the period 2014-15 to 2018-19 from Rs. 6501 lakhs to Rs. 11905.43 lakhs recording an average growth of 21% on a year-on-year basis (Table 6.21). The devolution fund forms the important source of revenue which accounts for 30% of the revenue followed by own tax revenues which account for 25%. Other revenues which include rent from buildings, interest from investments, market fees, water supply charges etc forms about 21% of the total revenues of the ULB. The CFC grants and Capital grants accounted for 7% and 13% of the total revenues respectively. The devolution fund, CFC grants and capital grants together account for 50% of the average revenues of the HCMC indicating the dependency on the transfers from the state. The sanitation related revenues accounted for mere one percent of the revenues of the HCMC.

[78] Half Yearly Tax = Base Street Rate (BSR) x Area of the Building x 135.40 (Factor)

[79] 5.75%- gen, 5.25% water and drainage, education 2.5% and library cess 1.1% total 14.6%

Table 6. 21: Sources of revenues of Hosur City Municipal Corporation (HCMC) Rs. in Lakhs and its share (%)

Revenues	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE	Share
Own Tax	1568.72	1549.80	1768.24	1985.85	3174.71	2009.46	25%
Assigned Revenues	254.34	281.45	295.71	253.75	380.48	293.14	4%
CFC grants	39.03	701.20	319.25	957.75	600.53	523.55	7%
Grants from The State Government	1739.69	314.25	1234.90	546.84	1286.22	1024.38	13%
Devolution Fund	1992.37	2278.55	2162.88	2771.04	2667.14	2374.40	30%
Sanitation related charges	35.93	39.83	39.14	51.48	303.55	93.98	1%
Other revenues	871.07	1088.06	1080.16	1751.53	3492.82	1656.73	21%
Total Revenues	6501.15	6253.14	6900.28	8318.23	11905.43	7975.65	
Own Tax		-1%	14%	12%	60%	21%	
Assigned Revenues		11%	5%	-14%	50%	13%	
CFC grants		1697%	-54%	200%	-37%	451%	
Grants from The State Government		-82%	293%	-56%	135%	73%	
Devolution Fund		14%	-5%	28%	-4%	8%	
Sanitation related charges		11%	-2%	32%	490%	133%	
Other revenues		25%	-1%	62%	99%	46%	

Source: Audited Accounts of HCMC

The expenditures of the HCMC are presented in the Table 6.23 The revenue expenditure grew from Rs. 3037 lakhs in 2014-15 to Rs. 4639 lakhs in 2018-19 at an average growth rate of 11% while the capital expenditure grew from Rs. 1740 lakhs to Rs. 4281 lakhs at an average growth of 27%. The average share of revenue expenditure and capital expenditure for the period 2014-15 to 2018-19 was found to be 54% and 46% respectively.

Table 6. 22: Revenue and Capital expenditures of HCMC (Rs. in lakhs) and its share (in %)

Expenditures	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE
Revenue expenditure	3027	3447	3512	3919	4639	3709
Capital Expenditure	1740	2488	3883	4290	4281	3336
Total Expenditure	**4767**	**5934**	**7395**	**8209**	**8919**	**7045**
Revenue expenditure	64%	58%	47%	48%	52%	54%

Expenditures	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE
Capital Expenditure	36%	42%	53%	52%	48%	46%
Revenue expenditure		14%	2%	12%	18%	11%
Capital Expenditure		43%	56%	10%	0%	27%

Source: Audited Accounts of HCMC

Among the revenue expenditures, operating expenses covering the operations of street lighting, water supply, sanitation and solid waste management accounted for 45% while the salaries accounted for 32% of the revenue expenditures of the HCMC (Table 6.24). The repair and maintenance expenditure which included the repairs and maintenance of heavy and light vehicles, maintenance charges paid to Tamil Nadu Water supply and Drainage Board (TWAD) and repairs of roads, buildings, drains and machineries accounted for 17% of the revenue expenditure while the administrative expenses accounted for 6%. The salaries grew at an annual average rate of 16% while the operating expenses and repairs and maintenance expenditure grew by 15% and 12% respectively.

Table 6. 23: Revenue Expenditures of the HCMC (Rs. in lakhs) and its share (in %)

Expenditures	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE	Share
Salaries	958.69	926.30	1144.09	1309.55	1682.67	1204.26	32%
Administrative expenses	356.00	216.20	223.57	142.77	198.25	227.36	6%
Operating Expenses	1231.22	1517.74	1571.86	1841.46	2127.43	1657.94	45%
Repair and Maintenance	481.24	785.61	571.76	624.77	630.02	618.68	17%
Others	0.14	0.71	0.85	0.05	0.15	0.38	0%
Total	**3027.29**	**3446.56**	**3512.13**	**3918.59**	**4638.53**	**3708.62**	**100%**
Salaries		-3%	24%	14%	28%	16%	
Administrative expenses		-39%	3%	-36%	39%	-8%	
Operating Expenses		23%	4%	17%	16%	15%	
Repair and Maintenance		63%	-27%	9%	1%	12%	

Source: Audited Accounts of HCMC

The capital expenditures incurred from different urban development projects are collated as project expenditures and it is very difficult to ascertain the capital expenditures by sectors such as water supply, sanitation, streetlighting or building construction. However, the information available through the income and expenditure statement the capital expenditures[80] relating to sanitation and solid waste management were extracted to see the expenditure share in the total

[80] Since the capital expenditures relating to projects also have drainage/SWM/sanitation components, the expenditures are lesser to that extent.

expenditures (Table 6.25). The capital expenditure relating to sanitation and solid waste management has averaged at about 9% of the total expenditure. The capital expenditures include the construction of drainage lines and sewerage pipeline and conduits.

Table 6. 24: Capital expenditure on sanitation (Rs. in lakhs) and its share (in %)

	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE
Total Capital Expenditure	1739.54	2487.57	3882.91	4290.16	4280.92	3336.22
Of which Sanitation related	232.56	327.68	315.09	239.49	149.51	252.87
Share of Sanitation exp	13%	13%	8%	6%	3%	9%

Source: Audited Accounts of HCMC

Sanitation and Solid Waste Management Expenditure

The sanitation and SWM expenditures both under revenue and capital were added to arrive at the total sanitation/SWM expenditures of HCMC. The revenue expenditures under sanitation included conservancy expenses, procurement of sanitary materials, maintenance of drainage systems and solid waste management. The large part of it as conservancy expenses include the daily wages paid to the sanitary workers who are about 175 in number. The sanitation expenditure increased from Rs. 442.18 lakhs in 2014-15 to Rs. 786.14 lakhs in 2018-19 (Table 6.26). The sanitation including SWM expenditure accounted for average share of 9% of the total expenditure across the years 2014-15 to 2018-19.

Table 6. 25: Sanitation expenditure in HCMC (Rs. in lakhs) and its share in total expenditure

Expenditure	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE
Sanitation/SWM O&M expenditure	145.59	229.94	262.57	431.60	515.01	316.94
Personnel exp	64.04	65.75	78.77	97.44	121.61	85.52
Capital Expenditure	232.56	327.68	315.09	239.49	149.51	252.87
Total	442.18	623.38	656.44	768.53	786.14	655.33
Total Expenditure	4766.83	5934.13	7395.04	8208.75	8919.45	7044.84
Share of total expenditure	9%	11%	9%	9%	9%	9%

Source: Audited Accounts of HCMC

Residents of HCMC do pay for desludging of the sanitary pits which also forms part of the expenditure on sanitation is entirely done by private agencies registered with the HCMC. These agencies charge Rs. 3000 to Rs. 4000 to empty one single pit. About 21 agencies with 31 suction machines were found to be operating in the HCMC area. On an average each agency would do desludging of 2or 3 pits. This accounts for

about Rs. 1.5- 2 lakhs and works out to about Rs. 18 -24 lakhs per annum (current prices- 2020) which should also be added to the sanitation expenditure of HCMC.

Recovery of Sanitation and SWM expenditures.

The sanitation/SWM expenditures were compared with the revenues raised through the charges levied for sanitation by the HCMC. The revenues raised accounted for less than 20% of the costs incurred for sanitation and SWM services during the year 2014-15 to 2018-19 (Table 6.27). During the year 2018-19, owing to the increased collection of SWM cess due to revised rates of property taxes the sanitation expenditure was covered by the receipts to the tune of 48%.

Table 6. 26: Sanitation Expenditure and Receipts from Sanitation of HCMC

(Rs. In lakhs)

	2014 -15 AC	2015-16 AC	2016-17 AC	2017-18 AC	2018-19 AC	AVE
Sanitation charges	35.93	39.83	39.14	51.48	303.55	93.98
Sanitation Expenditure	442.18	623.38	656.44	768.53	786.14	655.33
Receipts/Expenditure	17%	13%	11%	10%	48%	20%

Source: Audited Accounts of HCMC

6.2.6. Status and Welfare of Manual Scavengers

From the past three years, the HCMC has officially not identified any manual scavengers. According to the ULB officials we interviewed; no manual scavenging activity is taking place within HCMC limits. About 10 % of the HHs do not have septic tanks and hence they directly discharge black water to the adjacent open drain. The sanitation workers responsible for cleaning such open drains will in all likelihood come in direct contact with faecal sludge. Since a vast majority of the households are not connected to a UGD network, the sanitation workers who desludge septic tanks and work under registered private agencies may also come in direct contact with faecal sludge. However, according to a ULB official and ex-councillor, only if an individual gets inside a manhole/drain and touches faecal matter with his bare hands then it is defined as manual scavenging. The official also mentioned that just cleaning the open drains cannot be termed as manual scavenging.

The Hosur City Municipal Corporation (HCMC) hasn't identified a single manual scavenger over the last 5 years despite conducting an annual survey. Hence, no one has been found to be eligible for SRMS and the corresponding OTCA of Rs. 40,000. Neither was any information available with the ULB in regard to the implementation

of SRMS or for that matter any other schemes offered by the NSKFDC. None of the sanitary workers in HCMC (both permanent staff and outsourced from private agencies) that we spoke to are even aware of any scheme such as SRMS.

However, The Commissionerate of Municipal Administration (CMA), Tamil Nadu provides a three-to-four-day skill development training for the children of only those sanitation workers who have been appointed as permanent staff of the ULB. Depending upon their interest, the children receive training on skills such as tailoring, electrical, welding, plumbing, construction and data entry so that it enhances their chances of getting employment in a different sector. Apart from this, HCMC also regularly provides training to its own permanent staff but only on Sanitation and SWM related activities. These trainings are conducted three to four times a year and the cost of the training is borne by the State Government. At the end of this training, the ULB conducts a test and gives away non-cash awards to a few of the top performers. Apart from this, HCMC has also initiated an incentive-based system wherein, the revenue generated from the sale of recyclable plastic waste is distributed among sanitation workers (both permanent staff and outsourced from private agencies) who are involved in door-to-door garbage collection. The ULB officials we interviewed informed us that they do not have any interaction with the NSKFDC. Other benefits include the Employee Provident Fund (EPF) and Employee State Insurance (ESI), wherein the employer's contribution to both EPF and ESI is being paid either by the ULB or private agencies. Apart from these, the ULB does not specifically interact with the state government on any other components such as educational loans, skills training and loans.

The ULB officials informed us that there is no manual scavenging activity taking place within HCMC limits. HCMC doesn't have an Underground Drainage (UGD) system. Due to lack of an UGD system, a majority of Households and other buildings discharge their black water to septic tanks from which the floating liquid effluents are further discharged to a nearby open drain along with grey water as well. The desludging of the remnant faecal sludge from septic tanks is being carried out only by private agencies that are registered with the HCMC. Prior to commencing any desludging activity of these septic tanks, a Sanitary Inspector from the HCMC is required to inspect the location and ensure that appropriate machinery for cleaning of septic tanks is being used by private agencies and that there isn't any need for manual handling of excreta.

However, about 10 % of the HHs do not have septic tanks and hence they directly discharge black water to the adjacent open drain. The sanitation workers responsible for cleaning such open drains will in all likelihood come in direct contact with faecal sludge. According to ULB officials and also an ex-councillor, only if an individual gets inside a manhole/drain and comes in direct contact with faecal matter should it be considered as manual scavenging. Cleaning of open drains that perhaps contain faecal matter is not considered as manual scavenging as long as the sanitation workers use proper safety gear. The sanitation workers (both ULB permanent staff and outsourced from private agencies) also concurred with this view on what constitutes manual scavenging. However, one of the local NGO's we spoke to highlighted that even though HCMC provides sanitation workers with safety gear, they are seldom used by the sanitation workers while cleaning open drains.

Chapter 7: Recommendations of 15th Finance Commission for the Sanitation and SWM services in ULBs

7.1. Empowering Local Governments

- The 15th Finance Commission recommends grants of Rs. 4,36,361 crores for local governments for the five-year period 2021-26. It also has advocated for **a fixed amount of grants for Local Governments rather than a proportion of the divisible pool of taxes** to ensure greater predictability of the quantum and timing of fund flow. Of the total grants recommended for local governments, Rs. 8,000 crores are earmarked for performance-based grants for incubation of new cities, Rs. 450 crores for shared municipal services and Rs 70,051 crores for primary health sector. (Balance amount is Rs 3,57,860 crores)
- In view of the fast pace of 138 urbanisation, the ratio of inter se distribution of the grants recommended for rural and urban local bodies gradually moves from 67.5:32.5 in 2020-21 to 65:35 in 2025-26. This works out to Rs 1,21,055 crores to ULBs from the balance amount of Rs 3,57,860 crores. It is recommended to follow a differentiated approach in the allocation of grants to ULBs.

- For the Million Plus Cities/Category-I Cities, Million-Plus Cities Challenge Fund worth Rs. 38,196 crore is being prescribed by 15th FC. Out of this, **performance grants** of **Rs. 26,057 crore is linked to the performance of these cities in improving their service level benchmarks** on urban drinking water supply, sanitation and solid waste management. The Ministry of Housing and Urban Affairs (MoHUA) shall evaluate the performance of these cities in service level benchmark indicators.

- For the Non-Million-Plus Cities/Category-II Cities, the 15th FC recommends a disbursal of Rs. 82,859 crore out of **tied grants** to the tune **of Rs. 24,858 Crores to be disbursed for only for sanitation and solid waste management and attainment of star ratings as developed by the MoHUA**. This includes management and treatment of household waste, in particular human excreta and faecal sludge and movement towards more innovative and environment-friendly ways to tackle this problem.

- The 15th FC also recommended State-specific grants-in-aid of Rs. 49,599 crores to help States meet special burdens or obligations of national concern across six broad areas: (a) social needs, (b) administrative governance and related infrastructure, (c) conservation and sustainable use of water, **drainage and sanitation,** (d) preserving culture and historical monuments, € high-cost physical infrastructure and (f) tourism. From this grant amount, around 2,200 crores are

planned to be allocated exclusively for drainage, sanitation and SWM infrastructure by the states of Kerala, Manipur, Odisha, Tripura, UP and Uttarakhand.

7.2. Augmenting the revenues of ULBs

- The 15th FC has recommended for enhancing the limit of professions tax from the present, Rs. 2,500 per annum (which is levied as per the Constitution Sixtieth Amendment Act, 1988). In some states, the tax is levied and collected by the State, but in others, municipal bodies levy and collect the tax under a State legislation (E.g., Tamil Nadu). By even correcting for inflation, Rs. 2,500 fixed in 1988 works out to around Rs. 18,000 per annum at 2019-20 prices. The **professions tax collections (by ULBs) have the potential to grow by more than seven times** with the same number of assesses just by rationalizing rates.
- The 15th FC has recommended **an additional entry level condition** for receiving grants by the ULBs**,** - which is the notification of minimum floor rates[81] of property taxes by the relevant State government followed by consistent improvement in the collection of property taxes in tandem with the simple average growth rate of the State's own GSDP in the most recent five years.

The 15th FC recommendations have focused on the service level bench markings and grants based on the star ratings to be developed by the MoHUA. Implementation of the same could pose severe challenges. The grants available to an ULB through this rating for its performance may be too small to induce the change to the less endowed ULBs.

The current costs of managing the SWM and sanitation in most of the ULBs are a severe underestimate. This is because less people are employed for it than the actual requirement (vacancies are not filled) and often it is outsourced or hired labour (at a daily wage/monthly wage basis) and the costs incurred are far less than the actual costs that would be involved for permanent posts. Similarly, the consumables and the protective gears are also not procured as per the requirements but guided by the availability of funds. The processes such as segregation, treatment of different kinds of waste under SWM leading up to less than or equal to one percent of waste for the landfill are often reduced to fit to finances of the ULB.

The most comprehensive way for addressing the sanitation and SWM issues would be to assess the O&M costs required for the scientific management of sanitation and SWM in its entirety and recover the same. And this is the best possible way to

[81] The minimum floor rate shall have different slab-wise property tax rates for different types of properties; and differential rates for commercial, residential and industrial properties.

address the welfare issues of the sanitary workers. Unless the services are costed fully and O&M costs are recovered, the plight of sanitary workers can hardly be changed for better.

The finance commission could also have focused on the need for funding the sanitation and SWM in its entirety as well as the requirement of O& M costs recovery in the light of environmental concern and efficient resource management. It is also important that the under recovery would impact the very provisioning of services in an efficient manner in the long run.

The increase of professional tax even if it is adjusted to inflation would definitely augment revenues of ULB in significant manner wherever it is vested with them like in the case of Tamil Nadu. The property tax floor rates in line with the GSDP growth is a good measure which are also recommended by State Finance Commission as well[82] . However, the follow up aspect is one which seems to be ignored.

[82] http://www.tnbudget.tn.gov.in/tnweb_files/SFC/5th%20SFC%20REPORT.pdf (page ix)

Chapter 8: Key Takeaways and Policy Implications

The subject of ULBs is in the state list and the state government wields absolute power over the functioning of the ULBs by way of recruitment (hire and transfer) of officials, regulating the rates of taxes and fees, provisioning of grant/devolution fund upon the recommendations of SFC and creating the capital assets/provisioning of urban services through the specialized agencies which are directly controlled by it. Often these specialized agencies wield greater power in comparison with the ULB in provisioning of the services. The elected council is expected to perform by taking prudent decisions with the local knowledge and local requirement in their background. The administration is expected to provide the required information (data, circulars/directions from the state) for smooth functioning of the elected council. However, the reality is that the administration wields a greater power owing to the information it holds. The functioning of ULB in provisioning of the urban services need to be viewed with this backdrop.

Management of Urban Waste (including both sanitation and solid waste) is one of the important urban services that have been vested with the ULBs. Creation of capital assets pertaining to SWM and sanitation such as installation of sewer systems/ faecal sludge management systems, bio-methanation plants, waste processing units have largely been undertaken through funds from the state government. This could be in the form of loan/ grant. The property tax rates, the water charges, SWM cess rates are prescribed by the state governments and the ULBs are expected to augment the taxes by improving the efficiency in tax collection and updating the tax base. Devolution in the form of grants/ devolution fund form major portion of the revenue to the ULB apart from grants for creation of capital assets. Assigned revenues are due to ULB and transferred by the state which ULB gets to know after it is received[83]. The devolution fund/ grants due to ULB gets often intercepted and diverted to parastatals and ULB may not be aware of it unless it is informed of the same.

[83] Entertainment tax was devolved for 2014-15 and 2017-18 while it was not received during the years 2015-16 and 2016-17 in Hosur City Municipal Corporation.

Sanitation and SWM progress at state level

An index was developed using the indicators of SWM and sanitation to compare the six states using 13 indicators and Maharashtra ranked first followed by Telangana and Karnataka while Kerala stood the last.

Sanitation and SWM expenditures at the state level

The expenditures indicated in the state budget together with the expenditures of the parastatals is an understatement on the expenditures of sanitation and SWM. This is because of the fact that ULBs also spend on these services from their own source revenues, assigned revenues and untied grants/devolution.

Staffing & Welfare of Sanitation/SWM workers

- The power to assess the staff requirement, mode of employment, conditions of service, pay and allowances rests entirely with the State/District administration and not with the ULBs. It is the state/district administration that determines the number of sanitation/SWM workers that can be employed as permanent staff of the ULB.
- The ULBs have restricted the employment of sanitation/SWM workers as permanent staff due to budget constraints. Hence sanitation/SWM work is increasingly becoming contractual in nature. In states such as Karnataka, where the existing Cadre & Recruitment (C&R) Rules do not allow Municipalities to hire workers as UGD operators or UGD helpers, has also led to work being outsourced to private agencies.
- The remuneration and benefits provided to sanitation/SWM workers are a direct function of their mode of employment (permanent staff, direct labour or private agencies). The income is significantly higher for workers who are hired as permanent staff of the ULB. Also, for sanitation/SWM workers who are hired as either direct labour or from private agencies there is hardly any correlation between factors such nature of work, age and experience with the salaries being paid to them.
- The major concerns of marginalized workers who are typically either hired as direct labour or from private agencies are regularization of jobs and regular payment of salaries.
- The ULBs are not playing an effective role in ensuring that sanitation workers and manual scavengers receive the benefits that are entitled to them from various state and central level welfare schemes. Also, since workers who are either employed as direct labour or from private agencies don't have government Ids or formal

contracts with the ULB, they are unable to avail any government benefits/ schemes. However, irrespective of the mode of employment all sanitation/SWM workers are being provided with free health check-ups by the ULBs.

Data Management

- The data pertaining to transfers by ULB is being made available through a separate supplementary document in the states of Karnataka and Kerala. However, it is not available in the other states. Apart from devolution (usually indicated through major Head 3604), the transfers to the parastatals especially when the devolutions are intercepted is not made available to the ULBs.
- The ULBs are not periodically collecting or maintaining sanitation/SWM data such as the number of households having individual toilets, number of households connected to the UGD network, amount of solid waste segregated and processed. Poor data management impacts the planning and implementation of both schemes and projects in relation to sanitation and SWM.
- Poor capacity in data management especially in financial management has resulted in masking the true finances of the ULB (indicated by 5th SFC report Tamil Nadu)

Governance Structure

- While the ULBs (in particular HCMC) have issued operating guidelines for hazardous types of sanitation work such as desludging of septic tanks, they are not supervising the work to ensure that private operators are adhering to the prescribed norms.
- Since both the ULBs didn't have a functioning elected council, none of the elected representatives were involved in the planning, regulation and implementation of sanitation and SWM services. Thus, the entire decision-making rested in the hands of state govt appointed officials who have little or no accountability towards the citizenry of these 2 ULBs.
- Beyond a prescribed limit, ULBs need to seek administrative approval from either the District or State Administration for civil work/projects despite it being completely financed by the own source revenues of the ULBs and with an approval of the respective elected councils. This limits the autonomy of ULBs.
- Due to lack of technical and financial capacities of ULBs, parastatal agencies have been entrusted with the responsibility of creating capital assets while the ULBs have been restricted only to the O&M of these assets. However, these parastatal agencies are only accountable to the state government and not to the ULB.

Manual Scavenging

- ULB officials do not seem to have a clear understanding of what defines and constitutes manual scavenging. We found many of them to have a narrow and varied understanding of the 2013 Manual Scavenging Act. The ULB officials also suppressed the prevalence of unsafe sanitation practices and were reluctant to acknowledge any incidents/deaths due to manual scavenging. Although they have conducted several rounds of surveys, they claim to have not identified a single new manual scavenger since 2013. And there has been no third-party assessment of manual scavengers either.
- In both ULBs, sanitation workers regularly unclog open drains using shovels but often without any protective gear. Since many households discharge their black water directly into these open drains, workers are exposed to waste that contains faecal matter. However, this wasn't considered as a manual scavenging activity by the ULB officials.

Municipal Finances

Doddaballapura CMC (Karnataka state)

The variation in actual receipts accounted for 39 to 98 per cent of budget estimates during the period 2014-15 to 2018-19 and were overestimated in all the years. On the other hand, the expenditure was also on an average overestimated by over 50 percent for these years. This suggests a flawed budget exercise that resulted in the preparation of unrealistic budgets by the ULBs. The own source revenues share in the total revenues was 32% while the grants accounted for about 60% of the total revenues indicating the higher dependency on the grants by the ULB. Assigned revenues (surcharge on stamp duty) cannot be estimated properly by the ULB and it may not be received in a given year. Property tax and water supply charges formed the important sources of own revenues accounting for 45% and 20% of own revenues respectively.

Expenditure on sanitation was highest at 36% for sanitation followed by water supply at 30% under revenue expenditure. The wage expenditure (including salaries and wages of contractual workers) accounted for 50% of the revenue expenditure of the CMC. The expenditure on wages for contractual/outsourced workers accounted for 30% of the wage expenditure of the CMC. Capital expenditure was highest for sanitation at 29% followed by roads and water supply at 25% and 13% respectively. The revenues from the sanitation and SWM accounted for a mere 12% of the revenue

expenditure on SWM and Sanitation while the entire OSR covered only 57% of the total revenue expenditure of the CMC. Only 23% of the UGD connection charges were collected against the demand.

Many of the registers such as DCB of property tax, rented out buildings are not updated, the cesses and deductions not being paid by the ULB in time to the respective authorities and even the audit fees are not full paid.

While the availability of the budget documents, audit reports, abstracts of receipts and expenditure together has revealed the issues, one thing that seems obvious is the lack of supervision and action upon those issues. This will have a bearing on the administration of the CMC in for a very long time (perpetuity). The very cleaning up of the accounts and audit observations needs immediate attention in terms of fixing the responsibility and action to correct the same. However, the shortage of staff both in ULBs as well as the state accounts department which creates backlog in audit adds to the problem which also needs to be fixed.

Hosur City Municipal Corporation (HCMC) (Tamil Nadu state)

The budgets were not prepared in line with the municipal budget manual in Hosur City Municipal Corporation and had prepared budget which only had budget estimate for the ensuing year and the revised estimate of the current year. The audited financial statements were used to understand the finances of the HCMC. The income and expenditure statements were present however, it became difficult to understand the actual receipts and expenditure in the absence of the proper budget in the prescribed format[84] and this was voiced even by state finance commission.

The devolution fund and the property tax accounted for 30% and 25% of the total revenues respectively. The grants from the state and centre accounted for 13% and 7% of the revenues respectively. The sanitation and SWM expenditure together accounted for 9% of the total expenditure of HCMC. The HCMC collected over Rs. 2.6 crore as SWM cess in 2018-19 and together with water and drainage tax could meet the sanitation expenditure for that year.

Other important implications

While the observations and findings seem to be pointing towards the ULB for its performance, the underpinning seems to be of the responsibility of the state as well in empowering the ULB. Empowering the ULBs to function as local government in

[84] The receipts and expenditure data is subject to few clarifications from HCMC.

the true sense would be the best possible action. This would mean a greater transparency in devolution of funds to the ULBs, interception of funds meant for ULBs, along with ensuring the adequate staff for the ULB. This also means a platform for the ULBs to interact with the state needs to be created wherein the representatives of ULB have an opportunity to discuss regarding the issues relating to its performance. The ULBs should be able to recover O&M costs of the services by convincing the people of the costs along with the possible impact on poor recoveries which only an empowered ULB can do. (This phenomenon is witnessed in several Gram Panchayats and water user associations as well)

Only when the ULB succeeds in provisioning the basic services with full recovery of O& M costs, the issues of the welfare of the sanitary workers would get comprehensively addressed.

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Annexure 1: Obligatory and Discritionary Functions of the Municipal Council/Corporation (KM Act)

(a) Obligatory and Discritionary Functions Of The Municipal Council (KM Act)

Obligatory functions of **Municipal Councils**	Discretionary functions of **Municipal Councils**
(a) lighting public streets, places and buildings; (b) watering public streets and places; (c) cleansing public streets, places and sewers, and all spaces not being private property, which are open to the enjoyment of the public, whether such spaces are vested in the municipal council or not, removing noxious vegetation and abating all public nuisances; (d) extinguishing fires and protecting life and property when fires occur; (e) regulating or abating offensive or dangerous trades or practices; (f) removing obstructions and projections in public streets, bridges, and other public places, and in spaces not being private property, which are open to the enjoyment of the public, whether such spaces are vested in the municipal council or belong to the Government; (g) securing or removing dangerous buildings or places and reclaiming unhealthy localities; (h) acquiring and maintaining, changing and regulating places for the disposal of the dead; (i) constructing, altering and maintaining public streets, culverts, municipal boundary marks, markets 1[(including separate and suitable place for vending vegetables)]1, slaughter houses, latrines, privies, urinals, drains, sewers, drainage	(a) laying out, whether in areas previously built upon or not new public streets and acquiring the land for that purpose, including the land requisite for the construction of buildings or cartilages thereof, to abut on such street; (b) constructing, establishing or maintaining public parks, gardens, libraries, museums, mental hospitals, halls, offices, dharmasalas, choultries, musafirkhanas, rest-houses, homes for the disabled and destitute persons and other public buildings; (c) providing shelter for destitute women; (d) constructing and maintaining, where necessary, suitable sanitary houses for the habitation of the poor and granting loans for construction of such houses or for effecting necessary improvements connected therewith; (e) providing accommodation for any class of servants other than sweepers and scavengers employed by the municipal council or granting loans to such servants for construction of houses, subject to the rules prescribed in this behalf; (g) planting and maintaining roadside and other trees; (h) taking statistics and granting rewards for information which may

Obligatory functions of **Municipal Councils**	Discretionary functions of **Municipal Councils**
works, sewage works, baths, washing places, drinking fountains, tanks, wells, dams and the like; (j) obtaining supply of or an additional supply of water proper and sufficient for preventing danger to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply, when such supply or additional supply can be obtained at a reasonable cost; (k) naming streets and numbering houses; (l) registering births and deaths; (m) public vaccination; (n) providing suitable accommodation for calves, cows, or buffaloes required within the municipal area for the supply of animal lymph; (o) maintaining schools for pre-primary education; (p) arranging for the destruction or the detention and preservation of such dogs within the municipal area as may be dealt with under the law in force relating to police or under section 222 of this Act; (q) providing facilities for antirabic treatment and treatment of lepers and mental patients and meeting the expenses of indigent persons undergoing antirabic treatment within or outside the municipal limits; (r) providing covered metallic receptacles and covered metallic receptacles mounted on wheels for use by servants employed by the municipal council for the removal of night soil and rubbish and disposing of night-soil and rubbish and, if so, required by the Government, preparation of compost manure from	tend to secure the correct registration of vital statistics; (i) making a survey; (j) securing or assisting to secure suitable places for the carrying on of the offensive trades mentioned in section 256; (k) supplying, constructing and maintaining receptacles, fittings, pipes and other appliances whatsoever on or for the use of private premises for receiving and conducting the sewage thereof into a sewer under the control of the municipal council; (l) providing of music or other entertainments in public places or places of public resort; (m) the promotion of public health or child welfare; (n) contribution towards any public funds for the relief of human suffering, within or without the municipal area; (o) by a resolution passed at a general meeting and supported by one half of the total number of councilors and with the previous sanction of the Deputy Commissioner in the case of a town municipal council and of the Director of Municipal Administration in the case of a city municipal council organizing any public reception, public ceremony, public entertainment or public exhibition within the municipal area: Provided that the expenditure on such reception, ceremony, entertainment or exhibition shall not exceed such limits as may be generally or specially prescribed;

Obligatory functions of **Municipal Councils**	Discretionary functions of **Municipal Councils**
such night-soil and rubbish; Explanation. In this clause, "rubbish" includes dust, ashes, broken bricks, mortar, sewage, dung, dirt, decomposed substances and refuse of any kind. (s) providing accommodation for municipal sweepers and scavengers and granting of loans to such sweepers and scavengers for construction of houses, subject to rules prescribed in this behalf; (t) printing such annual reports on the municipal administration of the municipal area as the Government, by general or special orders, requires the municipal council to submit; (u) paying the salary and the contingent expenditure on account of such police or guards as may be required by the municipal council for the purpose of this Act or for the protection of any municipal property, and providing such accommodation as may be required by the Government under the law in force relating to police. (u1) vital statistics including registration of births and deaths; (u2) regulation of taneries; (v) maintenance of up-to-date record of all buildings and sites within the municipal area; and (w) planting and maintaining of road-side trees. (Sec 87 KMA) Special function (a) providing special medical aid and accommodation for the sick in time of dangerous disease; and taking such measures as may be required to prevent the outbreak or suppress and prevent the recurrence of the disease;	(p) the organisation or maintenance during scarcity, of shops or stalls for the sale of necessaries of life; (q) housing and maintaining destitute orphans and destitute cripples; (r) subject to the provisions of any law regulating the establishment of warehouses, constructing, establishing and maintaining warehouses; (s) establishment and maintaining of dairy farms and breeding studs; (t) provision of transport facilities within the municipal area; (u) maintenance of an ambulance service; (v) supply of water beyond the limits of the municipal area; (w) the acquisition and maintenance of grazing grounds; (x) guaranteeing the payment of interest on money expended for the construction of a telephone line subject to the previous sanction of the Government when the line extends beyond the limits of the municipal area; (y) promoting the well-being of municipal employees or any class of municipal employees and of their dependents; (z) the construction, purchase, organisation, maintenance extension and management, of mechanically propelled transport facilities for the conveyance of the public; (aa) the construction, maintenance, repairs, purchase of any works for the supply of electrical energy;

Obligatory functions of **Municipal Councils**	Discretionary functions of **Municipal Councils**
(b) giving relief to and establishing and maintaining relief works in times of famine or scarcity for destitute persons within the limits of the municipal area. (Sec 88 KMA)	(bb) making contributions towards the construction, establishment or maintenance of educational institutions including libraries and museums, any hospital, dispensary or similar institution providing for public medical relief, or any other institution of a charitable nature; (cc) construction, maintenance and provision of public bathing houses; (dd) revival or promotion of cottage industries; (ee) improvement of cattle and live-stock including construction and maintenance of veterinary hospitals; (ff) maintenance of maternity homes and child welfare centres; (gg) maintenance of art galleries; (gg1) slum improvements and up-gradation; (gg2) urban forestry, protection of environment and promotion of ecological aspects; (gg3) urban poverty alleviation; (gg4) promotion of cultural, education and aesthetic aspects; (hh) promotion, formation, extension or assistance of cooperative societies; and (ii) any other matter not hereinbefore specifically named which is likely to promote education or public health, safety or general welfare or convenience, or the advancement of the economic condition of the inhabitants or which is necessary for carrying out the purposes of this Act, expenditure whereon is resolved by the municipal council by the votes of

Obligatory functions of **Municipal Councils**	Discretionary functions of **Municipal Councils**
	not less than two-thirds of the total number of councilors and with the approval of the Government, to be an appropriate charge on the municipal fund.(Sec 91 KMA)

(b) Obligatory and Discritionary Functions Of The Municipal Corporations (KMC Act)

Under sections 58 and 59 of the KMC Act, **corporations** are required to perform certain obligatory and discretionary functions. Some of the obligatory functions of ULBs are as below; 1. Lighting public streets, places and buildings 2. Sanitation 3. Supply of drinking water 4. Registering births and deaths 5. Construction and maintenance of roads, drains, etc. Some of the main discretionary functions are as below; 1. Maintenance and establishment of public parks 2. Maintenance of public library 3. Constructing, establishing of homes for the disabled and destitute persons etc

Annexure 2: Karnataka

A2.1. Urbanisation in Karnataka

The state of Karnataka has 30 districts grouped into 4 administrative divisions: Belagavi division, Bengaluru division, Kalburgi division, and Mysuru division. The percentage of urban population to the total population has increased from 33.99% in 2001 to 38.67% in 2011, registering an Annual Exponential Growth Rate (AEGR) of 2.74% which is almost the same as India's AEGR of 2.76% during the same time period. As per the 2011 census, Karnataka is the 7th most urbanized state in India. For the first time since independence, the decade between 2001 to 2011 saw an absolute increase in population to be more in urban than in rural areas. The percentage of urban population in the state has been consistently above the national average in all the censuses conducted so far and the gap has only been increasing over the years. Karnataka exhibits a fluctuating trend of urbanisation with a high regional variation. However, disparities exist in urban growth with Bengaluru being the most urbanised district with 90.94% of its population residing in urban areas followed by Dharwad district with 56.82%. The least urbanised district in the State is Kodagu with 14.61%. 70% of urban population lives in 10% of towns/urban agglomeration (Economic Survey of Karnataka , 2020). As per the 2011 census, about 2.35 crores out of a total population of 6.11 crores reside in urban areas. It is projected that by around 2031-35, the urban population of Karnataka would be anywhere between 3.41 crores to 3.65 crores and the percentage of Karnataka's urban population to the total population would increase to 49.3%[85]. At present there are a total of 273 ULBs in the state - 11 City Corporations, 59 City Municipal Councils, 114 Town Municipal Councils and 89 Town Panchayats[86].

Rapid industrialisation has been one of the main drivers of urbanisation in Karnataka. The state has been spearheading the growth of Indian industry, particularly in terms of advanced technology industries in the areas of electrical and electronics, Information & Communication Technology (ICT), biotechnology and, more recently, nanotechnology. The industrial structure of Karnataka presents a blend of modern high-tech capital goods and knowledge intensive industries on the one hand and traditional consumer goods industries on the other. The liberalisation of the economy brought about sizable investment in the software industry because of the easy availability of skilled manpower and low investment criterion. The state

[85] Population Projections for India and States 2011 – 2036, Ministry of Health and Family Welfare
[86] As per Karnataka State Election Commission, May 2020.

economic policy was quick to read the characteristics of liberalisation and accordingly made Information Technology (IT) a priority industry to build in Bengaluru by attracting foreign capital with moderate land acquisition rules and keeping the infrastructure cost extremely low. This led to an IT boom in the early 2000's which contributed significantly to the state's industrial growth. In late 2000, a study found that the contribution of IT services to the state's GSDP had increased from 1.70% in 2001-02 to 2.95% in 2003 – 04. Also, the growth of ICT had a positive impact (for the period between 2001 – 01 and 2002 – 03) on per capita income, share in tertiary sector for state income and in the expansion of tele-density (Narayana, 2008). The Karnataka Municipalities Act, 1964 was amended (through Act 24 of 2003) to have a separate chapter for specifying industrial townships and other related matters, to make elaborate provision given the development and the requirement of industrial townships adjacent to or within municipal areas and transitional gram panchayats. (JLL India, 2018).

The overall organized industrial sector of Karnataka registered a 4.03% growth in 2018-19 as compared to 2017-18. Within the organized industrial sector, the electricity sector shows the highest growth at 11.32% followed by the mining sector at 5.89% whereas the manufacturing sector registered the lowest growth of 3.01%. As a result of this moderate growth of 4.03% was observed in General Index. The Annual Survey of Industries (ASI) statistics indicates that Karnataka accounted for 5.68% of the total registered factories in 2016-17 in the country.

The advance estimates of Gross State Domestic Product (GSDP) of Karnataka for the year 2019-20 at constant (2011-12) prices, is likely to attain a level of Rs. 12,01,031 crores with a growth of 6.8%. In comparison, the GDP at national level is estimated to be 5.0% at constant (2011-12) prices. The sectoral growth rate of Agriculture, Industry and services are expected to be 3.9%, 4.8% and 7.9% respectively. The service sector is a major contributor of overall GSDP of the state as the share of private corporate sector to this sector is significantly higher when compared to other sectors. Table 4.1 shows the sectoral share of GSDP.

Table A2. 1: Sectoral Share of GSDP

Sectors	**2018-19 F.R.E.**	**2019-20 A.E.**
Agriculture and Allied	11.18	10.97
Industry sector	23.67	22.84
Service Sector	65.15	66.19

Source: Directorate of Economics and Statistics, Government of Karnataka.
Note: A.E.: Advance Estimates, F.R.E.: First Revised Estimates.

While India's average year-on-year GDP growth was 6.9% between 2013 to 2017, it was 8.1% for Karnataka during the same time period. While India's GDP grew by 6.7% in 2018, the GSDP growth rate of Karnataka in 2018 was 9.3% and the fifth highest in the country[87]. The share of Karnataka's GSDP to India's GDP is 8.3% during 2019-20. Additionally, Karnataka's fiscal performance in comparison to other states is considerably sound. Driven by various fiscal consolidation measures, Karnataka while enhancing its revenues has managed its expenditure well. In 2019-20, the State has estimated (i) revenue surplus of Rs.257.97 crores, (ii) Fiscal Deficit at 2.65% of GSDP and (iii) Total liabilities at 20.60% of GSDP (Economic Survey of Karnataka , 2020).

A2.2. Provisioning of Sanitation and SWM Services

Both the KM and the KMC Acts have provisions for water supply, sanitation, and waste managements as an obligatory service to be provided by ULBs. They have been listed under Sections 58(3) and 59(10) of the Karnataka Municipal Corporations Act, 1976 and Section 87(c), 87(m), 87(q), 87(r), 91(m) and 91(u) of the Karnataka Municipalities Act, 1964. Functions under these items are as listed in Table 4.2.

As per the 2011 census, the key sanitation indicators of Karnataka are:

• 15.10 % of urban households in Karnataka do not have access to latrines as compared to the national average of 18.6 %.

• Open Defecation by urban households of Karnataka is 10.7 % which is slightly lower than the national average of 12.6 %.

• Only 53.3 % of Karnataka's urban households are connected to a piped sewerage network

• Manual Scavenging: As per the 2011 census, approx. 0.1 % of the urban households (5688 households) in Karnataka get night soil removed manually.

As per the information furnished by the Bruhat Bengaluru Maha Nagara Palike (BBMP) and other local bodies in Annual Report for 2016-17, Karnataka State generates about 11,186 tons per day (TPD) of municipal solid waste (MSW) out of which Bengaluru alone generates around 5680 tonnes of MSW daily. From this, 9706 TPD are collected, 3475 TPD are treated and 5170 TPD are landfilled. (Karnataka State Pollution Control Board, 2016). Most ULBs spend nearly 60%-70% of their total

[87] States of Growth 2.0, A CRISIL Research Report, 2019

overall budgetary allocation on collection, another 20%-30% on transportation, and often less than 10% on the treatment and final disposal of MSW.

The Government of Karnataka brought out an Urban Drinking Water and Sanitation policy (UDWSP) in 2002. The main objectives of the policy were to ensure demand based universal coverage of water supply, commercial and economical sustainability of the operations and a minimum level of service to all citizens. The ULBs were responsible for water supply and sewerage services from water catchments to waste water treatment. The National Urban Sanitation Policy (NUSP) 2008 demands for each of the states to prepare their own state sanitation strategies (SSS) taking into account its local urban context. The idea was to allow state level framework in which cities will plan and implement their city specific sanitation plans. However, Karnataka till date does not have a state sanitation strategy.

The State Government of Karnataka adopted a policy on integrated solid waste management (ISWM) in 2004 with an objective of developing and implementing scientific and sustainable methods for municipal solid waste management (MSWM). The primary objectives of the Karnataka State policy on ISWM are to: (i) provide directions for MSWM activities in an environmentally, socially, and financially sustainable manner; (ii) establish an integrated and self-contained operating framework for MSWM; and enhance the ability of ULBs to provide effective waste management services to their citizens. Some of the provisions are in sync with the SWM 2016 Rules. The Urban Development Department notified the Karnataka Municipalities Solid Waste Management Model by-laws 2019 for all the Urban Local Bodies (ULBs), including BBMP, placing the onus of disposal of waste on the generator. A comprehensive legal and regulatory framework was put in place by encompassing all aspects of waste management, right from its inception to final disposal. The by-laws include collection, transportation, and disposal of waste along with monitoring and regulation. This is the first time that the by-laws are being framed under the Karnataka Municipal Corporation Act, 1976, thereby giving ULBs teeth to implement provisions, including collecting hefty penalties for violations. Hitherto, rules on solid waste management were being framed under the Environment Protection Act, 1986. On 22nd October 2020, the state government approved the Karnataka State Urban Solid Waste Management (SWM) Policy-2020 and the Urban Solid Waste Management Strategy-2020. The new policy has an ambitious target of achieving 100% segregation at source of solid waste in all urban local bodies across the State. The new policy also aims to reduce waste going to

landfills to less than 30% of the total waste generated by 2025. The policy was prepared by the Directorate of Municipal Administration in compliance with the Solid Waste Management Rules, 2016, and is applicable to all ULBs in the State (The Hindu, 2020).

The Karnataka Urban Water Supply and Drainage Board (KUWS&DB) was constituted by an Act of legislature in 1974 and is functioning from 1975 onwards. KUWS&DB is the implementing parastatal body for water supply and underground drainage facilities (UGD) for all the ULBs except Bruhath Bengaluru Mahanagara Palike (under the KUWS&DB Act, 1973). Since its inception, KUWS&DB had commissioned 567 water supply and 88 UGD projects across the state incurring an expenditure of Rs. 8,357.17 crores up to the end of March 2019 (Economic Survey of Karnataka , 2020). Bengaluru Water Supply and Sewerage Board (BWSSB) is an independent parastatal body created by the state government that is responsible for providing water supply and disposal of sewerage to 800 Sq. kms of BBMP area. It is one of the first water supply & sanitation utilities in India.

Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC) is another important parastatal body that was incorporated in 1993 with an objective to prepare, formulate and implement projects, schemes and programmes relating to infrastructure development in the urban areas of the state and to provide technical, financial, consultancy and other assistance to ULBs for development, schemes, including implementation of master plans. Considering its expertise in project formulation, appraisal, management and implementation KUIDFC has been appointed as the Nodal Agency for implementing various urban infrastructure development projects in the state. One such project being to improve the quality of SWM services in the BBMP area.

Water supply and sanitation, and SWM were marked as priority services under the 14th finance commission grant details. Of the total allocation of Rs. 4685.51 crores (including BBMP), 25% is for SWM, and 20% for sanitation and water supply, and 20% for Underground drainage (UGD) schemes (Economic Survey of Karnataka , 2020).

A2.3. Urban Reforms Related to Sanitation and SWM

The 74th CAA provided new opportunities for urban governance reforms in the country. Karnataka has been a pioneer and a role model state in carrying out urban sector reforms along with structural reforms. The Urban Development Department,

Government of Karnataka through the Directorate of Municipal Administration launched a Municipal Reforms in the year 2004, in order to upgrade the existing municipal functions and to provide smoother delivery of municipal services to the citizens of Karnataka. It soon initiated an Asian Development Bank (ADB) funded state-wide reform initiative covering the largest 49 municipal bodies in the state. Titled 'Nirmala Nagara Project (referred to as NN), the objective of the project was to introduce reforms across these municipal bodies. These reforms were further extended to cover another 164 ULBs under the World Bank funded "Karnataka Municipal Reforms Project". Few of the reforms implemented were: 1) GIS-based Property Tax Information system (PTIS), 2) Public Grievances and Redressal system (PGR), 3) Birth and Death Registration and Certification (BandD), 4) Fund Based Double Entry Accrual Accounting System (FBDEAAS) & 5) ULB websites. As part of this reform, several other online applicants were created to ease service delivery (Directorate of Municipal Administration, 2012).

List of existing online applications: Municipal Reforms

- Birth & Dearth Registration and certification system. E-Janma application.
- Janahitha- Improved version of online Public Grievance and Redressal System.
- Nirman- Online building license issuance system.
- Nirman 2-End to end online system with auto DCR for building license issuance service has been developed and implemented in AMRUT.
- Vyapar- End to end online trade license issuance system.
- Jalanidi- End to end water tap and UGD connection permit and water tariff management system.
- E-Aasthi- property details management system.
- Sweekruthi application integrated with khajane 2 has been developed and implemented across all ULBs to avoid cash-based transactions at ULBs.
- Role Based facility in FBAS application is made available to digitize the payment approvals online.
- FBAS application is implemented in DUDCs, DMA, newly formed ULBs and planned to implement in authorities.
- PID number-based Property tax calculator has been developed.
- Online application to manage AMRUT project has been developed and planned to implemented in AMRUT ULBs.
- Integration of schemes application with FBAS and E-procurement applications done to ensure online updation of financial transactions.

The KUIDFC is the key implementing agency for many urban infrastructure-based reform projects financed by multilateral development institutions such as World Bank and Asian Development Bank (ADB). Some of the key urban reform projects related to water supply, sanitation and SWM in Karnataka are:

- Karnataka Urban Development and Coastal Environmental Management Project (KUDCEMP, Assisted by ADB): The purpose of the project was to improve urban infrastructure, operation and management, and resource mobilization in 10 ULBs along the west coast of Karnataka. The total expenditure for the six components of KUDCEMP was Rs. 1001.44 crores (End of March, 2019). The six components are - (i) capacity building, community participation and poverty reduction (3% of actual project cost); (ii) water supply systems rehabilitation and expansions (27%); (iii) urban environmental improvement through sewage systems (31%); (iv) street and bridge improvements (10%); (v) coastal environmental management (2%); and (vi) implementation assistance (11%).

- Karnataka Urban Water Sector Improvement Project (KUWASIP, Assisted by World Bank): KUWASIP is a project for reforms in water and sanitation sector and service improvements in water sector. The estimated cost of the project was Rs. 237.04 crores. The project has been implemented in three cities viz., Belgaum, Gulbarga and Hubli-Dharwad during the period 2005-2011. All the works under the two physical components viz., (i) Priority Investments (for improving bulk supply) and (ii) Demonstration Project (for demonstrating feasibility of 24x7 continuous pressured water supplies) have been completed and commissioned. The system has been working satisfactorily and has benefitted a population of about 2.14 lakhs. The contract for O&M of 24x7 water supplies in the Demonstration Zones is being carried out by respective ULBs with assistance from KUIDFC.

- Karnataka Municipal Reforms Project (KMRP, Assisted by World Bank): KMRP aims to improve the quality of life of citizens by improving the delivery of urban services and promoting good governance among the urban local bodies (ULBs). The total project expenditure, as on March-2019 was Rs. 1391.12 crores. Of this, Rs. 298.3 crores was spent on Water Supply, Under Ground Drainage, Sewage Treatment Plants, Storm Water Drain, SWM and Low-Cost Sanitation in 32 selected ULBs.

- North Karnataka Urban Sector Investment Programme (NKUSIP, Assisted by ADB): The primary objective of this programme is to improve the status of urban infrastructure and attempt towards better service provision, focusing on environmental sanitation improvement. Some of the major components under

NKUSIP are Water Supply, Sewerage and Urban Drainage. The overall Project cost is Rs.2500 Cr of which ADB provided a loan of Rs. 1386 crores and the balance amount are from GoK and ULBs. State of the Art Sewage Treatment Plants were constructed and commissioned in Hubballi-Dharwad, Davangere and Kalburgi.

- Karnataka Integrated Urban Water Management Investment Programme (KIUWMIP, Assisted by ADB): This programme has an estimated cost of Rs. 1476 crores with a loan component of Rs. 975 crores from ADB. The bulk of this investment pertains to expanding water supply and sewerage infrastructure in the selected cities and it proposes to cover an area of 377 Sq. kms to benefit a population of 1.3 million after its implementation. Four sewerage work packages were awarded, at a cost of Rs. 256.00 Cr. In 2019-20, a total of 302.46 km of sewer network was laid in all three project towns against the target of 315.39 km and 20 & 5 MLD STPs at Davanagere were completed, 18 MLD STP in Harihara and 5 MLD STP in Byadgi is under progress.

- Karnataka Urban Water Supply Modernisation Project (KUWSMP, Assisted by World Bank): The project involves an up-scaling of 24x7 water supply to the entire corporation areas of Belagavi, Kalaburagi and Hubballi-Dharwad at an estimated cost of Rs. 1809 crores. The share of the World Bank is 67% (Rs. 1209 crores). The estimated capital expenditure for Belagavi is Rs. 427 crores, Kalaburagi Rs.453 crores and for Hubballi-Dharwad Rs.763 crores.

Under the AMRUT scheme, 26 cities/towns with a population of one lakh and above have been selected and Badami city which is categorized as a heritage city has been selected under the HRIDAY scheme. The GoI has approved Rs. 4952.87 crores for the entire mission for a period of 5 years. About 91% of this budget (Rs. 4500.79 crores) has been earmarked only for Water Supply and UGD schemes. An amount of Rs. 1985.61 crores was released by the Government for the project as on November 2019 (Government of Karnataka, 2020).

Seven cities from the state namely, Belagavi, Davanagere, Huballi, Dhaewad, Shivamogga, Mangaluru, Tumakuru & Bengaluru have been selected under the smart cities mission. Under the smart cities mission, Rs. 2303 crores (Rs. 1325 crores from GoI and Rs. 978 crores from GoK) has been released to cities and Rs. 413.52 crores has been spent up to November 2019 (Economic Survey of Karnataka , 2020).

A2.4. Sanitation and SWM: State Level Targets and Progress Made So Far

According to the Sustainable Development Goals Index (SDGI) released by Niti Aayog, Karnataka ranks 6th in overall performance with respect to all the goals. State performance in Sanitation and waste management related indicators are mentioned in the below table. It may be noted that on all the below listed indicators, Karnataka's performance is either comparable or slightly worse than the national average, expect for the amount of waste treated.

Table A2. 2: Performance of Karnataka State on Indicators of SDG 6, 11 and 12

Goal	Indicator	Karnataka 2019	National 2019	Target 2030
6	Districts verified to be Open Defecation Free (%)	93.33	88.5	100
6	Urban households with individual household toilet (%)	93.36	97.2	100
11	Wards with 100% door to door waste collection (%)	88.51	91	100
11	Waste processed (%)	41	56	100
11	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	35	38	100
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	34.49	20.7	100
12	Wards with 100 % source segregation (%)	46.43	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

Table A2.3 shows the progress made across various sanitation related parameters from the NSSO 69th round data (2012) of urban households in Karnataka to the NSSO 76th round data (2018) of urban households belonging to state.

Table A2. 3: Progress Made Across Various Sanitation Related Parameters From 2012 to 2018

SI. No	Sanitation Parameter	NSSO 69th round data - 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	910 / (91.0)	95.7	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	591 / (59.1)	61.3	39.1
3	Urban households with flush/pour-flush latrine connected to a septic tank	155 / (15.5)	20.2	48.9
4	Urban households connected to underground drainage system	NA	60	53.5
5	Urban households with no drainage system	86 / (8.6)	3.8	8
6	Urban households disposing waste water without treatment	NA	92	92.4

Source: NSSO 69th and 76th round report

Karnataka has always performed poorly in all the three Swachh Survekshan (SS) national level surveys (14th position in 2018 and 2019, and 21st in 2020). However, Mysore ULB has consistently been among the top 3 cleanest medium sized cities (population between 3 to 10 Lakhs) over the last 3 years. Despite having chronic SWM related issues, in the 2020 SS Survey, (based on parameters such as Garbage Free Cities (GFC), Open Defecation Free & SWM cost versus revenue) surprisingly Bengaluru was awarded the 'best sustainable mega city' in the country. (Greater than 40 lakh population). Additionally, in SS 2020, with regard to the provisioning of SWM services, Karnataka was ranked 8th in both categories - for ULBs less than 1 lakh population and in ULBs greater than 1 lakh population across all large states.

A2.5. Manual Scavenging and Welfare of Sanitation Workers

Like in many states of India, even in Karnataka those working as manual scavengers are mostly dalits and among dalits also they are members of the most marginalized caste groups in the area. A recent study carried out by the National Law School of India University, Bengaluru reported that 92.33% of workers engaging in this

occupation across all 30 districts of Karnataka were dalits, and 3.3% belonged to Scheduled Tribes. Among those surveyed, about 74% belonged to the *madiga* community.

The state of Karnataka identified and reported 732[88] manual scavengers according to the MS survey of 2013. However, the number of manual scavengers in the state as of March 31st 2019, as reported from a survey conducted by the National Safai Karamchari Finance and Development Corporation (NSKFDC) is 1742[89]. However, according to activists, even this number is a gross under-estimate. A report published by the Safai Karmachari Kavalu Samithi estimates the number of manual scavengers in the state to be anywhere between 75,000 to 80,000. According to the Annual report (2018-19) of the National Commission for Safai Karamcharis (NCSK), the total number of sewer deaths in the state between 1993 to 2018 is 69, and only 2 in 2018 -19, thus an overall official count of 71 sewer deaths in the state since the Parliament passed The Employment of Manual Scavengers and Construction of Dry Latrines Prohibition Act in 1993 (NCSK, 2019).

The proportion of identified manual scavengers who received the One Time Cash Assistance (OTCA) was one of the lowest in Karnataka (62 %). Under the Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) scheme, 1233 projects were sanctioned across the country, and while Karnataka accounted for 18 % of all the projects sanctioned, it has released one third of the total subsidy amount given across states. Trainings for 13,587 beneficiaries was sanctioned under the SRMS scheme, Karnataka sanctioned the same for 31 % of the identified manual scavengers (Centre for Policy Research, 2019). Under the scheme for pre-metric scholarship, from the year 2014-18, Karnataka has not demanded for any scholarship sum to support manual scavengers' children's education (Rashtriya Garima Abhiyan, 2018). NSKDFC had made National Allocation of Funds of Rs. 158 crores for disbursement to different states in 2018-19, of which Rs. 3.6 crores was designated for Karnataka (NSKFDC, 2019).

The State government launched the "Pourakarmika Gruha Bhagya Yojana" – a housing scheme for the welfare of sanitation workers (pourakarmikas). In this scheme, for a house (pucca houses) with an estimated cost of Rs. 7.50 lakh per unit, Rs. 6.00 lakh will be contributed by the state government and the remaining Rs.1.50 lakh to be contributed by the beneficiaries or by 'Pradhan Mantri Awas Yojana' or by

[88] Ministry of Social Justice and Empowerment, 2019-20
[89] NSKFDC 22nd Annual report 2018-19

other funds of ULBs. A total of 4112 beneficiaries from various ULBs were approved for this scheme. As of early 2019, 570 houses had already been constructed, 1048 were under progress and they were at the tender phase of which about 2000 houses were expected to be completed by the end of 2019. Several other programmes for pourakarmikas have also been specifically initiated by the GoK such as general and master health checkups, vaccinations, life and accidental insurance cover, health insurance, provision of morning breakfast, pre-metric scholarships to children of sanitation workers, minimum wages and provident fund to be provided to permanent workers.

A2.6. Urbanisation Challenges (Specific to Sanitation and SWM)

Government schemes to provide sanitation facilities for the urban poor have been inadequate. Under the Integrated Low-Cost Sanitation Scheme, only 7,513 toilets have been constructed in urban areas across the state over the past three years. In urban areas of Karnataka, the non-usage of toilets was found to be largely due to technical discrepancies, behavioural concerns, space issues, water scarcity and poor maintenance of toilets. In rural Karnataka, apart from water scarcity, restricted space, poor maintenance, cultural habits and financial constraints have been the main reasons for non-usage of toilets. Public health experts and other studies have pointed out that large sections of the urban poor are denied access to toilets. Extent of night soil disposed into rain water drains is of serious concern that could cause implications on health. Inadequate water availability has also affected toilet usage as water access and availability is a matter of concern across most of the slums. Although the slum dwellers have access to water, it is not sufficient to fully meet their requirements. Purchasing of water is a common feature across slums. This affects sanitation drastically. People face problems in balancing expenditure, as purchasing water is a major component, where they have to purchase water for drinking and also for toilet usage. The unplanned waste dumping places and open defecation become the sites of the growth of a number of disease carriers like flies and mosquitoes. These cause health hazards not only in slum areas but also in other nearby places. According to the NSSO 76th Round (2018), 35.9% of households reported that during past one yar they faced severe problems related to flies/mosquitoes.

SWM practices in India are employee intensive, with an estimated 50% of the total municipal staff engaged in these activities. Moreover, the machinery and equipment used by the staff are mostly of outdated technology and serve poorly in meeting the

new demands. A CAG Audit report highlighted that none of the 30 test-checked ULBs adhered to the methodology as prescribed in the Manual on Municipal Solid Waste Management (2016). According to the report, GoK had failed to operationalize a focused waste minimization strategy in its urban centres (Comptroller and Auditor General of India, 2020)

The disposal of waste is being carried out in an unscientific manner, with crude open dumping in low-lying areas being the prevalent practice followed by most ULBs. MSW is also commonly deposited at dump-yards without ascertaining the suitability of the land for waste disposal. The results of these are foul smell, breeding of flies and other pests and generation of liquid run offs (leachate), which pose a serious threat to the underground water reserves.

Annexure 3: Criteria for Organisation of ULBs into Corporations, Councils, and Nagar Panchayats

Section 3,4, 341A and 341F the Maharashtra Municipal Councils Act 1965 defines a Municipal Council as an area where the population is not less than 25,000 and the percentage of employment in non-agricultural activities is not less than 35%. Similarly, a Nagar Panchayat is an area where the population is more than 10,000 but less than 25,000 and the percentage of employment in non-agricultural activities is not less than 25%. 'The BPMC Act that applies to all municipal corporations then defined the corporation as any urban area with a population of not less than 3 lakhs as a Larger Urban Area. In this case, population has been applied as the sole parameter for change in institutional trajectory.

Annexure 4: Powers of Taxation Under Municipal Laws Pre and Post 74th CAA (Singh, 2011)

Mumbai Municipal Corporation Act	
Prior to 74th CAA	Post 74th CAA
Compulsory Taxes	
a) Property Tax	a) Property Tax
a) A tax on vehicle and animals	b) Not applicable
b) Absent	c) A tax on dogs
c) A theatre tax	d) A theater tax
d) Octroi	e) Octroi
Voluntary Taxes	
a) Education Cess	a) Education Cess
b) Street Tax	b) Street Tax
Bombay Provincial Municipal Corporation Act, 1949	
Prior to 74th CAA	Post 74th CAA
Compulsory Taxes	
a) Property Tax	a) Property Tax
b) A tax on vehicle, boats and animals	b) A tax on vehicle, boats and animals
Voluntary Taxes	
a) Octroi	a) Octroi
b) A tax on dogs	b) A tax on dogs
c) A theater tax	c) A theater tax
d) A toll on animals and vehicles entering in the city	d) A toll on animals and vehicles entering in the city
Nil	e) A Cess on entry of goods into the limits of the city for consumption, use or sale to be levied in lieu of octroi with the previous sanction of the sate govt.
f) Any other tax (not being a tax on professions, trades callings and employment) which the state legislature has power under the constitution to impose in the state	g) Any other tax (not being a tax on professions, trades callings and employment) which the state legislature has power under the constitution to impose in the state
Nagpur City Municipal Corporation Act 1948	
Prior to 74th CAA	Post 74th CAA

Compulsory Taxes	
a) Property Tax	a) Property Tax
b) A latrine or conservancy tax upon private latrines, privies or cesspools cleansed by corporation agency	b) Not Applicable
c) A tax for the construction and maintenance of public latrines	c) Not Applicable
d) A water – rate, where water is supplied by the corporation	d) Not Applicable
e) A Cess on animals or goods brought within the city for sale, consumption or use therein.	e) A Cess on animals or goods brought within the city for sale, consumption or use therein.
Voluntary Taxes	
a) A tax on persons exercising any profession or art or carrying on any trade or calling within the city	a)Not applicable
b) A tax payable by the owners on all or any vehicles or animals, used for riding, driving, draught or burden or on dogs where such vehicles animals or dogs are kept within the city.	b) A tax payable by the owners on all or any vehicles or animals, used for riding, driving, draught or burden or on dogs where such vehicles animals or dogs are kept within the city.
c) A toll on vehicles an animal used as aforesaid entering the city and on boats moored within the city.	c) A toll on vehicles an animal used as aforesaid entering the city and on boats moored within the city.
d) Fees on the registration of cattle sold within the city	d) Fees on the registration of cattle sold within the city
e) A lightening rate where the lightening of public streets, places and buildings is undertaken by the corporation.	e) A lightening rate where the lightening of public streets, places and buildings is undertaken by the corporation.
f) Any other tax which the state legislature has power to impose in the state under the constitution.	f) Any other tax (not being a tax on professions, trades callings and employment) which the state legislature has power under the constitution to impose in the state.
Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act, 1965	
Prior to 74th CAA	Post 74th CAA
Compulsory Taxes	

a) Consolidated Property tax	a) Consolidated Property tax
b) An Octroi	b) Not Applicable
c) Profession tax	c) Not Applicable
d) A tax on cinemas, theaters, circuses, carnivals and other performance and show	d) A tax on cinemas, theaters, circuses, carnivals and other performance and show
e) A tax on advertisements other than advertisements published in the newspapers. Provided that the maximum and minimum rates at which the taxes aforesaid shall be levied in different classes of municipal areas and other matters relation to imposition, assessment, collection and exemptions there of shall be prescribed by the rules.	e) A tax on advertisements other than advertisements published in the newspapers. f) Provided that the maximum and minimum rates at which the taxes aforesaid shall be levied in different classes of municipal areas and other matters relation to imposition, assessment, collection and exemptions there of shall be prescribed by the rules.
Voluntary Taxes	
a) A tax on all vehicles (excluding motor vehicles as defined in the motor vehicle act 1939 [IV 1939]), boats or animals. Used for riding, driving, draught or burden and kept for use within the municipal area, whether they are actually kept within or outside such area.	a) A tax on all vehicles (excluding motor vehicles as defined in the motor vehicle act 1939 [IV 1939]), boats or animals. Used for riding, driving, draught or burden and kept for use within the municipal area, whether they are actually kept within or outside such area.
b) A toll on vehicles (excluding motor vehicles save as provided in the section 20 of the Bombay Motor Vehicle Tax Act 1958) and animals used.	b) A toll on vehicles (excluding motor vehicles save as provided in the section 20 of the Bombay Motor Vehicle Tax Act 1958) and animals used.
c) A tax on dogs kept within the municipal area	c) A tax on dogs kept within the municipal area
d) A special sanitary tax on private latrines, premises or compounds cleansed by municipal agency	d) A special sanitary tax on private latrines, premises or compounds cleansed by municipal agency
e) A drainage tax	e) A drainage tax
f) A special water tax for water supplied by the council in individual cases	f) A special water tax for water supplied by the council in individual cases
g) A tax on pilgrims	g) A tax on pilgrims
h) A special Educational tax	h) A special Educational tax

Annexure 5: Tamil Nadu

A5.1. Urbanisation in Tamil Nadu

According to the 2011 census, the total urban population of the state was 34.92 million increasing from 27.4 million in the year 2001. The process of urbanisation in Tamil Nadu is a natural process associated with economic growth. The degree of urbanisation is constantly on an increase over a period of time. The proportion of urban population increased from 24.4 % in 1951 to 44% in 2001 and it further increased to 48.5%[90] in the year 2011 making it the most urbanised state in the country followed by Kerala and Maharashtra respectively. The state accounts for 9.3% of total urban population in the country. The share of urban population is significantly higher than that of the country's average which is at 31. 2%. As per the 2011 census, the average density population in the state was 554 persons per square Kms and in urban areas it was 3521 persons per square Kms. The growth rate of urban population in the state at 27% had outpaced the growth of rural population which was at 6.6% between 2001-2011 census. The faster pace of urbanisation in the state also adds pressure on the access to and the quality of basic amenities.

Tamil Nadu has a total of 664 Urban Local bodies comprising of 15 Municipal Corporations, 121 Municipalities and 528 Town Panchayats.[91] All of these ULB's except Chennai are under the administrative control of the Commissioner of Municipal Administration. Based on the annual income and population the 124 Municipalities and 528 Town Panchayats were classified into different grades which is as follows:

Table A5. 1: Classification of Town Panchayats Based on Annual Income

Grade	Annual Income (Rs. In lakh)	No. of Town Panchayats
Special Grade	Above 20.00	12
Selection Grade	16.00- 20.00	222
Grade- I	8.00 – 16.00	214
Grade- II	4.00 – 8.00	80
Total		**528**

Source: Tamil Nadu State Election Commission

As per the 2011 census, urbanisation rate in 17 districts is below the State average (48.5%). Among these districts- Ariyalur, Villupuram, Dharmapuri, Pudukkottai,

[90] https://www.tn.gov.in/dear/Urban%20development.pdf

[91] Tamil Nadu State Election Commission - https://tnsec.tn.nic.in/tnsec_upload/about_us/introduction.html

Tiruvannamalai, Thiruvarur, Krishnagiri and Nagapattinam are the least urbanised ones. Urbanisation was higher than the state's average in the remaining 15 districts. Among them-Chennai, Kanyakumari, Coimbatore, Tiruvallur, Kanchipuram, Tiruppur and Madurai are highly urbanised districts. The following table shows in the rate of urbanisation in all the districts of Tamil Nadu:[92]

Table A5. 2: Urbanisation in Tamil Nadu

District	Rate of Urbanization	District	Rate of Urbanization
Chennai	100.0	**Namakkal**	40.3
Kanniyakumari	82.3	**Dindigul**	37.4
Coimbatore	75.7	**Thanjavur**	35.4
Thiruvallur	65.1	**Cuddalore**	34.0
Kancheepuram	63.5	**Sivagangai**	30.8
Tiruppur	61.4	**Ramanathapuram**	30.3
Madurai	60.8	**Krishnagiri**	22.8
The Nilgiris	59.2	**Nagapattinam**	22.6
Theni	53.8	**Thiruvarur**	20.4
Erode	51.4	**Thiruvannamalai**	20.1
Salem	51.0	**Pudukkottai**	19.5
Virudhunagar	50.5	**Dharmapuri**	17.3
Tuticorin	50.1	**Perambalur**	17.2
Tirunelveli	49.4	**Villupuram**	15.0
Tiruchirappalli	49.2	**Ariyalur**	11.1
Vellore	43.2	**State**	48.5
Karur	40.8		

Source: https://www.tn.gov.in/dear/Urban%20development.pdf

Tamil Nadu has a spatially dispersed pattern of urbanisation with large number of small and medium towns spread throughout the state[93]. While it is accompanied by

[92] https://www.tn.gov.in/dear/Urban%20development.pdf

[93] https://www.thehindu.com/news/national/tamil-nadu/what-drives-urbanisation-in-tamil-nadu/article7386961.ece

developments in the transport infrastructure, it also enabled a de-agrarianisation of employment. Historically, most part of Tamil Nadu depended on rain-fed agriculture, textile industry and in particular handloom industry was a part of the economic activities in rural areas to augment income. In Tamil Nadu, the industrial estates conceived later wherein economic activities started spurring in all districts that gradually paved way for creation of small towns. Another reason for rapid urbanisation is the migration of people from rural to urban areas in search of employment opportunities and better healthcare and educational facilities. The evolution of the transport industry in the state led to easy transition from agricultural employment to non-agricultural employment. However, currently urban growth is heavily concentrated in the Chennai region and in western Tamil Nadu.

The Gross Domestic Product (GSDP) of Tamil Nadu for 2019-20 at current prices is estimated to be Rs 17,25,639 crore which is 8% higher than the revised estimate for 2018-19. The GSDP of Tamil Nadu (at current prices) has grown at a rate of 10.2% during the period 2013-14 to 2017-18. The per capita GSDP of Tamil Nadu in 2017-18 (at current prices) was Rs 1,86,125 which is 11% higher than that of 2016-17[94].

A5.2. Provisioning of Sanitation and SWM services

According to the District Municipalities Act, the obligatory functions of municipalities with respect to water, sanitation and waste management are: a) Provision and maintenance of water supply; b) Provision and maintenance of public drainage; c) Provision and maintenance of latrines; d) Arrangements for sweeping streets and removing solid waste;

The Tamil Nadu Water and Drainage Act 1971 and the Chennai Metropolitan Water Supply and Drainage Act, 1977 provided for the creation of parastatal bodies at the state level to deliver services and/or take responsibility for municipal functions such as water and sanitation. Apart from Chennai, where the Chennai Metropolitan Water Supply and Sewerage Board supplies water, in all other ULBs water supply remains one of the core functions. Water in ULBs is either supplied through a locally administered scheme or a combined water supply scheme administered by the Tamil Nadu Water Supply and Drainage Board (TWAD). Data from the Third SFC shows that except for Chennai, all other ULBs have large arrears payable to the TWAD.

[94] https://www.prsindia.org/parliamenttrack/budgets/tamil-nadu-budget-analysis-2019-20#:~:text=GSDP%3A%20The%20GSDP%20of%20Tamil,%2D14%20to%202017%2D18.&text=Per%20capita%20GSDP%3A%20The%20per,(Rs%201%2C67%2C240)

Even though the government has been revising the water charges under the Combined Water Supply Scheme, ULBs continue to charge a flat rate per month from residential and higher flat rates for industrial or commercial use. For both sanitation and SWM services, the state government's Norms Committees specify norms from time to time regarding staffing. In order to reduce manpower, in regard to solid waste management, the second SFC saw a significant scope for privatization, and recommended that specific components be privatized to reduce conservancy staff to bare minimum, and ensure lower cost and better service.

Policies/State Level Strategies: Sanitation and SWM

In line with the requirements of the NUSP, 2008, The Tamil Nadu State Urban Sanitation Policy (draft) was prepared by the Commissionerate of Municipal Administration in 2012. The vision of the policy is to eradicate open defecation, while the specific goals are: a. Awareness generation and behaviour change, open defecation free cities, and integrated city-wide sanitation. Some of the key issues that raise the need for a sanitation policy are as follows: 1) Lack of/ Poor Awareness: Sanitation has been accorded low priority and there is poor awareness about its inherent linkages with public health. 2) Social and Occupational aspects of Sanitation: Despite the appropriate legal framework, little or no attention has been paid towards the occupational hazard faced by sanitation workers daily. 3) Fragmented Institutional Roles and Responsibilities: There are considerable gaps and overlaps in institutional roles and responsibilities at the national, state, and city levels. Lack of clear lines of accountability for sanitation has led to inefficient systems and solutions. 4) Lack of an Integrated City-wide Approach: Sanitation investments are currently planned in a piece-meal manner and do not take into account the full cycle of safe confinement, treatment and safe disposal. 5) Limited Technology Choices: Technologies have been focussed on limited options that have not been cost-effective, and sustainability of investments has been in question. 6) Reaching the unserved and poor: Urban poor communities, as well other residents of informal settlements, have been constrained by lack of tenure, space or economic constraints, in obtaining affordable access to safe sanitation. In this context, the issues of whether services to the poor should be individualised and whether community services should be provided in non-notified slums should be addressed. However, provision of individual toilets should be prioritised. In relation to "Pay and Use" toilets, the issue of subsidies inadvertently reaching the non-poor should be addressed by identifying different categories of urban poor. 7) Lack of Demand Responsiveness:

Sanitation has been provided by public agencies in a supply-driven manner, with little regard for demands and preferences of households as customers of sanitation services (International Environmental Law Research Centre, 2012).

According to Census (2001 and 2011 provisional) figures there are 59 lakh urban households in Tamil Nadu out of which, 35.7% of the urban households do not have access to toilets, 7.7% use community toilets, 30% do not have access to drainage network and 35% are connected to open drains. Further, the proportion of notified and non-notified slums with no latrine facility was found to be significantly higher for Tamil Nadu; 27 % and 40 % respectively.

SWM Policy: solid waste Management policy and strategy for the state of Tamil Nadu

On 24th August 2018, the government of Tamil Nadu issued a notification 'implementation of the solid waste management Rules-Rule 11 of the solid waste management rules 2016 - solid waste Management policy and strategy for the state'. According to the notification, the need for the policy is explained as follows: Given the slow pace of implementation of Solid Waste Management Rules, the mammoth task ahead, the complexities involved like selection and application of technically, economically and socially appropriate solutions for waste collection, transfer, treatment & disposal and lack of technical know-how at the local government level, the Government of Tamil Nadu felt it necessary to frame a State policy on SWM giving clear directives to facilitate expeditious implementation of the present SWM Rules 2016 to improve the quality of life of people. The action goals are as follows: 1) To have high standard of cleanliness in the urban and rural areas of the state by effective management of solid waste 2) To ensure 100% Door to Door collection of waste and abolition of unhygienic system of disposal by the households. 3) To make local bodies capable of managing Solid Waste efficiently and cost effectively. 4) To promote the practice of Reduce, Reuse, Recycle and Recover (4Rs) to achieve 80% reduction in waste. 5) To make the Solid Waste Management services sustainable. 6) To minimize waste going to landfill (implementation of the solid waste management Rules, 2018).

Two significant features of the policy are (i) decentralised processing of waste, and (ii) bio-mining to address the challenges of legacy waste, i.e., the garbage hills which have become an unfortunate hallmark of Indian cities. The ultimate objective would be to ensure zero waste by practicing the concept of 4Rs in a concerted manner. Extended producers' liability is also to be insisted on. The policy document aims that

a 'A maximum of 20% waste shall be allowed to go to the landfill for safe disposal'. As per the Annual report by TN on solid waste management, 2018-19, the total solid waste generated in the state is as follows:

Table A5. 3: Solid Waste Generation Status

Solid waste generation in the state (TPD)	13968
Collected (92%)	12850
Treated (56%)	7196
Landfilled	5654

The 15 zones of greater Chennai produce 5000 MT of solid waste per day. The city has achieved 93 % door to door collection of MSW. The city has an installed infrastructure for processing wet municipal solid waste of 6175 MT/day, while, at present, only 1083MT/day is currently being processed (State Pollution Board, 2018-19).

Nodal Agencies:

The function of water supply and sanitation is being managed by Tamil Nadu Water and Drainage Board (TWAD) in all ULBs, expect in Chennai where it is being managed by the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The function of solid waste management is under the Commissionerate of Municipal Administration (CMA).

A5.3. Urban Reforms Related to Sanitation and Solid Waste Management

Tamil Nadu has undertaken several urban reform projects to improve the management of sanitation and solid waste management services. The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme is one of the highly prioritised flagship programmes of the centre. The Government of India has selected 500 AMRUT cities in the country based on the urban population of the state/UT. In which, 32 cities/towns have been selected from Tamil Nadu i.e., 12 City Municipal Corporations (includes 5 ULB's merged with corporations), 14 Municipalities and 1 Town Panchayat[95]. The mission focuses on several areas with water supply as the top priority followed by sewerage facilities and septage management and finally storm

[95] http://www.amrut.gov.in/upload/saap/5a5f0b3b907baTamilNadu.pdf

water drains to reduce flooding. At the city level, the projects are executed by Urban Local bodies and parastatal agencies like CMWSSB and TWAD.

Table A5. 4: Sector Wise Proposed Project Funds and Corresponding Sharing Pattern

(Rs. In Crores)

SI. No	Sector	No. of Project	GoI	State	ULB	Convergence	Total
1	Water supply	3	275.27	146.74	311.69	0.00	733.70
2	Sewerage and Septage management	13	1482.44	657.46	1147.40	0.00	3287.29
3	Storm Water Drainage	0	0.00	0.00	0.00	0.00	0.00
4	Non-Motorized transport	0	0.00	0.00	0.00	0.00	0.00
5	Green Space	28	45.03	18.01	27.02	0.00	90.07
Grand Total		**44**	**1802.74**	**822.21**	**1486.11**	**0.00**	**4111.06**

Source: State Annual Action Plan (SAAP) (FY2017-20)

Under the Smart Cities Mission, 12 cities from Tamil Nadu have been selected to be developed as Smart Cities. The cities are Tiruchirappalli, Tirunelveli, Dindigul, Thanjavur, Tiruppur, Salem, Vellore, Coimbatore, Madurai, Erode, Thoothukudi and Chennai. Under the smart cities mission, an average of 7 to 8% of the total budget is being spent on water supply, sanitation and solid waste management. The remaining amount is spent on the overall development of the cities.

The Tamil Nadu Urban Development Fund (TNUDF) was established by the Government of Tamil Nadu in 1996 as a Trust under the Indian Trust Act, 1882 to finance the implementation of urban infrastructure projects in Tamil Nadu. TNUDF is financing urban infrastructure projects in Tamil Nadu by availing funds from external agencies i.e., World Bank, KfW (German Funding agency), Japan International Cooperation agency and Asian Development Bank. Tamil Nadu Urban Infrastructure Financial Services (TNUIFSL) is the Fund Manager of TNUDF.

The resources of TNUDF are the receipts from the Government and other contributors via loans availed from external funding agencies. The project details are as follows:

Tamil Nadu Sustainable Development Project (TNSUDP) assisted by World Bank

The TNSUDP with the assistance of World Bank was launched on 3rd June 2015. The objective of the project is to improve urban services in participating ULB's in

financially sustainable manner and improve urban management practices in selected cities. A sum of Rs **930.57** crores was disbursed as loan. The Tamil Nadu Water Supply and Drainage Board (TWAD) board is entrusted with the development of Water Supply and Sewerage facilities in the state of Tamil Nadu except Chennai Metropolitan region. TWAD Board further expanded their horizon of service to include maintenance of major Combined Water Supply Schemes (CWSS) into their domain. Further an UGD scheme was implemented in Namakkal Municipality during 2012 and it was proposed to enhance Water Supply service level in Namakkal Municipality to 135 LPCD by implementing a separate Water Supply Improvement scheme with Head works near Jederpalayam Anaicut. The project has been proposed under TNSUDP at an estimating cost of Rs. 185.24 crores.[96] The project aims at providing 17.66 MLD of water supply improvement scheme to Namakkal Municipality and enhancing the service level to 135 LPCD.

Furthermore, the Municipal Administration and Water Supply Department of the Greater Chennai Corporation has taken up construction of integrated storm water drains for Rs. 1101.43 crores in the extended areas of Greater Chennai Corporation in Cooum and Adyar river basins.[97]

Sustainable Municipal Infrastructure Financing – Tamil Nadu (SMIF-TN) assisted by KFW

The SMIF-TN programme assisted by KFW was launched in 2008. The objective was to improve the living conditions of residents in urban areas by constructing and improving water supply, sewerage and other urban facilities. The program had two Phases wherein Phase-1 is completed and Phase-2 is under implementation. A sum of Rs.865.03 crores (Rs.371.52 crores under SMIF – TN Program, Rs.267.96 crores under SMIF – TN-II-Part-1 Program and Rs.225.55 crores under SMIF – TN-II-Part-2 Program) has been disbursed as term loan to the ULBs based on the progress of the projects up to 31.03.2019.[98]

Tamil Nadu Urban Flagship Investment Program (TNUFIP)- assisted by Asian Development Bank (ADB)

The TNUFIP has three phases. The objective of the program is to develop priority water supply, sewerage and drainage infrastructure located within strategic

[96] https://www.twadboard.tn.gov.in/sites/default/files/esia-wsis_0.pdf

[97] https://www.chennaicorporation.gov.in/images/SWDPadikuppamEnglish.pdf

[98] http://tnuifsl.com/tnudf.asp

industrial corridors of Tamil Nadu, support innovative pilot, urban governance, enhance environmental sustainability, climate resilience and urban liveability[99]. ADB approved the multi tranche financing facility (MFF) on 25th September 2018 for $500 million and the availability period is up to 2026 (8 years). The first periodic request for tranche 1 is for a loan of $169 million which was approved on 28th September 2018 and is expected to close on 31st December 2023. Tranche 2 is planned for an ADB loan amount of $206 million with a 6-year implementation period from 15th December 2019 to 14th December 2024 and Tranche 3 is for an estimated loan amount of $78 million for a 4-year implementation period from 2022 to 2026[100].

A5.4. Sanitation and SWM: State Level Targets and Progress Made So Far

According to the Sustainable Development Goals Index (SDGI) released by Niti Aayog, TN ranks 4th in overall performance with respect to all the SDG goals. The state's performance in Sanitation and SWM related indicators are mentioned in the below table.

Table A5. 5: Performance of TN State on Indicators of SDG 6, 11 and 12

Goal	Indicator	Tamil Nadu (2019)	India (2019)	2030 Target
6	Districts verified to be Open Defecation Free (%)	100	91	100
6	Urban households with individual household toilet (%)	85.73	97.2	100
11	Wards with 100% door to door waste collection (%)	94	91	100
11	Waste processed (%)	60	56	100
11	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	32	37.5	100
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	11.08	20.75	100
12	Wards with 100 % source segregation (%)	83	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

[99] http://tnuifsl.com/tnudf.asp

[100] https://ewsdata.rightsindevelopment.org/files/documents/05/ADB-49107-005_Sx495G1.pdf

Table A5.6 shows the progress made across various sanitation related parameters from the NSSO 69th round data (2012) to the NSSO 76th round data (2018) of urban households belonging to TN state.

Table A5. 6: Progress Made Across Various Sanitation Related Parameters From 2012 To 2018

SI. No	Sanitation Parameter	NSSO 69th round data - 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	878/ (87.8)	93.9	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	221/ (22.1)	30.3	39.1
3	Urban households with flush/pour-flush latrine connected to a septic tank	578 / (57.8)	67.2	48.9
4	Urban households connected to underground drainage system	Not Available	41.5	53.5
5	Urban households with no drainage system	171 / (17.1)	9.8	8
6	Urban households disposing waste water without treatment	Not Available	93.6	92.4

Source: NSSO 69th and 76th round report

Tamil Nadu has always been a below-average scoring state in all the three Swachh Survekshan (SS) national level surveys (2018, 19, and 20). It has never made it to the top 10 states. In SS 2020, Melathiruppanthruthi was ranked 4th in the category of ULBs with less than 25,000 population. Greater Chennai received the award for 'best mega city in Innovation and Best practices', and Melathiruppanthruthi for 'best mega city in Innovation and Best practices' in less than 25,000 population categories. Additionally, with regard to the provisioning of SWM services, TN had a poor score of 256 as against the highest score of 1050 (Chhattisgarh) (for ULBs more than 1 lakh population category), and even lesser score of 92 as against the highest score of 924 (Dadra and Nagar Haveli) (for ULBs with less than 1 lakh population category).

A5.5. Manual Scavenging and Welfare of Sanitation Workers

The state of Tamil Nadu identified and reported 363[101] manual scavengers according to the MS survey of 2013. However, the number of manual scavengers in the state as of 2018, as reported from a survey conducted by the National Safai Karamchari Finance and Development Corporation (NSKFDC) is 62[102]. According to the Annual report (2018-19) of National Commission for Safai Karamcharis (NCSK), the total number of sewer deaths in the state between 1993-2019 is 194, and 9 during 2018-19, thus an overall official count of 203 sewer deaths of manual scavengers in the state (NCSK, 2019). The proportion of identified manual scavengers who received the One Time Cash Assistance (OTCA) was 93%. Training for 13,587 beneficiaries was sanctioned under the SRMS scheme, which is 69 % of the identified manual scavengers (Centre for Policy Research, 2019). Under the scheme for pre-metric scholarship, from the year 2014-18, TN has not demanded for any scholarship to support manual scavengers' children's education (Rashtriya Garima Abhiyan, 2018). NSKDFC had made a national allocation of Funds of Rs. 158 crores for disbursement to different states in 2018-19, of which 3.6 crores was designated to TN (NSKFDC, 2019).

In 2003, the Government issued a notification that no person shall engage in or employ or permit to be engaged in or employed for any other person for manually carrying human excreta, or construct or maintain a dry latrine in areas comprising of the whole of the State of Tamil Nadu with effect from 1st October 200 (International Environmental Law Research Centre, 2012).

A5.6. Urbanisation Challenges (Specific to Sanitation and SWM)

Lack of adequate sanitation poses one of greatest barriers to the development of Tamil Nadu. It further hampers the maintenance of high standards of safety and public health. While sewerage and treatment plants have received adequate policy investments in the larger cities of the state, on-site systems that are predominantly households have been given limited attention. Moreover, the pits and septic tanks are not built properly which leads to leakage of faecal matter into drains, water bodies and open areas. These septic tanks are left unclean for a long period of time posing major health and environmental hazards. UGD systems in many locations suffer from problem of maintenance such that the sewerage generated does not reach

[101] Ministry of Social Justice and Empowerment, 2019-20

[102] NSKFD 22nd Annual report 2018-19

the treatment plants and the existing ones are unable to treat the waste received[103]. However, currently with the funding received from AMRUT and Swachh Bharat Mission-the situation is slowly improving.

With regards to the accessibility of toilet facilities, 75.1% of urban households have individual toilets within their premises. However, only 8.6% of households accessed public toilets while 16.2% followed the practice of open defecation as against the national average of 13%.[104] The inadequacy and lack of proper sanitation facilities in public toilets were cited as the main reasons for practising open defecation. The situation is however improving currently with adequate monitoring and implementation of schemes.

Solid Waste Management is one of the most important obligatory functions of urban local bodies as per the 74th Constitutional Amendment. The ULB's in the state have taken many initiatives to bring about improvements to primary collection and transportation of waste. However, the major issues that still persist are absence of segregation of waste at source, lack of technical expertise, appropriate arrangements for disposal, dearth of sanitation workers and indifference of public towards waste management due to lack of awareness[105]. The indiscriminate burning of waste by public and sanitation workers in almost all the urban local bodies has led to significant environmental hazards.

[103] http://muzhusugadharam.co.in/tnussp/

[104] https://www.tn.gov.in/dear/Urban%20development.pdf

[105] https://www.tn.gov.in/dear/Urban%20development.pdf

Annexure 6: Maharashtra

A6.1. Urbanisation in Maharashtra

Maharashtra is the second largest state in India in terms of population and has a geographical area of about 3.08 lakh sq. km. The State has 36 districts which are functioning under six revenue divisions viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur, with effective machinery for planning at the district level. With an urban population of 45.22%, Maharashtra is the third most urbanised state among the major states of India, behind Tamil Nadu and Kerala[106]. The percentage of urban population to the total population increased from 42.23% in 2001 to 45.22% in 2011, registering an annual exponential growth rate (AEGR) of 2.12% which is slightly lower than India's AEGR of 2.76% during the same time period. It is projected that by around 2031-35, the percentage of Maharashtra's urban population to the total population would increase to 51.3%. The increase in urban population has accounted for nearly 62.8% of the total population growth in Maharashtra.

Maharashtra has 387 urban local bodies comprising of 27 Municipal Corporations, 236 Municipal Councils and 124 Nagar Panchayats[107]. Mumbai, the capital of Maharashtra and the financial capital of India, houses the headquarters of many major corporate & financial institutions. India's main stock exchanges & capital market and commodity exchanges are in Mumbai. The state ranks second in India in terms of number of factories, workers and fixed capital with a share of 12.4 %, 12.1 % and 13.6 %, respectively. However, the growth of urbanisation within Maharashtra is very disparate. The western region of the state is much more urbanized as compared to the eastern region of the state. Marathwada and Vidarbha have the lowest levels of urbanisation in the state. As per the 2011 census, Mumbai (100%), Thane (77%), Nagpur (68%) and Pune (61%) are the most urbanised districts in the state whereas Gadchiroli (11%), Sindhudurg (13%) and Hingoli (15%) are the least urbanised districts in the state[108]. The rapid growth in information technology sectors is one of the main causes of high urbanisation levels in Mumbai, Pune and Nagpur districts. (Government of Maharashtra, 2013).

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[106] Data according to census 2011. https://www.dnaindia.com/mumbai/report-maharashtra-third-most-urbanised-state-1567143

[107] Report_No.5_of_2017_–_Local_Bodies_Government_of_Maharashtra-CAG

[108] https://www.researchgate.net/publication/319553254_LEVEL_OF_URBANISATION_AND_THEIR_DISPARITIES_IN_MAHARASHTRA_STATE/link/59b381f20f7e9b374350d96b/download

Over the last few decades, people from different parts of the country have migrated to Maharashtra in general, and Mumbai in particular in search of livelihood. Since the 2000's, the city of Pune has also witnessed a significant increase urbanisation which is mainly attributed due to the rapid growth in the IT sector. High levels of urbanisation in only certain cities is due to better services in terms of education, health, transport and infrastructure. Lack of infrastructure and employment opportunities are key driving forces which favour rural population from Maharashtra's hinterlands to migrate to nearby urban centres. In Maharashtra, thus, urbanisation is not only due to industrialisation but also due to demographic explosion and induced rural-urban migration.

While India's average year-on-year GDP growth has been 6.9% between 2013 to 2017, it was 7.4% for Maharashtra during the same time period. While India's GDP grew by 6.7% in 2018, the Gross State Domestic Product (GSDP) growth rate of Maharashtra in 2018 was 7.3%[109]. The GSDP of Maharashtra for 2020-21 (at current prices) is estimated to be Rs. 32,24,013 crores. This is a 12% increase from the revised estimate of 2019-20. In 2018-19, agriculture, manufacturing, and services contributed 13%, 31%, and 56%, respectively, to the state's economy. In the same year, these sectors grew by -1.6%, 6.1%, and 8.1%, respectively[110]. Maharashtra has the highest GSDP among all the states in the country. and in 2019-20 contributed close to 14% of India's GDP. Maharashtra has consistent been among the top five states that have been major contributors to the nation's GDP.

A6.2. Provisioning of Sanitation and SWM services

Even prior to the 74th CAA, all Municipal Acts of Maharashtra mention sanitation, conservancy, and solid waste management as obligatory functions (Table A6.1). It is also enlisted in the 12th schedule of 74th CAA 1992. However, 'to set up farm or factory for disposal of waste' is listed as a discretionary function across all the 4 Municipal Acts.

[109] States of Growth 2.0, A CRISIL Research Report, 2019
[110] Maharashtra Budget Analysis 2020-21 by PRS Legislative Research

Table A6. 1: Position of Sanitation and Conservancy Function in Maharashtra Municipal Laws Prior To 74th CAA (I.E. Prior To 1994 In Maharashtra)

Functions under 12th schedule	**Mumbai Municipal Corporation Act 1881**	**The city of Nagpur Municipal Corporation Act 1948**	**Bombay Provincial Municipal Corporation Act 1949**	**Maharashtra Municipal Councils, Nagar Panchayats and Industrial Townships Act 1965**
Public Health, Sanitation, conservancy and Solid waste Management	Obligatory	Obligatory	Obligatory	Obligatory
To set up farm or factory for disposal of waste	Obligatory	Obligatory	Obligatory	Obligatory

Source: Maharashtra Municipal Councils, Nagar Panchayats 233 and Industrial Townships Act, 1965

In 1996, the state government took a major step by separating the functions of water supply and sanitation from the department of urban and rural development and formed an independent department for Water Supply and Sanitation to exclusively concentrate and improve upon the poor coverage and access to these essential services in both urban and rural areas. The Water Supply and Sanitation Department (WSSD) is responsible for setting the policies for the state in this sector and coordinates with the Central Government and other key institutions. The WSSD is supported by two technical wings viz: Maharashtra Jeevan Pradhikaran (MJP) and Groundwater Survey and Development Agency (GSDA). Along with WSSD, MJP and GSDA, following institutions at various levels are responsible for water supply and distribution in the State (see Table A6.2) (All India Institute of Local Self Government Mumbai, 2011).

Table A6. 2: Institutions Responsible for Water Supply and Sanitation in Maharashtra

Institutional Set-Up	**Area of Functioning**
WSSD (Maharashtra Water Supply and Sanitation Dept.)	State-level Department. Formulates and implements policies, operates and maintains regional water supply schemes in both rural and urban areas
MJP (Maharashtra Jeevan Pradhikaran)	One of the most important government bodies for urban water supply. Formulates and executes schemes and

Institutional Set-Up	Area of Functioning
	determines tariff structures, though its objectives do not encompass financial sustenance.
GSDA (Groundwater Survey and Development Agency)	Implements schemes based on groundwater resources mostly in rural areas. However, since many peri-urban areas without piped water supply are increasingly being dependent on groundwater, role of this organisation is becoming important
MIDC (Maharashtra Industrial Development Corporation)	Established to promote industries. The organisation eventually undertook development of water works. Though not a regular agency for domestic water supply, it does supply water to a few towns in the state of Maharashtra.
ZP (Zilla Parishad)	Mainly responsible for Rural Water Supply schemes
ULB (Urban Local Body)	Elected municipal body or institution of self-government for comprehensive development of urban areas, responsible for provision of civic amenities and economic development.

Source: All India Institute of Local Self Government Mumbai. (2011). Urban Water and Sanitation in Maharashtra. PAS Project, CEPT University.

According to Maharashtra Budget Analysis by the PRS Legislative Research, in 2020-21, sectors such as Water Supply, Sanitation, Housing and Urban Development saw the highest increase in allocation over the revised estimate of the previous year (26%).

As per the 2011 census in Maharashtra state:

• 28.7 % of urban households in Maharashtra do not have latrines as compared to the national average of 18.6 %.

• 7.7% of the urban households defecate in open areas which is comparatively lower than the national average of 12.6 %.

• Only 37.8% of Maharashtra's urban households are connected to a piped sewerage network.

• Manual Scavenging: Maharashtra with 63,713 cases tops the list with largest number of households working as manual scavengers followed by the states of Madhya Pradesh, Uttar Pradesh, Tripura and Karnataka.

The Government of Maharashtra launched the Swachh Maharashtra Mission on 15th May 2015. The objective of the mission is to make cities Open Defecation Free and to ensure scientific management of solid waste and sewerage including ensuring behavioural changes with regard to health and sanitation practices. Under the

mission about seven lakh individual household latrine (IHHL) were constructed. In the State, 92 cities have an ODF status, 230 cities are ODF+ and 62 cities are ODF++. Maharashtra is one of the few states that has a specific policy on the treatment of faecal sludge. The Government has sanctioned faecal sludge treatment plants (FSTP) for 311 urban local bodies, of which, 52 ULBs have initiated operations and the remaining FSTPs are under construction. A campaign titled 'Kachra lakh Molacha' has been rolled out from 2017 onwards to segregate 100 % of the waste into wet and dry waste, at the source of production across all ULBs.

Until the introduction of Municipal Solid Waste Management Rules (2000), the responsibility of municipalities with respect to SWM was confined to only collection and disposal of waste. Prior to 2000, there was no special grants or funds provided to ULBs for SWM. As a basic and obligatory function of ULB, the expenditure for the same was incurred from the regular budget of the ULB and formed a bulk of it. After the implementation of the SWM Rules 2000, there were two new sources of finance, specifically directed at SWM - these are the 12th finance commission grants and the MLA funds. Additionally, there were also funds received from urban reform projects such as JNNURM and AMRUT (Singh, 2011).

The state has positively adopted the SWM Rules 2016 in totality and is working towards scientific management of solid waste in ULBs. The state has a robust solid waste management policy in accordance with the SWM Rules 2016 and lays stress on 100% segregation, collection, transportation & processing of wet waste through composting and bio-methanization; dry waste recycling, reuse and recovery through establishing material recovery facilities, landfilling of inert and processing of legacy waste through biomining.

As per the 2019 annual report on SWM for the state of Maharashtra, the solid waste generated by Municipal Corporations is 19050.11 MT/day with a share of 83.02 % while generation by "A" class Municipal Councils is 1028.00 MT/Day with share of 4.48 %, "B" class Municipal Councils generate 1276.92 MT/Day with share of 5.53 %, "C" class Municipal Councils generates 1051.96 MT/Day with share of 4.58 % , Nagar Panchayats generates 450.766 MT/Day with a share of 1.96 % and Cantonment Boards generate 96.5 MT/day with a share of 0.42 %. Table A6.7 indicates the total waste generated from ULBs. The percentage of solid waste being scientifically treated has increased from 53 % in 2018 to 70% in 2019. Maharashtra generates 82.38 lakh metric tonnes (MT) of waste an annum or 22,570 MT waste a day, of which 44% is being treated. Maharashtra generated 81.08 lakh MT in 2016-17 and 80.11 lakh MT

in 2016 according to the Central Pollution Control Board. The Maharashtra pollution control board states that the data indicates an increase in waste treatment in Maharashtra to 44% in 2018 from 27% in 2013. The average waste segregation is 74.46 % and solid waste transportation is 96.45 %[111] (Maharashtra Pollution Control Board, 2019).

Vehicles deployed for collection and transportation of waste have two compartments for dry and wet waste. Segregated waste is further segregated at a processing facility and then scientifically disposed. Maharashtra is the only state to have registered its own brand "Harit Maha City Compost" for sale of city compost which is as per the FCO standards and SWM Rules 2016.

A6.3. Urban Reforms Related to Sanitation and SWM

Maharashtra has undertaken several urban reform projects to improve the management of solid waste and sanitation services. The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme is one of the highly prioritised and flagship programmes of the centre. Nearly 70 % of the urban population of Maharashtra is covered under the AMRUT scheme. In 2017, the Government of Maharashtra released Rs. 235 crores[112] as a first instalment (about 20% of the eligible central share of Rs. 1176 crores) towards implementation of projects related to water supply, sewerage and parks. A second instalment of Rs. 500 crores[113] was released (about 40% of the eligible central share) again for projects related to water supply, sewerage and parks. The mission is being implemented across 44 ULBs in the state. In accordance with the needs and service level gaps, water supply was given first priority by the state government during the first, second and third years of the mission. Sewerage facility and reuse of wastewater has been given second priority.

Ten cities from Maharashtra have been chosen for the smart cities mission[114] namely Mumbai, Thane, Solapur, Pune, Nashik, Aurangabad, Nagpur, Kalyan-Dombivali, Pimpri-Chinchwad and Amravati. Each of these cities have largely focused on improving water and sanitation facilities. Under the smart cities mission, about 7% of

[111] The Annual Report (2019) on Solid Waste Management Rules, 2016 FOR THE STATE OF MAHARASHTRA provides no details on fund allocation for SWM, % of funds spent in each phase of waste management.

[112] http://amrut.gov.in/amrut/upload/uploadfiles/files/MaharashtraCorrigendum1718.pdf

[113] http://amrut.gov.in/amrut/upload/uploadfiles/files/Maharashtra_Sanction_Feb2019.pdf

[114] Under the Smart Cities Mission, few of the core elements of the project is to ensure adequate water supply, electricity and sanitation inclusive of solid waste management.

the total cost has been spent on water supply, sanitation and SWM related projects. The remaining 93% is focused on area-based development of the region in terms of effective transportation, housing, roads and road widening and development of riverfront. A total sum of 100 crores is distributed amongst the states every year which is further distributed amongst these districts for the mission. Another scheme called the Maharashtra Sujal Nirmal Abhiyan (MSNA) is a reform led programme. Its places thrust on a series of reform measures spread over 3 phases and the objective of it is to attain 24x7 water supply alongside a sustainable institutional arrangement that will optimize water management. The MSNA sets out a mechanism by which the ULB's can be guided to achieve the service level benchmarks. The components of MSNA are described in the below table:

Table A6. 3: Components of MSNA

Bulk metering	Sewerage system	Sewerage system including STP
Hydraulic modeling	MIS	
GIS mapping	Tariff framing	
Computer billing	Solid waste management	
PPP in O & M	ODF	

Source: Urban Water Sector Reforms - Maharashtra Sujal Nirmal Abhiyan
Link: http://www.iukan.in/wp-content/uploads/2013/01/MSNA_URBAN_WATER_SECTOR_REFORMS_Feb_2012.pdf

The overarching goal of MSNA is to make water supply systems sustainable. The key focus of the programme is to ensure that reforms precede any investment in capital works in water supply and sanitation in urban areas. In addition to the SLB's, financial aspects were added by the state such as ensuring separate accounts for water and sanitation in ULBs, institution of depreciation funds/ sinking funds, levying of user charges, and monitoring of billing and collection ratios. Fund flows from JNNURM and UIDSSMT for water and sanitation were also subjected to this criterion[115].

All the ULBs of Maharashtra have implemented the Performance Assessment System (PAS) in water supply and sanitation. This was a seven-year project (2009 – 2016) that was implemented in partnership with CEPT University, Ahmedabad and the All India Institute of Local Self Government, Mumbai. The aim of this project was to

[115] JAWAHARLAL NEHRU NATIONAL URBAN RENEWAL MISSION (JNNURM) – GoM, https://mhada.gov.in/sites/default/files/JNNURM-Information-English-26_07_2019-Corrected.pdf

develop a sustainable state-wide Urban Water Supply & Sanitation (UWSS) model that can be used for improving service delivery making it more efficient, equitable and sustainable. In relation to sanitation and SWM, the progress made on some of the key indicators as result of implementing PAS is captured in the below section:

Table A6. 4: Performance Against SLB's For Water Supply[116]

Sl. No	Performance Indicators	National level benchmarks	State level benchmarks	Unit	2011-12	2012-13	2013-14	2014-15	2015-16
1	Coverage of Water Supply connection	100	100	Percent	45	42	42	36	44
2	Per capita supply of water	135	135	LPCD	103	103	103	103	115.8
3	Extent of metering of water connections	100	100	Percent	0.01	0.01	0.01	1.93	2.01
4	Extent of nonrevenue water	20	15	Percent	17.95	13.33	11.60	10.00	12.22
5	Continuity of water supply	24x7	24x7	--	Once in three days				
6	Efficiency in redressal of customer complaints	80	80	Percent	100	100	100	100	99.36
7	Quality of water supply	100	100	Percent	99.09	99.79	99.62	100	100
8	Cost recovery in water supply services	100	100	Percent	62.18	75.71	65.96	70.97	74.94
9	Efficiency in collection of water supply related charges	90	100	Percent	44.95	42.74	49.30	52.18	52.49

Source: Jawaharlal Nehru National Urban Renewal Mission (JNNURM) – GOM,
Link: https://mhada.gov.in/sites/default/files/JNNURM-Information-English-26_07_2019-Corrected.pdf

The water requirement of Aurangabad City Corporation (AMC) is 180 million litres per day. As the existing water supply schemes of AMC were old, only 122 to 124 MLD could be supplied for

water consumption against the water availability of 166 MLD. The existing water pipelines of about 900 km length are around 30 years old and water leakages during

116 https://cag.gov.in/uploads/download_audit_report/2017/Report_No.5_of_2017_%E2%80%93_Local_Bodies_Government_of_Maharashtra.pdf

distribution was 42 MLD. AMC could provide only 103 to 116 LPCD against the targeted SLB of 135 LPCD to a population of 11.65 lakh. The depleted status of the existing water supply system of AMC led to significant shortfall in achieving the SLB.

Table A6. 5: Performance Against SLB's for Sewage Management

(In percent)

Performance Indicators	**National level benchmarks**	**State level benchmarks**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Coverage of toilets	100	100	92.77	93.70	93.99	Records not available	
Coverage of sewage network	100	100	80.98	70.71	68.50	67	67
Collection efficiency of sewage network	100	100	8	8	8	8	7.9
Adequacy of sewage treatment capacity	100	100	13	12.5	11.9	11.7	11.16
Quality of sewage treatment	100	100	Records not available				
Extent of reuse and recycling of treated water	20	20	29.72	29.72	29.72	29.72	29.72
Extent of cost recovery	100	100	0	0	0	0	0
Efficiency in redressal of customer complaints	80	100	100	100	100	100	100
Efficiency in collection of sewage charges	90	90	0	0	0	0	0

Source: Report of the Comptroller and Auditor General of India on Local Bodies for the year ended 31 March 2016

Table A6. 6: Performance Against SLB's for Solid Waste Management

(In percent)

Performance Indicators	National level benchmarks	State level benchmarks	2011-12	2012-13	2013-14	2014-15	2015-16
Household level coverage of SWM services through door to door collection of waste	100	100	50.01	53.94	56.14	59.49	66.46
Efficiency in collection of solid waste	100	100	93.20	94.19	89.97	93.56	92.77
Extent of segregation of solid waste	100	100	0	0	0	0	19.95
Extent of solid waste recovered	80	80	0	0	0	0	0
Extent of scientific disposal of solid waste	100	100	0	0	0	0	0
Extent of cost recovery in SWM services	100	100	0	0	0	0	0
Efficiency in redressal of complaints	80	100	99.70	100	100	100	100
Efficiency in collection of SWM charges	90	100	0	0	0	0	0

Source: Report of the Comptroller and Auditor General of India on **Local Bodies** for the year ended 31 March 2016

A6.4. Sanitation and SWM: State Level Targets and Progress Made So Far

Sustainable development goals (SDGs) pertaining to Sanitation and SWM services are goals 6, 11 and 12. Table A6.7 shows the indicator within these goals, their scores for Maharashtra, India, and target to be achieved by 2030.

Table A6. 7: Performance of Maharashtra State on Indicators of SDG 6, 11 and SDG 12

Goal	Indicator	Maharashtra 2019	National 2019	Target 2030
6	Districts verified as open defecation free (%)	100	88.5	100
6	Urban households with individual household toilet (%)	108.94	97.2	100
11	Wards with 100% door to door collection (%)	81.81	91	100
11	Waste processed (%)	55	56	100
11	Installed sewerage treatment capacity as a proportion of sewage created in urban areas (%)	63	37.5	1
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	31.98	20.75	100
12	Wards with 100% source segregation (%)	74.91	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

Table A6.8 shows the progress made across various sanitation related parameters from the NSSO 69th round data (2012) of urban households in Maharashtra to the NSSO 76th round data (2018) of urban households belonging to state.

Table A6. 8: Progress Made Across Various Sanitation Related Parameters From 2012 to 2018

SI. No	Sanitation Parameter	NSSO 69th round data - 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	931 / (93.1)	98.6	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	618 / (61.8)	64.2	39.1
3	Urban households with flush/pour-flush latrine connected to a septic tank	297 / (29.7)	33.3	48.9

SI. No	Sanitation Parameter	NSSO 69th round data - 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
4	Urban households connected to underground drainage system	Not Available	71.5	53.5
5	Urban households with no drainage system	70 / (7)	2.3	8
6	Urban households disposing waste water without treatment	Not Available	96	92.4

Source: NSSO 69th and 76th round report

Maharashtra was ranked 2nd and 3rd the Swachh Survekshan (SS) 2020 and 2019 national level surveys and prior to that it was again ranked 2nd in 2018. Hence, it has been consistently been one of the better performing states with regard to the SS Survey. In SS 2020, the top 3 cleanest cities in the country (in the less than 1 lakh population category) were all from Maharashtra (Karad, Sasvad and Lonavala ULBs). Additionally, in SS 2020, with regard to the provisioning of SWM services, Maharashtra was ranked 2nd (for ULBs less than 1 lakh) and 3rd (for ULBs greater than 1 lakh) across all large states.

A6.5. Manual Scavenging and Welfare of Sanitation Workers

The state of Maharashtra reported of not having a single manual scavenger during the Manual Scavenging (MS) survey 2013. However, the number of manual scavengers in the state as of 2018-19, as reported from a survey conducted by the National Safai Karamchari Finance and Development Corporation (NSKFDC) is 6,387[117]. Even this number is a gross under-estimate, because not only did the survey lack effective implementation, but in several cases, there have been deliberate attempts to exclude reporting of manual scavengers. For instance, in Mumbai Metropolitan Region, all the camps for the survey (2018) were held in South Mumbai, the most developed area of the city, with one of the highest property rates in the country. In such areas, none of the households have dry or pit latrines. The survey was not conducted in the outskirts of the city where sewer lines are not yet fully built and perhaps manual scavenging of dry latrines is more likely. In addition,

[117] https://nskfdc.nic.in/en/content/home/progress-report-srms

only those sanitation workers could fill the survey forms who live in the areas where camps were held. Even those sanitation workers who clean South Mumbai can most definitely not afford a home there. They stay in the suburbs and the outskirts of the city, and were hence excluded from the survey (Dubey, 2018). However, startling facts emerged from the socio-economic caste census of 2015. Maharashtra topped the list in the number of manual scavengers, with an overwhelming number of 63,713 households engaged in manual scavenging (ENVIS Centre on Hygiene, Sanitation, Sewage Treatment Systems and Technology, 2018).

By virtue of official non-identification of manual scavengers in the state, there were no beneficiaries for the One Time Cash Assistance (OTCA) until 2018. In 2018 however, there were 4,605 beneficiaries, and 879 in 2019. Similarly, Maharashtra sanctioned no trainings and skill development programs until 2019, when finally, 117 of the scavengers were sanctioned trainings (Ministry of Social Justice and Empowerment, 2019). Maharashtra has reported a total of 19 sewer deaths. The total number of sewer deaths between 1993 to 2018 was 9 and the number jumped to 10 deaths in one single year of 2018-2019[118]. However, the state government's response indicates that the Rs ten lakh compensation has not been given to even a single victim's family (Mishra & Sen, 2019).

There have been some attempts by both national and state level schemes to rehabilitate manual scavengers, once identified. The 'National Scheme for Liberation and Rehabilitation of Scavengers' is one such (since 1993). Unfortunately, the safai karmcharis have very low levels of awareness of such schemes. Therefore, most of them (82 %) have not been able to opt for these schemes and remain deprived of the benefits. Thus, the rehabilitation process remains virtually a non-starter. The Mahatma Phule Backward Class Development Corporation Limited (MPBCDC) also offers diverse training programmes to manual scavengers such as carpentry, plumbing, masonry, wiring, bicycle repairing, wheeler mechanic, hand pump repairing, electrician, refrigerator and air-conditioning mechanic, beauty parlour for women, tailoring/cutting, welding (gas, electric), computer operator motor mechanic, spray painting, and so on. Unfortunately, an overwhelming number of the safai karmcharis have hardly enrolled in such training programmes. Lack of information, commitment to complete the course and lack of technical feasibility/support in initiating self-employment activities are some of the reasons stated by the manual scavengers for their low motivation in enrolling for the training programmes. The

[118] https://ncsk.nic.in/sites/default/files/NCSK_Annual-Report18-19.pdf

safai karmcharis, who opt for the training programmes, encounter several difficulties in mobilising the capital requirement to initiate self-employment activities (Beck & Darokar, 2005).

A6.6. Urbanisation Challenges (Specific to Sanitation and SWM)

With an increasing urban population in Maharashtra, Sanitation and SWM stand to be one of the growing concerns owing to the increase in slums. Management of sewage and septic tanks is a major challenge in most parts of the state and even in cities which are said to have good infrastructure. Majority of the problems take place due to structural collapses of septic tanks and explosion of septic tanks which have not been cleaned for a while due to accumulation of methane. Shared sanitation facilities are falling short in serving slum dwellers, thus leading to open defecation in water bodies. However, there is a growing demand for sanitation systems that are more hygienic, efficient, cost effective and those that cater to the privacy of the users. Nearly 50 lakh residents of the city-Mumbai's notified slums[119] are served by 750-odd community toilet blocks constructed under the World Bank-initiated Slum Sanitation Programme (SSP). They collectively have 26,379 toilet seats which approximately means one toilet seat to be shared by 190 users, as against the Municipal Corporation of Greater Mumbai (MCGM) accepted WHO norms of one toilet seat per 50 users[120]. An MCGM survey of SSP community toilets conducted in 2016 revealed that while 58 % had no electricity, around 78 % had no water facilities.

Although, Maharashtra is doing better than most states in the disposal and segregation of waste, the main constraint for the effective implementation of MSW rules and setting up of waste processing facilities for local bodies is the non-availability of suitable land along with lack of public awareness/participation, lack of management skills of the local bodies and resistance from local communities. A performance audit conducted on 'Management of Municipal Solid Waste by Select Municipal Corporations' by CAG in 2017 revealed that the selected seven Municipal Corporations (MCs) had neither prepared comprehensive city plans for management of Municipal Solid Waste (MSW) in accordance with the MSW Manual nor had they met the timelines for improvement of existing landfills and for setting up of new waste processing and disposal facilities in their jurisdiction. Budget provisions were

[119] slums which existed before the 1995/2000 cut-off date of the Slum Rehabilitation Scheme and therefore eligible for free housing under the scheme

[120] https://www.orfonline.org/expert-speak/42671-sanitation-problems-in-mumbai-at-catastrophic-proportions/

not fully utilized in all the seven MCs, though there were shortages of vehicles for transportation of MSW. Except MCGM and Pune MC, where partial segregation was available, segregation of waste at household level was not in place. Different coloured community bins were not provided by any of the seven MCs for collection of segregated waste. Open body vehicles were used for transportation of MSW in all the MCs except Pune MC. MSW processing facility was not available in Amravati, Kalyan-Dombivali and Kolhapur MCs. Sanitary Landfills were developed only by Nagpur and Pune MCs. (Comptroller and Auditor General of India , 2017).

According to the 2019 SWM Annual Report (SWM Annual report, 2019), the major issues and gaps in the effective implementation of SWM in Maharashtra were – 1) Lack of training to improve efficiency and safety standards, 2) Lack of quantification of waste data, 3) Lack of personnel operating the processing facility, 4) Current waste collection and transportation system is not optimized, 5) Non availability of suitable land, 6) Local community resistance, 7) Inadequate finances of ULBs for SWM, 8) Improper selection of waste processing technology with respect to quantity of waste generation including waste to energy plants, 9) Lack of public awareness/participation and 10) Unsegregated Waste at Source.

The absence of adequate sanitation becomes more critical in the context of absence of reliable, safe drinking water in the state. Due to the lack of toilets, there is also less visible deficits at the household level. For example, in case of pit latrines, minimum distances to sources of drinking water needs to be maintained to avoid the possibility of water contamination. However, that is not done effectively and excreta is let out in the environment and urban poor households suffer the most as it is not possible to maintain minimum distance in high density settlements.

Although, Maharashtra is doing better than most states in the disposal and segregation of waste, the main constraint for the effective implementation of MSW rules and setting up of waste processing facilities for local bodies is the non-availability of suitable land along with lack of public awareness/participation, lack of management skills of the local bodies and local community resistance. Solid waste management problems are more in the urban areas as compared to rural areas of the state. They cover many issues like collection of mixed waste, lack of use of sanitary landfills, dumping of waste in open grounds, socio-economic problems etc. This is also causing a problem of environmental degradation and resource depletion. The state generates a large amount of municipal, industrial, hazardous waste which has a direct impact on the environment and ecology of the state.

Annexure 7: The Duties of The Ward Member Within His / Her Jurisdiction Area

- Ensure proper sanitation, water supply, and streetlights
- Ensure door-to-door garbage collection from all residential and commercial establishments
- Ensure in-situ composting for wet waste and processing of dry waste at ward level
- Take up plantation in accordance with the District Action plan and ensure their survival to at least 85%
- Reduce non-revenue water, transmission loss of water, and usage of power bores, wherever not required
- Safeguard and protect water sources, lakes or any other water bodies
- Undergo training on developmental activities in the administration of the municipality
- All functions specifically conferred by this Act or may be assigned by Government from time to time.

Annexure 8: Telangana

A8.1. Urbanisation in Telangana

Telangana is the 29th and youngest state of India, formed on 2nd June 2014 by the enactment of the Andhra Pradesh Reorganisation Act 2014 with Hyderabad as its capital. Ten districts from the erstwhile Andhra Pradesh were carved out to become the new state of Telangana. On 11th October 2016, 21 new districts were created which leads to 31 districts in Telangana. In February 2019, with an intention to bring administration closer to the public and to ensure that the benefits of development and welfare schemes reach the poorest of the poor in the state more effectively and efficiently, two more districts were created, taking the total number of districts to 33 (Socio Economic Outlook , 2020).

As per the 2011 census, the total population of the state was about 3.50 crores. The overall population growth rate from 2001 to 2011 is about 13.58 % as against the national growth of 17.70 %. The percentage of urban population to total population in Telangana was 31.8 % in 2001 and it jumped to 38.9 % in 2011; which is higher than all India growth rate of urban population during the same time period. According to the Socio-Economic Survey report, Telangana is one of the fastest urbanising states in the country, along with rapid economic transformation. Urban centres have become epicentres for industrial and service-oriented business activity, robust transportation, civic facilities and availability of skilled workforce. (Socio Economic Outlook , 2020). In 2016-17, the percentage of urban population to total population touched 42 % and is likely to cross the 50 % mark in the next five years (Statistical Year book , 2017). As per the Population Projections for India and States 2011 – 2036 report, Ministry of Health and Family Welfare, the urban population of Telangana state is expected to touch 2.73 crores by 2036 (nearly doubling from the 1.36 crores as per the 2011 Census).

The urban population of the state is spread across 73 Urban Local Bodies – consisting of 6 Municipal Corporations, 42 Municipalities, 25 Nagar Panchayats and 1 Secunderabad Cantonment apart from 13 urban agglomerations and 79 census towns. The urban population is largely contributed by five districts namely Hyderabad (100 % urban), Ranga Reddy (70.32 % urban), Warangal (28.34 % urban), Adilabad (27.68 % urban) and Karimnagar (26.08 % urban). Hyderabad is the only 100 % urbanized district in the state with the Greater Hyderabad Municipal Corporation (GHMC) alone making up for close to 50 % of the state's total urban population. The Greater Warangal Municipal Corporation (GWMC) has been

another fast-urbanising geographical area in the state. Telangana is the 7th most urbanized state among all the larger states of India[121].

Telangana's GSDP was Rs. 505849 crores in 2014-15 (at current prices) and it increased to Rs. 969604 crores in 2019-20, thus exhibiting an overall growth rate of 12.6 %. While India's average year-on-year GDP growth has been 6.9 % between 2013 to 2017, it was 7.4 % for Telangana during the same time period. While India's GDP grew by 6.7 % in 2018, the GSDP growth rate of Telangana in 2018 was 10.4 % and the fourth highest in the country[122]. The urban areas contribute close to 53.76 % of the economic growth in the state. The two most urbanized districts in the state (Hyderabad and Ranga Reddy) collectively contributed close to 35% of the entire state's GSDP.

According to the 2001 census, India has six megacities (with a population of 5 million and above) and Hyderabad – the capital of Telangana state is one of them. The creation of several new districts in the state of Telangana has boosted urbanisation with 21 new towns being made as district headquarters for the newly formed districts. The Outer Ring Road (ORR) project for connecting ULBs which are located on national & state highways in and around Hyderabad and having the status of new district headquarters will see considerable growth within a short span of time. The Govt of India has also identified 12 ULBs of the state as Smart cities and AMRUT cities (Prasanna & Jayachandra, 2018).

The government of Telangana (GoT) has revolutionized industrial development by reforming procedural structures for obtaining clearance from various departments and this has further sped up the process of urbanisation of the state. Additionally, by providing uninterrupted power supply (including in rural areas) as well as plans to extend the metro rail connectivity from the capital city of Hyderabad to more than 25 nearby ULBs, is further going to accelerate the process of urbanisation. These new infrastructure projects has made Hyderabad a frontrunner to serve as a gateway to the South when compared to other competing cities of Southern India. Several major software giants have their Indian headquarters based in Hyderabad. Hyderabad contributed nearly 10 % of India's and 98 % of the erstwhile Andhra Pradesh's exports in IT (Information technology) and ITES (Information Technology Enabled Services) sectors. HITEC (Hyderabad Information Technology and Engineering Consultancy) City is Hyderabad's premier software hub. As of 2020, Hyderabad has

[121] Excluding the smaller states of Delhi and Goa.
[122] States of Growth 2.0, A CRISIL Research Report, 2019

about six lakh employees in the IT/ITES sector, working in more than 1500 companies. Since the formation of the state, nearly three thousand revenue villages have been identified for setting up of industrial layouts. This rate of industrialisation would not only generate local employment but will also lead to urbanisation of the surrounding areas. (Prasanna & Jayachandra, 2018)

A8.2. Provisioning of Sanitation and SWM Services

Unlike other states that have amended their historical municipal Acts, Telangana having enacted a new one in 2019 has several provisions that legally entrust several responsibilities and duties on various functionaries with regard to the basic services of sanitation and solid waste management. Several sections detail the specific roles[123]. It is expected of the chairperson of the municipality to maintain sanitation and water supply, ensure door-to-door garbage collection from all residential and commercial establishments, and dispose waste in a scientific manner. The responsibilities of municipalities with regard to sanitation and SWM are to provide and maintain drains, map the overall drainage system, clean and de-silt drains, and many more. It is mandatory for municipalities to prepare a city sanitation plan, which includes ward-wise and town-wise plan for collection, segregation, transfer, and processing of waste, so that 100% municipal solid waste is collected on a daily basis. Every individual household or user, whether domestic or non-domestic must segregate solid waste at source, and hand over segregated waste to the municipality. If they fail to comply, then the municipality is empowered to collect segregation and collection fines from such defaulters. The municipality has to make arrangements as per the waste disposal rules and guidelines of the Government for (i) collection of segregated solid waste from all residential and non-residential premises separately, (ii) regular sweeping and cleaning of the streets, and removal of waste there from, (iii) removal of filth, and carcasses of animals from all premises, (iv) collection, safe-keep, transportation and disposal of solid waste, and (v) establishment of dry resource collection centres. Unlike most other states, the Telangana Act rightfully includes establishment of dry waste collection centres as part of the solid waste management process.

Additionally, the municipality either directly or indirectly has to provide sufficient public convenience places and facilities like restrooms, urinals, washrooms, child-feeding centres and ensure their regular maintenance and upkeep.

[123] Sections 122-134 (sanitation), Sections 119-121 (SWM), Telangana Municipalities Act, 2019

As per the 2011 census report:

• 91.62 % of urban HHs in Telangana have access to toilets as compared to the national average of 81.4 %.

• Open Defecation in Telangana ULBs is 8.38 % which is lower than the national average of 12.6 %. There are 2,27,094 urban households practicing open defecation out of 27,11,202 total urban households in state.

• 57.07 % of Telangana's urban population is connected to a piped sewerage network (Under Ground Drainage-UGD) with 98.5 % falling within the GHMC. Apart from GHMC, only 3 other cities have existing Underground Drainage facilities and in 4 towns it's currently under implementation.

ULBs in Telangana generate about 6770 metric tons (MT) of solid waste per day of which 6336 MT per day is collected and about 5120 MT/day is processed[124]. The per capita of waste generation in the ULBs ranges from 0.3-0.4 kg/per day. The quantity of waste produced is growing 5 % annually and the collection efficiency is 80 %. However, apart from GHMC, a majority of the ULBs lack proper treatment and scientific disposal of waste (State Sanitation Strategy, 2017).

As per a NIUA report[125], 91 % of the households and establishments in Telangana are covered by door-to-door solid waste collection, while the segregation of garbage varies from 5.9 % to 100 %, with only two ULBs in the state achieving 100 %. The extent of recycling or recovery of waste varies between 4.1 % to 77.6 % which is below the Service Level Benchmarking of 80 %.

With a goal to ensure that all cities and towns become totally clean, sanitized, liveable, and focus on hygienic and affordable sanitation for the urban poor and women, GoT through the state level sanitation committee (SLSC) developed the Telangana State Sanitation Strategy (SSS) in 2017. It is committed to implement national and state level programmes for urban areas. It covers the overall sanitation sector including the sub-sectors of solid waste, waste water, storm water, drainage and water supply (Telangana State Sanitation Strategy, 2017).

In line with the MSW Rules 2016, a Solid Waste Management Policy and Strategy was implemented in 2018 by the state of Telangana. The vision is to achieve 100 % treatment and reuse of municipal waste. The policy provides operational guidelines for safe, responsible, and ecologically sound management of MSW and defines

[124] State of Environment Report of Telangana, 2015.
[125] NIUA (2018) "Urban Wastewater Management in Telangana".

standardised techniques of managing waste, covering all aspects of the value chain, from collection to treatment and reuse. It stresses on 'circular economy' to manage waste better (Solid Waste Management Policy and Strategy, 2018).

All matters related to urban water supply and sanitation are within the functional domain of the state government. The Municipal Administration and Urban Development (MA&UD) department has overall administrative control of – 1) Commissioner & Director of Municipal Administration (CDMA), 2) Public Health & Municipal Engineering Department (PH&MED), 3) Director of Town & Country Planning (DTCP) and a parastatal body – The Telangana Urban Finance and Infrastructure Development Corporation (TUFIDC). The CDMA looks after the overall municipal administration, revenue, audit and accounts, poverty alleviation, other municipal services like solid waste management, capacity building and coordination with the other wings of MA&UD. The PH&MED takes care of water supply and sewerage schemes and other engineering activities like planning, investigation, project formulation, design, procurement, implementation, quality control, and exercises technical control over all the engineering works in all the ULBs. The DTCP handles the tasks of planning and development in urban and rural areas by preparing master plans, and regulation of development through development control and enforcement activities (NIUA, 2018))[126]. TUFIDC was initiated by the GoT for implementing several infrastructure and housing schemes for the urban poor.

A8.3. Urban Reforms Related to Sanitation and SWM

In order to meet the growing demands of the population due to rapid urbanization, the CDMA has been designing various programs that are being implemented in the state of Telangana for improving water and sanitation facilities along with AMRUT scheme, Swachh Bharat Mission (SBM), Smart Cities Mission (SCM), Pattana Pragathi apart from external aided programs supported by GIZ and World Bank.

Hyderabad, Karimnagar and Warangal ULBs are covered under the SCM in Telangana state. Under the SCM, 140 projects have been initiated worth Rs. 4135 crores in Warangal and Karimnagar ULBs. (Socio Economic Outlook , 2020). Under the SCM proposal for Karimnagar, the budget allocated for water supply is Rs. 109 crores, Rs. 75 crores for sewerage/canals and Rs. 18 crores for SWM and Sanitation. Both Karimnagar and Warangal ULBs have been declared as ODF. But for Warangal

[126] NIUA (2018) "Urban Wastewater Management in Telangana".

to graduate towards ODF+, projects related to MSW collection, recycling and lake regeneration worth Rs. 134.90 crores has been planned under SCM. Based on Karimnagar acquiring the ODF status, PH&MED has proposed providing a septage management system for Rs. 75 crores.

Eleven cities from Telangana have been identified for development under the Central Government's AMRUT scheme[127]. Under this scheme, GoT has proposed to invest Rs. 5413 crores on water supply and Rs. 5435 crores on underground sewerage connections to all households in the 11 mission cities[128]. 15 Water Supply projects, 2 Sewerage Projects and 8 parks have so far been completed in Telangana (Socio Economic outlook report, 2020). As per the State Annual Action Plan (SAAP) 2017-20 for the AMRUT cities (Table A8.1), for sewerage and septage management - Rs. 18.34 crores were allocated in 2015-16, Rs. 40 crores in 2016-17 and Rs. 126 crores in 2017-20.

Apart from the above projects, the Telangana Urban Finance Infrastructure Development Corporation (TUFIDC) has undertaken a scheme (Urban Infrastructure & Governance (UI&G)) to provide urban infrastructure in the sectors of water supply, underground drainage, storm water drains, solid waste management and transportation in mission cities in a planned manner. This scheme is a component of JNNURM programme and under this scheme a total of 23 projects were taken up at a cost of Rs. 2661.86 crores of which 16 projects have been already completed (Socio Economic Outlook Report Telangana, 2020).

The Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT) is a component of JNNURM programme launched with an aim to provide urban infrastructure in the sector of water supply, underground drainage (UGD), storm water drains, solid waste management and transportation in non-mission ULBs in a planned manner. Under this program the Government of India sanctioned 32 projects with a project cost of Rs. 980.16 crores. Out of 32 projects, 21 are water supply projects costing Rs. 576.45 Crores, 4 are Sewerage / UGD projects costing Rs. 225.24 crores, 5 are storm water drain projects costing Rs. 107.31 crores

[127] The towns selected under AMRUT scheme include Khammam, Warangal, Nizamabad, Mahabubnagar, Karimnagar, Ramagundem, Nalgonda, Suryapet, Miryalguda and Adilabad. The AMRUT scheme adopts a project approach to ensure basic infrastructure services relating to water supply, sewerage, septage management, storm water drains, transport and development of green spaces and parks with special provision for meeting the needs of children.

[128] https://economictimes.indiatimes.com/news/economy/infrastructure/amrut-telangana-lines-up-rs-405-crore-plan-for-water-supply-in-11-cities/articleshow/49518557.cms?from=mdr

and 2 are road projects costing Rs.71.16 crores. Out of these 32 projects, 27 projects have been already completed under JNNURM with a cost of Rs. 730.28 crores (Socio Economic Outlook Report Telangana, 2020).

The PH&MED has taken up 11 Underground Drainage (UGD) schemes with a total estimated cost of Rs. 1235.68 crores. Out of the 11, 3 UGD schemes have already been completed with a total cost of Rs. 447.45 crores. The below table summarizes the sewer network and sewage treatment plant completed in the last decade by PH&MED (Municipal Administration and Urban Development Department, 2020).

Table A8. 1: Sewerage schemes

Services	Work Completed during the period 2009-14	Work Completed during the period 2014-19
Sewer Network	580 Kms	719 Kms
Sewage Treatment plants	13 MLD (1 No)	107 MLD (6 Nos)
House Sewer Connections	15000 Nos	128000 Nos

Source: Municipal Administration and Urban development Department Govt. of Telangana Annual Report 2019-20

The Telangana Urban Finance and Infrastructure Development Corporation (TUFIDC) Limited has taken up four sewerage projects and out of these two projects have been completed.

Table A8. 2: Sewerage Projects and its Expenditure

SAAP year	Sewerage (2 ULBs)	
	No. of works	Rs. in crores
2015-16	1	18.34
2016-17	1	40
2017-20	2	126
Total	**4**	**184.34**

Source: Municipal Administration and Urban development Department Govt. of Telangana Annual Report 2019-20

A8.4. Sanitation and SWM: State Level Targets and Progress Made So Far

According to the Sustainable Development Goals Index (SDGI) released by NITI Aayog, Telangana improved its performance from the previous year in 8 out of the 17 SDGs. The State is now placed above the national composite average and moved

from the Performer category to the Front Runner category. Under SDG 11, the sub-indicator in which Telangana is farthest from the target for 2030 is with regard to sewage treatment capacity (41%). However, it is still better than the national level achievement (37.5%). State performance in sanitation and waste management related indicators are mentioned in below table.

Table A8. 3: Performance of Telangana State on Indicators of SDG 6, 11 and 12

Goal	Indicator	Telangana 2019	National 2019	Target 2030
6	Districts verified to be Open Defecation Free (%)	67	91	100
6	Urban households with individual household toilet (%)	76	97.2	100
11	Wards with 100% door to door waste collection (%)	94	91	100
11	Waste processed (%)	78	56	100
11	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	41	37.5	100
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	48	20.7	100
12	Wards with 100 % source segregation (%)	48	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

Table A8.4 shows various sanitation related parameters from the NSSO 76th round data (2018) of urban households of the state[129].

Table A8. 4: Sanitation Related Parameters, 2018

SI. No	Sanitation Parameter	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	98.4	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	53.0	39.1

[129] Telangana state was formed in 2014, hence no data available for this state from NSSO 69th round (2012).

SI. No	Sanitation Parameter	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
3	Urban households with flush/pour-flush latrine connected to a septic tank	42.3	48.9
4	Urban households connected to underground drainage system	79.6	53.5
5	Urban households with no drainage system	2.7	8
6	Urban households disposing wastewater without treatment	97.5	92.4

Source: NSSO 76th round report

As per Swach Survekshan (SS) national survey, Telangana state was ranked 7th in 2018 and 8th in 2019 but it slipped to 18th position in 2020. Additionally, in SS 2020, with regard to the provisioning of SWM services, Telangana was ranked 11th (for ULBs less than 1 lakh) and 8th (for ULBs greater than 1 lakh) across all large states.

A8.5. Manual Scavenging and Welfare of Sanitation Workers

The state of Telangana had not been formed during the Manual Scavenging (MS) survey of 2013. Hence, there were no official records until the next survey was conducted by the National Safai Karamcharis Finance & Development Corporation (NSKFDC) in 2018. During this time period, Telangana reported of having zero manual scavengers (MS) in the state. Since no manual scavengers were identified, none were enrolled in the skill development training programs or supported with the One Time Cash Assistance (OTCA) programme organised by NSKFDC and The Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) in the state of Telangana[130].

Contrasting these numbers is the information provided by the Annual report (2018-19) by the National Commission for Safai Karamcharis (NCSK), which indicates the total number of sewer deaths in the state between 1993-2018 to be 2, and between 2018-19 to be 2 more, an overall official count of at least 4 sewer deaths of manual scavengers in the state (NCSK, 2019). However, according to newspaper reports,

[130] NSKDFC 22nd Annual Report, 2018-19: In the Skill development Training programs organised under NSKFDC and SRMS during the FY 2018-19, Telangana had 216 candidates. Of which, none were MSs, because the state officially identified none. However, the scheme was expanded to include not just all manual scavengers, safai karmcharis, but also rag pickers (waste pickers), and hence they (and other safai karmcharis barring MSs) probably availed a few benefits.

Hyderabad alone witnessed the death of 4 manual scavengers between 2016 and 17 (Financial Express, 2017). Post these incidents, as a step forward towards ending manual scavenging, the Telangana government commissioned a fleet of 70 mini sewer-jetting machines to suck sludge out of sewers and clear pipes with high-pressure jets of water, in order to clean clogged sewage lines in Hyderabad. The efficacy of these machines is yet to be determined. While the Hyderabad Metropolitan Water Supply and Sewage Board claims (HMWSSB) that these machines can access narrow lanes and smaller colonies, various other reports say that they are too long to enter narrow by-lanes, particularly in dense urban areas where clogging happen frequently, and hence one would need to resort to manual scavenging (NPR, 2019).

NSKDFC had allocated Rs. 158 crores for disbursement to different states in 2018-19, of which Rs. 3.2 crores was designated for Telangana. However, since no manual scavengers were identified in the state, the benefits were not passed on for their rehabilitation or as benefits (NSKFDC, 2019). The NCSK have some noteworthy progress with respect to the welfare of sanitation workers. The contractor of safai karmcharis are now required to issue identity cards to all workers. Provision is made to engage a supervisor in any work where greater than 12 safai karmcharis are involved (NCSK, 2019).

A8.6. Urbanisation Challenges (Specific to Sanitation and SWM)

In many urban households of Telangana ULBs, the septic tanks are usually undersized, have faulty designs and are poorly constructed. They are often installed underneath homes, driveways or sidewalks due to small lot sizes, thus making access for inspecting or desludging extremely difficult. In many instances, what is referred to as “septic tanks” are not septic tanks at all, but are instead just seepage pits or cesspools. These unlined, earthen receptacles not only do a very poor job at treating sewage, but they frequently serve as direct conduits to aquifers, resulting in faecal contamination that can impact precious drinking water supplies. Wastewater disposal and treatment is another major problem in the ULBs of Telangana. Most towns and cities in the state do not have underground sewerage systems and sewage treatment services for disposal of the waste water. Only 57.07 % of urban households in the state are connected to underground drainage system a majority of which belong to GHMC and in most other ULBs in the state the wastewater from toilets is being disposed to septic tanks and soak pits, while the grey water from kitchen and bathrooms is directly discharged into the sullage drains without any treatment and

they in turn flow into water bodies in and around the ULBs. The total waste water generated is 1784 MLD but only about 681 MLD of it is being treated. Thus, there is a large gap between generation and treatment of wastewater in the state. Even the existing treatment capacity is also not effectively utilized due to operation and maintenance problems. Operation and Maintenance of existing plants and sewage pumping stations is not satisfactory. Discharge of untreated sewage is the single most important cause for pollution of surface and ground water since there is a large gap between generation and treatment of domestic wastewater (State Sanitation Strategy, 2017).

A CAG Audit report[131] found that there was no mechanism to assess the quantity of waste generated / collected in the GHMC. Existing intermediary storage facilities (transfer stations) were not equipped with weighbridges both at entry and exit points. According to the SSS, major issues as identified in the solid waste management sector are as follows:

- Lack of resources, systems and capacity for development and disposal of solid waste at ULB level.
- Lack of support in financial, technical, and project development at state level to ULBs in identifying right technologies, processes, structuring projects and implementation.
- Lack of awareness about the importance of effective solid waste management practices.
- Lack of capacities within the urban local bodies on processing technologies and scientific landfills.
- Lack of substantial capital and O&M expenses without matching revenues.
- Land acquisition is a major issue in SWM projects and a major cause of delay.
- Lack of technical expertise and institutional arrangements.
- Poor structuring of Waste to Energy projects on PPP mode

Overall, the challenge for the state of Telangana is to ensure the effective performance of the sewerage system by providing adequate water supply to all the households in the sewerage service area. Even where there is water tap connection, although the per capita supply is around 108 LPCD (for e.g. in Karimnagar ULB), unreliable and intermittent supply is a big constraint leading to low performance of the sewerage system. Further low per capita water supply like in case of Mahbubnagar (60 LPCD) is simply not feasible for an UGD system. Despite adequate

[131] Report of the Comptroller and Auditor General of India on Local Bodies. Report No. 3 of 2018

land being assigned to ULBs for scientific disposal of urban waste, the ULBs are not following scientific, biological and chemical processes to treat solid waste. Lack of financial and organisation capacity is leading to open dumping sites in the highly dense areas of ULBs. In these conditions it is becoming very difficult to manage suitable sites for landfills. In addition, one of the major challenges of ULBs is the cost recovery from solid waste management (National Institute of Urban Affairs , 2018).

Limited capacities of ULBs and absence of regulations on maintenance and cleaning of septic tanks and pits are a major challenge. In many instances, the septage is dumped in drains and open areas posing considerable health and environmental risks. Sanitary workers also work in hazardous conditions having to manually clean on-site pits and tanks without adequate protective gear and equipment. There is a general lack of awareness on septic tanks and how these should be planned, designed, installed, operated and maintained, especially among the system owners and ULBs which results in pollution of the ground and surface water bodies thus impacting public health. Municipal wastewater collection, treatment, and disposal are still not a priority for the municipality/ state government as compared to water supply. In the absence of sewer lines, untreated wastewater flows into storm water drains and poses as a health hazard to the citizens inhabiting the areas near the drain. In case of poor drainage systems, sullage is directly dumped into canals and water bodies in urban watershed without any treatment. The poor slum residents are the most vulnerable and disproportionately affected as they often reside in informal settlements located in low-lying areas. In poorly drained areas with inadequate sanitation, urban runoff increases the risks to health, as flooded septic tanks and leach pits, and blocked drains become breeding grounds for vectors. Over the last few years, while the service delivery situation with respect to water supply, solid waste management and drainage has improved in ULBs such as the GHMC, gaps continue to exist and requiring considerable investment to address the same.

Annexure 9: Criteria for Constitution of Nagar Panchayat and Municipality

(a) Criteria for Constitution of Nagar Panchayat

An area may be notified as Transitional Area (Nagar Panchayat) under Clause (42-a) of section-2 of the Andhra Pradesh Municipalities Act, 1965 if the following criteria is satisfied:

(a)	Population (as per last census)	:	20,000 to 40,000
(b)	Density of population per Sq. Km	:	400
(c)	Revenue	:	Rs. 40.00 Lakhs provided that local area with a lesser income may also be considered if it has acquired urban characteristics
(d)	Percentage of employment in non-agriculture activities.	:	25% provided that a local area with lesser percentage of employment in Non-agricultural activities may also be considered if it is not more than 20 Kms. away from a Municipality (District Head quarter) or Municipal Corporation
(e)	Economic importance	:	Availability of market facilities and potentialities to attract industries
(f)	Other factors	:	Local area acquiring Urban Characteristics

Provided that whenever a main urbanized Gram Panchayat is proposed to be constituted as a Nagar Panchayat with merger of surrounding other village(s) of Gram Panchayat(s), such village(s) shall fulfill the following condition: -

The proposed village(s) going to be merged shall not be more than 3 Kms. from the periphery of outer habitation of the main Gram Panchayat to the outer Periphery of the habitation of village(s).

(b) Criteria for Constitution of Municipality

An area may be notified as Smaller Urban Area (Municipality) under Clause (42-a) of section-2 of the Andhra Pradesh Municipalities Act, 1965 if the following criteria is satisfied:

(a)	Population (as per last census)	:	Above 40,000 and up to 3,00,000
(b)	Density of population per Sq. Km	:	500
(c)	Revenue	:	Rs. 60.00 Lakhs Provided that local area with a lesser income may also be considered if it has acquired urban characteristics
(d)	Percentage of employment in non-agricultural activities	:	40% Provided that a local area with lesser percentage of employment in Non-agricultural activities may also be considered if it is not more than 20 Kms. away from a Municipality (District Head quarter) or Municipal Corporation.
(e)	Economic importance	:	Availability of market facilities and potentialities to attract industries.
(f)	Other factors	:	Local area acquiring Urban Characteristics

Annexure 10: Section 56: Powers and Functions of the Commissioner

(1) The Commissioner shall, save as otherwise provided in this Act,

(a) carry into effect all the resolutions of the council;

(b) furnish to the council such periodical reports regarding the progress made in carrying out the resolutions of the council;

(c) subject to all other restrictions, limitations and conditions hereinafter imposed, exercise the executive power for the purpose of carrying out the provisions of this Act, and be directly responsible for the due fulfillment of the purposes of this Act;

(cc) exercise disciplinary control over the employees of the Municipal Council, who shall be subordinate to the Commissioner;

(d) exercise all powers in relation to the collection of taxes and fees, the licenses and the removal of encroachments;

(e) be in charge of the office of the municipality and have custody of the municipal records;

(f) inspect the places of entertainment for the purposes of verification of the sale of tickets; and

(g) exercise all the powers and perform all the functions specifically conferred or imposed on the Commissioner by or under this Act.

Annexure 11: Gradation of Municipalities in Andhra Pradesh

SI. No	Grade	Income Limit
1	Third Grade Municipality	An annual income not more than Rs. 15 lakhs
2	Second Grade Municipality	An annual income more than Rs. 15 lakhs but not more than Rs.30 lakhs
3	First Grade Municipality	An annual income more than Rs.30 lakhs but less than Rs. 50 lakhs
4	Special Grade Municipality	An annual income of Rs. 50 lakhs and above but less than Rs. 50 lakhs
5	Selection Grade Municipality	An annual income of Rs. 80 lakhs and above

Annexure 12: Andhra Pradesh

A12.1. Urbanisation in Andhra Pradesh

The urban population of Andhra Pradesh has been increasing since 1971 onwards barring a slight dip in the decade between 1991 and 2001. The percentage of urban population to the total population has increased from 27.30% in 2001 to 33.36% in 2011, registering an annual exponential growth rate (AEGR) of 3.05% which is slightly higher than India's AEGR of 2.76% during the same time period. The number of Urban Agglomerations (UAs)[132] in the state grew from 37 in 2001 to 58 in 2011[133]. As per the 2011 census, undivided Andhra Pradesh was the 10th most urbanized state of India[134]. After the reorganisation of the state in 2014, Andhra Pradesh currently has 120 urban local bodies (ULBs) which includes 27 Nagar Panchayats, 77 Municipalities and 16 Municipal Corporations[135]. Of all the districts, Vishakhapatnam district has the highest proportion of urban population (47.45%) whereas Srikakulam district has the lowest (16.16%). It is projected that by around 2031-35, the percentage of AP's urban population to the total population would increase to 42.8%[136].

The state is strategically located on the Southeast coast of India and is a natural gateway to East & Southeast Asia. Andhra Pradesh has abundant natural resources (Barytes, Limestone, Bauxite, and a number of minor minerals), fertile land and river basins, water resources, extensive canal system and conducive agro-climatic conditions. The State has the second longest coastline in India and is also one of the largest producers of marine products. Andhra Pradesh, over the years, has established a strong presence in agro and food processing, textiles, chemicals & petrochemicals, pharmaceuticals, metallurgy, electronics and electrical engineering sectors. The state ranks 1st in ease of doing business and 4th in SKOCH Governance rankings. Andhra Pradesh's vantage location, policy environment, conducive business environment, incentives for entrepreneurship, easy procedural processes and commitment to drive urbanisation through industrialization by the state government has attracted large industrial units and a lot of MSMEs.

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[132] A town together with its outgrowth(s) is treated as an integrated urban area and is designated as "Urban agglomeration".
[133] Handbook of Urban Statistics, MoH&UA, 2019
[134] Excluding the smaller states of Delhi and Goa.
[135] Socio Economic Survey 2019-20.
[136] Population Projections for India and States 2011 – 2036, Ministry of Health and Family Welfare

The state has been a destination for National Investment and Manufacturing Zones (NIMZ), Information Technology Investment Regions (ITIR), Smart Industrial Township (SIT), Special Economic Zones (SEZ) and Industrial Parks. As of February 2020, the state has 20 operational SEZs and 63 in the pipeline across various sectors - textiles & apparel, food processing, footwear & leather products, multi-product, pharma and IT SEZs[137] which are located mainly in Vishakhapatnam, Krishna and Nellore districts. Several global and national players have set up firms, industries, manufacturing hubs, companies in different cities of the state. The Satyavedu Reserve Infracity Pvt. Ltd., an integrated business city is one such example of a planned city that houses 185 companies from 27 countries at a strategic location north of Chennai.

While India's average year-on-year GDP growth has been 6.9% between 2013 to 2017, it was 7.6% for AP during the same time period. While India's GDP grew by 6.7% in 2018, the GSDP growth rate of AP in 2018 was 11.2% and the second highest in the country[138]. The service sector contributes the highest at 39% while the Industry sector contributes to 33% of the GSDP. The growth rate of the service sector has been the highest at 9.11% and industrial sector at 5.67% in 2019-20. In Andhra Pradesh, 65% of the economic growth is contributed by the urban areas of the state [139].

A12.2. Provisioning of Urban Sanitation and SWM Services

Water Supply, Sanitation, and Solid Waste Management are some of the most vital services to be provided by ULBs. Few of the responsibilities with respect to sanitation, legally entrusted upon the ULBs are[140]: (i) To frame by-laws for drain management and ensure that private latrines within the municipalities adhere to these standards, (ii) To ensure that house drains of private latrines are connected with public drains, and/or public sewers. (iii) To provide for and maintain public latrines and urinals in sufficient numbers and at convenient places. (iv) To ensure that every person employing more than 10 workmen or labourers provides and maintains latrines separately for each sex. (v) To ensure that market, cart-stand, cattle-shed, poultry, theatre, railway station, dock, wharf, or other place of public resort provide and maintain latrines separately for each sex.

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[137] https://www.ibef.org/states/andhra-pradesh.aspx

[138] States of Growth 2.0, A CRISIL Research Report, 2019

[139] Solid waste management policy, 2018

[140] Andhra Pradesh Municipalities Act, 1965 discusses the Water Supply, Sanitation, and Solid Waste Management functions in part V, chapters I and II.

Responsibilities with respect to solid waste management are as follows: (a) ensure regular sweeping and cleaning of the streets; (b) daily removal of filth and carcasses of animals from private premises; (c) daily removal of rubbish from dustbins and private premises[141]; (d) Plan for utilization of road sweepings, rubbish and filth for preparation of compost and its sale; (e) Plan for utilization of carcasses of animals for the supply of bones for the purpose of manures and its sale. It is also the responsibility of the municipality to dispose of the waste collected in the prescribed manner (as per the rules).

As per the 2011 census and APUFIDC urban services data for AMRUT & Non-AMRUT cities (2015-16):

• 13.9 % of urban households in AP do not have latrines as compared to the national average of 18.6 %.

• Open Defecation by urban households of AP is 11.9 % which is slightly lower than the national average of 12.6 %.

• 33.7% of AP's urban households are connected to a piped sewerage network which is slightly higher than the national average of 32.7%.

• Lack of a formal mechanism and improper septage management is leading to disposal of sewage and septage into water bodies in and around the cities without any treatment in more than 100 ULBs of the state.

• Manual Scavenging: As per the 2011 census, approx. 0.02 % of the urban households get night soil removed manually and about 3,50,000 households in the state have insanitary latrines in their premises.

ULBs in AP generate about 6600 metric tons (MT) of solid waste per day of which 6490 MT per day is collected and about 550 MT/day is processed[142]. The per capita waste generation ranges from 0.3 to 0.4 kg/ per day. The quantity of waste is growing at 5 % annually with a collection efficiency greater than 90%. All the urban wards in AP have 100% door to door collection, 89% of them have 100% source segregation and 40% of the total waste generated in the state is getting processed[143].

[141] In order to do this, the following must be arranged for: (i) depots for the deposits of filth, rubbish and the carcasses of animals, (ii) covered vehicles or vessels for the removal of filth, (iii) vehicles or other suitable means for the removal of the carcasses of large animals and rubbish, (iv) dust-bins for the temporary deposit of rubbish;

[142] Solid Waste Management Policy, 2018

[143] Handbook of Urban Statistics, MoH&UA, 2019

In order to address these infrastructure and service gaps, Government of Andhra Pradesh (GoAP) formulated the 'State Sanitation Strategy' (2016) and 'Solid Waste Management Policy' (2018) to guide the ULBs. The State Sanitation Strategy (2016) has been developed by CMDA, Swachha Andhra Corporation (SAC), MA&UD and The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The strategy envisions to achieve a "Swachha Andhra" ensuring healthy and clean cities providing access to sanitation infrastructure to all citizens. The goals of the State Sanitation Strategy (2016) are to ensure 100% hygienically safe and sanitary treatment and disposal, achieving Open Defecation Free cities, improved institutional governance and enhanced human resource capacities for city-wide sanitation, enhanced awareness and sustained behavioural change, technological efficiency and appropriateness.

As per the Solid Waste Management Policy (2018), the state is committed to be a zero-dumping state. The state envisions to transform cities and towns into neat, clean and litter free areas (with special focus on hygienic and affordable sanitation for urban poor and women), best in class liveability, improve health and environment standards, tourism and investment attractiveness. Through a shift from linear approach to a zero waste and circular economy approach, the state sets to encourage social and private entrepreneurship in SWM. It aims to achieve the Service Level Benchmarks by 2023 and reduce landfilling to less than 20%.

Table A12. 1: Status on SWM Benchmark Indicators in AP

SI. No	Indicator	Benchmark (in %)	Present Status (in %)
1	Household level coverage of solid waste management services	100	95 – 98
2	Efficiency of collection of municipal solid waste	100	95 – 98
3	Extent of segregation of municipal solid waste	100	50 -55
4	Extent of municipal solid waste recovered/recycled	80	12 - 15
5	Extent of scientific disposal of municipal solid waste	100	8 - 12
6	Extent of cost recovery in solid waste management services	100	25 - 28
7	Efficiency in redressal of customer complaints	80	96
8	Efficiency in collection of user charges	90	2 -3

Source: Solid Waste Management Policy, 2018

It prescribes for a waste management hierarchy comprising of Prevention- Reduction- Reuse- Recycle- Recover- Residual management - Disposal. The policy pushes to identify appropriate resource recovery and processing options based on local contexts.

At the ULB level, The Public Health and Municipal Engineering Department (PHED) is the nodal agency for planning, design and implementation of water supply and sanitation facilities. GoAP has also established the Swachha Andhra Corporation (SAC) – A state govt company to achieve the objectives of the Swachh Bharat Mission. SAC has taken up the construction of individual household toilets, community toilets, public toilets, scientific processing and disposal of municipal solid waste, waste to energy projects and waste to compost projects under public private partnership. Of the sanctioned toilets, 95% of Individual household toilets, 94% of public toilets, 90% community toilets and 98% of school toilets have already been completed. SAC is also implementing waste to compost projects (covering 41 ULBs) with an aim to generate 430 Tonnes per Day (TPD) of compost. Presently, 27 Waste to Compost Plants (covering 30 ULBs) are in operation. In order to process the non-recyclable plastic waste, 25 ULBs have tied up with nearby cement plants and almost 95 MTs of plastic waste has been sent to cement plants which is said to be used in construction of roads (19.1km of road laid by using 26.5 MTs of plastic waste)[144]. ULBs in the state roughly spend between Rs. 500 to 1500 per MT from the municipal budget on solid waste management (Rs. 33 to 99 lakhs per day)[145]. Of which, 60-70% is on street sweeping and collection alone, 20-30% on transportation and less than 10% on processing and disposal activities.

Factors that account for inadequate and poor drainage system are blockage of natural drainage systems by dumping of solid waste construction activities, indiscriminate land filling, and lack of comprehensive maintenance of natural watercourses due to land access problems leading to overflowing of sullage and storm water.

As per the estimates made by MA&UD, the total investment required to improve sanitation across all the ULBs is indicated below:

[144] Socio economic survey, 2019-20

[145] AP generates about 6600 metric tonnes (MT) of solid waste per day. Hence cost per day can be calculated as 6600 * 500 = 3,300,000 to 6600 * 1500 = 9,900,000.

Table A12. 2: Total Investment Required to Improve Sanitation Across all the ULBs

Sewerage and Septage management - US $ 2230 M
Storm Water drains - US $ 2041 M
Water Supply- US $ 2135 M

Source: MA & UD-Investment opportunities in Urban Infrastructure in AP - 2016

Under the 14th Finance Commission (2015-16), out of the total sanctioned grant of nearly Rs. 331 crores, GoAP made special allocations to the following sectors, viz; Water Supply (Rs. 75.11 crores), Sanitation including Septage Management (Rs. 5.61 crores), Sewerage and Solid Waste Management (Rs. 1.40 crores) and Solid Waste Management (Rs. 1.13 crores) (Andhra Pradesh State Sanitation Strategy, 2016).

A12.3. Urban Reforms Related to Sanitation and SWM

The state of Andhra Pradesh has laid emphasis on urban development through various reforms, policies and schemes (Table 12.3). As per the state's Sunrise Andhra Pradesh Vision 2029, urban development is one of the key sectors and priorities of Andhra Pradesh. The vision of "Urban development in AP encompasses the provision of employment opportunities, affordable housing, reliable and convenient services, clean and green environment, as well as building accountable and financially strong Urban Local Bodies (ULBs)".

Table A12. 3: Urban Development Reforms, Policies and Schemes

SI. No	Scheme	No of ULBs	Sector/Description	Cost Rs. In Crores
Completed Projects				
1	JNNURM Completed Projects	12	Water Supply, Sewerage, Roads, Drains and Solid waste management.	1449.09
2	Works taken up under 14th FC, SFC, SCC & STC sub plan etc.	110	Water Supply, Roads, drains, and Solid Waste Management	1986.55
3	Smart LED Lighting	110	Conversion of Street Lamps into LED Lights	220.00
4	Municipal General	110	Infrastructure Development	195.53
5	Andhra Pradesh Municipal Development Project (APMDP)	6	Water Supply in Viziangaram, Badvel, Markapur, Kakinada, Ananthpur and Guntur	856.51
			Sub Total	**4707.68**

SI. No	Scheme	No of ULBs	Sector/Description	Cost Rs. In Crores
Ongoing Projects				
1	Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	32	To improve the SLBs in Water Supply, Sewerage and Septage Management, Storm, Water Drains and Parks & Green Spaces.	3762.91
2	Smart City Mission (GoI) (GVMC, Kakinada, Tirupathi and Amaravathi)	4	To improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes	6420.48
3	Smart City Mission (GOAP) (Srikakulam, Eluru, Ongole, Mellore, Kurnool & Anantapur)	6	To improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes	594.00
4	One Time Special Financial Assistance (OTSPA)	2	Sewerage in Guntur and Storm Water Drainage in Vijayawada	1364.86
5	Housing and Urban Development Corporation (HUDCO)	1	Water Supply and Sewerage in Nellore	1137.62

Source: White Paper, Department of Municipal Administration& Urban Development, 2018

A review of the various urban reforms projects and initiatives clearly suggest that there is a high presence and influence of the State Govt along with Public Private partnerships, Special Purpose Vehicles, Parastatals and external agencies in providing sanitation and SWM services in AP. For e.g., GoAP implemented 'The Andhra Pradesh and Telangana Municipal Development' project with financial assistance of 300 million USD from the World bank with an objective to improve urban infrastructure and service needs in ULBs across a variety of sectors including urban roads, sewerage, water supply, sanitation, solid waste management, street lighting, energy efficiency, and community centres. However, only the water supply sub-project could be fully completed. Prior to this sub-project, the coverage in the 6 selected ULBs was between 21 and 75 % with an average per capita piped water supply ranging between 27 and 100 LPCD. Upon completion, the sub-project achieved 100 % coverage with an average per capita water supply ranging between 70 and 135 LPCD.

Another example is the recently initiated 'AP Urban Water Supply & Septage Management Improvement' Project (2019-2023) with financial loan of 400 million

USD from the Asian Infrastructure Investment Bank (AIIB). The project is being implemented by The Public Health & Municipal Engineering Department and Andhra Pradesh Urban Finance and Infrastructure Development Corporation (APUFIDC). The proposed project includes investments in water supply infrastructure across 50 ULBs in AP that are not covered under the AMRUT scheme. Another component of this project is sanitation and drainage pilots in 5 selected ULBs by constructing waste water treatment plants for gray water treatment alongside critical drainage improvements.

Apart from the above major urban reforms' projects, AP also has 16 smart city projects - 3 under the Government of India (GoI) mission and 13 identified by GoAP along with 32 AMRUT cities. For the AMRUT cities, the highest investment has been on water supply at 61% (Rs. 1351.36cr), followed by 24% (Rs. 529.13cr) for sewerage & septage management and 13% (Rs. 296.63cr) for storm water drainage for the period between 2016 to 2020.

The above-mentioned projects are a few examples that demonstrate how various urban services need to be interconnected so that robust sanitation and waste management services can be provided. However, huge differences between the demand and supply of these services continue to exist but the space available for ULBs to bridge this gap is very limited due to the existence of various parastatals, public-private partnerships and external agencies.

A12.4. Sanitation and SWM: State Level Targets and Progress Made So Far

According to the Sustainable Development Goals Index (SDGI) released by NITI Aayog, Andhra Pradesh scored 67 out of 100 points which marginally qualified it as a frontline state among all 28 states. AP's SDG score comparatively stands higher than the national average 60. The state also improved on its overall score by three points compared to 2018 when it was 64 qualifying it as just a 'performer'. AP's highest score of 96 comes with clean water and sanitation. State performance in sanitation and waste management related indicators are mentioned in below table.

Table A12. 4: Performance of Telangana State on Indicators of SDG 6, 11 and 12

Goal	Indicator	Andhra Pradesh 2019	National 2019	Target 2030
6	Districts verified to be Open Defecation Free (%)	129.10	91	100
6	Urban households with individual household toilet (%)	100	97.2	100
11	Wards with 100% door to door waste collection (%)	100	91	100
11	Waste processed (%)	48	56	100
11	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	0.09	37.5	100
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	7.76	20.7	100
12	Wards with 100 % source segregation (%)	90.94	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

For AMRUT cities, the annual targets[146] of increment from the baseline value (51.65%) of household level coverage of direct water supply connections are in the range of 9% to 24% across 2016-20. Despite having a very low baseline coverage of sewerage network services (12.52%), the increment targets have only been set between 0.22 % to 0.45% across 2016-20. Surprisingly, there have been no targets planned to improve the efficiency in sewage collection even though the baseline coverage was only 12.35%. In terms of the adequacy in STP capacity the incremental targets were set at only 8% for 2019 & 20 even though the baseline is only 39.12%. The state's annual action plan (SAAP) for AMRUT cities between 2017-20 are prioritised and planned based on the mobilization of funds.

Table A12.5 shows the progress made across various sanitation related parameters from the NSSO 69th round data (2012) of urban households belonging to the erstwhile combined AP to the NSSO 76th round data (2018) of urban households belonging to the recently formed reorganized AP in 2014.

[146] State Annual Action Plan, SAAP 2017-20

Table A12. 5: Progress Made Across Various Sanitation Related Parameters From 2012 to 2018

SI. No	Sanitation Parameter	NSSO 69th round data - 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	919 / (91.9)	97	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	315 / (31.5)	9.7	39.1
3	Urban households with flush/pour-flush latrine connected to a septic tank	567 / (56.7)	85.3	48.9
4	Urban households connected to underground drainage system	Not Available	59.9	53.5
5	Urban households with no drainage system	76 / (7.6)	9.0	8
6	Urban households disposing waste water without treatment	Not Available	50.5	92.4

Source: NSSO 69th and 76th round report

AP was ranked 6th in both the Swachh Survekshan (SS) 2019 and 2020 national level surveys and prior to that it was ranked 5th in 2018. Over the past 3 years, AP has consistently ranked higher than all its southern counterparts. In SS 2020, Tirupati ULB was recognized as the country's best 'self-sustainable small city' whereas Vijayawada was recognized as India's cleanest big city. Additionally, in SS 2020, with regard to the provisioning of SWM services, AP was ranked 4th (for ULBs less than 1 lakh) and 5th (for ULBs greater than 1 lakh) across all large states.

A12.5. Manual Scavenging and Welfare of Sanitation Workers

The number of new manual scavengers in AP as identified by a survey coordinated by the National Safai Karamchari Finance and Development Corporation (NSKFDC) during 2018-19 was 1982[147]; but according to activists even this number is grossly underestimated. Out of a total of 774 sewer deaths that took place in the country

[147] Survey results as on March 2019 (5 districts identified for the survey in AP)

between 1993 to 2019, AP had accounted for only 18 of them and none in FY 2018-19[148]. However, as per another article, the GoAP claims that there have only been 8 sewer deaths in the state since 1993 and all families have been paid full compensation (Mishra & Sen, 2019).

From 1983 to 1992, efforts have been made by the state to convert dry latrines to water-borne latrines through low cost sanitation programmes. The GoAP has constructed sanitary latrines through the Integrated Low-Cost Sanitation (ILCS) programme for economically weaker section (EWS) category houses. About 1.85 lakh dry latrines and 1,983 community latrines have been converted to sanitary ones. GoAP started a mission for 'Eradication of Manual Scavenging and Rehabilitation of Scavengers' with a specific objective to declare AP as a 'manual scavenger free' state by 2002. However, even today there are still insanitary latrines, so the objective is yet to be achieved (Prasad, 2007).

Despite these initiatives, AP has performed very poorly in comparison to other states by failing to rehabilitate even the officially identified manual scavengers. The proportion of identified manual scavengers who received the One Time Cash Assistance (OTCA) was one of the lowest in AP (72 %). Under the Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS) scheme, 1233 projects were sanctioned across the country, but none were sanctioned in AP. Similarly, trainings for 13,587 beneficiaries were sanctioned under the SRMS scheme, while AP had only one (Centre for Policy Research, 2019). Between 2014 to 2018, AP hadn't demanded a single scholarship sum to support the education of children of manual scavengers' under the pre-metric scholarship scheme (Rashtriya Garima Abhiyan, 2018).

A12.6. Urbanisation Challenges (Specific to Sanitation and SWM)

Andhra Pradesh is urbanizing rapidly however the development of basic infrastructure hasn't been able to match the urban growth that the state is witnessing. Water supply, waste water collection and treatment, drainage, solid waste and other basic infrastructure are largely inadequate in urban areas of the state and are not capable to respond to the growth in urban population and economy. Particularly, water supply and sanitation are characterized by low coverage, intermittent services, poor standards and quality. The water supply in the state is currently intermittent and averages 87 LPCD whereas the GoAP plans to provide continuous water supply of 135 LPCD (Asian Infrastructure Investment Bank, 2018).

[148] 2018-19 Annual Report, National Commission for Safai Karamcharis (NCSK), Ministry of Social Justice

The main issues found in water supply are that there are inadequate water sources as the existing water sources are being tapped to the maximum. Also, the unaccounted water (leakages) ranges from 20% to 82.84%. Though the connections exist, the water supply is found to be low. Only 18.07 % of the urban households are connected to an underground drainage system. Only 8 cities have existing partial underground drainage facilities. Inadequate and improper maintenance of storm water drains with frequent flooding and choking of drains is leading to unhygienic environment [149]. Since the waste water treatment plants are located only at a few locations, most of the waste water is discharged through septic tanks, soak pits and in some cases directly to sludge drains without treatment. Many of the waste water treatment plants and sewage pumping stations have been found to be not functioning effectively due to defunct parts. Direct discharge of such huge sewage is polluting both surface and ground water. As of 2015, only 21% of the waste water in the sewerage system and 7% of solid wastes were being effectively treated.[150] The monitoring of landfill sites for ambient air, ground water, leachate quality, compost quality and volatile organic compounds has been found to be very weak in the state. The ministry of Municipal Administration & Urban Development (MA&UD) reported that 50.81 lakh metric tonnes of legacy waste continues to exist in dump yards.[151] The waterborne diseases in the state were in the range of 13-15 lakhs during the period of 2014 -16 (MoHFW, 2017). The State Action Plan for Climate Change (SAPCC) has pointed out that the existing drainage systems in many ULBs are not adequate to accommodate the precipitation from heavy rains and the huge generation of sewage and solid waste, all of which are posing a serious threat to urban health.

In terms of access to basic/core services in ULBs, AP scores 67.42 %. Table A12.7 details the AP Sector wise breakup of consolidated Investments for all ULBs in the state AMRUT mission.

[149] State Sanitation strategy, 2016

[150] http://apvision.ap.gov.in/urban.php#:~:text=New%20'Economic%20Cities'%20are%20being,of%20land%20has%20been%20approved

[151] APPCB Annual report, 2018-19

Table A12. 6: Sector Wise Breakup of Consolidated Investments for all ULBs in the State

(Rs. In crores)

Sector	Water Supply	Sewerage and Septage Management	Drainage	Urban Transport	Others (Green Spaces & Parks)
Total	6117.24	10888.75	6814.85	1998.88	202.37

Source: State Annual Action Plan (SAAP) (FY2017-20) State- Andhra Pradesh

It may be noted that the maximum planned expenditure is in the water supply and sanitation sectors, as compared to urban transport and other basic services (APUFIDC, 2015).

Annexure 13: General Functions of Municipalities

1. Collection and updating of essential statistics.

2. Organising voluntary workers and make them participate in collective activities.

3. Organise campaign for thrift.

4. Awareness building against social evils like drinking, consumption of narcotics, dowry

and abuse of women and children.

5. Ensuring maximum people's participation in all stages of development.

6. Organise relief activities during natural calamities.

7. Inculcating environmental awareness and motivating local action for its upgradation.

8. Development of Co-operative Sector.

9. Promoting communal harmony.

10. Mobilising local resources in cash or in kind including free surrender of Land for

developmental purposes.

11. Propagating legal awareness among the weaker sections.

12. Campaign against economic offences.

13. Organising neighborhood groups and self-help groups with focus on the poor.

14. Awareness building on civil duties.

Annexure 14: Kerala

A14.1. Urbanisation in Kerala

Kerala is divided into three distinct regions- hills & valleys, midland plains and coastal region. The population of Kerala was 33.38 million in 2011 and it accounts for 3.01 % of India's population. The population density in Kerala is 859 persons per Sq. Km as per the 2011 census and one of the highest in the country. Across Kerala there are a large number of small and medium towns and hence one cannot clearly distinguish a rural area from an urban area. During 2001 to 2011, Kerala experienced an urban population growth rate of 92.72%.The percentage of urban population to the total population increased from 25.96% in 2001 to 47.70% in 2011, registering an Annual Exponential Growth Rate (AEGR) of 6.56% which is significantly higher than India's AEGR of 2.76% during the same time period[152].As per the 2011 census, Kerala was the 2nd most urbanized state (after Tamil Nadu) among all the larger states of India[153].It is projected that by around 2031-35, the percentage of Kerala's urban population to the total population would increase to 92.8%[154], thus making it as one of the fastest and most urbanized large states of the country.

The total number of towns in Kerala rapidly increased from 150 to 520 towns between 2001 to 2011. Among the 520 towns in the state, 59 were statutory towns[155]and 461 were census towns[156]. Currently there are 93 statutory towns of which 87 are municipalities and the remaining 6 are municipal corporations. As per the 2011 census, 4 out of the 14 districts in the state had less than 25% of urbanisation, another 4 districts between 25 to 50% of urbanisation and the remaining 6 districts had more than 50% of urbanisation. Eranakulam district had the highest percentage of urban population (68.07%) whereas Wayanad district had the lowest percentage of urban population (3.86 %).

One of the unique trends of urbanisation in Kerala is that it is not concentrated in a few large metropolitan cities but is almost equally distributed across many mid-sized cities and smaller towns across the state. The urban settlement pattern in the state is

[152] Handbook of Urban Statistics, MoH&UA, 2019
[153] Excluding the smaller states of Delhi and Goa.
[154] Population Projections for India and States 2011 – 2036, Ministry of Health and Family Welfare
[155] Statutory Town: All places with a municipality, corporation, cantonment board or notified town area committee.
[156]Census Town: Places that satisfy the following criteria, a) A minimum population of 5000, b) At least 75% of the male population engaged in non-agricultural pursuits, c) A density of population of at least 400 per sq.km

a continuous spread of habitation without much open land or fields separating these habitations. Such a habitation pattern itself is driving urbanisation in a rapid manner. Moreover, the infrastructure facilities available to the population does not vary much between rural and urban, especially access to educational and healthcare facilities (Economic Review, 2016). The occupational shift from agriculture to other categories[157]of employment is another main driver for the high level of urbanisation in Kerala. Rather than seeing an increase in the population within an existing urban area, the number of urban areas in the state is increasing very rapidly. The census data from 2001 and 2011 regarding the increase in number of towns also validates this fact. Kerala's GSDP was Rs. 382134crores in 2014-15 (at current prices) and it increased to Rs. 513321 crores in 2018-19. While India's average year-on-year GDP growth had been 6.9% between 2013 to 2017, at5.8% it was much lower for Kerala during the same time period. While India's GDP grew by 6.7% in 2018, the GSDP growth rate of Kerala in 2018 was estimated to be 5% and one of the lowest in the country[158].

A14.2. Provisioning of Sanitation and SWM Services

Solid waste management is listed as a mandatory function in the Kerala Municipality Act as "Collection and disposal of solid waste and regulation of disposal of liquid waste", while sanitation is listed under the 'sector-wise' list of functions, where the Act specifies implementation of sanitation programmes as one of the key functions of municipalities. It mandates provisioning of sanitation facilities such as creation and maintenance of public latrines, including all other sewerage provisions.

The Kerala Water Supply and Sewerage Act[159] led to the formation of the Kerala Water Authority (KWA) in 1984.Upon the formation of KWA – a parastatal body, all the municipalities and corporations were directed to transfer the power of water supply to the KWA. The Kerala Municipality Act passed in 1994 again entrusted ULBs with the power of water supply for domestic, industrial and commercial purposes[160]. However, water auditing done in the Cochin Municipal Corporation found that 75 % of the households depended on the KWA to meet their demands. Among them, nearly 40 % of the households complained about insufficient water

[157]Other non-agricultural work like construction, small scale businesses, etc.
[158] States of Growth 2.0, A CRISIL Research Report, 2019
[159]The Kerala Water Supply and Sewerage Act, 1986: An Act to provide for the establishment of an autonomous authority for the development and regulation of water supply and wastewater collection and disposal in the State of Kerala
[160] KM Act, 1994 – Section 315 B

supply by KWA, with only 25 % receiving uninterrupted water supply from KWA. The existence of KWA is preventing ULBs from exercising this power. (Mathew & Dhanuraj, 2017).

As per the 2011 census, 14.3% of urban households are connected to a piped sewer system (compared to the national average of 32.7%), 56.7% are connected to septic tanks while 21.9% use pit latrines. Among the total urban households in the state, only 2.6% households don't have latrines while the national average is 18.6%. Also, open defecation by urban households in Kerala is one of the lowest at 1.7 % which is significantly lower than the national average of 12.6 %. (Census India).

The total Municipal Solid Waste (MSW) generation in the state is 3.7 million tons every year / 10,136 tons per day (TPD). Of this the 6 municipal corporations generate about 1415 TPD (14%) and the 87 municipalities generate 4523 TPD (45%). As per the Suchitwa mission progress report 2018-19 (latest available), several steps have been implemented in the state for the processing of biodegradable and non-biodegradable wastes in urban areas. For biodegradable waste processing, the two main steps were installation of composting pits and biogas plant. In the household level, about 8.3 Lakh urban households have installed composting pit and about 17K urban households have installed biogas plant (Approx. 77% HH coverage). Apart from this 2663 institutional level and 1216 community level composting pits have been installed in 2018-19 and 522 institutional level and 49 community level biogas plants are also installed during this year. Regarding non-biodegradable waste management, 119 Material Collection Facilities (MCFs) and 50 Resource Recovery Facilities (RRFs) had been constructed all over the state. Among these, 113 MCFs and 40 RRFs are functional during the year 2018-19. As a result, 948 TPD waste was treated in 2018-19.

The nodal agencies for managing and operationalising the functions of sanitation in urban areas of the state are the urban local bodies and the Kerala Water Authority (KWA). The Executive Director, Suchitwa Mission[161] was designated as member convener and as nodal office for the purpose of steering the development of the State Sanitation Strategy (SSS).

[161]The Suchitwa Mission functions as an advisory authority for the State Government. The Suchitwa Mission, the Technical Support Group (TSG) in Waste Management sector under the Local Self Government Department, Government of Kerala is responsible for providing technical and managerial support to the Local Self Governments of the State.

Sanitation

In 2015, the state sanitation strategy (SSS) of Kerala was developed in line with the requirement for states to create their own SSS as per the 2008 National Urban Sanitation Policy. It was created with a vision that all cities and towns in Kerala become totally clean, sanitized, healthy, liveable, ensuring and sustaining good public health and environmental outcomes for all citizens, with a special focus on hygienic and affordable sanitation for the urban poor and women with specific focus on the diverse topography of the state and its implications. The overall vision of Kerala SSS is to achieve an urban Kerala ensuring environmentally safe disposal of solid and liquid waste. The specific goals are: (i) Ensuring 100 % hygienically safe and sanitary treatment and disposal, (ii) Enhanced awareness and sustained behavioural change, (iii) Achieving Open Defecation Free Cities, (iv) Improved Institutional governance and enhanced human resource capacities for city-wide sanitation, (v) Technological efficiency and appropriateness.

However, in many of the census towns across Kerala, more than 70 % of the households are using septic tanks as means of faecal sludge disposal. Whereas in the Municipal Corporations, Kochi is the only Municipal Corporation where more than 70 % of households are using septic tanks. This calls for an immediate set of policy and programme intervention on septage management by the Government and ULBs to mitigate public health risks. The state government has come up with a plan on integrated septage management that takes in to account the entire value chain of the septage management and development of appropriate guidelines at the state level considering the dimensions of social, legislative, technical, governance and financial issues. (Kerala State Sanitation strategy, 2015).

Due to poor solid waste management within the state, the environment department has constituted the Kerala Waste Management Authority (KWMA) which is to function along with urban local bodies. This parastatal body will be undertaking various water pollution and waste management projects on a larger scale. Urban Local Bodies and KWMA are both responsible for solid waste management in Kerala. Kerala State Industrial Development corporation (KSIDC) is currently the nodal body for projects revolving around the waste to energy spectrum. The Suchitwa Mission functions as an advisory authority for the state government on SWM as well. It is also the Nodal agency for implementing the Swachh Bharat Mission (Urban), Swachh Bharat Mission (Rural) and Communication and Capacity Development Unit (CCDU) in the State (Suchitwa Mission, 2020).

Kerala was one among ten states and two union territories directed by the Supreme Court to pay a fine for failing to comply with the orders passed by the Supreme Court regarding implementation of Solid Waste Management Rules, 2016 (Kumar, 2018).Subsequently, the state created the Kerala Solid Waste Management Operational Guidelines in 2017 and Kerala State Policy on Solid Waste Management in 2018.

The 2017 SWM operational guidelines expect residential waste generators to process and dispose of biodegradable waste (BDW), or transport the BDW at their own cost to the nearest community facility, or hand over to authorized waste collectors by paying a user fee. It lays down a uniform rate of user fee, irrespective of income considerations which may leave out slum waste generators who are a priority as per the SWM Rules. Although ULBs are free to charge a reduced user fee for poorer sections, these guidelines require that they compensate Haritha Karma Sena (HKS)[162] for any shortfalls.

The Kerala State Policy on Solid Waste Management, 2018 envisages a healthy, prosperous and resource efficient society in which waste is reduced, reused, recycled and prevented wherever feasible and beneficial and disposed of in an environmentally safe manner. The main focus is on waste to energy conversion (Kerala State Policy of Solid Waste Management, 2018). KSIDC has invited request for proposal for integrated solid waste management with a waste-to-energy project of minimum 5 MW capacity on design, build, finance, operate and transfer basis at Kozhikode (Kumar, 2018).

As per the 5th state finance commission report (latest), the total expenses incurred towards sanitation related operations & maintenance (O&M) across the 60 municipalities for the year 2013-14 was Rs. 10.5 crores (14.71% of the total O&M expenditure) whereas it was Rs. 1.3 crores (Only 3% of the total O&M expenditure) across the 5 municipal corporations. On the other hand, the total revenues raised by municipalities during the same period was Rs. 1312.3 crores and municipal corporations raised Rs. 1065.63 crores. The own source revenue raised by municipalities was Rs 398.19 crores (tax: 201.83 and non-tax: 196.36) which is 30 % of the total revenue. The municipal corporations raised Rs. 377.3 crores (tax: 253 and non-tax: 124.3) which is 35 % of the total revenues raised during 2013- 14 (State Finance Commission, 2015).

[162]In order to institute door-to-door collection of non-biodegradable waste, an enterprise group namely Haritha Karma Sena (HKS) has been formed through the Kudumbasree Mission.

A14.3. Urban Reforms Related to Sanitation and SWM

Major urban reform projects in the state that are linked to sanitation and solid waste management are under the aegis of the Kerala Sustainable Urban Development Project (KSUDP) and Kerala Solid Waste Management Project (KSWMP). The latter is aided by the World Bank and the former is aided by the Asian Development Bank (ADB) and Govt of India. KSUDP is an initiative to improve urban infrastructure services in Kerala in a sustainable manner. It's a Special Purpose Vehicle (SPV) to implement multi-disciplinary projects envisaged under the LSGD. KSUDP was also designated as the State Level Nodal Agency for the UIG[163]and UIDSSMT[164]components of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM); a flagship programme of Government of India (LSGD, Govt of Kerala, n.d.). The main objective of KSUDP was to increase the growth potential and reduce poverty in 5 municipal corporations (Kochi, Kollam, Kozhikode, Trivandrum and Thrissur). The expected outcome of the project was a better environment, stronger economy and improved living conditions for the people This project was initiated in 2005 and was planned to be completed by 2011 but eventually was completed in 2016. The total estimated amount for this project from ADB was 316 million USD. However, the actual cost of the project was eventually limited to 158 million USD. The expenditure towards sewerage and sanitation was 22 %, urban drainage was 9 % and solid waste management was 3 % The remaining expenditure as towards Land acquisition and resettlement, Road and Transport and Water Supply (Asian Development Bank, 2018).

KSWMP, with financial assistance from the World Bank, aims to strengthen the institutional and service delivery systems for waste management services in urban areas of Kerala (Kerala Solid Waste Management Project, 2020). This project is managed by the Suchitwa Mission, which is currently the nodal agency in the state for decentralised solid waste management. Through this project, the state government intends to upgrade existing household/institution decentralized treatment plants to scientific treatment plants based on bio-digestion, provide necessary infrastructure (bins, collection vehicles) for primary collection, set up the primary collection mechanism for untreated biodegradable waste, upgrade existing material collection and recycling facilities and resource recovery facilities, scale up

[163]Urban Infrastructure and Governance: Meant for providing basic service to urban population, urban infrastructure development and reformation of urban governance system.
[164]Urban Infrastructure Development Scheme for Small and Medium Towns: Aims at improvement in urban infrastructure in towns and cities in a planned manner.

secondary collection infrastructure, set up regional treatment and disposal facilities for solid, biomedical and construction and demolition (C&D) wastes and improve existing dumpsites. The total cost of the project is estimated to be Rs. 3010 crores, in which World Bank would fund Rs. 2100 crores and the remaining will be supported by the central government. KSWMP is proposed as an Investment Project Financing (IPF) operation for the period 2020 to 2025 which will cover all the ULBs in the state. This project comprises of three components - 1) Institutional development, capacity building and management support, 2) Grant support to ULBs and 3) development of regional solid, C&D[165] and Bio medical waste processing, recycling and disposal facilities.

Apart from the above project, urban development schemes like the Atal Mission for Rejuvenation & Urban Transformation (AMRUT), Smart Cities Mission (SCM) and JNNURM are also functional in Kerala. Based on the latest data, 1008 projects have been initiated in the state under the AMRUT scheme with a total estimated cost of Rs. 2357.69 crores. Among these, 476 projects have been completed with an expenditure of Rs. 837.5 crores which is 36 % of the total estimated cost (AMRUT Kerala, n.d.). Of this, 140 projects under AMRUT are assigned to sewerage and septage management with an estimated cost of Rs. 630 crores which is 27 % of the total estimated cost and 498 projects on storm water drainage with an estimated cost of Rs. 385 crores which is 16 % of total estimated cost. However, only 43 projects of the former have been completed with an expenditure of Rs. 38.5 crores (6 %) and 323 projects of the latter have been completed with a cost of Rs. 178.29 crores (46 %).

Smart city is a Special Purpose Vehicle (SPV) setup for the implementation of smart city mission of Govt. of India. There are two smart cities in Kerala - Kochi and Trivandrum. The proposed investment on Kochi Smart City project is Rs. 2076 crores of which Rs. 202 crores (10 %) is allocated for sewerage and septage, Rs. 7 crores (0.3 %) is allocated for sanitation and SWM, Rs. 41 crores (2 %) for canal restoration and drain improvement. (Smart City Proposal). On the other hand, Trivandrum smart city mission with 43 projects, the estimated project investment is Rs. 1538.2 crores in which Rs. 26.57crores (2 %) is allocated for underground drainage network, Rs. 47.5 crores (3 %) allocated for storm water drains, Rs. 2.57 crores (0.2 %) allocated for decentralised SWM and Rs. 1.41 crores (0.1 %) for upgradation of existing public toilets. A majority share of the smart city mission funds in both Kochi and Trivandrum have been allocated to housing, sustainable campuses, disaster

[165]C&D: Construction and Demolition Waste.

management, building markets and railway complex restoration. The various sources of funds for SCM is central grants (32.5%), state grants (32.5%), central schemes (16.9%), ULBs (8.8%) and PPP (9.3%).

A14.4. Sanitation and SWM: State Level Targets and Progress Made So Far

In terms of achieving the targets with regard to the Sustainable Development Goals (SDGs), Kerala retained its number one position in the country for the year 2019-20. However, when it came to 2 particular SDGs related with urban sanitation - "Clean water and sanitation" (SDG 6) and "Sustainable cities and communities" (SDG 11), the performance of the state is not that impressive. Kerala is in 23rd position with regard to SDG 6 and in 11th position with regard to SDG 11 (NITI Aayog). When we further analyse these two SDG goals, the picture becomes clearer. Regarding the installed sewage treatment capacity as a percentage of total sewage generated in urban areas, Kerala was at a dismal 6 % in both 2018 and 2019 while the national average was 38 % for both years. In Kerala, only 43 % of wards had door to door waste collection in 2018 (national average was 74 %) which increased to 85 % in 2019 (national average was 91 %). With regard to waste processing, only 32 % of waste produced in Kerala was processed in 2019 compared to the national average of 56 %. Also, the number of urban households with an individual toilet is extremely less (47.52%) when compared to the national average (97.2%). The state performance in Sanitation and SWM related SDG goals are summarized in the below table.

Table A14. 1: Performance of Kerala State on Indicators of SDG 6, 11 and 12

Goal	Indicator	Kerala 2019	National 2019	Target 2030
6	Districts verified to be Open Defecation Free (%)	100	91	100
6	Urban households with individual household toilet (%)	47.52	97.2	100
11	Wards with 100% door to door waste collection (%)	85.46	91	100
11	Waste processed (%)	32	56	100
11	Installed sewage treatment capacity as a proportion of sewage generated in urban areas	6	37.5	100
12	Municipal Solid Waste (MSW) treated against MSW generated (%)	29.13	20.7	100

Goal	Indicator	Kerala 2019	National 2019	Target 2030
12	Wards with 100 % source segregation (%)	95.53	67.6	100

Source: SDG India Index Baseline report, 2018 and SDG India Index & Dashboard, 2019-20

Table A14.2 shows the progress made across various sanitation related parameters from both the NSSO 69th round data (2012) and the NSSO 76th round data (2018) of urban households belonging to the state.

Table A14. 2: Progress Made Across Various Sanitation Related Parameters From 2012 to 2018

SI. No	Sanitation Parameter	NSSO 69th round data – 2012 (Per 1000 distribution of households) / (%)	NSSO 76th round data – 2018 (%)	NSSO 76th round National Average (%)
1	Urban households having access to some form of latrine facilities	988/ (98.8)	100	96.2
2	Urban households with flush/pour-flush latrine connected to a pipe sewer system	49 / (4.9)	1.1	39.1
3	Urban households with flush/pour-flush latrine connected to a septic tank	466 / (46.6)	37.7	48.9
4	Urban households connected to underground drainage system	Not Available	43.5	53.5
5	Urban households with no drainage system	298 / (29.8)	17.5	8
6	Urban households disposing waste water without treatment to – drainage system, open low land areas/streets, ponds and nearby river/nalla	Not Available	50.5	92.4

Source: NSSO 69th and 76th round report

In the nationwide Swach Survekshan (SS) Survey, Kerala was in 19th position in 2018, it slipped to 21st position in 2019 and eventually 27th position in2020. In 2020, Alappuzha won the award for Best Small City in 'Innovation & Best Practices'. Additionally, in SS 2020, with regard to the provisioning of SWM services, Kerala was ranked 17th (for ULBs less than 1 lakh) and 18th (for ULBs greater than 1 lakh) across all the large states.

A14.5. Manual Scavenging and Welfare of Sanitation Workers

The state of Kerala reported of not having a single manual scavenger during the Manual Scavenging (MS) survey 2013. However, as per a survey conducted by the National Safai Karamchari Finance and Development Corporation (NSKFDC) in 2018 the number of manual scavengers identified in the state was 600[166]. Kollam district has the highest number of manual scavengers at 274, followed by Ernakulam at 155, Alappuzha at 96, and Palakkad at 75[167]. According to the2018-19 annual report of the National Commission for Safai Karamcharis (NCSK), the total number of sewer deaths recorded in the state between 1993-2018 is only 3, and it was zero in the year 2018-19 (NCSK, 2019).

By virtue of no manual scavengers being officially identified in the state, there were no beneficiaries for the One Time Cash Assistance (OTCA) until 2018. However, in 2018, 504 beneficiaries were identified and again zero beneficiaries in 2019. Similarly, the state did not sanction any trainings or skill development programs for manual scavengers until 2018, when 161 manual scavengers were sanctioned for trainings, but again in 2019, no trainings have been sanctioned (Ministry of Social Justice and Empowerment, 2019).

A Kerala based start-up Genrobotics has developed a pneumatic semi-robotic device called "Bandicoot" to clean sewers and manholes without any manual intervention. It is stated to be the world's first manhole cleaning robot with the aim of eliminating manual scavenging, saving humans from manhole accidents and adding dignity to human life. This manhole cleaning robot has already been leveraged by more than six states in the country. In one of the early trials held in Thiruvananthapuram, the robot could clean four different types of manholes with ease and it did not face any problem to manoeuvre its way. (The Economic Times, 2018).

The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition)Act, 1993 was not adopted by Kerala since it claimed non-existence of dry toilets and manual scavengers. However, according to a survey in 2002-03, Kerala still had 1,339 dry latrines (Department for International Development). It is this non-acknowledgement that has led to the state hardly implementing any welfare schemes or programmes to rehabilitate manual scavengers. With regard to sanitation workers, according to the chairperson of NCSK, sanitation workers in Kerala have

[166] NSKFDC 22nd Annual report 2018-19

[167] These were the only4 districts surveyed.

the best wages and are at a better place socially when compared with sanitation workers in other states (The Hindu, 2019).

A14.6. Urbanisation Challenges (Specific to Sanitation and SWM)

Even though Kerala achieved ODF status in 2016, there are certain areas of sanitation and SWM which needs to improve. There aren't many faecal sludge treatment plants in the state. As a result, private tankers suck and collect sewage from septic tanks and illegally dump this in nearby rivers and other water bodies. Also, the coverage of piped sewer system is very less across the state. The existing centralised piped sewerage system installed by the Kerala Water Authority (KWA) only covers Kochi and Trivandrum. As per the 2011 census, almost 56.69 % of the urban households are still connected to septic tanks. There are both technical and institutional dimensions to the problem of septic tanks in the state of Kerala. The septic tanks design does not comply with the national guidelines with reference to planning, design and construction. Local masons are unaware of the existing design and construction guidelines to construct and design the septic tanks. There are multiple agencies involved in operation and maintenance of water and sanitation services in Kerala. Septage management is viewed as private provision with limited role of urban local bodies.

Regarding solid waste management, the state is in high need for access to scientific waste management systems for Non Bio Degradable Waste (NBDW). There are 28 centralised systems to process Bio- Degradable waste which can only treat 10 % of the total bio waste being produced in the state. Another major challenge is marine plastic waste. Kerala has a 560 km long coastline, with an estimated 1057 tonnes of plastic waste littering along the coastline (Suchitwa Mission, 2020). With major urbanisation being largely confined to the coastal areas (Trivandrum, Kochi, Calicut, etc), the management of marine waste requires immediate attention. According to the integrated solid waste management strategy prepared by the state, one of the major challenges with the existing system of waste management is inadequate disposal sites complying to environmental regulations along with leachate treatment/ gas collection facilities (Integrated Solid Waste Management Strategy, 2018).

Due to improper sanitation facilities, the state is frequently dealing with vector borne disease outbreaks such as dengue and chickungunya. The main transmitters of these diseases, mosquitoes, are the outcome of poor sanitation. In addition to this, floods during monsoons, which is a recurrent sight in the state since the last 3 years is a

major challenge due to lack of proper storm water drains and rain water harvesting systems. Stagnant rain water has led to cholera, typhoid, hepatitis and leptospirosis (Live Mint, 2018).Due to poor SWM, illegal dumping of wastes from both households and industries has led to the pollution of various water bodies in the state. This in turn has had an impact on the availability of potable ground water.

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