



SUPREME AUDIT INSTITUTION OF INDIA
लोकहितार्थं सत्यनिष्ठा
Dedicated to Truth in Public Interest

**Report of the
Comptroller and Auditor General of India
on
Local Bodies
for the period ended March 2022**



**Government of Telangana
Report No. 1 of 2025
(Local Government)**

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Comptroller and Auditor General of India
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Preface

This Report for the year ended March 2022 has been prepared for submission to the Governor of Telangana under the CAG's DPC Act, 1971 for being laid before the Legislature of the State.

The Report contains significant results of the audit of the Panchayati Raj Institutions and Urban Local Bodies in the State including departments concerned.

The issues noticed in the course of test audit for the period 2021-22 as well as those issues which came to notice in earlier years but could not be dealt with in the previous Reports have also been included, wherever necessary.

This Report includes one Performance Audit on 'Solid Waste Management in Urban Local Bodies' and two Compliance Audit Paragraphs.

The audit has been conducted in conformity with Auditing Standards issued by the Comptroller and Auditor General of India.

Overview of the Report

Overview of the Report

Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) fall under Panchayat Raj and Rural Development (PR&RD) and Municipal Administration and Urban Development (MA&UD) departments respectively.

The Audit Reports on Local Bodies have been presented to the State Legislature since March 2008. Total seven Audit Reports (2005-06 to 2013-14 for erstwhile State of Andhra Pradesh excluding 2010-11 and 2011-12) were presented in the State Legislature of Andhra Pradesh and three Audit Reports for the years 2014-15, 2015-16 and 2016-17 in the State Legislature of Telangana.

However, Explanatory notes were not received for any of the paragraphs and reviews included in the above Audit Reports. Separate Committee for Local Bodies was not yet constituted by the State Legislature to discuss these Audit Reports.

This Report of the Comptroller and Auditor General of India (C&AG) on Government of Telangana includes results of one Performance Audit on 'Solid Waste Management in Urban Local Bodies' and two Compliance Audit paragraphs of ULBs.

An overview of the significant audit observations is given below:

Performance Audit

Solid Waste Management in Urban Local Bodies

Municipal Solid Waste Management in urban areas has emerged as one of the biggest challenges that our country faces today. The situation is aggravated by rapid urbanisation. Inadequate management of waste has significant negative externalities in terms of public health and environmental outcomes. Besides, it has an adverse impact on the aesthetic appearance of the surroundings. Effective Solid Waste Management (SWM) requires a comprehensive and integrated approach, involving the Government, waste generators, communities, and individual households. Sustainable waste management practices can minimise the environmental impact of waste and promote a more sustainable and cleaner future.

Some of the key components and strategies involved in Solid Waste Management are (i) Waste minimisation, (ii) Source segregation and sorting, (iii) Collection and Transportation, (iv) Recycling and Resource Recovery, (v) Public Awareness and Capacity Building and (vi) Treatment and Disposal.

In the State of Telangana, there are 142 Urban Local Bodies (ULBs) (13 Municipal Corporations and 129 Municipalities). The urban population as per 2011 census in all these 142 ULBs is 1,44,40,527, out of which population of Greater Hyderabad Municipal Corporation (GHMC) is 67,39,158 (47 per cent).

Solid Waste generated in the State of Telangana (9,965 TPD) constitutes 6.23 *per cent* of the total Solid Waste generated in the country (1,60,039 TPD) as per the Annual Report of Central Pollution Control Board, New Delhi for the year 2020-21.

Government of Telangana (GoT) in compliance with the Solid Waste Management Rules, 2016 had issued State Policy and Strategy on Solid Waste Management in September 2018.

Municipal Administration and Urban Development (MA&UD) Department in the State is entrusted with the responsibility of Solid Waste Management at the State Level. The Municipal Corporations and Municipalities are responsible for SWM at District Level. The Telangana State Pollution Control Board (TSPCB) is a statutory authority entrusted to implement Environmental Laws and Rules within the jurisdiction of the State. TSPCB should enforce the SWM Rules in the State through ULBs and review implementation of these Rules.

The Performance Audit of ‘Solid Waste Management in Urban Local Bodies’ was conducted covering a period of five years from 2017-18 to 2021-22. For this audit, out of 142 ULBs in the State, 15 ULBs were sample selected- (i) GHMC (three Zones: Charminar, Khairatabad and Kukatpally) with two Circles each (Malakpet, Santoshnagar, Khairatabad, Jubilee Hills, Moosapet and Kukatpally) (ii) 2 Municipal Corporations (Khammam and Peerzadiguda) and (iii) 12 Municipalities (Bollaram, Chandur, Haliya, Kalwakurthy, Khanapur, Kothagudem, Mahabubnagar, Mancherial, Nagaram, Wardhannapet, Yellareddy and Zaheerabad).

Significant Audit findings are summarised below:

Chapter-II: Strategy and Planning of Solid Waste Management

- State Policy document on SWM did not set out definite roles and responsibilities for personnel in ULBs involved in SWM. Effective methods for reduction of Solid Waste in ULBs by adopting the 3R (reduce, reuse and recycle) were not addressed in the State Policy document.
- The State Policy objective of restricting the quantity of Solid Waste reaching the secured landfill to maximum of 20 *per cent* of waste generated was achieved only in GHMC, which indicated good practices.
- The test-checked ULBs had not prepared long-term and short-term plans for SWM, which deprived the ULBs of the opportunity of adopting a systematic approach to SWM.

Chapter-III: Financial Management

- The test-checked other 14 ULBs did not make adequate provision of funds for capital investments for Solid Waste Management services and did not fully utilise the funds allocated by the State under Swachh Bharat Mission (SBM)-Urban towards SWM component, leaving 37 *per cent* of funds unutilised as on 31 March 2022.
- Greater Hyderabad Municipal Corporation did not review the mechanism for collection of user charges for MSW from the Railway stations under its limits and not reconciled

the user charges collected from the Railway stations generating more than 100 kgs of MSW per day, as these are to be categorised as Bulk Waste Generators (BWGs) in accordance with SWM, Rules 2016.

- Greater Hyderabad Municipal Corporation failed to collect Tipping fee of ₹47.77 crore from nine Urban Local Bodies, one Gram Panchayat and Secunderabad Cantonment Board.

Chapter-IV: Segregation, Collection and Transportation of Municipal Solid Waste

- Despite issue of bins for source segregation and placement of community/litter bins at strategic collection points, the objective of source segregation was not achieved in the test-checked ULBs, as the MSW collected was either transported in vehicles in a mixed manner or dumped in the dumpsites in a mixed manner without segregation.
- The State Government did not issue guidelines for involvement of and social inclusion of waste pickers/ rag pickers in SWM and there was also no scheme for registration of waste pickers and waste dealers.
- Greater Hyderabad Municipal Corporation paid an amount of ₹313.20 crore to the Concessionaire towards treatment and disposal (T&D) charges of dry waste of 44.16 lakh MT during the period February 2012 to July 2020, despite the Concessionaire not processing the dry waste.

Chapter-V: Processing and Disposal of Municipal Solid Waste

- The Concessionaire company did not create a special Fund for Environment protection measures with a capital cost of ₹34 crore and recurring cost of ₹12 lakh per annum, as per conditions set forth in the Environmental Clearance given by SEIAA for Waste to Energy plant.
- State Government did not allocate suitable lands for establishment of landfill sites in the test-checked other 14 ULBs even after a lapse of more than five years of notification of the SWM Rules, 2016 resulting in more than 50 *per cent* of unprocessed MSW disposed to open dumpsites, posing health and environment hazards in the area.

In the Jawaharnagar Treatment and Disposal (T&D) facility under GHMC jurisdiction, various facilities were established for processing Municipal Solid Waste, *i.e.*, weigh bridges at the entrance of the T&D facility for weighing MSW, Plastic recycling unit, Biogas plant, Refuse Derived Fuel (RDF) unit, Compost yard and the Waste to Energy Plant. The entire T&D facility area was covered with plantation and greenery and had internal roads. These indicated good practices followed for processing and disposal of MSW in the Jawaharnagar T&D facility.

Chapter-VI: Construction and Demolition waste

- The State Government had not notified a State Policy for Construction and Demolition (C&D) Waste Management as of September 2023. Though C&D Waste Processing Plants were set up in GHMC at four places, the GHMC Act, 1955 (Act II of 1956) was not amended to make suitable provisions for C&D waste management.

- The test-checked other 14 ULBs had neither identified suitable places for C&D waste disposal nor prepared a comprehensive plan for setting up of processing facilities to process C&D waste, though mandated as per Telangana Municipalities Act, 2019.
- The Concessionaire company did not operate plant for Construction and Demolition (C&D) waste at full capacity which resulted in accumulation of C&D waste of 3,51,186 MT in Jeedimetla and 7,11,300 MT in Fathullaguda plants as on 31 March 2022.

Fathullaguda and Jeedimetla Construction & Demolition (C&D) waste plants under GHMC jurisdiction provided facilities, like (i) Weighbridge, (ii) Green cover, (iii) approach roads, and (iv) PPE kits to the personnel handling C&D waste, which indicated good practices.

Chapter-VII: Monitoring and Evaluation

- Monitoring by TSPCB on implementation of SWM Rules, 2016 in the State was not effective and also there was no monitoring in Jawaharnagar T&D facility for compliance of the standards of all the parameters, as specified in Schedules-I and II under the Rules and the MSWM Manual, 2016.
- Ward level Committees were not constituted in all the test-checked ULBs for reviewing the performance of SWM activities during the audit period. A dedicated Monitoring & Evaluation Team was not formed for monitoring of SWM activities in all the test-checked ULBs.

Recommendations:

1. *State Government should set definite roles and responsibilities in the State Policy for TSPCB and for the personnel in ULBs regarding monitoring and evaluation of SWM activities.*
2. *State Government should promote waste minimisation through the adoption of the 3R approach (reduce, reuse, recycle) and should encourage citizens to practice home composting.*
3. *State Government should direct ULBs to conduct surveys at regular intervals for assessment of MSW as per methodology prescribed in the MSWM Manual and SLB Handbook of MoUD, GoI.*
4. *State Government should issue necessary directions to the ULBs for preparation of long-term and short-term plans for a systematic approach to SWM and to plan for required infrastructure.*
5. *State Government should direct the ULBs to make adequate budget provision towards SWM and effectively utilise the SBM-Urban funds received towards SWM component for creating adequate infrastructural facilities.*
6. *State Government should direct GHMC for undertaking periodical revision of user charges for household MSW collection, to notify area-wise rates and variable rates based on the category of the waste generators.*

7. *State Government should direct the ULBs to identify BWGs and apply the prescribed user charges rates for collection of MSW.*
8. *State Government should direct the ULBs to review the mechanism of collection of user charges for MSW from all the Railway stations under the ULBs jurisdiction in consonance with the Manual provisions.*
9. *State Government should direct the ULBs to ensure 100 per cent collection, segregation of MSW at household level and transportation of segregated waste to the Treatment and Disposal facilities.*
10. *State Government should direct the ULBs to notify the items classified as DHW and Sanitary waste and publicise the methodologies and appropriate strategies for their effective disposal in consonance with MSWM Manual provisions.*
11. *State Government should direct the TSPCB to reconcile the data on Municipal Solid Waste with the figures available with the ULBs before it is incorporated in the Annual Report on implementation of SWM Rules, 2016.*
12. *State Government should formulate guidelines for involvement of and social inclusion of waste pickers/ rag pickers of informal sector in SWM and also evolve a scheme for registration of waste pickers and waste dealers as mandated in the State Policy.*
13. *State Government should develop action plans for allocating suitable lands to ULBs for establishing sanitary landfill sites and also for setting up of MSW T&D facilities with necessary infrastructure.*
14. *State Government should notify a State Policy for C&D Waste Management and allocate suitable lands to the ULBs for proper disposal of C&D waste.*
15. *State Government should direct GHMC to make suitable provisions for C&D waste management in GHMC Act.*
16. *State Government should direct the TSPCB for ensuring monitoring of the implementation of SWM Rules, 2016 in the State and to take action on ULBs dumping MSW in water bodies.*
17. *State Government should direct the ULBs for constitution of Ward level Committees for reviewing the performance of SWM activities and also to set up dedicated Monitoring & Evaluation Team in all the ULBs to monitor the SWM activities.*

Compliance Audit Paragraphs

Incorrect levy of Environment Impact Fee of ₹2.29 crore

Greater Hyderabad Municipal Corporation failed to comply with Government orders on levy and collection of Environment Impact fee while granting Building Permissions, resulting in loss of revenue of ₹2.29 crore to the Government.

(Paragraph 1.1/Part-III)

Short collection/remittance of Library Cess

Short collection/ remittance of Library Cess amounting to ₹324.96 crore by Urban Local Bodies in the State had resulted in non-compliance to the Telangana Public Libraries Act, 1960 provisions and legislative intention of funding the Zilla Grandhalaya Samsthas was not achieved.

(Paragraph 1.2/Part-III)

PART - I

Overview

Chapter I

Introduction

Chapter I Introduction

1.1 Panchayati Raj Institutions in the State

Government of India (GoI) enacted (1992) the 73rd Amendment to the Constitution to empower Panchayati Raj Institutions (PRIs) as local self-governing institutions to ensure a more participative governing structure in the country. In the erstwhile composite State of Andhra Pradesh, the State Government enacted Andhra Pradesh Panchayat Raj (APPR) Act, 1994 repealing all the existing Acts, to establish a three-tier system *viz.*, Gram Panchayat (GP), Mandal Praja Parishad (MPP) and Zilla Praja Parishad (ZPP) at Village, Mandal and District levels respectively.

Post-bifurcation of the composite State of Andhra Pradesh and formation of the State of Telangana in June 2014, the Government of Telangana enacted Telangana Panchayat Raj Act (TPR Act), 2018 effective from 18 April 2018.

1.1.1 Profile of Panchayati Raj Institutions in the State

The profile of PRIs in the State is given in **Table-1.1**.

Table-1.1: Profile of PRIs in the State

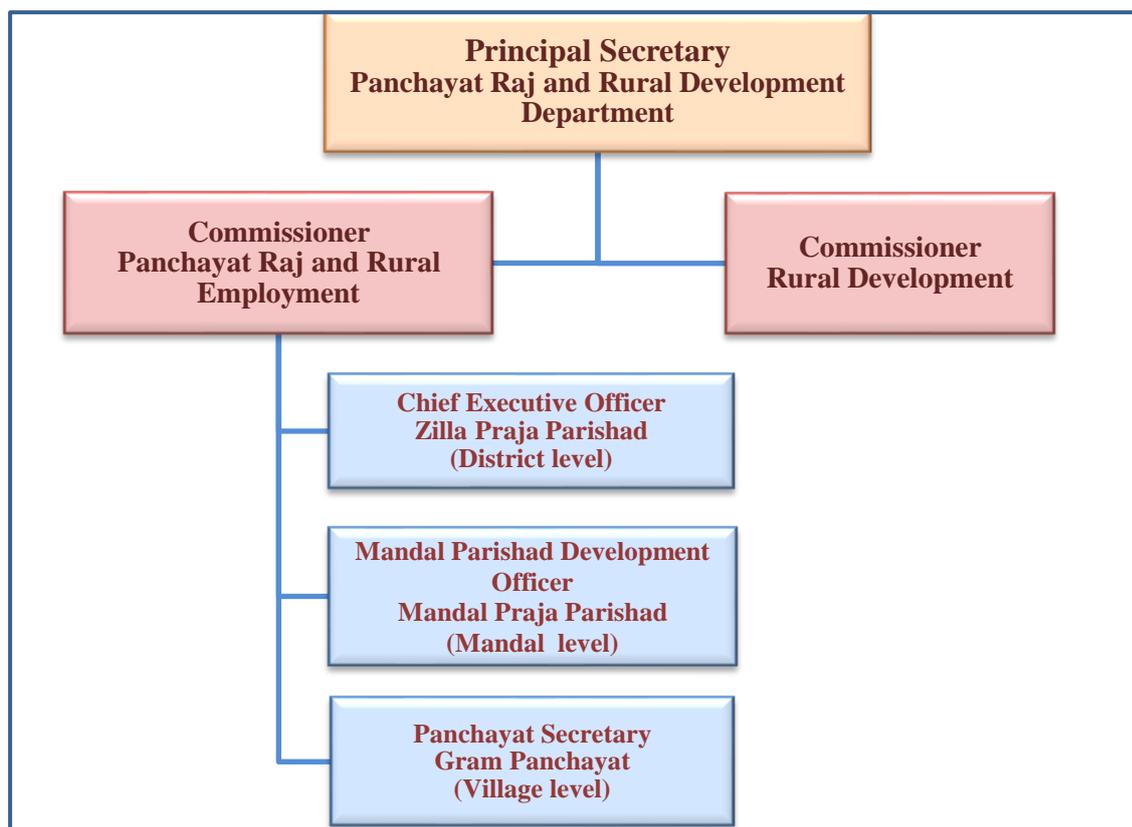
Indicator	Unit	State Statistics
Area	Sq.km	1,12,077
Mandal/Tehsils (Urban and Rural)	Number	594
Revenue Villages (Census 2011)	Number	10,434
Total Population (Census 2011)	Crore	3.50
Rural population	Crore	2.14
Rural sex ratio	Females per 1,000 Males	999
Density	Persons per Sq.km	312
Rural literacy rate	Percentage	57.30
Male literacy rate	Percentage	75.04
Female literacy rate	Percentage	57.99
Scheduled Caste Population	Percentage	15.45
Scheduled Tribe Population	Percentage	9.08
Zilla Praja Parishads (Rural Districts except Hyderabad)	Number	32
Mandal Praja Parishads (Rural Mandals)	Number	539
Gram Panchayats	Number	12,769

Source: Information furnished by Director, Panchayat Raj and Rural Employment and Telangana at a Glance 2022 prepared by Directorate of Economics and Statistics, Government of Telangana available at <https://ecostat.telangana.gov.in>

1.1.2 Organisational setup of PRIs

Organisational arrangements for the PRIs is given in **Chart-1.1**.

Chart-1.1



The Director, Panchayat Raj & Rural Employment (PR&RE) informed (January 2023) that elections to all the 32 ZPPs and 536 MPPs were last conducted in 2019. Out of 12,769 GPs, elections were last conducted in 2019 for 12,680 GPs. In the remaining 89 GPs, elections were not conducted either due to Court orders or non-availability of candidates.

The elected members of ZPP, MPP and GP are headed by Chairperson, President and Sarpanch respectively. They convene and preside over the meetings of Standing Committees and General Body.

1.2 Urban Local Bodies in the State

Government of India (GoI) enacted (1992) the 74th Amendment to the Constitution to empower Urban Local Bodies (ULBs) to perform effectively as local self-governing institutions. Article 243W of the 74th Constitutional Amendment Act, 1992 authorised the State Legislatures to enact laws to endow local bodies with powers and authority as may be necessary to enable them to function as institutions of self-governance and make provisions for devolution of powers and responsibilities.

In the composite State of Andhra Pradesh, the State Government enacted Andhra Pradesh Municipal Corporations Act, 1994 to set up Municipal Corporations in the State. Provisions of Hyderabad Municipal Corporation (HMC) Act, 1955 including the provisions relating

to levy and collection of taxes or fees were extended to all other Municipal Corporations in the State. Municipalities were however, governed by the Andhra Pradesh Municipalities Act, 1965.

Subsequently, post-bifurcation of the State of Andhra Pradesh, Government of Telangana enacted Telangana Municipalities Act, 2019¹ to consolidate and provide for the constitution of Municipalities (Municipal Councils and Municipal Corporations) other than the Greater Hyderabad Municipal Corporation, which continued to be covered under the Greater Hyderabad Municipal Corporation (HMC) Act, 1955².

1.2.1 Profile of Urban Local Bodies in the State

The profile of ULBs in the State is given in **Table-1.2**.

Table-1.2: Profile of ULBs in the State

Indicator	Unit	State Statistics
Urban population	Crore	1.36
Male	Lakh	69.07
Female	Lakh	67.02
Urban sex ratio	Females per 1000 Males	970
Urban literacy rate	Percentage	81.09
Municipal Corporations	Number	13
Municipalities	Number	129
Urban Households	Lakh	31.35

Source: Telangana at a glance-2022

1.2.2 Organisational setup of Urban Local Bodies

Organisational arrangements for the ULBs are given in **Chart-1.2**.

Chart-1.2



¹ Prior to enactment of Telangana Municipalities Act, 2019, the Municipalities in the State of Telangana were covered under 'Andhra Pradesh Municipalities Act, 1965' and Municipal Corporations were covered under 'Andhra Pradesh Municipal Corporations Act, 1994' which were adopted by the State of Telangana as per Andhra Pradesh Reorganisation Act, 2014

² The Hyderabad Municipal Corporations Act, 1955 has been renamed as Greater Hyderabad Municipal Corporation Act, 1955 (GHMC Act) in 2007

The Urban Local Bodies are under the administrative control of the Commissioner and Director of Municipal Administration (CDMA). The Municipalities and Corporations transact their business as per the provisions of the Acts concerned. Day-to-day administration of all the ULBs rests with the Commissioners concerned. There are 142 ULBs in the State of Telangana (GHMC and 141 ULBs³).

Out of 141 ULBs (12 Municipal Corporations and 129 Municipalities), elections were conducted to 12 Municipal Corporations in the years 2020 and 2021 and elections to 125 Municipalities were conducted in the years from 2018 to 2021. Elections were not conducted in three Municipalities⁴ due to non-extension of TM Act, 2019 to these Municipalities located in Scheduled Areas and in one Municipality at Zaheerabad due to pending Court cases. Besides these, elections for GHMC were conducted in December 2020.

³ Municipal Corporations:12 and Municipalities:129

⁴ Mandamarri, Manuguru and Palwancha

Chapter II

Panchayati Raj Institutions

Chapter II

Panchayati Raj Institutions

2.1 An Overview of the functioning of the Panchayati Raj Institutions in the State

2.1.1 Functioning of Panchayati Raj Institutions

The Eleventh Schedule to the 73rd Constitutional Amendment Act, 1992 lists 29 subjects for devolution to strengthen the PRIs. Director, PR&RE Hyderabad informed (October 2022) that the State Government devolved 10 functions⁵ to PRIs. Funds relating to devolved functions are released to PRIs through line Departments⁶ concerned.

Audit enquired about the details of line departments concerned responsible for release of funds for implementation of each devolved function during 2021-22. Director, PR&RE, Hyderabad informed (January 2023) that during 2021-22, only Fisheries Department released funds amounting to ₹ 1.24 crore to PRIs for Fisheries related functions in three⁷ out of thirty-two districts in the State (excluding Hyderabad) and an expenditure of ₹1.02 crore⁸ was incurred out of the releases by these three districts.

2.1.2 Formation of various Committees

2.1.2.1 Constitution of Standing Committees

Section 183 and 49 of TPR Act, 2018 mandates constitution of various Standing Committees at ZPP⁹ and GP¹⁰ levels respectively.

Director, Panchayat Raj & Rural Employment informed (August 2023) that Standing Committees were constituted in all the 32 ZPPs and in all the 12,769 GPs.

⁵ (i) Agriculture and Agriculture Extension (ii) Animal Husbandry, Dairy and Poultry (iii) Drinking Water (iv) Education, including Primary, Secondary and Adult Education and non-formal education, (v) Fisheries (vi) Health and Sanitation (vii) Poverty Alleviation Programme (viii) Women and Child Development (ix) Social Welfare, including Welfare of the Handicapped and Mentally retarded and (x) Welfare of the Weaker sections and in particular of the Scheduled Castes and Scheduled Tribes

⁶ Line departments are Government Departments at the State level, with mandates related to specific thematic sectors
⁷ Jagtial (₹62.64 lakh), Kumuram Bheem-Asifabad (₹0.37 lakh) and Nalgonda (₹60.89 lakh)

⁸ Jagtial (₹62.64 lakh), Kumuram Bheem-Asifabad (₹0.37 lakh) and Nalgonda (₹38.62 lakh)

⁹ Standing Committee for Works, Planning and Finance (ii) Standing Committee for Rural Development (iii) Standing Committee for Agriculture (iv) Standing Committee for Education and Medical Services (v) Standing Committee for Women Welfare (vi) Standing Committee for Social Welfare, and (vii) Standing Committee for Works

¹⁰ (i) Sanitation, dumping yard and burial ground, (ii) Street lights (iii) Plantation and Green cover improvement and (iv) works and shandies

2.1.2.2 Constitution of District Planning Committees

Section 3 of The Telangana District Planning Committees Act, 2005¹¹ mandates that a District Planning Committee (DPC) be constituted at district level. The DPC has to consolidate the plans prepared by the Panchayats in the district and to prepare a Draft Development Plan (DDP) for the district as a whole.

The District Planning Committee was constituted in 10¹² out of 32 districts (excluding Hyderabad). The status of submission of plans by the GPs in the ten districts to the respective DPCs are given in **Table-2.1**.

Table-2.1: Status of submission of plans by the Gram Panchayats

Sl. No.	Name of the District	Month and Year of constitution of DPC	No of GPs in the District	No of GPs which forwarded Development Plans to DPC
1.	Bhadradi-Kothagudem	May 2021	480	0
2.	Hanumakonda	April 2021	208	0
3.	Khammam	April 2021	589	589
4.	Mancherial	February 2021	310	0
5.	Mulugu	July 2021	174	0
6.	Nagarkurnool	April 2021	461	461
7.	Rangareddy	June 2021	558	558
8.	Siddipet	April 2021	499	0
9.	Wanaparthy	July 2019	255	255
10.	Warangal (Rural)	April 2021	401	401

Source: Information furnished by the Director, PR&RE and Administrative & Geographical Profile

2.1.3 Sources of funds

Resource base of PRIs consists of

- i. Own revenue generated by collection of tax¹³
- ii. Non-tax¹⁴ revenues
- iii. Devolution at the instance of State and Central Finance Commissions, Central and State Government grants for maintenance and development purposes
- iv. Other receipts¹⁵

¹¹ The Andhra Pradesh District Planning Committees Act, 2005 received the assent of the Governor on the 15th November, 2005. The said Act in force in the combined State, as on 02 June 2014, has been adapted to the State of Telangana, under section 101 of the Andhra Pradesh Reorganisation Act, 2014 (Central Act 6 of 2014) vide the Telangana Adaptation of Laws Order, 2016, issued in G.O.Ms.No.45, Law (F) Department, dated 01 June 2016

¹² Bhadradi-Kothagudem, Hanumakonda, Khammam, Mancherial, Mulugu, Nagarkurnool, Rangareddy, Siddipet, Wanaparthy and Warangal (Rural)

¹³ Property tax, advertisement fee, etc.

¹⁴ Water tax, rents from markets, shops and other properties, auction proceeds etc.

¹⁵ Donations, interest on deposits etc.

Summary of receipts of PRIs for the years 2017-18 to 2021-22 is given in **Table-2.2**.

Table-2.2: Summary of receipts of PRIs for the years 2017-18 to 2021-22

(₹ in crore)						
Sl. No.	Receipts	2017-18	2018-19	2019-20	2020-21	2021-22
1	Own Revenue	21.64	25.30	29.18	31.79	27.43
2	Assigned Revenue ¹⁶	128.57	153.41	180.58	33.13	20.91
3	State Government Grants including Finance Commission grants	99.57	121.51	879.91	1,991.42	2,047.02
4	GoI Grants including Finance Commission grants	959.99	1,091.17	1,607.67	2,264.83	1,805.22
5	Other Receipts	61.89	73.94	74.76	105.23	444.30
Total		1,271.66	1,465.33	2,772.10	4,426.40	4,344.88

Source: Director, Panchayat Raj and Rural Employment

It could be seen from **Table-2.2** that there was reduction in collection of assigned revenue in the years 2020-21 and 2021-22 when compared to 2019-20. This was due to non-transfer of surcharge on Stamp Duty by Registration and Stamps Department, as the transfer of amounts was kept in abeyance in compliance with Treasuries & Accounts Department's instructions (January 2020¹⁷). However, reduction in Assigned revenue was compensated by increase in Grants from GoI and State Government during the years 2020-21 and 2021-22.

2.1.3.1 Financial Assistance to Panchayati Raj Institutions

The quantum of financial assistance provided by the State Government to PRIs by way of grants or loans for the years 2017-18 to 2021-22 is given in **Table-2.3**.

Table-2.3: Quantum of financial assistance provided by the State Government to PRIs by way of grants or loans for the years 2017-18 to 2021-22

(₹ in crore)					
Details	2017-18	2018-19	2019-20	2020-21	2021-22
Budget	723.12	677.07	973.91	1,413.00	1,913.39
Actual Release	694.33	1,655.13	769.06	1,690.55	2,177.77
Expenditure	995.60	806.29	1,200.75	1,547.38	1,446.26

Source: Director, Panchayat Raj and Rural Employment

It could be seen from **Table-2.3** that the actual releases were more than budget for the years 2018-19, 2020-21, 2021-22 and the expenditure was more than actual releases for the years 2017-18 and 2019-20. Though clarification on this was called for (August 2023) from the Office of the Commissioner, PR&RE, a reply is still awaited as of March 2024.

¹⁶ Seigniorage fee and surcharge on stamp duty collected by Departments of Mines and Geology and Stamps and Registration are apportioned to Local Bodies in the form of assigned revenue

¹⁷ Letter No. F4/827/2016, dated 08 January 2020 addressed to Finance Department by Director of Treasuries and Accounts, Telangana

2.1.3.2 Application of funds

Summary of expenditure incurred by PRIs for the years 2017-18 to 2021-22 is given in **Table-2.4**.

Table-2.4: Summary of Revenue and Capital expenditure for the years 2017-18 to 2021-22

(₹ in crore)						
Sl. No.	Type of expenditure	2017-18	2018-19	2019-20	2020-21	2021-22
1	Revenue expenditure	307.39	227.68	304.80	301.08	306.72
2	Capital expenditure	284.92	285.99	388.38	378.81	253.76
Total		592.31	513.67	693.18	679.89	560.48

Source: Director, Panchayat Raj and Rural Employment

2.1.4 Recommendations of the State Finance Commission

As per Article 243-I of the Constitution and Section 244 of TPR Act, 2018, the State Finance Commission (SFC) has to be constituted once in five years to recommend devolution of funds from the State Government to Local bodies. Government of Telangana issued orders for constitution of the first SFC in March 2015¹⁸. However, Chairman and Members of the first SFC were appointed¹⁹ in January 2018 *i.e.*, after two years of constitution of the first SFC.

The First SFC submitted its report to the State Government in October 2020 and the recommendations are yet to be accepted by the Government (March 2023). During 2021-22, the State Government released ₹ 1,658.72 crore to PRIs and the entire amount was spent as of March 2022.

The term of the First SFC has been completed by March 2020 and the Second SFC was not constituted as of March 2023.

2.1.5 Recommendations of Central Finance Commissions

2.1.5.1 Fourteenth Finance Commission

The Fourteenth Finance Commission recommended assured transfer of funds to the local bodies for planning and delivering basic services²⁰. Grants are released under two components, *i.e.*, Basic grant and Performance grant in the ratio of 90:10.

The Director, Panchayat Raj & Rural Employment informed (January 2023) that Government of India released ₹3,570.63 crore during 2017-20 to the State and the entire amount was released to PRIs. The expenditure details for the releases were not furnished to Audit as of March 2024.

¹⁸ G.O.Ms.No.31 PR&RD (Pts.III) Department dated 16 March 2015

¹⁹ G.O.No.1 PR&RD (Pts.III) Department dated 03 January 2018

²⁰ including water supply, sanitation including septic management, sewage and solid waste management, storm water drainage, maintenance of community assets, maintenance of roads, footpaths, street lighting, burial and cremation grounds

2.1.5.2 Fifteenth Finance Commission

The Fifteenth Finance Commission (2021-2026) recommended that out of the total grant earmarked for PRIs, 60 *per cent* be earmarked (**Tied grants**) for national priorities, *viz.*, drinking water supply, rainwater harvesting and sanitation. The remaining 40 *per cent* of the grants (refer to as **Untied or Basic grants**) could be utilised by the PRIs under the 29 subjects enshrined in the Eleventh Schedule to the Constitution, except for salaries & other establishment costs. However, the expenditure required for auditing of accounts by the State Government approved external agencies may be borne from this grant.

During 2021-22, against the allocated total grants of ₹1,365 crore, the GoI released ₹ 682.50 crore as 1st instalment of grants to the State which was released to the PRIs. In addition, the State Government released ₹ 682.50 crore to the PRIs as 2nd instalment in anticipation of releases from GoI. However, against expenditure of ₹1,305.92 crore, Utilisation Certificate (UC) was given for ₹1,365 crore.

Besides this, an amount of ₹134.24 crore was released by GoI to the State Government in 2021-22 under Health Sector grants for PRIs, which was not spent as of March 2022.

2.1.6 Audit mandate

2.1.6.1 Primary Auditor

The Director, State Audit (DSA), functioning under the administrative control of Finance Department, is the statutory auditor for PRIs under the Telangana State Audit Act, 1989²¹. The DSA has two Regional Offices and thirty-three district offices in the State. As per Section 10 of the Act, the DSA is empowered to initiate surcharge proceedings against the persons responsible for causing loss to the funds of local authorities. Such amounts are to be recovered by the executive authority concerned under Revenue Recovery (RR) Act.

(A) Preparation of Annual Consolidated Audit and Review Report

Section 11(2) of the Act mandates that the DSA shall prepare an annual Consolidated Audit and Review Report (CARR) for presentation to the State Legislature.

The Director, State Audit informed (December 2022) that audit of accounts of all the PRIs for the years up to 2020-21 were completed. The CARR for the years 2017-18 and 2018-19 were submitted (March 2022) to the State Government and were placed in the State Legislature on 15 February 2024. The CARR for the years 2019-20 and 2020-21 are yet to be submitted to the State Government. It was also informed that regarding CARR for 2021-22, the PRIs audit was completed and after completion of audit of ULBs, the CARR for 2021-22 would be prepared.

²¹ The Andhra Pradesh State Audit Act, 1989 received the assent of the Governor on the 19 April, 1989. The said Act in force in the combined State, as on 02 June 2014, has been adapted to the State of Telangana, under section 101 of the Andhra Pradesh Reorganisation Act, 2014 (Central Act 6 of 2014) in accordance with The Telangana Adaptation of Laws Order, issued in GO.Ms.No.45, Law(F) Department dated 01 June 2016

(B) Levy and recovery of surcharge

As per Section 10 of the Act, DSA is empowered to initiate surcharge proceedings against the persons responsible for causing loss to the funds of local authorities. Such amounts are to be recovered by the executive authority concerned under the Revenue Recovery (RR) Act.

The Director, State Audit informed (December 2022) that during 2021-22, 49 Surcharge Certificates for ₹0.45 crore was issued to the GPs, out of which ₹0.02 crore in respect of eight cases were recovered, leaving 41 cases for an amount of ₹0.43 crore pending recovery as of March 2022.

Further, 56 Surcharge Certificates²² for ₹0.72 crore pertaining to years prior to 2021-22 were pending for recovery as of March 2022.

2.1.6.2 Audit by Comptroller and Auditor General of India

Based on the recommendations of the Eleventh Finance Commission, State Government entrusted (August 2004) CAG with the responsibility of providing Technical Guidance and Supervision (TGS) in connection with the accounts and audit of Local Bodies under Section 20(1) of CAG's (DPC) Act.

Based on a test-check of PRIs, a TGS Note is prepared at the end of each financial year and forwarded to the DSA for improving the quality of their reports. TGS note for the year 2021-22 was issued in August 2023.

Planning and conduct of audit

The Audit process commences with assessment of risk²³, based on expenditure incurred, criticality/complexity of activities, priority accorded for the activity by Government, level of delegated financial powers, assessment of internal controls and concerns of stakeholders.

Previous audit findings are also considered in this exercise. Based on this risk assessment, frequency and extent of audit is decided and an Annual Audit Plan formulated. During 2021-22, 34 PRIs (4 ZPPs, 6 MPPs and 24 GPs), falling under the Department of Panchayat Raj and Rural Development, were covered in audit.

2.1.7 Response to Audit Observations

After completion of audit, Inspection Reports (IRs) containing audit findings are issued to the head of the unit concerned. Heads of offices and next higher authorities are required to respond to observations contained in IRs within one month and take appropriate corrective action. Audit observations communicated in IRs are also discussed in meetings at district level by officers of the PR&RD Department with officers of Accountant General's office.

As of August 2023, 258 IRs containing 2,886 paragraphs from 2014-15 to the period up to 2021-22 were pending settlement, as given in **Table-2.5**. Of these, initial replies had not been received in respect of 16 IRs and 232 paragraphs.

²² MPP: 2 cases (₹11,533) and GPs: 54 cases (₹72,07,496)

²³ of department/local body/scheme/programme etc.

Table-2.5: Inspection Reports and Paragraphs issued for the years 2017-18 to 2021-22 and pending settlement

Year	Number of IRs /Paragraphs		IRs/Paragraphs where even initial replies have not been received	
	IRs	Paragraphs	IRs	Paragraphs
Upto 2017-18	114	1,441	6	90
2018-19	58	480	3	44
2019-20	52	498	3	40
2020-21	10	127	1	15
2021-22	24	340	3	43
Total	258	2,886	16	232

Lack of action on IRs was fraught with the risk of serious financial irregularities pointed out in these reports remaining unaddressed.

The Audit Reports on Local Bodies have been presented to the State Legislature since March 2008. Total seven Audit Reports (2005-06 to 2013-14 for erstwhile State of Andhra Pradesh excluding 2010-11 to 2011-12) were presented in the State Legislature of Andhra Pradesh.

The Audit Reports for the years 2014-15, 2015-16 and 2016-17 pertaining to the Government of Telangana were presented in the State Legislature and tabled on 30 March 2016, 27 March 2017 and 29 March 2018 respectively.

However, Explanatory notes were not received to any of the paragraphs and reviews included in the above Audit Reports and these Audit Reports were not taken up for discussion since 2008.

2.2 Accountability framework and Financial Reporting issues

2.2.1 Accounting framework

2.2.1.1 Ombudsman

The Thirteenth Finance Commission had recommended establishment of an independent Local Body Ombudsman system. The Director, PR&RE stated (January 2023) that the Ombudsman system was not adopted in Telangana. However, the State Government adapted the Andhra Pradesh Lokayukta Act, 1983 (A.P. Act 11 of 1983) along with other Acts and Rules²⁴ to take up complaints against the functionaries and elected representatives of PRIs.

The Director, Panchayat Raj & Rural Employment informed (January 2023) that a report was submitted to Lokayukta in respect of four cases registered during 2021-22 and these cases were pending for disposal as of January 2023.

²⁴ The Telangana Adaptation of Laws Order, issued in GO.Ms.No.45, Law(F) Department dated 01 June 2016

2.2.1.2 Social Audit

Social Audit involves verification of implementation of programme/scheme and delivery of its envisaged results by the community with active involvement of primary stakeholders. In May 2009, the erstwhile State Government in the composite State of Andhra Pradesh created an independent autonomous body called the Society for Social Audit, Accountability and Transparency (SSAAT). Post-bifurcation of the composite State of Andhra Pradesh into Telangana and Andhra Pradesh with effect from 02 June 2014, the existing Society was retained with Telangana State.

Society for Social Audit, Accountability and Transparency was set up by the Department of Rural Development, Government of Telangana to conduct social audits of flagship programme Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

Society for Social Audit, Accountability and Transparency will primarily work in the areas of:

- Working towards strengthening and deepening the social audit process
- Enabling and supporting the Gram Sabha in conducting Social Audits of programmes benefitting the poor people
- Working with and strengthening the administrative machinery and ensuring it continues to be responsive to the Social Audit process and accountable for its activities

The specific objectives of the SSAAT are:

- a. To create an enabling environment for the conduct of impartial and objective social audits in Telangana.
- b. To ensure that the social audit process remains autonomous from mainstream government administration as well as the implementing agency at all times.
- c. To be responsible for social audits of the MGNREGA and other Government programme/schemes benefitting the poor in Telangana.
- d. To build grassroots capacity (both civil society and citizens) to conduct social audits for Government programmes.

During 2021-22, out of 12,769 GPs, SSAAT planned for conduct of Social Audits in 3,904 GPs and conducted audit in 3,739 GPs in respect of Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

Society for Social Audit, Accountability and Transparency attributed (January 2023) the shortfall in coverage in audit of GPs due to outbreak of Covid-19 Pandemic, shortage in allocation and release of funds to Social Audit Units.

The Director, Society for Social Audit, Accountability and Transparency informed (December 2023) that during the year 2021-22, SSAAT found deviations and misappropriations amounting to ₹22.01 crore, of which ₹21.99 crore were accepted (99 *per cent* of total deviations) by the Presiding Officers²⁵ concerned. Final orders for

²⁵ District Programme Officer nominates a senior officer not less than the rank of the Additional District Programme Coordinator for presiding over the public hearing

recovery were issued in respect of deviations/ misappropriations of ₹ 1.80 crore including penalty amount of ₹0.18 crore and the entire the amount was recovered.

2.2.2 Submission of Utilisation Certificates

Scheme guidelines of Centrally Sponsored Schemes (CSS) and Central Finance Commissions (CFCs) stipulate that Utilisation Certificates should be obtained by departmental officers from the grantees and after verification should be forwarded to GoI.

During 2021-22, State Government forwarded UCs to GoI for the total releases of ₹ 1,365 crore in respect of Fifteenth Finance Commission grants while UCs are pending for submission for an amount of ₹ 134.24 crore which was released to Rural Local Bodies under Health Sector. Besides, UCs for grants related Fourteenth Finance Commission for ₹ 3.96 crore were also pending to be submitted by eight test-checked GPs²⁶.

2.2.3 Internal Audit and Internal Control System of Panchayati Raj Institutions

The Panchayat Raj Officers delegation of Powers Rules, 2000 mandates that the Commissioner shall inspect all ZPPs once in a year and submit copies of inspection notes for review by the Government. The Director, PR&RE informed (January 2023) that during 2021-22, 10 inspections were conducted in 4²⁷ out of 32 districts.

As per Section 51(3)(b) of TPR Act, 2018 the Government or Commissioner or District Collector may appoint District Panchayat Officer, Divisional Panchayat Officer and Extension Officers (PR&RD) necessary for the purpose of inspecting and superintending the operations of all or any of the GPs.

The year-wise status on inspections carried out by various authorities during 2017-18 to 2021-22 called for was not furnished to Audit as of March 2024.

2.2.4 Maintenance of Records

Para 2.5.3 and 4.10.1 of Manual of Instructions for Audit of Panchayati Raj Institutions of C&AG of India stipulates maintenance of records viz., Cash book, Asset Register, Stock Register, etc.

Test-check of records of 34 PRIs during 2021-22 showed that Cash book was not properly maintained²⁸ in nine²⁹ PRIs (27 per cent). In five³⁰ PRIs (15 per cent) stores and stock registers were not maintained.

2.2.4.1 Physical verification of stores and stock

Article 143 of Telangana State Financial Code stipulates that all stores and stock should be verified physically once a year and a certificate to this effect be recorded by the Head of the Office in the Register concerned. Test-check of records of 34 PRIs during 2021-22

²⁶ Ameerpet, Batasingaram, Fasalwadi, Gaddapotharam, Ismail Khanpet, Khazipally, Tharamatipet and Thummaloor

²⁷ Adilabad (3 inspections), Bhadradi-Kothagudem (3 inspections), Jangoan (2 inspections) and Narayanpet (2 inspections)

²⁸ Cash Book not produced to Audit and reconciliation/attestations were not done by Drawing and Disbursing Officer etc.

²⁹ MPP: Khammam (Rural); GPs: Ameerpet, Anajpur, Gaddapotharam, Ismailkhanpet, Khazipalle, Madharam, Maheswaram and Tharamathipet

³⁰ MPP: Sangareddy; GPs: Batasingaram, Gaddapotharam, Ismailkhanpet and Khazipalle

revealed that annual physical verification of stores and stock was not conducted in respect of three PRIs³¹ (9 per cent).

2.2.4.2 Non-reconciliation of departmental figures with treasury

Paragraph 19.6 of Telangana Budget Manual, stipulates that the DDOs are required to reconcile departmental receipts and expenditure with those booked in treasury every month to avoid any misclassification and fraudulent drawals. Reconciliation in respect of six PRIs³² test-checked was pending as of March 2022.

2.2.4.3 Cases of misappropriation

Telangana State Financial Code stipulates responsibilities of Government servants in dealing with Government money, the procedure for fixing responsibility and recovery for any loss. State Government had ordered (February 2004) the departmental Secretaries to review cases of misappropriations on a monthly basis. The Chief Secretary to Government was to review these cases once in six months with all the Secretaries concerned. Misappropriation cases noticed by the Director, State Audit which were pending from 2014-15 for disposal as of March 2022 are given in **Table-2.6**.

Table-2.6: Details of misappropriation cases pending

(₹ in crore)

Unit	Up to 2021-22	
	No. of cases	Amount
Zilla Praja Parishads	19	0.09
Mandal Praja Parishads	91	0.72
Gram Panchayats	4,180	34.56
Total	4,290	35.37

Source: Director, State Audit

The State Government may take urgent action to investigate these issues and recover the losses from the persons responsible for it. Internal controls should also be strengthened to prevent such incidents.

2.2.5 Maintenance of Accounts by Panchayati Raj Institutions

The Panchayati Raj Institutions maintain accounts on cash basis. A Model Accounting System was prescribed by GoI in consultation with the Comptroller and Auditor General of India. State Government issued orders (September 2010) for adopting this format using PRIASoft³³ developed by National Informatics Centre (NIC).

The Director, Panchayat Raj & Rural Employment informed (January 2023) that online accounting software (PRIASoft) was implemented in all the PRIs.

The Status on Certification of Accounts in PRIs for the years 2017-18 to 2021-22 is given in **Table-2.7**.

³¹ ZPPs: Kamareddy; and MPPs: Jinnaram and Khammam (Rural)

³² GPs: Batasingaram, Fasalwadi, Gaddapotharam, Ismailkhanpet, Khazipalle and Madharam

³³ Panchayati Raj Institutions Accounting Software

Table-2.7: Status on Certification of Accounts in PRIs for the years 2017-18 to 2021-22

Name of the PRI	Number of Units	Certification of Accounts completed				
		2017-18	2018-19	2019-20	2020-21	2021-22
ZPP	32	11	11	31	31	29
MPP	539	385	385	460	459	435
GP	12,769	9,360	12,209	12,761	12,769	12,701

Source: Information furnished by Director, PR&RE

2.2.6 Issues related to Abstract Contingent/ Detailed Contingent Bills

As per Government orders³⁴, an amount drawn on Abstract Contingent (AC) bills should be adjusted by submitting Detailed Contingent (DC) bill for the expenditure incurred, to the Accountant General (Accounts & Entitlements) with supporting vouchers within one month of drawal of such amount.

The Director, Panchayat Raj & Rural Employment informed (January 2023) that an amount of ₹ 26.95 crore was drawn on AC bills during 2019 to 2021 by five ZPPs in the State for which DC bills were pending for ₹ 24.63 crore as of March 2022.

2.2.7 Maintenance of database and the formats therein on the finances of Panchayati Raj Institutions

Government of India had released ₹ 648.27 crore during 2021-22 to State Government for creation of database on finances of PRIs under Fifteenth Finance Commission. Of this, the State Government transferred ₹ 644.41 crore during 2021-22 to Commissioner, Panchayat Raj, Telangana.

The Director, Panchayat Raj & Rural Employment stated (January 2023) that an amount of ₹ 166.11 crore was incurred towards creation of database on finances.

³⁴ GO Ms. No.285 Finance (TFR-II) Department dated 15 October 2005, Telangana Treasury Code, Rule 16, sub rule 18 (d) and GO Ms. Nos. 391 and 507 of April/May 2002 of Finance Department

Chapter III

Urban Local Bodies

Chapter III

Urban Local Bodies

3.1 An Overview of the functioning of the Urban Local Bodies in the State

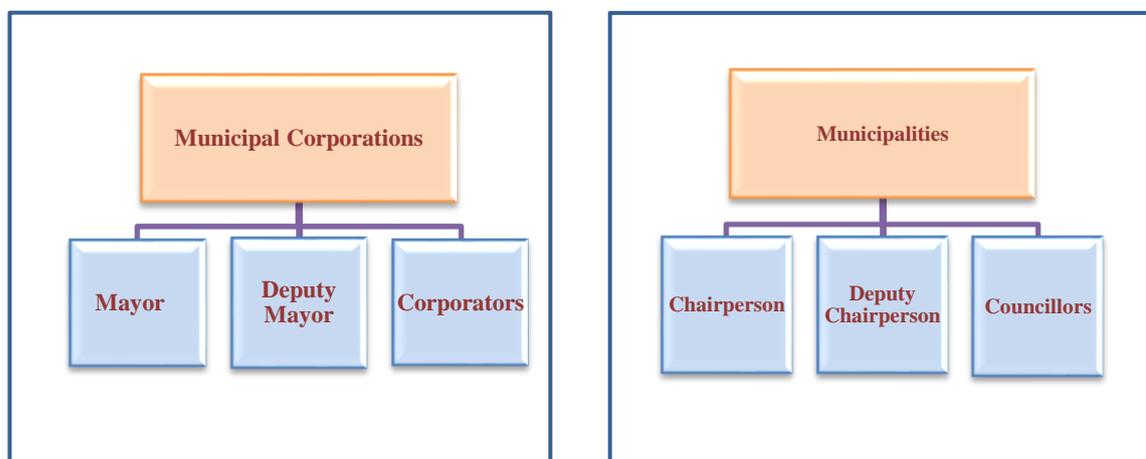
3.1.1 Functioning of Urban Local Bodies

The 74th Constitutional Amendment Act, 1992 identified 18 functions for ULBs as incorporated in Twelfth Schedule to the Constitution. Except '*Fire Services*', all the functions mentioned in this Schedule were devolved to ULBs in the State.

3.1.2 Formation of various Committees

The structure of the elected bodies of the ULBs is given in **Chart-3.1**.

Chart-3.1



In Municipal Corporations/ Municipalities, the Municipal Ward Committees meet at prescribed intervals to transact business, make regulations and scrutinise municipal accounts.

The main functions of the Ward Committees (both Municipalities as well as Corporations) include provision and maintenance of sanitation and solid waste management, public toilets, marketplaces, facilitate collection of taxes, fees and other such dues, *etc.*

The Director, Municipal Administration informed (November 2023) that Ward Committees were constituted in all the ULBs.

3.1.3 Sources of funds

Resource base of ULBs consists of

- i. Own revenue generated by collection of tax³⁵,
- ii. Non-tax³⁶ revenues
- iii. Devolution at the instance of State and Central Finance Commissions, Central and State Government grants for maintenance and development purposes
- iv. Other receipts³⁷

Summary of receipts in GHMC for the years 2017-18 to 2021-22 is given in **Table-3.1**.

Table-3.1: Summary of receipts of GHMC for the years 2017-18 to 2021-22

(₹ in crore)

Sl. No.	Receipts	2017-18	2018-19	2019-20	2020-21	2021-22
1	Own Revenue	2,293.7	2,532.33	2,728.65	2,560.03	2,759.09
2	Assigned Revenue ³⁸	273.54	342.11	498.62	0.00	0.00
3	State Government Grants including Finance Commission Grants	578.14	12.10	2.52	377.42	379.19
4	Government of India Grants including Finance Commission Grants	186.45	93.18	207.78	455.50	239.00
5	Other Receipts	207.35	243.97	154.12	5.71	68.48
	Total	3,539.18	3,223.69	3,591.69	3,398.66	3,445.76

Source: Information furnished by GHMC

Summary of receipts in the remaining 141 ULBs for the years 2017-18 to 2021-22 is given in **Table-3.2**.

Table-3.2: Summary of receipts of the remaining 141 ULBs for the years 2017-18 to 2021-22

(₹ in crore)

Sl. No.	Receipts	2017-18	2018-19	2019-20	2020-21	2021-22
1	Own Revenue	327.45	414.80	530.61	681.65	636.34
2	Assigned Revenue ³⁹	100.23	153.75	136.13	2.81	0.07
3	State Government Grants	337.79	474.40	738.67	1,132.83	806.16
4	Government of India Grant	142.62	298.35	409.52	660.84	188.11
5	Other Receipts	450.96	537.10	688.21	720.07	780.13
	Total	1,359.05	1,878.4	2,503.14	3,198.2	2,410.81

Source: Information furnished by CDMA

³⁵ Property tax, advertisement fee, etc.

³⁶ Water tax, rents from markets, shops and other properties, auction proceeds, etc.

³⁷ Donations, interest on deposits, etc.

³⁸ Seigniorage fee and surcharge on stamp duty collected by Departments of Mines and Geology and Stamps and Registration are apportioned to the Local Bodies in the form of assigned revenue

³⁹ Seigniorage fee and surcharge on stamp duty collected by Departments of Mines and Geology and Stamps and Registration are apportioned to the Local Bodies in the form of assigned revenue

3.1.3.1 Financial Assistance to Urban Local Bodies

Financial assistance was provided by the State Government to ULBs by way of grants. Details of the financial assistance provided by the Government to GHMC during the years 2017-18 to 2021-22 is given in **Table-3.3**.

Table-3.3: Financial assistance provided by State Government to GHMC by way of grants for the years 2017-18 to 2021-22

(₹ in crore)						
Details	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Budget	62.23	65.11	20.10	17.60	17.60	182.64
Actual Release	9.34	0.34	-	-	-	9.68
Expenditure	9.34	0.34	-	-	-	9.68

Source: Information furnished by GHMC

Details of the financial assistance provided by the Government to remaining 141 ULBs during the years 2017-18 to 2021-22 is given in **Table-3.4**.

Table-3.4: Financial assistance provided by the State Government to the remaining 141 ULBs by way of grants for the years 2017-18 to 2021-22

(₹ in crore)					
Details	2017-18	2018-19	2019-20	2020-21	2021-22
Budget	1,581.08	2,054.73	1,067.15	906.17	2,895.24
Actual Release	569.78	296.81	429.27	1,309.60	1,269.16
Expenditure	193.59	289.08	406.52	1,309.60	1,269.16

Source: Information furnished by CDMA

3.1.3.2 Application of funds

Details of expenditure incurred by GHMC for the years 2017-18 to 2021-22 are given in **Table-3.5**:

Table-3.5: Details of expenditure incurred by GHMC for the years 2017-18 to 2021-22

(₹ in crore)						
Sl. No.	Type of expenditure	2017-18	2018-19	2019-20	2020-21	2021-22
1	Revenue expenditure	1,939.51	2,044.02	1,910.26	2,176.00	2,555.74
2	Capital expenditure	1,118.62	1,804.06	1,266.41	2,175.34	3,091.06
Total		3,058.13	3,848.08	3,176.67	4,351.34	5,646.80

Source: Data furnished by GHMC

Details of expenditure incurred by the remaining 141 ULBs for the years 2017-18 to 2021-22 are given in **Table-3.6**:

Table-3.6: Details of expenditure incurred by the remaining 141 ULBs for the years 2017-18 to 2021-22

(₹ in crore)						
Sl. No.	Type of expenditure	2017-18	2018-19	2019-20	2020-21	2021-22
1	Revenue expenditure	542.32	719.97	1,098.10	1,349.33	1,476.93
2	Capital expenditure	564.42	661.86	893.49	1,336.62	1,362.02
Total		1,106.74	1,381.83	1,991.59	2,685.95	2,838.95

Source: Data furnished by CDMA

3.1.4 Recommendations of the State Finance Commission

As per Article 243-I of the Constitution and Section 244 of TPR Act, 2018, the State Finance Commission (SFC) has to be constituted once in five years to recommend devolution of funds from the State Government to Local bodies. Government of Telangana issued orders for constitution of the first SFC in March 2015⁴⁰. However, Chairman and Members of the first SFC were appointed⁴¹ in January 2018 *i.e.*, after two years of constitution of first SFC.

The First SFC submitted its report to the State Government in October 2020 and the recommendations are yet to be accepted by the Government (March 2023).

The term of the First SFC has been completed by March 2020 and the Second SFC was not constituted as of March 2023.

During 2021-22, SFC released grants of ₹3,742.83 crore to 141 ULBs (excluding GHMC) and against this, expenditure was ₹3,304.41 crore.

3.1.5 Recommendations of Central Finance Commissions

3.1.5.1 Fourteenth Finance Commission

The Fourteenth Finance Commission recommended assured transfer of funds to the local bodies for planning and delivering basic services⁴². Grants are released under two components, *i.e.*, Basic grant and Performance grant in the ratio of 90:10.

The Director of Municipal Administration informed (January 2023) that the Government of India released ₹1,785.04 crore during 2017-20 to the State. The entire amount was released by the State Government to the ULBs and was spent.

3.1.5.2 Fifteenth Finance Commission

The Fifteenth Finance Commission in its report for the period from 2021-26 has divided the Urban Local Bodies into two categories: (a) Million-Plus urban agglomerations/cities (excluding Delhi and Srinagar), and (b) all other cities and towns with less than one million population (Non-Million Plus cities). The Fifteenth Finance Commission has recommended separate grants for them. Out of the total grants recommended by the Commission for *Non-Million Plus cities*, 40 *per cent* is basic (**untied**) grant and the remaining 60 *per cent* is tied grant. Basic grants (**untied**) are utilised for location specific felt needs, except for payment of salary and other establishment expenditure.

On the other hand, tied grants for the *Non-Million Plus cities* are released for supporting and strengthening the delivery of basic services. Out of the total tied grant, 50 *per cent* is earmarked for 'Sanitation, Solid Waste Management and attainment of star ratings as developed by the Ministry of Housing & Urban Affairs (MOH&UA). The remaining

⁴⁰ G.O.Ms.No.31 PR&RD (Pts.III) Department dated 16 March 2015

⁴¹ G.O.No.1 PR&RD (Pts.III) Department dated 03 January 2018

⁴² including water supply, sanitation including septic management, sewage and solid waste management, storm water drainage, maintenance of community assets, maintenance of roads, footpaths, street lighting, burial and cremation grounds

50 per cent is tied to ‘Drinking water, Rainwater harvesting and Water recycling’.

During 2021-22, GoI released ₹ 672 crore to the State Government and the entire amount released to the ULBs was spent.

3.1.6 Audit Mandate

3.1.6.1 Primary Auditor

The Director, State Audit, functioning under the administrative control of Finance Department, is the statutory auditor for the ULBs under the Telangana State Audit Act, 1989⁴³. The DSA has two Regional Offices and thirty-three district offices in the State. As per Section 10 of the Act, the DSA is empowered to initiate surcharge proceedings against the persons responsible for causing loss to the funds of local authorities. Such amounts are to be recovered by the executive authority concerned under Revenue Recovery (RR) Act.

(A) Preparation of Annual Consolidated Audit and Review Report

Section 11(2) of the Act mandates that the DSA shall prepare an annual Consolidated Audit and Review Report (CARR) for presentation to the State Legislature.

The Director, State Audit informed (December 2022) that audit of accounts of all the ULBs for the years up to 2020-21 were completed. The CARR for the years 2017-18 and 2018-19 were submitted (March 2022) to the State Government and were placed in the State Legislature on 15 February 2024. The CARR for the years 2019-20 and 2020-21 are yet to be submitted to the State Government. It was also informed that regarding CARR for 2021-22, the PRIs audit was completed and after completion of audit of ULBs, the CARR for 2021-22 would be prepared.

The Director, State Audit furnished (December 2022) information on 140 ULBs (including GHMC) (Municipalities: 127 and Municipal Corporations: 13), stating that audit was completed in all ULBs except two municipalities⁴⁴ due to non-production of records.

(B) Levy and recovery of surcharge

As per Section 10 of the Act, the DSA is empowered to initiate surcharge proceedings against the persons responsible for causing loss to the funds of local authorities. Such amounts are to be recovered by the executive authority concerned under Revenue Recovery (RR) Act.

Director, State Audit informed (December 2022) that one Surcharge Certificate⁴⁵ amounting to ₹ 0.09 crore issued prior to 2021-22 was pending as of March 2022 and stated that as per the provisions contained in State Audit Manual, the District Collectors has been addressed to arrange for the recovery of the amounts. No Surcharge Certificate was issued during 2021-22.

⁴³ The Andhra Pradesh State Audit Act, 1989 received the assent of the Governor on the 19th April, 1989. The said Act in force in the combined State, as on 02 June 2014, has been adapted to the State of Telangana, under section 101 of the Andhra Pradesh Reorganisation Act, 2014 (Central Act 6 of 2014) in accordance with The Telangana Adaptation of Laws Order, issued in GO.Ms.No.45, Law(F) Department dated 01 June 2016

⁴⁴ Ramayampet Municipality (2021-22) and Cherial Municipality (2019-20 to 2021-22)

⁴⁵ Means the certificate by which the charge or the liability of a surchargee is communicated

3.1.6.2 Audit by Comptroller and Auditor General of India

Based on the recommendations of the Eleventh Finance Commission, State Government entrusted (August 2004) CAG with the responsibility of providing Technical Guidance and Supervision (TGS) in connection with the accounts and audit of Local Bodies under Section 20(1) of CAG's (DPC) Act.

Based on test-check of ULBs, a TGS Note is prepared at the end of each financial year and forwarded to the DSA for improving the quality of their reports. TGS note for the year 2021-22 was issued in August 2023.

Planning and Conduct of Audit

The Audit process commences with assessment of risk⁴⁶, based on expenditure incurred, criticality/complexity of activities, priority accorded for the activity by Government, level of delegated financial powers, assessment of internal controls and concerns of stakeholders.

Previous audit findings are also considered in this exercise. Based on this risk assessment, frequency and extent of audit is decided and an Annual Audit Plan was formulated. During 2021-22, 14 ULBs⁴⁷, falling under Municipal Administration and Urban Development Department, were covered in audit.

3.1.7 Response to Audit Observations

After completion of audit, Inspection Reports (IRs) containing audit findings are issued to the head of the unit concerned. Heads of offices and next higher authorities are required to respond to observations contained in IRs within one month and take appropriate corrective action. Audit observations communicated in IRs are also discussed in meetings at district level by officers of the Municipal Administration and Urban Development department with officers of Accountant General's office.

As of August 2023, 164 IRs containing 2,811 paragraphs from 2014-15 to the period up to 2021-22 were pending settlement as given in **Table-3.7**. Of these, initial replies had not been received in respect of 41 IRs and 776 paragraphs.

Table-3.7: Inspection Reports and Paragraphs issued for the years 2017-18 to 2021-22 and pending settlement

Year	Number of IRs /Paragraphs		IRs/Paragraphs where even initial replies had not been received	
	IRs	Paragraphs	IRs	Paragraphs
Up to 2017-18	63	1,106	4	56
2018-19	45	656	2	15
2019-20	30	522	15	263
2020-21	11	206	8	165
2021-22	15	321	12	277
Total	164	2,811	41	776

Lack of action on IRs was fraught with the risk of serious financial irregularities pointed out in these reports remaining unaddressed.

⁴⁶ of department/local body/scheme/programme etc.

⁴⁷ Municipal Corporation-4 (Karimnagar, Nizamabad, Ramagundem and Warangal), Municipalities-10 (Bhongir, Bodhan, Devarakonda, Jangaon, Madhira, Medak, Miryalaguda, Nalgonda, Sadasivapet and Wanaparthy)

3.2 Accountability framework and Financial Reporting issues

3.2.1 Accounting framework

3.2.1.1 Ombudsman

The Thirteenth Finance Commission had recommended establishment of an independent Local Body Ombudsman system. Independent Ombudsman system was not adopted in the State. However, amendments were made to the existing Lokayukta Act, 1983 to cover all the elected members⁴⁸ of the Municipal bodies.

3.2.1.2 Social Audit

Details of Social Audit conducted for programmes/schemes implemented by the Municipal Administration and Urban Development (MA&UD) through the ULBs were not furnished by SSAAT as of March 2024.

3.2.1.3 Property Tax Board

The Thirteenth Finance Commission stipulated that State Government must put in place a Property Tax Board. The board was to assist all ULBs to put in place an independent and transparent procedure for assessing Property Tax. Section 105 of the Telangana Municipalities Act, 2019 mandates that the State Government shall constitute Telangana Property Tax Board to provide assistance and technical guidance to all the ULBs in the State for proper assessment of Property tax on buildings and land in their respective jurisdictions.

The Government of Andhra Pradesh issued (March 2011) orders for constituting the Property Tax Board and sanctioned (October 2013) 28 posts for effective functioning of the board. Post-bifurcation of the composite State of Andhra Pradesh, 14 posts were allotted to Telangana. These posts, however, were not filled up as of September 2023.

The Director of Municipal Administration informed (August 2023) that proposals were sent (March 2022) to the State Government for filling up of nine posts (including the post of Chairman/Chairperson of the Board). However, orders of the State Government are still awaited (August 2023). The DMA is discharging the functions of Chairman of the Board pending appointment of the regular Chairman/Chairperson of the Board.

3.2.1.4 Service Level Benchmark

The Thirteenth Finance Commission stipulated that the State Government must notify or cause the Urban Local Bodies to notify the service standards of four⁴⁹ core sectors to be achieved by them by the end of fiscal year. State Government fixed the targets for the year 2014-15 (March 2014). From 2015-16 onwards, ULBs were directed to publicise the Service Level Benchmarks by themselves.

Out of 141 ULBs, 58 ULBs published SLB targets for 2018-19.

⁴⁸ Mayor, Deputy Mayor, elected members of Municipal Corporations, Chairperson, Vice-Chairperson and elected members of Municipal Councils (Municipalities)

⁴⁹ water supply, sewerage, storm water drainage and solid waste management

3.2.2 Maintenance of Records

3.2.2.1 Unspent balances in bank accounts of closed schemes

Scheme guidelines stipulate surrender of unspent amount into Government account in respect of closed schemes. State level authorities of the schemes concerned and DMA should watch the balances of closed schemes lying in the accounts of different ULBs.

Records of three ULBs during 2021-22 showed that ₹ 14.24 crore pertaining to closed schemes such as IHHL⁵⁰ and BRGF⁵¹ in Medak, Devarayakonda Municipalities and Ramagundam Municipal Corporation remained unspent as of March 2022.

3.2.2.2 Advances pending adjustment

As per Telangana Financial Code, advances paid should be adjusted without any delay and the drawing and disbursing officers concerned should watch their adjustment. Records of six ULBs during 2021-22 showed that advances⁵² amounting to ₹ 3.70 crore remained unadjusted as of March 2022 in Ramagundam, Karimnagar, Greater Warangal Municipal Corporations and Bodhan, Wanaparthi and Sadasivapet Municipalities.

3.2.3 Cases of misappropriation

Telangana State Financial Code stipulates responsibilities of Government servants in dealing with Government money, the procedure for fixing responsibility and recovery for any loss. As of March 2022, misappropriation cases noticed by Director, State Audit which were pending from 2014-15 for disposal are detailed in **Table-3.8**.

Table-3.8: Details of misappropriation cases pending in ULBs

Unit	Up to 2021-22	
	No. of cases	Amount
Municipal Corporations	133	10.07
Municipalities	339	19.39
Total	472	29.46

(₹ in crore)

Source: Director, State Audit

The State Government may take urgent action to investigate these issues and recover the losses from the persons responsible for it. Internal controls should also be strengthened to prevent such incidents.

3.2.4 Maintenance of Accounts by Urban Local Bodies

The Urban Local Bodies adopted the software Model Accounting System developed by the Centre for Good Governance for maintenance of Accounts.

The Double Entry Accrual Based Accounting System (DEABAS) is implemented in all the 142 ULBs including GHMC.

⁵⁰ Individual Household Latrines

⁵¹ Backward Region Grant Fund

⁵² Advances given to staff for various purposes during April 2015 to March 2021

PART-II
Performance Audit

Municipal Administration and Urban Development Department

Performance Audit of Solid Waste Management in Urban Local Bodies

Chapter I Introduction

1.1 Definition and Characteristics of Solid Waste

"Solid Waste" as defined⁵³ in Solid Waste Management Rules, 2016 (SWM Rules, 2016) means and includes solid or semi-solid domestic waste and other waste⁵⁴ generated in the area under the local authorities and other entities⁵⁵, excluding industrial waste, bio-medical waste, e-waste, battery waste⁵⁶ and radio-active waste. Municipal Solid Waste Management (MSWM) in urban areas has emerged as one of the biggest challenges that our country faces today. The situation is aggravated by rapid urbanisation. Inadequate management of waste has significant negative externalities in terms of public health and environmental outcomes. Further, it also has an adverse impact on the aesthetic appearance of the surroundings.

There are 142 Urban Local Bodies (ULBs) in the State of Telangana (13 Municipal Corporations and 129 Municipalities). The urban population as per 2011 census in these 142 ULBs is 1,44,40,527, out of which population of Greater Hyderabad Municipal Corporation (GHMC) is 67,39,158 (47 per cent). The position of Solid Waste disposal in all the ULBs in India *vis-à-vis* the State of Telangana is shown in **Table-1.1**.

Table-1.1: Position of Solid Waste disposal in India *vis-à-vis* State of Telangana

Description	{Figures in Tonnes per day (TPD)}	
	India	Telangana
Generated	1,60,039	9,965
Collected	1,52,750	9,965
Treated	79,956	7,530
Land filled	29,427	991 (only GHMC)
Open dumpsites	43,367	1,444 (Other 141 ULBs)

Source: Annual Report on implementation of Solid Waste Management Rules, 2016 for the year 2020-21 issued by the Central Pollution Control Board (CPCB), New Delhi

Solid Waste generated in the State of Telangana (9,965 TPD) constitutes 6.23 per cent of the total Solid Waste generated in the country (1,60,039 TPD).

⁵³ Rule-3 (46) of Solid Waste Management Rules, 2016 notified by Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India (GoI) in April 2016

⁵⁴ sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste

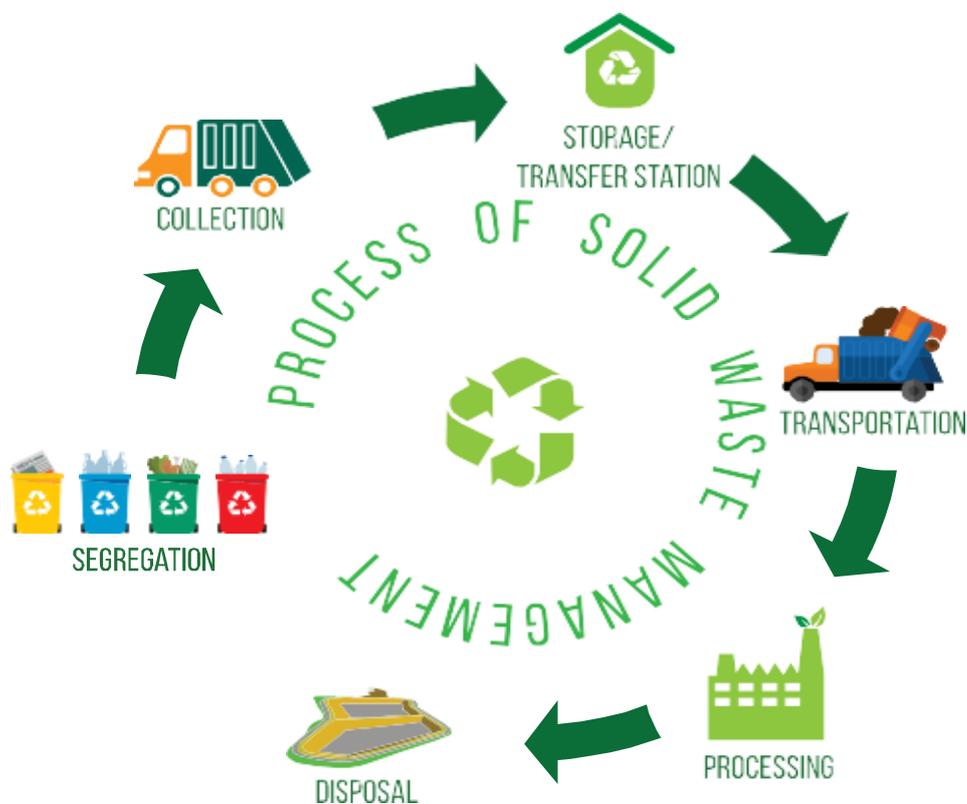
⁵⁵ outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time

⁵⁶ Rule-3(40) of Battery Waste Management Rules, 2020 defines Battery waste as battery and its components thereof, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair process

1.2 Process of Solid Waste Management

Successful Solid Waste Management (SWM) strategy requires that all the waste that is generated should be properly and fully collected at source. Thereafter, all of it should be transported and safely processed in accordance with the principles of reduce, reuse and recycle. The inert material remaining after processing has to be safely disposed. The process of SWM is depicted diagrammatically in **Chart-1.1**.

Chart-1.1: Process of Solid Waste Management



1.3 Framework for administration and management of Solid Waste

The Central Government has the power to take measures necessary for protecting and improving the quality of the environment, subject to the provisions of the Environment (Protection) Act, 1986. The SWM Rules, 2016 which were framed under the Environment (Protection) Act, 1986, provide a legal framework for management and disposal of Solid Waste.

The framework for administration and management of SWM in India is broadly divided into three tiers-Central, State and Local Bodies. Other stakeholders that play a crucial role are households, businesses, industries, informal sector, Non-Governmental Organisations (NGOs), Community Based Organisations (CBOs), Self-Help Groups (SHGs), *etc.* Involvement of all these stakeholders is necessary at several stages of SWM. The role and responsibilities of stakeholders involved in the process of SWM in urban areas are given in **Table-1.2**.

Table-1.2: Role and Responsibilities of stakeholders involved in process of SWM

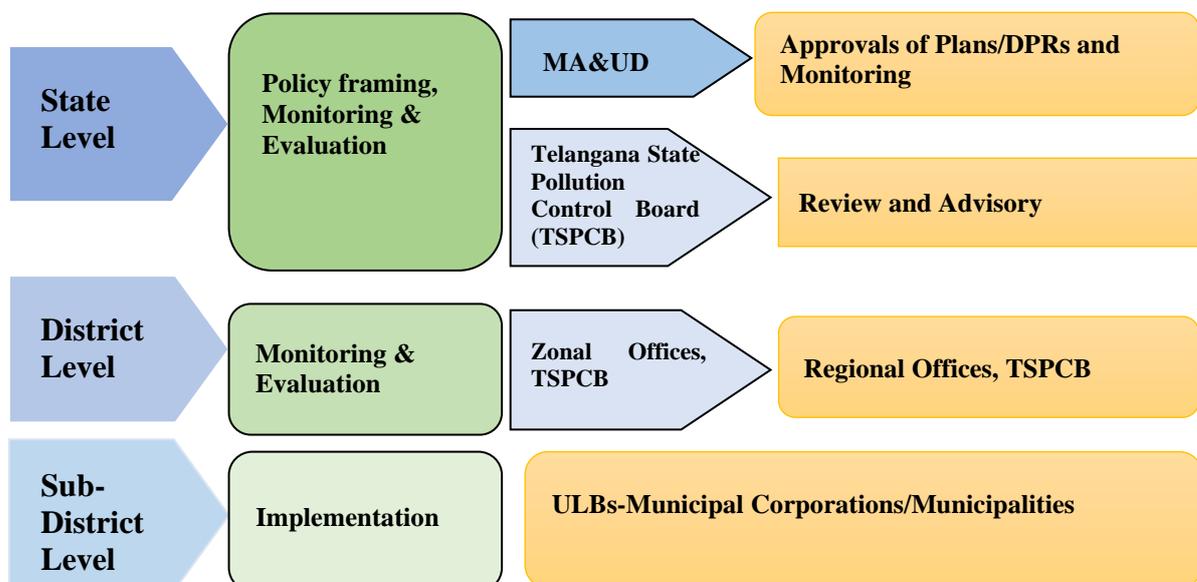
Institution/stakeholders	Role and responsibilities in SWM
Central Government {Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Urban Development (MoUD) and Central Pollution Control Board (CPCB)}	Framing of Laws and Rules; Policies and Norms; Guidelines; Manuals; technical assistance; financial support; Monitoring the implementation of laws and rules.
State Government {Urban Development Department headed by Secretary/Principal Secretary and State Pollution Control Board (SPCB) headed by Member Secretary}	Policy framing, monitoring implementation of laws and rules in the ULBs; State Policy and SWM strategy; Guidelines, Manuals, and technical assistance; financial support; reporting on Service Level Benchmarks (SLBs) to the MoUD; Capacity Building of local bodies; granting consent to set up treatment and disposal activities.
District Collector or Deputy Commissioner (DC)	Review the performance of ULBs on waste management process; facilitate identification and allotment of suitable land for Solid Waste processing and disposal facilities.
Urban Local Bodies (headed by Commissioner)	Implementation of SWM Rules, providing SWM services; preparation of SWM plan; framing bye-laws; levy and collection of fees; financing SWM system; creating public awareness; and involvement of informal sector in SWM.
Informal Sector (waste recyclers, NGOs, CBOs and private partners)	Resource recovery and recycling at different stages; providing support to the local recycling industry; involvement of community; creating awareness; collection and transportation of waste; and technology providers.

Source: MSWM Manual, 2016

1.4 Organisational setup

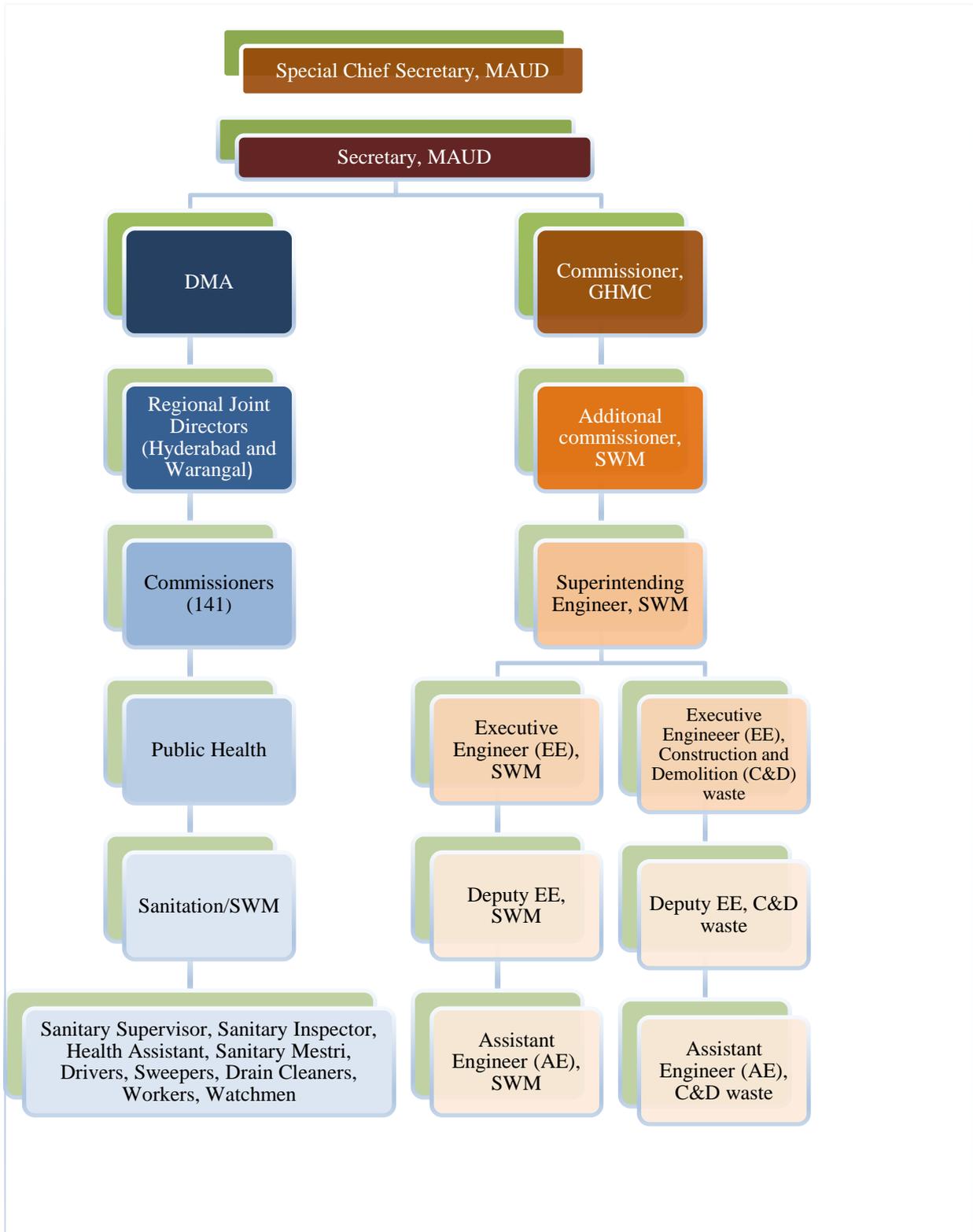
The Role of various authorities at all levels in policy framing, implementation and monitoring of SWM in the State of Telangana is depicted in **Chart-1.2**.

Chart-1.2: Role of various authorities in planning, execution and monitoring of Municipal Solid Waste Management



Municipal Administration and Urban Development (MA&UD) Department is entrusted with the responsibility of Urban Sector Management and is headed by a Special Chief Secretary. The Organisational setup for the management of Solid Waste in the State of Telangana is shown in **Chart-1.3**.

Chart-1.3: Organisational setup for management of Solid Waste in the State of Telangana



Source: Compiled from the Official Websites of MA&UD Department, CDMA, other test-checked 14 ULBs and information furnished by GHMC

1.5 Duties and Responsibilities of the State Government, State Pollution Control Board and Urban Local Bodies in the implementation of Solid Waste Management activities

The Duties and Responsibilities of the State Government, State Pollution Control Board and the ULBs in the implementation of SWM activities as mandated in SWM Rules, 2016 are given in brief in **Table-1.3**.

Table-1.3: The Duties and Responsibilities of the State Government, State Pollution Control Board and the ULBs in the implementation of SWM activities

Reference to Rule	Institution/ Stakeholders	Role and Responsibilities mandated as per SWM Rules, 2016
Rule 11	State Government/ Secretary, Urban Development of a State through Commissioner and Director of Municipal Administration	<ul style="list-style-type: none"> • Prepare a State Policy and SWM Strategy for the State. • Arrange for capacity building of ULBs. • Start a Scheme of registration of waste pickers and waste dealers. • Ensure implementation of SWM Rules by all ULBs in the State. • Ensure identification and allocation of suitable lands for Processing and Disposal facilities. • Facilitates establishment of common regional landfill sites. • Notify Buffer Zone for SWM facilities.
Rule 16	State Pollution Control Board	<ul style="list-style-type: none"> • Enforce SWM Rules, 2016 in the State and in all ULBs. • Review implementation of the SWM Rules, 2016. • Give directions for safe handling and disposal of Domestic Hazardous Waste. • Examine the proposals for authorisation for the setting up of Waste Processing Facilities. • Issue, renew, suspend or cancel the authorisations issued and monitor the standards prescribed or laid down in Schedules-I and II of SWM Rules, 2016. • Monitor Environmental standards in the Waste Processing Facilities.
Rule 15	Local Authorities/ULBs	<ul style="list-style-type: none"> • Frame bye-laws, prescribe user fee and criteria for levying of spot fines. • Create public awareness through Information Education and Communication (IEC) activities. • Make adequate provision of funds for capital investments as well as Operation and Maintenance of Solid Waste Management services in the annual budget. • Establish a system to recognise waste pickers and facilitate formation of Self-Help Groups (SHGs). • Establish waste deposition centres for Domestic Hazardous Waste and ensure safe storage and transportation of domestic hazardous waste • Promote setting up of decentralised compost facility. • Arrange door-to-door collection of MSW and collect waste from sweeping streets. • Setup secondary storage facility and Material Recovery Facility. • Transport segregated biodegradable, non-biodegradable waste and promote home composting. • Make an application/renewal with SPCB for setting up of Solid Waste processing facilities. • Facilitate Construction, Operation and Maintenance of Solid Waste processing facilities on their own or with private sector participation. • Undertake Construction, Operation and Maintenance of Sanitary landfills. • Investigate and analyse old dump sites for bio-mining, bio-methanation or Scientific Capping <i>etc.</i> • Prepare and submit Annual Reports on implementation of SWM.

Source: SWM Rules, 2016

1.6 Audit Objectives

Performance Audit of Solid Waste Management was carried out with the objective of assessing whether:

- Strategy and Planning of Solid Waste management in ULBs is commensurate with the waste generated and concurrent with the prevailing legal framework;
- Municipal tasks associated with Solid Waste management including collection, segregation, storage, transportation, disposal and social inclusion of informal waste workers were economical, efficient and effective;
- Planning, construction, commissioning, operation and maintenance of Solid Waste management projects in ULBs was effective, efficient and financially sustainable;
- Monitoring and evaluation of Solid Waste management system including adequacy of awareness creation, citizen engagement for effecting behavioral change, complaint redressal mechanism for citizens, assessment of environmental impacts and implementation of internal control was adequate and effective.

1.7 Audit Criteria

Audit findings were benchmarked against criteria sourced from the following:

- Municipal Solid Waste Management (MSWM) Manual, 2016 issued by Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Urban Development, Government of India (GoI);
- The Solid Waste Management Rules, 2016;
- Construction and Demolition Waste Management Rules, 2016
- Performance parameters set out in SLB guidelines;
- The Environment (Protection) Act and Rules 1986;
- Water (Prevention and Control of Pollution) Act, 1974;
- Solid Waste Management Policy and Strategy of Government of Telangana (September 2018)
- Instructions, guidelines, policies issued by Central Pollution Control Board, State Pollution Control Board, GoI / State Government on Solid Waste management from time to time.

1.8 Audit Sample and Scope

The performance audit was conducted between August 2022 and March 2023 covering a period of five years from 2017-18 to 2021-22. Out of 142 ULBs, 15 ULBs were test-checked in audit (GHMC and 14 other ULBs), by sampling as detailed below.

1.8.1 Selection of Urban Local Bodies

In Telangana there are 142 ULBs (13 Municipal Corporations and 129 Municipalities). The Urban population in all these 142 ULBs as per Census 2011 was 1,44,40,527 and out of this, the population of GHMC is 67,39,158 (47 per cent). In the State of Telangana, there are no Nagar Panchayats, as the existing Nagar Panchayats were upgraded as Municipalities during the years from 2018 to 2020, post bifurcation of the composite State of Andhra Pradesh. Sample selection of ULBs was done with the following criteria:

- a. Selection of GHMC was done based on population size (47 per cent of the total population of all ULBs in the State) and considerable amount of Solid Waste generated by GHMC (more than 50 per cent of the total Solid Waste generated in the State, Para 2.6, Table-2.2 refers). In GHMC, there are six Zones consisting of 30 Circles (**Appendix-1.1**). The quantum of collection of Solid Waste zone-wise for the audit period (2017-18 to 2021-22) from highest to lowest is given in **Table-1.4**.

Table-1.4: Quantum of collection of Solid Waste zone-wise in GHMC during the period 2017-18 to 2021-22, from highest to lowest

Sl. No	Name of the Zone	Total quantity of Solid Waste collected in Metric Tonne (MT)
1.	Charminar	20,93,307
2.	Secunderabad	20,16,657
3.	Khairatabad	17,95,051
4.	Kukatpally	16,34,418
5.	LB Nagar	15,04,042
6.	Serlingampally	10,47,765

Source: Information provided by GHMC

Three Zones with two Circles each in that Zone were selected on Random basis for taking up audit, as detailed in **Table-1.5**.

Table-1.5: Selected Zones and Circles in GHMC

Sl. No	Name of the Zone	Circles selected for audit (two each in a Zone)
1.	Charminar	Circle-6, Malakpet and Circle-7 Santoshnagar
2.	Khairatabad	Circle-17 Khairatabad, Circle-18 Jubilee Hills
3.	Kukatpally	Circle-23 Moosapet, Circle-24 Kukatpally

- b. Out of the remaining 141 ULBs, 14 ULBs-two Municipal Corporations⁵⁷ and 12 Municipalities⁵⁸ were selected by Simple Random Sampling without Replacement method.

From the sampling, 22 ULBs were excluded, as the subject of Solid Waste management was covered while conducting audit of these 22 ULBs in connection with Performance Audit of 74th Constitutional Amendment Act and District Centric Audits during 2021-22.

1.9 Audit Methodology

An Entry Conference was held on 24 August 2022 with the Secretary to MA&UD Department, Director of Municipal Administration (DMA), Additional Commissioner (SWM), GHMC and Additional Commissioner (Finance), GHMC, in which the Audit Framework was discussed. The audit methodology involved scrutiny of documents, issue of audit queries, obtaining responses, Joint Physical Verification (JPV) with municipal staff and collection of photographic evidence in the test-checked 15 ULBs (GHMC and 14 other ULBs). Besides, the offices of the Special Chief Secretary, MA&UD Department, Commissioner and Director of Municipal Administration (CDMA) and Telangana State Pollution Control Board were addressed for obtaining required information pertaining to SWM.

⁵⁷ Khammam and Peerzadiguda

⁵⁸ Bollaram, Chandur, Haliya, Kalwakurthy, Khanapur, Kothagudem, Mahabubnagar, Mancheri, Nagaram, Wardhannapet, Yellareddy and Zaheerabad

The Draft Report containing Audit findings was forwarded (July 2023) to the Government/Authorities for their comments. The Audit findings were discussed with the Secretary to Government, MA&UD Department in the Exit Conference conducted in September 2023. Replies of the Government to the extent received as of November 2023 were suitably incorporated.

1.10 Acknowledgement

Audit acknowledges the cooperation extended by the State Government, CDMA, TSPCB, GHMC and test-checked other 14 ULBs in conducting the Performance Audit.

Chapter II

Strategy and Planning of Solid Waste Management

2.1 State Policy and Solid Waste Management Strategy

Rule 11(a) of SWM Rules, 2016, stipulates that the Secretary, Urban Development Department in the State should prepare a State Policy and SWM strategy, consistent with SWM Rules, 2016, National Policy on SWM and National Urban Sanitation Policy of the MoUD, in a period not later than one year from the date of notification of SWM Rules, 2016, *i.e.*, by April 2017. The State Policy and SWM strategy should be prepared in consultation with stakeholders including representatives of waste pickers, SHGs and similar groups working in the field of waste management. Rule 23 of SWM Rules, 2016 further required that a State Level Advisory Body⁵⁹ should be constituted within six months from the date of notification (April 2016) of the Rules.

The State Level Advisory Body (SLAB) in the State was constituted⁶⁰ in July 2017 and the State Policy and Strategy on Solid Waste Management was issued in September 2018⁶¹.

2.1.1 Compliance to the activities prescribed in the State Policy

The State policy stipulates (Para 11) that the ULBs shall make all efforts to implement the prescribed activities as per the timelines. The compliance observed in audit against the activities are given in **Table-2.1**.

Table-2.1: Status on compliance in implementation of activities by test-checked ULBs as mandated in the State Policy

Sl. No	Activity	Timelines for implementation from date of notification of the policy	GHMC	14 test-checked other ULBs
1.	Identification of suitable sites for setting up Solid Waste processing facilities.	6 months (by March 2019)	Existing dumpsite at Jawaharnagar was reclaimed and Solid Waste processing facilities were set up only at Jawaharnagar T&D facility. Besides, 14 DRCCs were set up for segregation of dry waste for sorting of recyclable materials (Para 4.1.2 refers).	Suitable sites were identified for setting up of waste processing facilities in the existing dumpsites for (i) Wet waste processing by composting in four ULBs ⁶² (Para 5.2.1, Table-5.2 refers) and (ii) dry waste segregation through Dry Resource Collection Centres (DRCCs) established and functioning in nine ULBs ⁶³ (Para 4.1.2 refers).
2.	Identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under five lakh population and for	6 months (by March 2019)	Sanitary landfill site exists only at Jawaharnagar T&D facility. However, it was seen that MSW from other nearby ULBs with less than 5 lakh population were	No identification of suitable sites was made for setting up common regional sanitary landfill facilities for suitable clusters of local authorities in the 14 test-checked ULBs. Audit observed

⁵⁹ The Board would review and advice State Government on measures for expeditious and appropriate implementation of the SWM Rules, 2016

⁶⁰ G.O. Rt.No.447 dated 26 July 2017 of MA&UD Department

⁶¹ G.O. Rt.No.808 dated 24 September 2018 of MA&UD Department

⁶² Kothagudem, Mahabubnagar, Mancherial and Zaheerabad

⁶³ Kalwakurthy, Khammam, Khanapur, Kothagudem, Mahabubnagar, Mancherial, Nagaram, Peerzadiguda and Zaheerabad

Sl. No	Activity	Timelines for implementation from date of notification of the policy	GHMC	14 test-checked other ULBs
	setting up common regional sanitary landfill facilities or stand-alone sanitary landfill facilities by all local authorities having a population of five lakh or more.		also dumped at Jawaharnagar T & D facility as permitted by GHMC. (<i>Para 3.5 refers</i>).	that the MSW was dumped in the existing respective dumpsites of these ULBs.
3.	Acquisition of suitable sites for setting up Solid Waste processing facility and sanitary landfill facilities.	6 months (by March 2019)	Sanitary landfill site exists only at Jawaharnagar T&D facility. GHMC stated that one additional site at Pyaranagar had been identified (<i>Para 5.2.4 refers</i>).	Acquisition of suitable sites has not been done by any of the test-checked ULBs and Solid Waste processing facilities were set up in the existing dumpsite as stated in SI.No.1 above. MSW dumped in open dumpsites.
4.	Enforcing waste generators to practice segregation of biodegradable, recyclable, combustible, sanitary waste domestic hazardous and inert Solid Wastes at source.	6 months (by March 2019)	No such enforcement observed in audit.	No such enforcement observed in audit.
5.	Ensure door to door collection of segregated waste of households and its transportation in covered vehicles to processing or disposal facilities.	6 months (by March 2019)	Door-to-Door collection of waste was done. Segregation of waste done only in respect of 63 per cent households as per TSPCB report. MSW was transported in covered vehicles by the Concessionaire.	Door-to-Door collection of waste was done. However, there were instances of non-coverage in door-to-door collection of MSW in three ULBs (Bollaram, Wardhannapet and Yellareddy) (<i>Para no.4.2.1 refers</i>). Instances of transportation of Solid Waste to the dumpsite in vehicles without cover were also noticed in five ULBs (Khammam, Kothagudem, Mahabubnagar, Mancherial and Zaheerabad) (<i>Para 4.3.1 refers</i>)
6.	Ensure separate storage, collection and transportation of construction and demolition wastes.	6 months (by March 2019)	Ensured by the Concessionaire for C&D waste (<i>Para 6.3 refers</i>).	Not ensured (<i>Para 6.3 refers</i>).
7.	Setting up Solid Waste processing facilities by all local bodies having one lakh or more population.	By 2022	Solid Waste processing facilities set up at Jawaharnagar T&D facility (<i>Para 5.1.2 and Para 5.4/Box.No.1 refer</i>).	Khammam and Mahabubnagar ULBs have population above one lakh each. Composting facility was set up inside the dumpsite in Mahabubnagar ULB and in operation.
8.	Setting up Solid Waste processing facilities by local bodies and towns below one lakh population as per Census 2011.	By 2022	Not applicable as population above one lakh.	Composting facility for Solid Waste processing was set up only in three ULBs ⁶⁴ out of 12 ULBs whose population is below one lakh. In order to facilitate segregation, sorting and recovery of recyclables from MSW at dumpsites, Dry Resource Collection Centres (DRCCs) were established in ten ULBs, except Chandur and Wardhannapet and in one ULB-Haliya, construction of DRCC was under progress. Audit observed during JPV of dumpsite in Yellareddy ULB that DRCC was not put to use (<i>Para 4.1.2 refers</i>).

⁶⁴ Kothagudem, Mancherial and Zaheerabad

Sl. No	Activity	Timelines for implementation from date of notification of the policy	GHMC	14 test-checked other ULBs
9.	Setting up common or stand-alone sanitary landfills by or for all local bodies having 5 lakh or more population for the disposal of only such residual wastes from the processing facilities as well as untreatable inert wastes as permitted under the SWM Rules, 2016.	By 2022	Set up only at Jawaharnagar T&D facility for GHMC area.	Not applicable to the ULBs, as the population in each of these ULBs is less than 5 lakh.
10.	Setting up common or regional sanitary landfills by all local bodies and census towns under 5 lakh population for the disposal of permitted waste under the rules.	By 2022	Not applicable as the GHMC population is above 5 lakh.	Not set up in the 14 test-checked other ULBs.
11.	Bioremediation ⁶⁵ or capping of old and abandoned dumpsites.	By 2022	Jawaharnagar dumpsite was capped. Fathullaguda dumpsite was reclaimed and used for C&D waste processing plant. Reclamation of Gandhamguda dumpsite was not completed due to title disputes. Shamshiguda dumpsite was partly reclaimed.	Old and or abandoned dumpsites without capping were noticed during JPV in Kalwakurthy, Khammam and Kothagudem.

2.1.2 Issues to be addressed in the State Policy

The State policy, with reference to provisions mandated in the MSWM Manual, 2016 and SWM Rules, 2016, had not provided for definite action plans and methods on the following aspects for implementation by the ULBs:

(A) SWM aspects for which action plans and suggestive methods were not provided in the State Policy

- i. Assessment of MSW in ULBs and reliable quantification of MSW generated (*Para 2.6 refers*).
- ii. Allotment of suitable lands for setting up processing & disposal facilities for MSW in ULBs (*Para 5.3.1 refers*).
- iii. Achievement of 100 per cent SLBs with reference to household coverage, efficiency of collection and segregation (*Para 2.7.1 refers*).
- iv. Solid Waste reduction in ULBs by adopting the 3R (reduce, reuse, and recycle).
- v. Timelines for ULBs for Information, Education and Communication (IEC) activities to promote waste prevention & waste minimisation through reduction, reuse and recycling (*Paras 2.2 and 7.10 refer*).

⁶⁵ Bioremediation is a biotechnical process, which abates or cleans up contamination. It is a type of waste management technique which involves the use of organisms to remove or utilise the pollutants from a polluted area

- vi. Contingency plans for SWM, to tide over situations of non-performance of processing/treatment/disposal facilities and unforeseen situations like strike by municipal workers involved in SWM and natural disasters (earthquakes, floods, fire, etc.) (Para 2.4 refers).

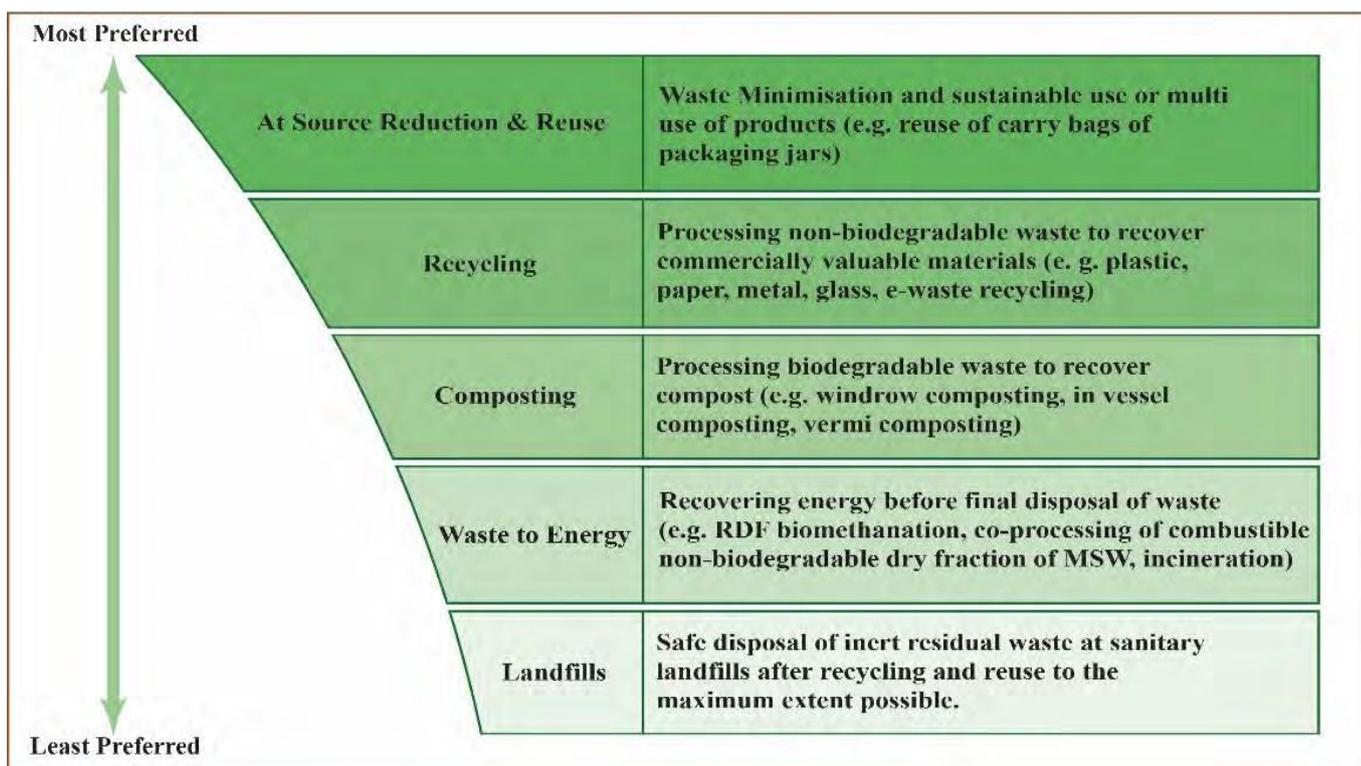
(B) Human resources issues for SWM not addressed

- i. Setting out definite roles and responsibilities for TSPCB regarding monitoring and evaluation of SWM activities in the State and for the personnel in ULBs involved in SWM (Paras 2.8 and 7.2 refer).
- ii. Guidelines for involvement of and social inclusion of waste pickers/ rag pickers of informal sector in SWM (Para 4.2.4 refers).

2.2 Strategy for implementation of 3R approach

Municipal Solid Waste Management Manual, 2016 (Section 2.1) (Part-II) prescribes a step-wise approach in the order of environmental priority for different waste management options with prevention being the most preferred option and disposal the least favoured. It is closely linked to the 3R (reduce, reuse, and recycle)⁶⁶ approach, which helps to reduce the quantity of waste, the cost associated with its handling, and its environmental impacts. The Integrated Solid Waste Management (ISWM) hierarchy of waste management prioritises waste minimisation (reduction at source and reuse) as the most preferred waste management strategy (**Chart-2.1**).

Chart-2.1: Integrated Solid Waste Management System Hierarchy



Source: MSWM Manual, 2016

⁶⁶ 3R: **Reduce**-to avoid unnecessary waste generation, **Reuse**-to use again, and **Recycle**-to convert unwanted things into useful and marketable recycled products

Although the State had given thrust to 3R (reduce, reuse, and recycle) approach in their policy document (Para 6.3), effective steps to achieve this by the ULBs were not taken (*Para 2.1.2 refers*).

One of the State policy objectives (Para 5) was to restrict the quantity of Solid Waste reaching to the secured landfill to maximum of 20 *per cent* generated, by encouraging segregation and resource recycle/recovery.

In GHMC: It was observed that the most preferred method of waste minimisation by source reduction and reuse as per 3R approach was not done. However, recycling of plastic waste, composting of wet waste and Waste to Energy (WtE) was done in GHMC at Jawaharnagar T&D facility (*Para 5.4 refers* and **Box No.1**).

In GHMC more than 80 *per cent* of MSW was processed (*Para 5.1.1 refers* and *Table-5.1*) and the percentage of residual waste landfilled out of generated & collected waste was less than 20 *per cent* (*Para 5.3 refers* and *Table-5.4*).

Thus, the State Policy objective of restricting the quantity of Solid Waste reaching the secured landfill to maximum of 20 *per cent* of waste generated was achieved only in GHMC.

In test-checked other 14 ULBs: The details of MSW generated, collected, segregated/processed and disposed in dumpsite in the test-checked other 14 ULBs during the years 2017-22 are given in **Appendix-2.1** along with JPV observations on segregation & processing facilities existing in the dumpsites. Audit observed that against the waste management priorities prescribed in **Chart-2.1**, composting and dry waste segregation for recovery of recyclables was only being done in few of the ULBs as discussed below.

Audit analysis of the data furnished (*Appendix-2.1 refers*) revealed the following:

- a. Despite having Dry Resource Collection Centres (DRCCs)⁶⁷ for segregation, sorting and recovery of recyclables from MSW (*Para 4.1.2 refers*) and composting facilities for processing of MSW (*Para 5.2.1 refers*), two ULBs⁶⁸ reported percentage of unprocessed MSW dumped in dumpsite was more than 70 *per cent*. This indicated ineffective operation and under utilisation of DRCCs and composting facilities for waste processing.
- b. Despite having no DRCCs and composting facilities four ULBs⁶⁹ reported unprocessed MSW disposed as less than 21 *per cent*, i.e., MSW processed/segregated was more than 80 *per cent*. This indicated that data given by these ULBs do not seem reliable and needs to be reconciled.
- c. Two ULBs⁷⁰ have only DRCCs and no composting facilities for processing. However, from the data given by the ULBs, it is seen that the percentage of unprocessed MSW dumped in dumpsite was in the range of 21 to 39 *per cent* which means processing of

⁶⁷ DRCCs are established to facilitate segregation, sorting and recovery of recyclables from various components of MSW at dumpsites

⁶⁸ Mahabubnagar and Zaheerabad

⁶⁹ Chandur, Haliya, Wardhannapet and Yellareddy

⁷⁰ Kalwakurthy and Khanapur

MSW was in the range of 61 to 79 *per cent*. This statement given by the ULBs also seems unrealistic in the absence of these facilities.

- d. In Nagaram and Peerzadiguda ULBs, the collected MSW was being transported to Jawaharnagar T&D facility for processing (*Table-5.2, Para 5.2.1 refers*) and only DRCCs exists in these two ULBs. However, percentage of disposed unprocessed MSW to collected MSW in these two ULBs was furnished as in range of 40 to 51 *per cent*.

This indicated segregation, sorting and recovery of recyclables from the entire dry waste was in the range of 49 to 60 *per cent* out of total collected MSW, before transportation of the remaining MSW to Jawaharnagar T&D facility. This data seems unrealistic for the same reasons as stated in Sl.No.(c) above and considering the fact that processing of MSW was being done at Jawaharnagar T&D facility.

Further, other waste processing facilities (Bio-methanation, WtE Plants, Biogas and Plastic Recycling units) were not established in all the test-checked other 14 ULBs.

The overall percentage of unprocessed MSW dumped to dumpsite was more than 60 *per cent* (*Appendix-2.1 refers*) and hence the objective of restricting the quantity of Solid Waste reaching to the secured landfill/dumpsite to maximum of 20 *per cent*, as envisaged in the State policy document was not achieved. Thus, waste management in the test-checked other 14 ULBs was not effectively carried out.

2.3 Municipal Solid Waste Management Plan

Sections 1.4.5 and 1.4.6 of MSWM Manual, 2016 (Part-II) emphasise the need for ULBs to prepare a detailed SWM plan, with short-term (5 years) and long-term (20-25 years) actions. The short-term plan should lead to the achievement of the long-term plan. Each short-term plan should be reviewed every 2-3 years, to ensure higher success in implementing all plan activities. The short-term plan should cover aspects of institutional strengthening, community mobilisation, waste minimisation initiatives, waste collection and transportation, treatment and disposal, and other policy changes as may be deemed necessary. The financial outlay required for each action plan should be elaborated, and sources of finance ascertained in the planning phase. The MSWM Plan encompasses the following:

- i. institutional strengthening;
- ii. human resources development;
- iii. technical capacity building;
- iv. financial capacity and arrangements {Public Private Partnership framework};
- v. community participation;
- vi. legal framework and mechanism for enforcement; and
- vii. public grievance or complaint redressal

Further Rule 15(a) of SWM Rules, 2016, stipulates that the local authorities shall prepare a Solid Waste management plan as per State Policy and Strategy on Solid Waste management within six months from the date of notification of the State Policy and Strategy and submit a copy to respective departments of State Government.

Greater Hyderabad Municipal Corporation has been implementing the Integrated MSW Management (IMSWM) through the Concessionaire with Concession Agreement (CA) for a period of 25 years (*Para 2.6.1 refers*) and also based on the DPR prepared for the IMSWM. However, GHMC has not revisited the CA for the period of 25 years in consonance with MSWM Manual, 2016.

The State Government replied (September 2023) that the Collection & Transportation (C&T), Treatment and Disposal (T&D) and Operation & Maintenance (O&M) plans prepared in consonance with MSWM Manual, 2016 are considered as Municipal Solid Waste Management Plan.

The reply was contrary to the fact that the CA for implementation of IMSWM as per the applicable laws, which shall mean and include rules, regulations which may be brought into force and effect after the CA date (February 2009). Hence, the provisions of MSWM Manual, 2016 and SWM Rules, 2016 need to be adopted accordingly. However, the IMSWM implemented through the Concessionaire was based on the Detailed Project Report prepared in 2012 (*Para 2.6.1 refers*) and was not revisited thereafter in accordance with MSWM Manual, 2016.

Audit observed that in the other test-checked 14 ULBs, MSWM Plan encompassing the activities (Sl.Nos. i to vii) as mandated in the MSWM Manual, 2016 was not prepared. There was also no short-term plan (5 years) prepared in the test-checked 14 ULBs, which deprived them of the opportunity of adopting a systematic approach to SWM.

2.4 Preparation of contingency plans

Municipal Solid Waste Management Manual, 2016 (Section 5.4) (Part-II) stipulates that ULBs should prepare contingency plans for appropriate storage of waste, to tide over situations of any unforeseen events.

Audit observed that contingency plans were not prepared in all the test-checked ULBs. The requirement of a contingency plan was neither envisaged in the State Policy nor addressed by the test-checked ULBs.

2.5 Involvement of all stakeholders in planning

Manual on MSWM, 2016 (Sections 1.4.4, 1.4.4.1.1 and 1.4.4.1.2) (Part-II) provided for constitution of a core team or advisory team (internal stakeholders⁷¹) involving all departments concerned with SWM services for developing the MSWM plan. It also included involvement of the external stakeholders (comprising households, informal sector, NGOs, CBOs, SHGs, women's groups, secondary school and college students *etc.*) in MSWM planning and implementation.

⁷¹ (i) Commissioner or chief executive of the ULB, (ii) Head of the SWM department, (iii) Environmental engineer in the SWM department, (iv) Head of the Town Planning Department, (v) Heads of the water supply, public health or sanitation, and sewerage departments, (vi) Head of the accounts department and (vii) Ward level officials in the SWM department

There was no MSWM plan in all the test-checked ULBs encompassing the activities (Sl.Nos. i to vii) as mandated in the MSWM Manual, 2016 (*Para 2.3 refers*). Audit also noticed that core team or advisory team involving internal/external stakeholders was not formed in any of the test-checked ULBs.

The State Government replied (November 2023) that in eight ULBs⁷² a core team or an advisory team was set up with immediate effect. It was also stated that meetings would be conducted at regular intervals and suggestions from the core team would be implemented for SWM action plan in future.

2.6 Generation and Assessment of Solid Waste

A reliable assessment of the different kinds of waste generated in the limits of the ULB is essential for planning and effective implementation of SWM. Section 1.4.3.3 of MSWM Manual, 2016 (Part-II) stipulates that each ULB should assess the quantity and composition of waste generated to plan for and design effective MSWM systems. The quantity and composition of Municipal Solid Waste (MSW) generated in the ULB determines the collection, processing and disposal options that could be adopted.

The details of MSW generated by all ULBs in the State, GHMC and the test-checked other 14 ULBs during 2017-18 to 2021-22 are given in **Table-2.2**. More than 50 per cent of MSW in the State was generated in GHMC.

Table-2.2: MSW generated by all ULBs in the State, GHMC and the test-checked other 14 ULBs during 2017-18 to 2021-22

(Figures in TPD)

Year	State	GHMC	Test-checked other 14 ULBs
2017-18	7,871	4,864	337
2018-19	8,497	5,298	382
2019-20	9,285	5,799	437
2020-21	9,965	5,668	494
2021-22	11,057	6,166	538
Total	46,675	27,795	2,188

Source: Annual Reports on SWM submitted by TSPCB to CPCB, information furnished by GHMC and test-checked other 14 ULBs

Section 1.4.3.3.1 of MSWM Manual, 2016 (Part-II) stipulates that for the purpose of long-term planning, average amount of waste disposed by a specific class of generators may be estimated only by averaging data from several samples. These samples are to be collected continuously for a period of seven days at multiple representative locations within the jurisdiction of ULB, in each of three main seasons *viz.*, summer, winter and rainy seasons. Waste should be aggregated over a seven-day period, weighed and averaged. These quantities could then be extrapolated to entire ULB and per capita generation assessed.

⁷² Bollaram, Chandur, Haliya, Kalwakurthy, Mahabubnagar, Mancherial, Nagaram and Peerzadiguda

The methodology of waste generation estimation prescribed by MoUD, GoI in the Handbook of SLBs⁷³ mandates the conduct of survey for MSW assessment, which when compared to per capita based MSW assessment, should have the highest level of reliability.

2.6.1 Assessment of Solid Waste generated in Greater Hyderabad Municipal Corporation

The Greater Hyderabad Municipal Corporation took up implementation of an IMSWM Project in Hyderabad through Public Private Partnership (PPP) mode and entered (February 2009) into a Concession Agreement (CA) for a concession period of 25 years with Ramky Enviro Engineers Limited, Hyderabad⁷⁴, subsequently renamed (February 2022) as Re Sustainability Limited (the Concessionaire). The IMSWM Project was being implemented by Hyderabad Integrated Municipal Solid Waste Limited (HIMSWL)⁷⁵ (wholly owned subsidiary of the Concessionaire) based on the DPR prepared for this purpose in the year 2012.

The Greater Hyderabad Municipal Corporation made MSW assessment in the DPR, considering the estimated MSW generated in the city based on detailed survey at the time of preparation of the DPR as 4,400 TPD for an estimated population of 83,89,068 for the base year 2011, which works out to 524.5 gm/capita/day. Accordingly, MSW assessment for the years from 2011 to 2041 was done in the DPR (Para 1.11, Table-1.9 of the DPR) on per capita based method, assuming that per capita waste generation (gm/day) would increase annually by 1.5 *per cent* as detailed in **Appendix-2.2**.

It could be seen from **Appendix-2.2** that the projected MSW generation was 6,263 TPD, *i.e.*, 22,85,995 MT for the year 2021. However, as per the data furnished to Audit by GHMC, the actual total waste generated and received at Jawaharnagar T&D facility for the year 2021-22 was 24,23,637 MT, which was more than the projections made in the DPR (6 *per cent*). Though the DPR was prepared for GHMC area, the other nearby ULBs around GHMC limits were also permitted later to transport their generated waste to the Jawaharnagar Treatment & Disposal (T&D) Facility, thereby increasing the load on the existing T&D facility and this factor was not considered at the time of preparation of DPR for MSW assessment.

The Concession Agreement includes that for implementation of IMSWM, the applicable laws shall mean and include rules, regulations which may be brought into force and effect after the CA date (February 2009). Hence, the provisions of MSWM Manual, 2016 and SWM Rules, 2016 need to be adopted accordingly.

⁷³ Waste generation estimates based on quarterly survey/sample of statistically significant and representative number of households and establishments. Seasonal variation in waste quantity generation is captured in these estimates. Waste collection is based on actual weighment of waste on a weighbridge at the disposal site (which is aggregate of waste measured at composting yard, sanitary landfill site, and waste taken out for recycling / reuse after it has been collected)

⁷⁴ G.O.Ms.No.136 dated 19 February 2009 of MA&UD (J) Department, wherein it was mentioned that out of two bids received, the L1 bid of M/s Ramky Enviro Engineers Limited, Hyderabad was selected

⁷⁵ The HIMSWL, being the Special Purpose Company of M/s REEL shall undertake and perform the obligations and exercise the rights of the Concessionaire under the CA. M/s REEL undertakes to hold itself principally responsible for all the duties and obligations under the CA throughout the Concession period though the same is assigned in favour of HIMSWL

Audit observed that no survey was done as mandated in MoUD, GoI in Handbook of SLBs after preparation of the DPR in 2012 and MSW re-assessment was not undertaken in accordance with MSWM Manual, 2016 for long-term planning.

The State Government replied (September 2023) that since 100 *per cent* of waste was being collected in GHMC, the assessment of trend of increase in waste was observed annually and accordingly the plant capacity was increased and hence no survey was initiated.

The reply was not in consonance with the fact that increase in plant capacity for T&D⁷⁶ was done to process the corresponding increase in received solid waste. However, reliable assessment of solid waste generated was not done, as mandated in MoUD, GoI in Handbook of SLBs, after preparation of the DPR in 2012.

2.6.2 Assessment of Solid Waste generated in test-checked other 14 Urban Local Bodies

The details of population projections, MSW assessed, generated during audit period (2017-18 to 2021-22) in the 14 test-checked ULBs are given in **Appendix-2.3**. Audit observed the following from the analysis of data/information furnished by the ULBs on population projections, MSW assessed and generated:

- a. Eight ULBs⁷⁷ had mentioned same quantity figures for both MSW assessed and actually generated for the period 2017-18 to 2021-22, which indicated that assessment of MSW was not done in these ULBs, as generated figures were shown as assessed figures.
- b. The Municipal Solid Waste assessment and verification was stated to have been done by Assistant Engineer/Environmental Engineer/Sanitary Inspector. However, documentary evidence in support of the MSW assessment done showing the methodology adopted for assessment was not produced to Audit by the test-checked other 14 ULBs. Hence, Audit could not verify the correctness or otherwise of the assessment of MSW done and methodology followed by the test-checked other 14 ULBs.
- c. During JPV of the dumpsites in the test-checked other 14 ULBs, it was noticed that there were no weighbridges in 12 ULBs⁷⁸ (*Para 5.3.3 refers* and also *Chart-5.1*) to quantify the Solid Waste collected and transported to dumpsites. Hence, the MSW generated figures furnished by these 12 ULBs were not reliable in the absence of weighbridges to quantify the collected and transported MSW.
- d. Though the annual population figures remained same, corresponding MSW assessed projections showed random annual incremental increase in four ULBs⁷⁹, which indicated that MSW assessment was done without considering corresponding population growth annually and hence the MSW assessment done was defective.

⁷⁶ From 2,000 TPD in the year 2012 to 8,000 TPD in the year 2022

⁷⁷ Kalwakurthy, Khanapur, Kothagudem, Mahabubnagar, Nagaram, Peerzadiguda, Yellareddy and Zaheerabad

⁷⁸ Bollaram, Chandur, Haliya, Kalwakurthy, Khammam, Khanapur, Kothagudem, Mancherial, Nagaram, Wardhannapet, Yellareddy and Zaheerabad

⁷⁹ Kalwakurthy, Peerzadiguda, Wardhannapet and Yellareddy

- e. Neither there was an annual incremental increase in population nor corresponding MSW assessed projections. As a result, same MSW assessed figures were shown every year against the population by three ULBs⁸⁰, which indicated that MSW assessment was not done by these ULBs.

Section 1.4.5.1.2 of MSWM Manual, 2016 (Part-II) stipulates a few methods for population projections such as, Arithmetical increase, Geometrical increase, Incremental increase *etc.*, to be adopted. To illustrate, Audit estimated⁸¹ the population projections and corresponding MSW assessment for one ULB-Mahabubnagar, as per the suggested percentages in Section 1.4.3.3 of the MSWM Manual, 2016 and a comparison made with the figures furnished to Audit are detailed in **Table-2.3**

Table-2.3: Comparison of population projections and MSW assessed figures furnished by Mahabubnagar ULB and as estimated by Audit for the years 2017-18 to 2021-22

(Figures in MT/Year)

Year	Mahabubnagar ULB projections			Audit projections				
	Population adopted by ULB	Percentage increase in population over previous year	MSW assessed	Population worked out by Audit	Percentage increase in population over previous year	Per capita MSW generation in gm/day as per Audit	Percentage increase in per capita MSW over previous year	MSW assessed
	1	2	3	4	5	6	7	8= (col 4*col 6*365/10 ⁶)
2017-18	2,17,143	-	28,080	2,66,924	-	378	-	36,827
2018-19	2,20,513	1.55	28,080	2,76,267	3.5	383	1.3	38,620
2019-20	2,23,481	1.35	29,520	2,85,936	3.5	388	1.3	40,494
2020-21	2,40,564	7.6	35,280	2,95,944	3.5	393	1.3	42,451
2021-22	2,54,514	5.8	38,160	3,06,302	3.5	398	1.3	44,496

Source: Information provided by Mahabubnagar ULB

Mahabubnagar ULB has taken 2011 census population figure of 2,17,143 as the base figure for 2017-18, which was an incorrect population projection methodology. Besides, the difference between the MSW assessed figures as per Audit projections and the Mahabubnagar ULB projections evidently shows that no proper methodology was followed by Mahabubnagar ULB for population projections and corresponding MSW assessment. Similarly, test-checked other 13 ULBs also did not make population projections correctly leading to incorrect assessment of MSW.

Thus, all the test-checked ULBs including GHMC neither made MSW assessment as mandated in the MSWM Manual, 2016 for long-term planning nor conducted survey for assessment of Solid Waste adhering to the methodology prescribed by MoUD, GoI in Handbook of SLBs.

⁸⁰ Kothagudem, Mancherla and Zaheerabad

⁸¹ Taking base year (2011 census) population as 2,17,143 with annual incremental growth rate of 3.5 per cent and annual incremental increase of MSW as 1.3 per cent (Section 1.4.3.3 of MSWM Manual, 2016). For MSW assessment for the base population year 2011 census (2,17,143), the rate was adopted as 350 gm/capita/day in cities with a population between 2,00,000 and 5,00,000 as per Section 1.4.3.3 of MSWM Manual, 2016, which works out to 27,740 MT/Year for 2011-12

2.7 Service Level Benchmarks

Ministry of Urban Development, GoI has set SLBs at the national level for service provision in four key sectors—water supply, sewerage, SWM and storm water management. Monitoring performance and improvements are envisaged as the goal of the Service Level benchmarking. Benchmarking should be used as a tool for undertaking objective performance analysis by ULBs to improve their activities. MoUD, GoI defined a common minimum framework for monitoring and reporting on performance indicators, of which eight performance indicators pertained to SWM as detailed in **Appendix-2.4**.

Audit observations on SLB achievements for 2021-22 as declared by the test-checked ULBs are discussed in the succeeding paragraphs.

2.7.1 Targets and achievement in test-checked Urban Local Bodies

Service Level Benchmarks declarations (2021-22) furnished by GHMC in respect of these performance indicators are shown in **Table-2.4**.

Table-2.4: Service Level Benchmarks achievement by GHMC (2021-22)

Sl. No	Performance indicator	Bench mark (in per cent)	Achievement (in per cent)
1.	Household level coverage of SWM services	100	100
2.	Efficiency of collection of municipal Solid Waste	100	100
3.	Extent of segregation of municipal Solid Waste	100	63
4.	Extent of municipal Solid Waste recovered	80	85
5.	Extent of scientific disposal of municipal Solid Waste	100	100
6.	Extent of cost recovery in SWM services	100	80
7.	Efficiency in redressal of customer complaints	80	85
8.	Efficiency in collection of SWM user charges	90	80

Source: Information furnished by GHMC

In GHMC: Audit analysed the SLB declarations made by GHMC with the respective data/information to the extent furnished and it was observed that-

a. Municipal Solid Waste from households was transferred to primary collection vehicles by the waste collectors/waste pickers in a mixed manner and was being transported to intermediate storage facilities as discussed in *Paragraph 4.1.1.1*. GHMC also confirmed that though source segregation was done to a certain extent, the MSW was being transported in mixed manner to Jawaharnagar T&D facility and there was practically no segregation of MSW at intermediate storage facilities. Hence, the SLB declaration of 63 per cent was not factually correct.

b. Though GHMC stated that efficiency in redressal of customer complaints was 85 per cent, Audit observed from the year-wise data on redressal of complaints received during 2017-22 that redressal of complaints was done within a minimum time of 48 hours and not within 24 hours as mandated.

Further, out of 1,41,649 complaints⁸² received in GHMC during 2017-22, 1,35,832 were resolved (96 *per cent*) leaving 5,817 complaints unresolved as on 23 May 2023. Out of these 5,817 pending complaints, 3,754 (64 *per cent*) of the unresolved complaints pertain to more than two years.

The State Government replied (September 2023) that the pending complaints pertain to other line departments in GHMC like street lighting, drainage issues, *etc.*, and water supply complaints related to HMWSSB wrongly (unknowingly) registered under health and sanitation.

The reply was contradictory to the fact that the 1,41,649 complaints received in GHMC as per the data furnished to Audit pertain to SWM services only including balance unresolved complaints. Further, documentary evidence for the number of complaints resolved within mandatory 24 hours were not furnished to Audit to verify the SLB achievement declaration of 85 *per cent* (*Para 7.7 refers*).

c. In respect of efficiency in collection of user charges, the user charges are collected from the waste generators (households) by the waste collectors operating Swachh Auto Tippers (SATs) (owned and operated by them including maintenance) and no revenues yield to GHMC. User charges collected from Bulk Waste Generators are credited to the General Fund account.

The Service Level Benchmark indicator for efficiency in collection of user charges is measured based on current year revenues⁸³ collected against total operating revenues for the corresponding period (*Appendix-2.4 refers*). However, current year (2021-22) revenues data was not furnished to Audit and hence the SLB declaration on efficiency in collection of user charges made by GHMC could not be verified in audit (*Para 3.3 refers*).

In test-checked other 14 ULBs: Two ULBs (Kothagudem and Wardhannapet) did not furnish the SLBs declaration information to Audit. An abstract of SLBs declarations (2021-22) furnished by the remaining 12 test-checked ULBs⁸⁴ in respect of these performance indicators have been compiled and shown in **Table-2.5**. Detailed SLB achievement declarations for the year 2021-22 made by each of the test-checked other 12 ULBs against performance indicators are given in **Appendix-2.5**.

Table-2.5: Service Level Benchmarks achievement by test-checked other 12 ULBs (2021-22)

Sl. No	Particular of SLB declaration in test-checked ULBs	Number of ULBs (Achievements range in percentage)				
		Zero	1 to 20	21 to 50	51 to 80	81 to 100
1.	Household level coverage of SWM services	0	0	0	0	12
2.	Efficiency of collection of municipal Solid Waste	0	0	0	0	12
3.	Extent of segregation of municipal Solid Waste	0	0	6	5	1

⁸² Complaints relating to (i) Segregation of waste not done, (ii) Construction and Demolition waste lifting, (iii) Street sweeping not done, (iv) Garbage dumping, (v) Garbage burning and (vi) Garbage nuisance while transporting

⁸³ Revenues collected for bills raised during the year. This should exclude collection of arrears as inclusion of arrears will skew the performance reflected

⁸⁴ Bollaram, Chandur, Haliya, Kalwakurthy, Khammam, Khanapur, Mahabubnagar, Mancherial, Nagaram, Peerzadiguda, Yellareddy and Zaheerabad

Sl. No	Particular of SLB declaration in test-checked ULBs	Number of ULBs (Achievements range in percentage)				
		Zero	1 to 20	21 to 50	51 to 80	81 to 100
4.	Extent of municipal Solid Waste recovered	1	0	1	9	1
5.	Extent of scientific disposal of municipal Solid Waste	10	0	0	0	2
6.	Extent of cost recovery in SWM services	9	0	2	1	0
7.	Efficiency in redressal of customer complaints	1	0	0	7	4
8.	Efficiency in collection of SWM user charges	5	0	0	1	6

Source: Information provided by test-checked other 12 ULBs

Audit observed that there was no scientific disposal of Solid Waste, as landfill sites were not identified in the test-checked ULBs and hence the achievements were significantly below the benchmark. Audit analysis of the SLBs declarations (2021-22) made by the test-checked 12 ULBs (*Appendix-2.5 refers*) with reference to MSW generated, collected, segregated/processed data furnished for the year 2021-22 (**Appendix-2.6** and also *Para 4.1.2 refers*) is as follows:

- i. The Service Level Benchmark declaration by Bollaram ULB of more than 80 *per cent* achievement in coverage of SWM services (**Sl.No.1 of Table-2.5**) was contradictory to the fact that actual coverage of Hotels, Restaurants, Shops, *etc.*, in door-to-door collection of MSW in 2021-22 was only 14 *per cent* (*Para 4.2.1 refers*).

The State Government replied (November 2023) that action has been taken for door-to-door collection of MSW covering Hotels, Restaurants, Shops, *etc.*

- ii. In Zaheerabad ULB, though the percentage of MSW segregated/processed (extent of MSW recovered) was less than one *per cent* as per the data furnished to Audit, the percentage of SLB achievement against extent of MSW recovered (**Sl.No.4 of Table-2.5**) was declared between 81 to 100 *per cent*, which was contradictory.

Similarly, in three other ULBs⁸⁵, though the percentage of MSW segregated/processed was less than 50 *per cent* (*Appendix-2.6 refers*), the corresponding SLB declarations made was between 51 to 80 *per cent*, which was also contradictory.

- iii. As of 31 March 2023, scientific disposal of MSW in Sanitary Landfill is taking place only in GHMC at Jawaharnagar T&D facility and was also mentioned in the Annual Report 2021-22 on SWM submitted by TSPCB to CPCB.

Mahabubnagar ULB had declared SLB achievement of more than 80 *per cent* against the indicator 'Extent of scientific disposal of municipal Solid Waste' (**Sl.No.5 of Table-2.5**). However, the JPV of dumpsite of Mahabubnagar ULB confirmed that there was no Sanitary Landfill site (*Para 5.3.1 refers and also Table-5.6*).

The State Government accepted (November 2023) that there was no Sanitary Landfill in Mahabubnagar ULB and the data provided to Audit was incorrect.

⁸⁵ Bollaram, Khammam and Mahabubnagar

In Nagaram ULB, the transported MSW is temporarily stored in the dumpsite (*Para 5.3.3 refers and also Table-5.6*) and from there it was being transported by the Concessionaire for final disposal at Jawaharnagar T&D facility under the jurisdiction of GHMC for scientific disposal of MSW in Sanitary Landfill. Hence, SLB declaration of more than 80 *per cent* (*Appendix-2.5 refers*) by Nagaram ULB, was not factually correct.

- iv. Audit observed from the details⁸⁶ of cost recovery in SWM services for the year 2021-22 furnished by only two ULBs (Bollaram and Mahabubnagar), that the percentage of cost recovery in these two ULBs was 32.94 *per cent* and 7.3 *per cent* respectively. However, SLB declarations of 45 and 46 *per cent* respectively were made by these two ULBs (*Appendix-2.5 refers*) against the indicator, cost recovery in SWM services (**Sl.No.6 of Table-2.5**) which was contradictory.
- v. Seven ULBs⁸⁷ made declarations of 51 to 80 *per cent* achievement (*Appendix-2.5 refers*) related to efficiency in redressal of customer complaints against indicator at **Sl.No.7 of Table-2.5**. However, documentary evidence in the form of total number of MSWM related complaints resolved against total number of MSWM complaints received within 24 hours was not produced to Audit. The same was the case with other four ULBs⁸⁸, which made declarations of 81 to 100 *per cent* (*Appendix-2.5 refers*).
- vi. Audit observed from the information on SWM user charges furnished to Audit by the 14 ULBs that they are not recovering the user charges and the ULBs stated that authorised waste collectors are collecting the user charges from the waste generators/households for the MSW collected (*Para 3.3 refers*).

Hence, the SLB declarations of 51 to 80 *per cent* achievement made by one ULB (Mahabubnagar) and 81 to 100 *per cent* achievement (*Appendix-2.5 refers*) made by six ULBs⁸⁹ against the indicator ‘Efficiency in collection of SWM user charges’ (**Sl.No.8 of Table-2.5**) was not factually correct.

Thus, the correctness of the SLB achievements declared by the test-checked ULBs could not be verified in audit in the absence of documentary evidence to the extent not produced in support of their claims. Further, Audit analysis/observations above indicate that SLB declarations made by the test-checked other 12 ULBs were not only contradictory but also factually incorrect.

2.8 Allocation of responsibility and accountability of Urban Local Bodies

Identification of nodal agencies and implementing bodies, and allocation of responsibility and accountability to these are essential for ensuring smooth and effective compliance with laws and rules. Section 1.4.5.4 of MSWM Manual, 2016 (Part-II) strongly recommends

⁸⁶ Bollaram: Annual (2021-22) operating revenue (₹0.45 crore) and operating expenses (₹1.366 crore). Mahabubnagar: Annual (2021-22) operating revenue (₹0.65 crore) and operating expenses (₹8.90 crore). Cost recovery in SWM services in percentage is calculated as $[\text{Annual operating revenues}/\text{Annual operating expenses}] \times 100$ (As per MoUD, GoI, Handbook on SLB)

⁸⁷ Chandur, Haliya, Khammam, Khanapur, Mancherial, Peerzadiguda and Yellareddy

⁸⁸ Bollaram, Kalwakurthy, Mahabubnagar and Nagaram

⁸⁹ Bollaram, Chandur, Khammam, Mancherial, Nagaram and Peerzadiguda

that ULBs should have an SWM cell or SWM department having staff with technical and managerial skills specific to MSW management. The ULB shall follow their respective State Government norms for staffing the SWM department.

In GHMC: Rationalisation of staffing pattern in GHMC was done in the year 2013⁹⁰ (prior to bifurcation of the composite State of Andhra Pradesh) and a separate Department for SWM was created. Inadequacy of staff to deal with SWM is discussed in the succeeding paragraph.

In test-checked other 14 ULBs: The status of formation of SWM cell and the staff looking after SWM activities in the test-checked other 14 ULBs are given below:

- Bollaram, Haliya, Mancherial, Nagaram and Peerzadiguda ULBs replied that SWM Cell was led by Sanitary Inspectors, with technical and monitoring support from Environmental Engineers and outsourcing agency.
- Chandur ULB stated that one Environmental Engineer and 28 Sanitary Jawans were engaged for SWM activities.
- Kalwakurthy ULB stated that a SWM Cell was set up with one Environmental Engineer.
- Kothagudem ULB stated that a dedicated staff for SWM Cell was set up for looking after SWM activities with one Sanitary Inspector (Incharge), one Environmental Engineer and eight Sanitary Jawans.
- Khammam ULB stated that SWM cell was formed with Sanitary Inspectors and also appointed Environmental Engineer for Technical support, who are doing regular monitoring of SWM activities.
- Mahabubnagar ULB stated that the Sanitation wing looks after SWM with allocated staff⁹¹.
- Wardhannapet ULB stated that due to lack of staff, SWM cell was not constituted.

Besides, details of staff who were looking after the SWM activities in the remaining three ULBs⁹², in the absence of dedicated SWM cell/department-was not furnished to Audit.

Commissioner and Director of Municipal Administration, Hyderabad stated (October 2022) that Sanitation sections headed by Municipal Health Officer, Deputy Municipal Health Officer/Sanitary Supervisor/Sanitary Inspector are dealing with SWM with Environmental Engineer providing technical and monitoring support.

Audit observed from the statement showing the status (as on January 2023) of overall manpower availability in 141 ULBs furnished by CDMA, Hyderabad that there are no such sanctioned posts of Municipal Health Officer and Deputy Municipal Health Officer. The State Government had not issued orders similar to GHMC in other ULBs, for the creation of separate Department/Cell for SWM with prescribed staffing pattern to exclusively look after SWM activities.

⁹⁰ G.O.Ms.No.156 dated 09 April 2013 of MA&UD (A1) Department

⁹¹ Environmental Engineer-01, Sanitary Inspectors-03, Health Assistant-01, Sanitary Jawans-18 and Composting staff-06

⁹² Khanapur, Yellareddy and Zaheerabad

2.8.1 Human Resources for Solid Waste Management

In 141 ULBs of the State, against 4,389 sanctioned posts in eight categories (as of January 2023), which deal with Sanitation-cum-SWM activities, 2192 personnel were working and there was overall 50 *per cent* vacancy in the posts, as detailed in **Table-2.6**.

Table-2.6: Sanctioned posts, PIP with vacancy position of posts dealing with Sanitation-cum-SWM activities in 141 ULBs (excluding GHMC)

Sl. No.	Name of the post	Sanctioned posts	PIP	Vacancy
1.	Environmental Engineer	22	07	15
2.	Health Assistant	144	70	74
3.	Municipal Health Inspector	02	02	0
4.	Public Health Workers	3,768	1,906	1,862
5.	Sanitary inspector	101	59	42
6.	Sanitary Jawan	314	137	177
7.	Sanitary Mastry	25	06	19
8.	Sanitary Supervisor	13	05	08
Total		4,389	2,192	2,197

Source: Information furnished by CDMA

In GHMC: A separate Department for SWM was created with the following sanctioned posts against which the PIP as on 31 March 2022 are given in **Table-2.7**.

Table-2.7: Statement showing the sanctioned posts, persons-in-position and vacant posts in GHMC SWM Department as on 31 March 2022

Sl. No.	Name of the post	No. of posts sanctioned	Persons-in-position	Vacant posts
1.	Superintending Engineer	1	1	0
2.	Executive Engineers	8	3	5
3.	Deputy Executive Engineers	34	18	16
4.	Asst. Executive Engineers/ Asst. Engineers	36	28	8
5.	Superintendent	1	1	0
6.	Senior Assistant	2	0	2
7.	Junior Assistant	2	0	2
Total		84	51	33

Source: Information provided by GHMC

It could be observed from **Table-2.7** that there were overall 39 *per cent* vacancies in the SWM Department. The vacancy was more than 40 *per cent* in the supervisory cadres of Executive Engineers (EE) and Deputy Executive Engineers (DEE) and there was 100 *per cent* vacancies in the supporting staff cadre of Senior Assistant and Junior Assistant.

The State Government replied (September 2023) that necessary steps would be taken to post one DEE (SWM) to each of the 30 Circles, one EE (SWM) to each of the six Zones and also the supporting staff in Head Office.

In test-checked other 14 ULBs: In the test-checked other 14 ULBs, there was no exclusive Department for SWM with separate SS and PIP (*Para 2.8 refers*). The staff of Sanitation Wing looks after both sanitation and SWM activities.

2.9 Capacity building

Rule 11(k) of SWM Rules, 2016 stipulate that the Secretary Urban Development Department in the State should arrange for capacity building of local bodies in managing Solid Waste, segregation and transportation or processing of such waste at source. The ULBs as per Rules 15(l) and 15(zc) should-

- Provide training on Solid Waste management to waste-pickers and waste collectors.
- Educate workers including contract workers and supervisors for door-to-door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility.

Besides, Section 1.4.5.5 of MSWM Manual, 2016 (Part-II) mandates that approach to capacity building in MSWM should not only focus on technology but also on different aspects including governance, financing, planning, and improved service delivery. Further, the required training on these different aspects needs to be imparted to the stakeholders viz., (i) Elected Representatives, (ii) Senior Officers, (iii) Collection staff, (iv) Transportation staff, (v) NGOs/CBOs and (vi) Staff at processing plant as detailed in **Appendix-2.7**.

State Government: CDMA replied (May 2023) that workshop on Swachh Survekshan⁹³ for 141 ULBs was arranged for the years 2020 to 2022.

However, the State Government did not arrange for specific capacity building of local bodies staff in managing Solid Waste, segregation and transportation or processing of such waste at source, though mandated in SWM Rules, 2016.

In GHMC: GHMC stated that Trainings/Awareness Programmes/ Workshops were conducted during 2017-21 involving Environmental Specialist, Resident Welfare Associations and NGOs. However, details of specific trainings conducted to the stakeholders mentioned above as per provisions of Manual were not furnished to Audit.

The State Government replied (September 2023) that details of training conducted were furnished during audit. However, no specific reply was furnished for non-conduct of training as per the Manual Provisions, as pointed out in audit (**Appendix-2.7**).

In test-checked other 14 ULBs: Audit observed that five ULBs⁹⁴ had not conducted trainings on SWM during 2017-22. The other nine ULBs⁹⁵ had stated that they had conducted trainings on courses related to source segregation, garbage dump, home composting, transportation & processing and waste to compost.

Audit observed that capacity building on governance, finance and planning was not conducted for the stakeholders. Besides, specific training and capacity building activities as mandated (*Appendix-2.7 refers*) in Section 1.4.5.5 of MSWM Manual, 2016 (Part-II) and Rules 15(l) and 15(zc) for the designated stakeholders were not conducted in all the

⁹³ Swachh Survekshan is an annual ranking exercise taken up by the Ministry of Housing and Urban Affairs (MoH&UA), GoI to assess urban areas of country on their levels of cleanliness and active implementation of Swachhta mission initiatives in a timely & innovative manner

⁹⁴ Bollaram, Chandur, Kalwakurthy, Nagaram and Wardhannapet

⁹⁵ Haliya, Khammam, Khanapur, Kothagudem, Mahabubnagar, Mancherial, Peerzadiguda, Yellareddy and Zaheerabad

test-checked ULBs. Hence, the capacity building undertaken by the test-checked ULBs when compared to coverage of all the stakeholders prescribed in the Manual for capacity building was found deficient.

The State Government replied (November 2023) that Bollaram, Kalwakurthy and Nagaram ULBs had conducted training on SWM, but documentary evidence was not furnished to Audit. It was also stated that Wardhannapet ULB had not conducted capacity building training on SWM.

2.10 Conclusion

The State Policy document on Solid Waste Management formulated by the State Government in September 2018 did not set out definite roles and responsibilities for TSPCB regarding monitoring and evaluation of SWM activities and for personnel in ULBs involved in SWM. Effective methods for Solid Waste reduction in ULBs by adopting the 3R (reduce, reuse and recycle) were not addressed in the State Policy document. The test-checked ULBs had not conducted surveys for MSW assessment during 2017-22, though mandated in the MSWM Manual and SLB Handbook of MoUD, GoI. GHMC adopted per capita estimates for MSW assessment that had a low level of reliability. The per capita estimates based assessment for MSW adopted by the test-checked other 14 ULBs were not reliable either. Though an SWM Department was constituted in GHMC, there were more than 40 *per cent* vacancies in supervisory and supporting staff cadres. SWM Cell/Department was not formed in test-checked other 14 ULBs. All the test-checked ULBs had not prepared long-term and short-term plans for SWM, which deprived the ULBs of the opportunity of adopting a systematic approach to SWM.

2.11 Recommendations

- (i) *State Government should set definite roles and responsibilities in the State Policy for TSPCB and for the personnel in ULBs regarding monitoring and evaluation of SWM activities.*
- (ii) *State Government should promote waste minimisation through the adoption of the 3R approach (reduce, reuse, recycle) and should encourage citizens to practice home composting.*
- (iii) *State Government should direct ULBs to conduct surveys at regular intervals for assessment of MSW as per methodology prescribed in the MSWM Manual and SLB Handbook of MoUD, GoI.*
- (iv) *State Government should issue necessary directions to the ULBs for preparation of long-term and short-term plans for a systematic approach to SWM and to plan for required infrastructure.*

Chapter-III

Financial Management

3.1 Assessment of requirement of funds for effective management of Solid Waste

Section 1.4.1.4 of MSWM Manual, 2016 (Part-II) and Rule 15(x) of SWM Rules, 2016 stipulates that the Municipal Authorities should make adequate provision of funds for capital investments as well as operation and maintenance of Solid Waste management services in the annual budget. They should do this after ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for SWM and other obligatory functions of the local body as per these rules.

Para 6.16 of State policy mandates that all the ULBs should make separate budgeting provisions under the head of SWM for 'capex' (Capital Expenditure) and 'opex' (Operating Expenditure). The approved budgetary amount should be exclusively used for the implementation of SWM.

3.1.1 Budget allocation for Solid Waste Management and Expenditure

In GHMC: The details of total budget allocation, allocation for SWM and expenditure on SWM during the period 2017-18 to 2021-22 in GHMC are shown in **Table-3.1**.

Table-3.1: Year-wise details of total budget allocation, allocation for SWM and expenditure on SWM in GHMC

(₹ in crore)

Year	Total Budget	Budget allocation		Expenditure (SWM)		Total Expenditure
		SWM	Others	Revenue	Capital	
2017-18	5,643	293	5,350	151	153	304
2018-19	6,077	373	5,704	187	185	372
2019-20	6,150	354	5,796	190	183	373
2020-21	5,380	427	4,953	182	205	387
2021-22	5,600	377	5,223	214	258	472
Total	28,850	1,824	27,026	924	984	1,908

Source: Information furnished by GHMC

Greater Hyderabad Municipal Corporation allocated 6.3 per cent of total budget for SWM and the required infrastructure for IMSWM Project was established through the Concessionaire as per the CA (Para 2.6.1 refers).

In test-checked other 14 ULBs: The details of total budget allocation, allocation for SWM and expenditure on SWM during the period 2017-18 to 2021-22 in 14 test-checked ULBs are shown in **Table-3.2**.

Table-3.2: Year-wise details of total budget allocation, allocation for SWM and expenditure on SWM in test-checked other 14 ULBs

(₹ in crore)

Year	Total Budget allocation	Budget Allocation		Expenditure (SWM)		Total Expenditure
		SWM	Others	Revenue	Capital	
2017-18	72	14	58	11	2	13
2018-19	100	9	91	8	2	10
2019-20	142	11	131	10	5	15
2020-21	142	21	121	14	16	30
2021-22	171	21	150	16	13	29
Total	627	76	551	59	38	97

Source: Information furnished by CDMA, Hyderabad

It could be observed from **Table-3.2** above that overall, the test-checked other 14 ULBs allocated only 12 *per cent* of the total budget towards SWM.

Further, in the test-checked other 14 ULBs less than 50 *per cent* of waste was processed and major portion of remaining Solid Waste was dumped at dumpsites (*Para 5.3, Table-5.5 refers*). In the absence of planning and budgeting for adequate treatment/processing facilities in 14 ULBs, more than 50 *per cent* of unprocessed MSW was disposed to open dumpsites, posing health and environment hazards in the area.

Hence, the ULBs did not make adequate provision of funds for capital investments for Solid Waste management services. The 14 test checked ULBs did not carry out scientific SWM on similar lines as GHMC. The test-checked ULBs did not produce any records to Audit to indicate that attempts had been made to engage private agencies for the processing of SWM.

3.1.2 Receipt and utilisation of funds under Swachh Bharat Mission-Urban

The Ministry of Urban Development, GoI launched its flagship scheme of Swachh Bharat Mission-Urban (SBM-U), Phase-I in October 2014 and SWM was one of its six components⁹⁶. The funding pattern for SWM component was 25 *per cent* Central share and 75 *per cent* by the State/PPP/ULB (with mandatory 5 *per cent* State share). This was revised (January 2017) to 35 *per cent* Central share and 65 *per cent* State share. The details of funds received by the State under SBM-U, Phase-I during the years 2017-22, allocation for SWM and expenditure incurred thereon are given in **Table-3.3**.

⁹⁶ (i) Household toilets, including conversion of insanitary latrines into pour-flush latrines, (ii) Community toilets, (iii) Public toilets and urinals, (iv) Solid Waste management, (v) IEC & Public Awareness and (vi) Capacity building and Administrative & Office Expenses (A&OE)

Table-3.3: Details of funds received by the State under SBM-U, Phase-I during the years 2017-22, allocation for SWM and expenditure incurred thereon

Year	Funds received under SBM		Total funds received under SBM	Allocation for SWM Component		Total allocation for SWM (percentage to total funds received)	Expenditure	Closing Balance
	Central share	State share		Central share	State share			
	2017-18	30		72	102			
2018-19	20	36	56	20	36	56 (100)		
2019-20	NIL	NIL	NIL	NIL	NIL	NIL		
2020-21	130	239	369	111	207	318 (86)		
2021-22	54	97	151	36	65	101(67)		
Total	234	444	678	194	358	552 (81)		

(₹ in crore)

Source: Information furnished by CDMA

In GHMC: GHMC informed (July 2023) that for the period 2017-22, an amount of ₹76.33 crore was received during the year 2021-22 from CDMA, Hyderabad as Central share for SBM-U and was utilised towards procurement of SATs and Capping & Leachate Treatment at Jawaharnagar T&D facility. However, Audit observed that no corresponding State Share was released.

In test-checked other 14 ULBs: The details of total allocation of funds for SBM-U, Phase-I, allocation towards SWM component and expenditure on SWM during the period 2017-18 to 2021-22 in 14 test-checked ULBs are shown in **Table-3.4**.

Table-3.4: Details of funds received by the test-checked other 14 ULBs under SBM-U, Phase-I during the years 2017-22, allocation for SWM and expenditure incurred thereon

Year	Funds received		Total Funds received	Allocation for SWM Component	Expenditure SWM component	Closing Balance (SWM)
	GoI	State				
2017-18	4	2	6	1	0.6	0.4
2018-19	NIL	NIL	NIL	NIL	NIL	NIL
2019-20	NIL	NIL	NIL	NIL	NIL	NIL
2020-21	6	16	22	17	11	6
2021-22	7	11	18	13	8	5
Total	17	29	46	31	19.6	11.4

(₹ in crore)

Source: Information furnished by CDMA, Hyderabad

In the test-checked 14 ULBs, against allocated total funds of ₹31 crore towards SWM component, the expenditure was 63 per cent, leaving 37 per cent of funds unutilised as on 31 March 2022.

During 2018-19, the State Government released ₹56 crore (*Table-3.3 refers*) to the ULBs in the State towards SWM component. However, these 14 ULBs were not allocated funds for that year, depriving them of funds required for SWM.

3.2 Loss of Central Assistance

Paragraphs 9.70 and 9.71 of Fourteenth Finance Commission (FFC) recommendations stipulate that GoI allocates basic grants (BG) and performance grants (PG) for ULBs. The BG is to provide a measure of unconditional support to ULBs for delivering basic functions assigned to them. To be eligible for PG, ULBs have to submit audited annual accounts (10 per cent weightage) that relate to a year not earlier than two years preceding the year

in which they seek to claim. It will also have to show an increase in own revenues over preceding year (40 *per cent* weightage), as reflected in audited accounts. In addition, ULBs have to measure and publish SLBs for essential four services (50 *per cent* weightage) - (i) Water Supply Coverage Ratio (15 *per cent* weightage), (ii) Reduction in Non-Revenue Water (15 *per cent* weightage), (iii) Coverage of Water Supply for Public/Community Toilets (10 *per cent* weightage) and (iv) Scientific Disposal of Solid Waste (10 *per cent* weightage).

The details of FFC Grants recommended and received by the State and shortfall are given in **Table-3.5**.

Table-3.5: Details of FFC Grants recommended, received by the State and shortfall during the period 2017-22

(₹ in crore)

Year	Grants Recommended			Grants Received			Shortfall of Grants		
	BG	PG	Total	BG	PG	Total	BG	PG	Total
2017-18	520	150	670	475	126	601	45	24	69
2018-19	602	171	773	532	NIL	532	70	171	241
2019-20	813	224	1,037	779	NIL	779	34	224	258
2020-21	889	NIL	889	889	NIL	889	NIL	NIL	NIL
2021-22	672	NIL	672	672	NIL	672	NIL	NIL	NIL
Total	3,496	545	4,041	3,347	126	3,473	149	419	568

Source: Information furnished by CDMA, Hyderabad

From above **Table-3.5**, it could be seen that shortfall in PG was 77 *per cent* of the total recommended PG Grants and there was a loss of central assistance of ₹568 crore (BG: ₹149 crore + PG: ₹419 crore), which was due to non-achievement of SLBs for four basic essential services including scientific disposal of Solid Waste apart from other mandatory conditions.

3.3 Levy and collection of user charges for Solid Waste Management

Rule 15(f) of SWM, Rules, 2016 stipulates that the local authorities should prescribe from time-to-time user fee as deemed appropriate and collect the fee from the waste generators on its own or through an authorised agency.

Section 1.4.5.6.3 of MSWM Manual, 2016, stipulates *inter alia* that the user fees should be in proportion to the quantity of waste generated and level of service provided to waste generators. Households generate much less waste as compared to commercial, institutional, and industrial establishments; and among the households, the poor generate less waste as compared to the rich households. Therefore, the Manual mandates that variable rates need to be prescribed for different categories of waste generators keeping in mind their waste generation potential.

In GHMC: GHMC notified (September 2016) user charges within the limits of GHMC as minimum ₹50 per month for each household and for those living in slums as ₹25 per month. These user charges were proposed with an annual escalation based on the wholesale price

index. In respect of Bulk Waste Generators (BWGs)⁹⁷, the rate was fixed as ₹2.25 per kg. If the generator establishes either composting or bio-methanation in-situ, then 25 per cent of user charges cost may be waived off as an incentive.

Further, the State Government issued orders (March 2022) authorising the Concessionaire to collect user charges from Commercial/ BWGs as notified by GHMC from time to time. Subsequently, in the case of Commercial/BWGs, the rate was revised to ₹2.9 per kg in September 2022 after six years of the first such notification by GHMC.

Greater Hyderabad Municipal Corporation stated that for household MSW collection, user charges were being collected by the waste collectors (mostly uneducated waste pickers from informal sector) doing primary collection by operating SATs (owned, operated and maintained by them). These user charges for waste collection from households and slums vary from locality to locality based on the understanding between the waste generators and waste collectors. The waste collectors were encouraged to sell recyclables by sorting/segregation of collected MSW from the households.

The Equal Monthly Instalments (EMIs) for the SATs procured through loans from Banks (90 per cent of the cost of SATs) would be borne by GHMC and the remaining 10 per cent of the cost of SATs would be borne by the beneficiary (waste collector).

Greater Hyderabad Municipal Corporation informed that 1,876 Bulk Waste Generators (BWGs) were identified as on 31 March 2023 and bulk waste was being collected by GHMC vehicles and transported upto the Secondary Collection Transport Points (SCTP)/ Transfer Stations (TS). It was stated that a self-declaration of waste generated was obtained from the BWG and the same was verified by the Sanitation staff of the respective Circle from where the waste was generated.

The in-charge of the Sanitation wing in the Circle collects the user charges through Demand Draft/Cheque and remits it to GHMC General Fund. GHMC informed that an amount of ₹4.23 crore was levied and collected from the BWGs during 2017-22.

Audit observed that periodical revision of user charges for household MSW collection with an annual escalation based on wholesale price index, maximum user charges rate and area-wise rates were not notified by GHMC. Also based on the category of waste generators, variable rates were notified by GHMC in consonance with Manual provisions, leaving the discretion for collection of user charges more than the notified rates or otherwise to the waste collectors.

Further, there were no incentives for waiving of user charges as the Bulk Waste Generators had not established composting or bio-methanation, thereby increasing the load on Jawaharnagar T&D facility. Though GHMC stated that self-declaration of waste generated was obtained from the BWGs, documentary evidence for this was not furnished to Audit. The mechanism put in place by GHMC to verify the correctness or otherwise of the self-declaration of waste reported by BWGs was also not furnished to Audit.

⁹⁷ Rule 3(8) of SWM Rules, 2016-“bulk waste generator” means and includes buildings occupied by the Central Government departments or undertakings, State Government departments or undertakings, local bodies, public sector undertakings or private companies, hospitals, nursing homes, schools, colleges, universities, other educational institutions, hostels, hotels, commercial establishments, markets, places of worship, stadia and sports complexes having an average waste generation rate exceeding 100 kg per day

The State Government replied (September 2023) that GHMC submitted (January 2023) proposals for revision of user charges for household MSW collection to Standing Committee and the approval was pending. Regarding providing incentives to Bulk Waste Generators, it was replied that the matter would be examined by GHMC.

In test-checked other 14 ULBs: The following mechanism was observed in collection and transportation of MSW from households and slums to the dumpsites in the test-checked 14 ULBs and collection of user charges:

- a. Collection and transportation of MSW by the sanitary workers of ULBs with their own vehicles but without collection of user charges-Chandur, Haliya, Khanapur, Kalwakurthy, Kothagudem, Mancherial, Wardhannapet and Yellareddy.
- b. Collection and transportation of MSW by waste collectors operating SATs⁹⁸ (vehicles are operated by them including their maintenance) with collection of user charges by them at the rates per month fixed⁹⁹ by the ULBs-Bollaram, Khammam, Mahabubnagar, Nagaram, Peerzadiguda, and Zaheerabad.

In Khammam ULB, collection of MSW from households was being done by both sanitary workers with ULB's own vehicles and also waste collectors operating SATs. User charges were collected by the waste collectors at the rates notified by Khammam ULB. However, no user charges were collected from households for waste collection done by the sanitary workers with the ULB's vehicles.

The details of BWGs, mechanism for collection of MSW from BWGs and the user charges fixed for such collection in the 14 ULBs during 2017-22, amount collected were not furnished to Audit, though called for.

However, in Khammam ULB, from October 2021, a private agency, Ecotech Environment Solutions was engaged for collection of MSW from BWGs/Commercial Establishments at the user charges notified by the ULB. As per the Agreement entered into (October 2021) with the private agency for three years, Khammam ULB was to pay to the private agency at the agreed rate (₹10.49 lakh per month) for collection and processing of MSW (by composting of wet waste and dry waste segregation of recyclable items at DRCCs to be done by the private agency).

The private agency, out of the revenue generated from user charges collection and sale of compost, was to pay a lumpsum fixed amount of ₹one lakh per month to the Khammam ULB. No payments were made to the agency as of February 2023.

3.4 Short collection of user charges from Railway authorities

Section 2.2.1.5 of MSWM Manual, 2016 (Part-II) stipulates that the SWM Rules, 2016 are also applicable to industrial townships, areas under the control of Indian Railways, Airports, Airbases, Ports and Harbours, Defence establishments, Special Economic Zones, etc., As such, user fee should be collected from those authorities.

⁹⁸ In 13 ULBs except Mahabubnagar, SATs are procured by the ULBs from their own funds. In Mahabubnagar, SATs procured by obtaining loans from Banks and EMIs payable by the ULB

⁹⁹ Bollaram-₹50, Khammam-₹30, Mahabubnagar-₹40, Nagaram-₹50 to 100, Peerzadiguda-₹100 and Zaheerabad-₹60

Further, as per SWM Rules, 2016, waste generator means and includes every person or group of persons, every residential premises and non-residential establishments including Indian Railways, Defence establishments, which generate Solid Waste.

In GHMC: There are major railway stations under GHMC limits at Secunderabad, Nampally, Kacheguda and also other minor railway stations, apart from the Multi-Modal Transit System (MMTS) and the Metro Stations. However, Audit noticed that no proper mechanism for assessment and collection of user charges has been formulated by GHMC. Further, 1,350 MT of MSW was collected from Secunderabad and Nampally Railway Stations during 2017-22 and an amount of ₹8.78 lakh was collected as user charges for that period.

Audit analysis of the information furnished by GHMC revealed that 739 kgs¹⁰⁰ of MSW was generated per day on an average daily by the two Railway Stations and hence they had to be categorised as BWGs. For BWGs, the user charges fixed are ₹2.25 per kg and accordingly user charges payable by Railway authority is worked out to ₹30.37 lakh for 1,350 MT. This resulted in short collection of ₹21.59 lakh.

Greater Hyderabad Municipal Corporation may take suitable action to collect the amount short collected.

The State Government replied (September 2023) that the data on user charges collected from Railways stations would be reconciled.

In test-checked other 14 ULBs: Though there are Railway stations within the municipal area limits in Khammam, Kothagudem, Mahabubnagar, Mancherial and Zaheerabad ULBs, the respective ULBs stated that no user charges are being collected from the Railway Authorities concerned. There was no mechanism for assessment and collection of user charges from Railway Stations.

The State Government replied (November 2023) that Railway Stations in Mancherial and Zaheerabad ULBs fall under BWG category and hence the BWGs are responsible for SWM.

The reply is contrary to the provisions of MSWM Manual (Para 1.4.5.6.3), which stipulate that user charges as prescribed are to be levied and collected by the ULBs from BWGs.

The State Government may evolve proper mechanism for assessment and collection of user charges by the ULBs from Railway Stations for collection and processing of MSW.

3.5 Arrears in collection of Tipping Fee

Greater Hyderabad Municipal Corporation permitted 12 ULBs¹⁰¹ and two GPs¹⁰² to transport at their own cost, the MSW collected in their limits to Jawaharnagar T&D facility, as these ULBs/GPs do not have dumpsites and treatment facilities. GHMC for processing & disposal of MSW received from these ULBs/GPs, charges Tipping Fee (TF) at the yearly prescribed rate and also charges an additional 20 per cent of the TF amount as

¹⁰⁰ Total MSW generated in five years: 1,350 MT, i.e., 13,50,000 kgs. For one year: (13,50,000/5) = 2,70,000 kgs and for one day it would be on an average: (2,70,000 kgs/365 days) = 739 kgs per day

¹⁰¹ 9 ULBs: Ameenpur, Bandlaguda, Boduppall, Kompally, Manikonda, Narsingi, Nizampet, Peerzadiguda and Pocharam, and 3 affected ULBs exempted from payment of TF: Dammaiguda, Jawaharnagar and Nagaram

¹⁰² Cheeriyal and Peeram Cheruvu

administrative overheads. GHMC stated that out of 12 ULBs and two GPs, three ULBs- Dammaiguda, Jawaharnagar and Nagaram and one GP-Cheeriyal were being exempted from payment of TF, as these are considered as affected ULBs/GP due to proximity to Jawaharnagar T&D facility.

Audit observed from the records relating to TF dues that an amount of ₹19.34 crore was receivable from the remaining nine ULBs and one GP as of 31 March 2022, details of which are given in **Appendix-3.1**. It was also observed that TF dues of ₹28.43 crore were receivable from Secunderabad Cantonment Board (SCB) as of September 2023. There was no data with GHMC on year-wise dues receivable from the nine ULBs, one GP and SCB.

Non-realisation of dues of ₹47.77 crore¹⁰³ by GHMC had resulted in financial burden towards payment of TF to the Concessionaire to the extent of processing & disposal of MSW received from the nine ULBs, one GP and SCB.

3.6 Conclusion

Test-checked 14 ULBs did not make adequate provision of funds for capital investments for Solid Waste Management services. They did not fully utilise the funds allocated by the State under SBM-U towards SWM component, leaving 37 per cent of funds unutilised as on 31 March 2022. Greater Hyderabad Municipal Corporation (GHMC) did not make a periodical revision of user charges for household MSW collection with an annual escalation based on wholesale price index. Though mandated in the Manual, based on the category of the waste generators variable rates were not notified. GHMC did not review the mechanism for collection of user charges for MSW from the Railway stations, MMTS and Metro Stations under its limits and had not reconciled the user charges collected from the Railway stations generating more than 100 kgs of MSW per day, which have to be categorised as BWGs. GHMC failed to collect Tipping fee of ₹47.77 crore from nine Urban Local Bodies, one GP and Secunderabad Cantonment Board.

3.7 Recommendations

- (i) *State Government should direct the ULBs to make adequate budget provision towards SWM and effectively utilise the SBM-Urban funds received towards SWM component for creating adequate infrastructural facilities.*
- (ii) *State Government should direct GHMC for undertaking periodical revision of user charges for household MSW collection, to notify area-wise rates and variable rates based on the category of the waste generators.*
- (iii) *State Government should direct the ULBs to identify BWGs and apply the prescribed user charges rates for collection of MSW.*
- (iv) *State Government should direct the ULBs to review the mechanism of collection of user charges for MSW from all the Railway stations under the ULBs jurisdiction in consonance with the Manual provisions.*

¹⁰³ Nine ULBs and one GP: ₹19.34 crore and SCB: ₹28.43 crore

Chapter-IV

Segregation, Collection and Transportation of Municipal Solid Waste

4.1 Segregation

The Solid Waste Management Rules, 2016 define segregation as sorting and separate storage of various components of Solid Waste namely biodegradable wastes including agriculture and dairy waste, non-biodegradable wastes including recyclable waste, non-recyclable combustible waste, sanitary waste and non-recyclable inert waste, Domestic Hazardous Waste (DHW). Segregation shall take place at different levels such as source/household level; TS¹⁰⁴ or centralised sorting facility; waste processing site and landfill site to segregate waste into different streams such as dry recyclables, biodegradable waste, hazardous waste, *etc.*, to minimise waste and ensure reduction in landfill space for final disposal besides ensuring appropriate processing. Audit observed the following in the test-checked ULBs on segregation of waste.

4.1.1 Segregation of waste at source/household level

Segregating Solid Waste at source ensures that waste is less contaminated and can be collected and transported for further processing. Section 2.2.1.1 of MSWM, Manual, 2016 (Part-II) stipulates that ULBs must accord highest priority for segregation of waste at source. Segregation of Solid Waste is required for separating recyclable material, organic waste for processing and residual inert material for disposal.

4.1.1.1 Issue of bins for source segregation

Section 2.2.1.2.1 of MSWM Manual, 2016 (Part-II) stipulates that the household level, dry waste, wet waste, and Domestic Hazardous Waste¹⁰⁵ should be stored in separate garbage bins, of appropriate capacity and colour¹⁰⁶. SLB Handbook issued by MoUD, GoI (*Para 2.3.3*) mandates that waste segregated at the source is not to be mixed but again is to be transported through the entire chain in a segregated manner.

In GHMC: The State Government accorded (July 2015)¹⁰⁷ administrative sanction for ₹41.40 crore towards procurement of 44,04,568 domestic garbage bins of 12 liters capacity each for wet and dry MSW segregation at household level covering 19,57,585 households as per Samagra Kutumba Survey¹⁰⁸, with provision for 12.5 *per cent* extra bins as standby for additional requirements.

Greater Hyderabad Municipal Corporation supplied 44,04,568 bins of 12 liters capacity during 2015-16 to 19,57,585 households by incurring an expenditure of ₹28.93 crore.

¹⁰⁴ TS is a permanent set up in adequate land space with required infrastructure facilities to handle higher load of MSW and is a centralised secondary collection point

¹⁰⁵ Sub-rule 17 of Rule 3 of SWM Rules 2016 defines Domestic Hazardous Waste as discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, *etc.*, generated at the household level

¹⁰⁶ Blue for dry waste, Green for wet waste and Black for DHW as per SWM Rules, 2016

¹⁰⁷ G.O.Ms.No.90 dated 22 July 2015 of MA&UD (F1) Department

¹⁰⁸ A comprehensive integrated household survey conducted in Telangana on 19 August 2014

Audit observed that MSW from households was being transferred to primary collection vehicles by the waste collectors/waste pickers in a mixed manner and was being transported to intermediate storage facilities¹⁰⁹ like TS, SCTP¹¹⁰ and Refuse Compactor Vehicles¹¹¹ (RCVs). The TS, SCTPs and RCVs do not have provision for storing dry and wet MSW separately and hence mixed waste was being transported to Jawaharnagar T&D facility.

Detailed Audit observations on JPV of TS, SCTP in selected Zones of GHMC are discussed in *Para 4.3.4.1* and on DHW segregation are discussed in the succeeding paragraph.

Greater Hyderabad Municipal Corporation informed that though source segregation was being done to a certain extent, the MSW was being transported in a mixed manner to Jawaharnagar T&D facility. Hence, it was stated that there was no segregation of MSW at TS and SCTP and also segregation at source was not considered. In the Annual Report of TSPCB on SWM for the year 2021-22, it was mentioned that only 63 per cent households in the State are practicing source segregation.

Thus, despite incurring an expenditure of ₹28.93 crore on procurement and supply of bins for source segregation of MSW, the desired objective was not achieved.

The State Government replied (September 2023) that the purpose of giving twin bins was to sensitise and motivate the citizen towards source segregation and the same was achieved to certain extent.

In test-checked other 14 ULBs: The details of supply of bins for household source segregation of MSW and community/litter bins for placement at strategic points for segregation of MSW are given in **Appendix-4.1** and **Appendix-4.2** respectively.

Audit observed during JPV of the dumpsites of test-checked ULBs that Solid Waste was transported to the dumpsites without segregation and in a mixed manner (*Para 5.3.3 refers and also Table-5.6*). Further, in Khammam (**Exhibit No.1 (A)**) and Mahabubnagar ULBs (**Exhibit No.1 (B)**), it was noticed that (i) mixed waste was kept in bins in front of houses for collection by waste collectors, (ii) mixed waste was placed by the households in vehicles due to lack of compartments for wet and dry waste and (iii) vehicles were carrying mixed waste along with silt and transported to the dumpsite.

Hence, despite the issue of bins for source segregation and placement of community/litter bins at strategic collection points, the objective of source segregation was not achieved, as the MSW collected was either transported in vehicles in a mixed manner or dumped in the dumpsites in a mixed manner without segregation. Thus, despite incurring an expenditure of ₹3.37 crore¹¹² on procurement and supply of bins for source segregation of MSW, the desired objective was not achieved.

¹⁰⁹ A facility created to receive Solid Waste from collection areas and transport in bulk in covered vehicles or containers to final disposal point (dumping yard/landfill site)

¹¹⁰ SCTP is a mini-TS set up in limited space for decentralised secondary collection to minimise the load on TS. Minimum two Portable Compactor Cabins (PCCs) are placed in the platforms of SCTPs and MSW from the primary collection vehicles are transferred to the PCCs. A hook mounted vehicle carries the MSW loaded PCCs directly to the Jawaharnagar T&D facility

¹¹¹ Refuse Compactor Vehicle is a mobile secondary collection vehicle placed at suitable places to reduce the load on TS and SCTPs. The MSW transferred to RCVs from primary collection vehicles get compacted in the RCVs and MSW is directly transported to Jawaharnagar T&D facility by the RCVs

¹¹² ₹2.87 crore towards procurement of bins for household source segregation (**Appendix-4.1**) and ₹50.31 lakh towards procurement of community/litter bins for placement at strategic points for segregation of MSW (**Appendix-4.2**)

Exhibit No.1 (A), Para No.4.1.1.1



Khammam ULB-Mixed waste was kept in bins in front of houses for collection by waste collectors (JPV dated 20 March 2023)



Khammam ULB-Mixed waste was placed by the households in vehicles due to lack of partition provision for wet and dry waste (JPV dated 20 March 2023)



Khammam ULB-Vehicles were transporting mixed waste along with silt to the dumpsite (JPV dated 20 March 2023)

Exhibit No.1 (B), Para No.4.1.1.1

4.1.1.2 Non-segregation of Domestic Hazardous Waste and non-establishment of separate deposition centre for Domestic Hazardous Waste

Rule 15(i) of SWM Rules 2016 stipulates that ULBs are required to establish waste deposition centres for DHW and give directions to waste generator to deposit DHW at the centres for its safe disposal. Further, Rule 15(j) stipulates that the ULBs should ensure safe storage and transportation of the DHW to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee.

Section 2.2.1.4 of MSWM Manual, 2016 (Part-II) stipulates that ULBs should establish a minimum of one domestic hazardous deposition centre per ward or per zone, for ease of deposition of the users.

In GHMC: It was stated that quantity of DHW was minimal and it was collected from the households along with Solid Waste. It was also stated that primary collection vehicles are provided with separate collection boxes, in black colour for DHW collection and that it was being disposed separately in the existing Jawaharnagar landfill site.

Audit observed that there were no separate deposition centres for disposal of DHW and also black box was not attached to the primary collection vehicles (**Exhibit No.1 (C)**).

In test-checked other 14 ULBs: Except for Peerzadiguda ULB, DHW bins were not procured in other 13 ULBs for household source segregation of DHW (*Appendix-4.1 refers*). Documentary evidence of having conducted IEC activities for awareness of citizens on the segregation of domestic hazardous waste was not produced to Audit, except Khammam (**Exhibit No.1 (D)**) and Mahabubnagar ULBs. Further, domestic hazardous deposition centre per ward or per zone was not established in all the test-checked other 14

ULBs. It was observed during JPV of dumpsite in Khammam ULB that DHW was mixed with MSW and dumped at dumpsite (**Exhibit No.1 (E)**). Despite, procurement and supply of separate bins for DHW segregation, mixed waste was being transported from Peerzadiguda ULB to the Jawaharnagar T&D facility.

Telangana State Pollution Control Board did not issue necessary directions to the ULBs for storage and transportation of the DHW though mandated as per SWM Rules, 2016. Hence, due to non-establishment of domestic hazardous deposition centres per ward or per zone, segregation of DHW was found deficient in all the test-checked 14 ULBs.

The State Government replied (November 2023) that –

- In Bollaram ULB, mechanism for processing DHW was put in place
- In Chandur, Haliya, Khammam, Mahabubnagar, Mancherial, Nagaram and Zaheerabad the procurement of DHW bins would be made.

Exhibit No.1 (C), Para No.4.1.1.2



Peoples Plaza SCTP Station in GHMC-Black colour box was not attached to the primary collection vehicles for collecting DHW separately though stated by GHMC as attached to the collection vehicles (JPV dated 16 December 2022)

Exhibit No. 1 (D), Para No.4.1.1.2



Khammam ULB-Awareness programme on segregation of MSW (evidence provided by Khammam ULB)



Khammam ULB- Awareness programme on segregation of MSW (evidence provided by Khammam ULB)

Exhibit No. 1 (E), Para No.4.1.1.2

Khammam ULB-DHW (tube lights) was mixed with MSW and dumped at dumpsite (JPV dated 20 March 2023)

4.1.1.3 Non-segregation of Sanitary waste

Section 2.2.1.1 of MSWM Manual, 2016 (Part-II) stipulates that sanitary waste¹¹³ generated by households was to be wrapped in old newspaper/pouches provided by the manufacturers and handed over to the waste collectors separately. Once collected separately, it should be sent either directly to the biomedical waste incineration facility or to Material Recovery Facility (MRF)¹¹⁴ for collection and then sending to the biomedical waste incinerator when sufficient quantities are collected, as per the arrangements of the city.

The State Government had not notified and publicised the list of items classified as sanitary waste to be segregated at source for implementation by the ULBs.

Audit observed that separate collection centres with incinerators for disposing sanitary waste were not established in any of the test-checked ULBs including GHMC and segregation of sanitary waste was not practiced.

The State Government replied (November 2023) that in seven ULBs¹¹⁵ the practice of segregating Sanitary waste was initiated. It was also stated that in Kothagudem ULB Sanitary waste collected was disposed with incinerators at remediation plant, but no documentary evidence was furnished to Audit.

4.1.2 Segregation of waste for sorting of recyclable materials

Section 15 (h) of SWM Rules, 2016 stipulates that the local authorities shall set up MRFs or secondary storage facilities for sorting of recyclable materials.

Dry Resource Collection Centers are a form of MRFs, which are established in the ULBs to facilitate segregation, sorting and recovery of recyclables¹¹⁶ from various components of MSW. Audit observations on DRCCs are as follows:

¹¹³ Waste comprising used diapers, sanitary towels or napkins, tampons, incontinence sheets and any other similar waste

¹¹⁴ SWM Rules, 2016 defines “Materials Recovery Facility” as a facility where non-compostable Solid Waste can be temporarily stored by the local body or any other entity as mentioned in the Rules or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in the Rules for the purpose, before the waste is delivered or taken up for its processing or disposal

¹¹⁵ Chandur, Haliya, Khammam, Mahabubnagar, Mancherial, Nagaram and Peerzadiguda

¹¹⁶ Cardboard boxes, plastic bottles, glass bottles, mixed plastic, books, waste papers, iron/metal items, used slippers, etc.

In GHMC: GHMC informed (June 2023) that 14 DRCCs were established for recovery of recyclable materials at TS/SCTP.

In GHMC area, 17 TS and 28 SCTPs were established as intermediate storage facilities for MSW collection from primary collection vehicles (*Para 4.3.4 refers*). Audit observed from the data on establishment of DRCCs furnished by GHMC that out of 17 TS and 28 SCTPs (*Appendix-4.6 refers*), DRCCs were established in 13 TS and in only one SCTP at Auto Nagar, covering 89 Wards out of 150 Wards in GHMC limits.

When the reasons for non-establishment of DRCCs in the remaining 4 TS and 27 SCTPs covering 61 Wards was called for, the State Government replied (September 2023) that due to space constraints, the DRCCs were not established in other TS/SCTPs. However, it was stated that the waste collectors operating SATs are recovering the material during door-to-door collection of waste and are depositing the recyclables at nearest DRCC/ directly selling to recyclers.

In test-checked other 14 ULBs: DRCCs were established in ten ULBs¹¹⁷ at dumpsites, except Chandur and Wardhannapet, while in Haliya ULB, construction of DRCC was under progress (November 2022). Audit observed during JPV of dumpsite in Yellareddy ULB that DRCC was not put to use (January 2023), resulting in mixed waste being deposited in the dumpsite (**Exhibit No.2 (A)**). In Bollaram ULB, the existing DRCC was not in operation due to a fire accident and no measures had been taken by the ULB to renovate/reconstruct the DRCC.

The Dry Resource Collection Centres in the test-checked ULBs are run by SHGs¹¹⁸, private agencies¹¹⁹ (**Exhibit No.2 (B)**) on non-revenue sharing basis and also by ULBs themselves¹²⁰, in the existing dumpsites. However, official circular/orders for permitting these SHGs and private agencies to run the DRCCs in dumpsites of ULBs were not furnished to Audit. The waste collectors/waste pickers segregate/sort recyclable items (**Exhibit No.2 (C)**) from the MSW and hand them over to the operators of DRCCs (**Exhibit No.2 (D)**) and collect amount as per the price list (**Exhibit No.2 (E)**) for the sorted recyclable items.

The recyclable items collected from the waste collectors/waste pickers are in turn sold in the wholesale market/scrap dealers by the SHGs/private agencies/ULBs. This methodology of segregation, sorting and recovery of recyclables at DRCCs was one of the waste processing methods to reduce to some extent the burden on final MSW disposed at the dumpsites.

¹¹⁷ Bollaram, Kalwakurthy, Khammam, Khanapur, Kothagudem, Mahabubnagar, Mancherial, Nagaram, Peerzadiguda and Zaheerabad ULBs

¹¹⁸ In Khammam, Mahabubnagar and Zaheerabad ULBs

¹¹⁹ In Kothagudem, Nagaram and Peerzadiguda ULBs

¹²⁰ In Kalwakurthy, Khanapur. and Mancherial ULBs

Exhibits: Para No.4.1.2

	
<p>Exhibit No. 2 (A) Yellareddy ULB-DRCC not put to use (JPV dated 12 January 2023)</p>	<p>Exhibit No. 2 (A) Yellareddy ULB-Mixed waste dumped in dumpsite due to non-operation of DRCC (JPV dated 18 October 2022)</p>

Exhibits: Para No.4.1.2

	
<p>Exhibit No. 2(B): Khammam DRCC run by private agency Ecotech Enviro Solutions (JPV dated 20 March 2023)</p>	<p>Exhibit No2 (C): Mahabubnagar ULB-Plastic and Glass were segregated from MSW at DRCC in dumpsite (JPV dated 24 March 2023)</p>
	
<p>Exhibit No. 2(D): Mahabubnagar ULB-Waste collectors/waste pickers handing over the segregated/sorted recyclable items to DRCCs (JPV dated 24 March 2023)</p>	<p>Exhibit No. 2(E): Mahabubnagar ULB-Price list board for recyclable items on display in DRCC (JPV dated 13 December 2022)</p>

4.2 Collection

Section 2.3.2 of MSWM Manual, 2016 (Part-II) stipulates that collection of segregated municipal Solid Waste is an essential step in MSWM. Inefficient waste collection services have an impact on public health and on the aesthetics of towns and cities. Audit observed the following in collection of MSW.

4.2.1 Inadequate collection of waste generated

The quantum of waste generated and collected during the period 2017-18 to 2021-22 in the State, GHMC and in the test-checked other 14 ULBs is shown in **Table-4.1**.

Table-4.1: Statement showing the status of quantum of waste generated and collected in the State, GHMC and in the test-checked other 14 ULBs during 2017-22

(in TPD)

Year	State			GHMC			Test-checked other 14 ULBs		
	Generated	Collected	Uncollected	Generated	Collected	Uncollected	Generated	Collected	Uncollected
2017-18	7,871	7,814	57	4,864	4,864	0	337	308	29
2018-19	8,497	8,360	137	5,298	5,298	0	382	345	37
2019-20	9,285	9,270	15	5,799	5,799	0	437	414	23
2020-21	9,965	9,965	0	5,668	5,668	0	494	477	17
2021-22	11,057	11,057	0	6,166	6,166	0	538	525	13
Total	46,675	46,466	209	27,795	27,795	0	2,188	2,069	119

Source: Annual Reports on SWM submitted by TSPCB to CPCB. Information furnished by GHMC and test-checked other 14 ULBs

It could be observed from the **Table-4.1** that there was 100 *per cent* collection of generated waste in GHMC during 2017-22. However, in the absence of weighbridge at all the TS/SCTPs, the quantity of waste collected cannot be accurately known.

In test-checked other 14 ULBs: Audit observed that there were gaps in generation and collection of MSW during the years 2017-22 in six ULBs¹²¹ leading to uncollected MSW (*Appendix-2.1 refers*). Further, it is seen that out of 14 ULBs test-checked, in 12 ULBs weighbridges are not installed at the dumpyard and in the absence of weighbridges, correctness of quantity of waste collected and shown in the records cannot be ensured.

It can be observed from **Table-4.1** above that there were discrepancies in the data on uncollected MSW which was included in the TSPCB Annual Reports on SWM *vis-à-vis* the data furnished by the 14 test-checked ULBs for the years 2019-20 to 2021-22.

It is recommended that TSPCB should reconcile the data on Municipal Solid Waste with the figures available with the ULBs before it is incorporated in the Annual Report on SWM.

The State Government accepted (November 2023) that there was inadequate collection of MSW due to shortage of vehicles in Mahabubnagar and Wardhannapet ULBs. Further, replied that 100 *per cent* collection of MSW was being done in Chandur and Haliya ULBs. Documentary evidence for 100 *per cent* MSW collection, however, was not furnished though stated as enclosed to their reply.

(a) Inadequate coverage of Wards in door-to-door collection of MSW in Wardhannapet ULB: It was observed from the information on door-to-door collection of waste during 2017-18 to 2021-22 furnished by the test-checked 14 ULBs that in Wardhannapet ULB (constituted in August 2018), door to door collection of waste was not fully done in the wards during the years 2018-22 as detailed in the **Table-4.2**.

¹²¹ Chandur, Haliya, Kalwakurthy, Khammam, Mahabubnagar and Wardhannapet

Table-4.2: Inadequate coverage of wards in door-to-door collection of waste in Wardhannapet

Year	No. of wards in the ULB	No. of wards actually covered in door-to-door collection of MSW	No. of wards not covered in door-to-door collection of MSW
2018-19	12	3	9
2019-20	12	6	6
2020-21	12	9	3
2021-22	12	10	2

Source: Information furnished by Wardhannapet ULB

(b) **Inadequate coverage of Hotels, Restaurants, Shops etc., in door-to-door collection of MSW in Bollaram and Yellareddy ULBs:** Audit observed that in two ULBs (Bollaram and Yellareddy) there was also inadequate coverage in door-to-door collection of waste from Hotels, Restaurants, Shops, etc., during 2019-22 as detailed in **Table-4.3**

Table-4.3: Inadequate coverage of Hotels, Restaurants, Shops, etc., in door-to-door collection of waste in Bollaram and Yellareddy

Description	Bollaram			Yellareddy		
	2019-20	2020-21	2021-22	2019-20	2020-21	2021-22
Number Hotels, Restaurants, Shops etc., in the ULB	182	196	215	252	252	252
Number of Hotels, Restaurants, Shops etc., actually covered	15	22	29	203	203	203
Number of Hotels, Restaurants, Shops etc., not covered	167	174	186	49	49	49

Source: Information furnished by Bollaram and Yellareddy ULBs

(c) **Assessment of vehicles requirement:** Section 2.3.5 of MSWM Manual, 2016 (Part-II) stipulates that the specific requirement for equipment or vehicles should be calculated based on waste generation projections of the city (at least for the coming 5 years). The details of vehicles available in the test-checked 14 ULBs are given in **Appendix-4.3**. Details of vehicles available with three ULBs (Bollaram, Wardhannapet and Yellareddy), where there was inadequate door-to-door collection of MSW during 2017-22 are given in **Table-4.4**.

Table-4.4: Details of vehicles utilised for SWM activities by the three test-checked ULBs along with MSW collected during 2017-18 to 2021-22

Sl. No	Name of the ULB	MSW collected during 2017-22 (in MT)	Type of vehicles available	No. of Vehicles available for primary collection (Autos and Tractors)
1.	Bollaram	17,520	Tractors-2 Sewer- cum- Jetting Machine-1 Autos-12 , JCB-1, Sweeping Machine-1	14
2.	Wardhannapet	20,750	Autos-4, Tractors-1	5
3.	Yellareddy	4,549	Autos-5, Tractors-2	7

Source: Information furnished by the test-checked three ULBs

From the above, it is noticed that no uniform policy was followed for assessing the requirement for vehicles. The ULBs need to assess the requirement of vehicles for the management of solid waste.

4.2.2 Street sweeping/street cleaning

Street cleaning is one of the primary services rendered by municipal authorities to ensure clean and hygienic urban conditions. Section 2.4.2 of MSWM Manual, 2016 (Part-II) stipulates that it is necessary to have a well-planned, time-bound daily system for street sweeping including adequate staffing and equipment.

In GHMC: GHMC informed that a total road length of 9,013 Km spread in 150 wards in 30 Circles is being covered on a daily basis.

In test-checked other 14 ULBs: One ULB (Yellareddy) did not furnish to Audit, data on street sweeping. Audit observed in the remaining test-checked other 13 ULBs that out of 2,685.9 km of road, ULBs covered 1,019 km of road in daily street sweeping and did not carry out street sweeping of 1,666.9 km (62 per cent) on daily basis (**Appendix-4.4**). In seven ULBs¹²², the non-coverage of roads for daily sweeping was more than 50 per cent.

4.2.3 Personal Protection Equipment

Rule 15 (zd) of SWM Rules, 2016 stipulates that ULBs shall ensure that the operator of a facility provides Personal Protection Equipment (PPE) including uniforms, fluorescent jackets, hand gloves, raincoats, appropriate footwear and masks to all workers handling Solid Waste and the same are used by workforce. Audit observed the following on utilisation of PPE kits in the test-checked ULBs:

In GHMC: It was observed from the data furnished by GHMC that PPE kits excluding uniforms were provided to the workforce of 20,775 in 2021-22 handling MSW.

In test-checked other 14 ULBs: The 14 test-checked ULBs furnished information to Audit stating that PPE kits were provided to the workforce engaged in waste handling. However, Audit observed during JPV in Haliya, Khammam and Mahabubnagar ULBs that MSW was handled and transported in vehicles by the workforce without wearing PPE kits (**Exhibit No.3**). Further, during JPV of the dumpsites in six ULBs¹²³, Audit pointed out that the workforce was handling MSW without wearing PPE kits.

The Urban Local Bodies replied that the workforce handling MSW were provided with PPE kits and that some of them are not wearing them. The ULBs stated that wearing of PPE kits by the workforce would be ensured henceforth.

Non-utilisation of PPE is risky and may lead to serious health hazards. Hence, the ULBs need to take necessary steps to ensure utilisation of PPE by the workforce.

Further, the SAT drivers involved in handling MSW are prone to health hazards, health check-ups and vaccinations are required to be provided to them against preventive diseases.

Greater Hyderabad Municipal Corporation replied (May 2023) that no health check-ups were conducted and no vaccinations were provided to SAT drivers except COVID-19 vaccination.

¹²² Khammam, Khanapur, Kothagudem, Mancherial, Nagaram, Wardhannapet and Zaheerabad

¹²³ Chandur, Khammam, Kothagudem, Mancherial, Nagaram and Peerzadiguda

**Exhibit No. 3, Para No.4.2.3
Handling of MSW by workforce without PPE kits**

	
	<p align="center">Mahabubnagar ULB (JPV dated 24 March 2023)</p>
<p align="center">Haliya ULB (JPV dated 10 January 2023)</p>	
	
<p align="center">Khammam ULB (JPV dated 20 March 2023)</p>	<p align="center">Khammam ULB (JPV dated 20 March 2023)</p>

4.2.4 Non-integration of informal waste workers in Solid Waste management

Rule 11(c) of SWM Rules, 2016 requires the State Government to provide broad guidelines regarding integration of waste pickers or informal waste collectors with SWM system. As per Rule 15(c), it is the duty of ULBs to establish a system to recognise organisations of informal waste collectors and establish a system to facilitate their participation in SWM including door to door collection. Further, ULBs should facilitate formation of SHGs, provide identity cards and thereafter encourage integration in SWM including door to door collection of waste. State policy (Para 6.6) mandates that all the ULBs have a scheme for registration of waste pickers and waste dealers.

In GHMC: There was no integration of SHGs and organisation of waste pickers as observed from the information furnished to Audit.

The State Government replied (September 2023) that the present SAT vehicle drivers and their assistants were once informal waste collectors and they were provided with SATs and integrated into waste collection system.

The State Government is yet to frame broad guidelines and put in place an established system for recognition of organisations and for informal waste collectors as per SWM Rules, 2016 *ibid*.

In test-checked other 14 ULBs: In Mahabubnagar ULB, identification of informal waste workers was done in field surveys conducted (2018, 2020 and 2021) and 27 informal waste pickers were identified and allotted wards for taking up SWM activities. In the remaining 13 test-checked ULBs there was no such integration of SHGs and waste pickers.

Audit observed that the State Government did not issue guidelines for involvement of waste pickers/ rag pickers and there was no scheme for registration of waste pickers and waste dealers. In the absence of formal guidelines and or a scheme, services of the informal sector could not be utilised effectively.

Commissioner and Director of Municipal Administration replied (February 2023) that Audit observations were noted and the issue would be placed before State Level SWM Committee for incorporating necessary guidelines in the State policy. Later, it was stated (June 2023) that 12,273 rag pickers were identified by the ULBs and integrated with SWM activities. However, documentary evidence was not furnished to Audit.

4.3 Transportation of Solid Waste

Solid Waste Management Rules, 2016 defines “transportation” as conveyance of Solid Waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system to prevent the foul odour, littering and unsightly conditions.

4.3.1 Transportation of Solid Waste in open vehicles

Section 2.3.2 of MSWM Manual, 2016 stipulates that vehicles used for transportation of waste should be covered so that waste is not visible to public and that they should have the facility for preventing spillage of waste. For this purpose, MSW vehicles need to be covered and provided with two separate containers or a single container with an effective partition.

In GHMC: Transfer Stations management was also handed over to the Concessionaire by GHMC in January 2021. Audit observed during JPV of TS that MSW brought to the TS in primary collection vehicles was unloaded into a tip cart from which it was transferred into hermetically sealed Compactor Cabin for compaction and then securely shifted in a hook mounted vehicle without leakage during transit, for transfer to Jawaharnagar T&D facility. Prior to handing over of TS to the Concessionaire, the MSW was transported to Jawaharnagar T&D facility by GHMC with its own vehicles. A comparative picture showing the practice before and after handing over is given in **Exhibit Nos.4 and 5**. In GHMC, prior to handing over of TS Management to the Concessionaire, the MSW was carried in open vehicles to the Jawaharnagar T&D facility.

In test-checked other 14 ULBs: Audit observed during JPV of dumpsites of five ULBs¹²⁴ that MSW was transported to the dumpsites without cover (**Exhibit No.6**). These uncovered vehicles emanate bad odour during transportation and also scatter the waste causing inconvenience to public besides defeating the very purpose of hygienic transfer of Solid Waste from one place to another.

¹²⁴ Khammam, Kothagudem, Mahabubnagar, Mancherla and Zaheerabad

The Urban Local Bodies replied that measures would be taken to ensure that vehicles carrying MSW are provided with protection cover.

The State Government replied (November 2023) that Solid Waste was being transported through covered vehicles, but no documentary evidence was furnished.

Exhibit No. 4, Para No.4.3.1

Transportation of MSW in open vehicles without cover in GHMC prior to handing over of TS Management to the Concessionaire



Source: Photos provided by GHMC

Exhibit No. 5, Para No.4.3.1

Transportation of MSW in closed vehicles operated by the Concessionaire after handing over of TS Management by GHMC



Source: JPV conducted on 28 October 2022 and 18 January 2023

Exhibit No. 6, Para No.4.3.1

Transportation of MSW in vehicles without cover



Khammam ULB (JPV dated 20 March 2023)

Khammam ULB (JPV dated 24 March 2023)

Exhibit No. 6, Para No.4.3.1 Transportation of MSW in vehicles without cover

	
Kothagudem ULB (JPV dated 20 December 2022)	Mahabubnagar ULB (JPV dated 24 March 2023)
	
Mancherial ULB (JPV dated 03 November 2022)	Zaheerabad ULB (JPV dated 12 January 2023)

4.3.2 Use of transportation vehicles without authorisation

As per Section 39, 55 and 56 of Motor Vehicle (MV) Act 1988, a transport vehicle shall not be deemed to be validly registered for the purpose of Section 39 of MV Act, 1988, unless it carries a certificate of fitness issued by the prescribed authority to the effect that the vehicle complies with all the requirements of Act and rules made there under.

In GHMC: Transfer Station management was handed over to the Concessionaire by GHMC in January 2021. In compliance to the State Government Orders¹²⁵, GHMC handed over secondary collection and transportation of MSW to Concessionaire in entire GHMC area (all 30 Circles) in June 2022, including transportation of MSW to processing facilities component of work. The primary collection of MSW is still carried out by GHMC in all 30 Circles.

Instances of operation of transportation vehicles for SWM without valid authorisation were not noticed in audit in GHMC.

¹²⁵ G.O.Rt.No.173 dated 16 March 2022 of MA&UD (GHMC.II) Department

In test-checked other 14 ULBs: The details of vehicles utilised by the test-checked other 14 ULBs for SWM activities along with details of Registration Certificate (RC), valid Vehicle Fitness Certificate (VFC) and Vehicle Insurance Certificate (VIC) are detailed in **Appendix-4.5**.

Audit noticed that in Chandur ULB, all the four vehicles were being operated without RC, VFC and VIC. In Wardhannapet ULB, all the five vehicles were being operated without VFC and VIC. In Zaheerabad ULB, all the 47 vehicles were being operated without VFC. Further, it was observed that-

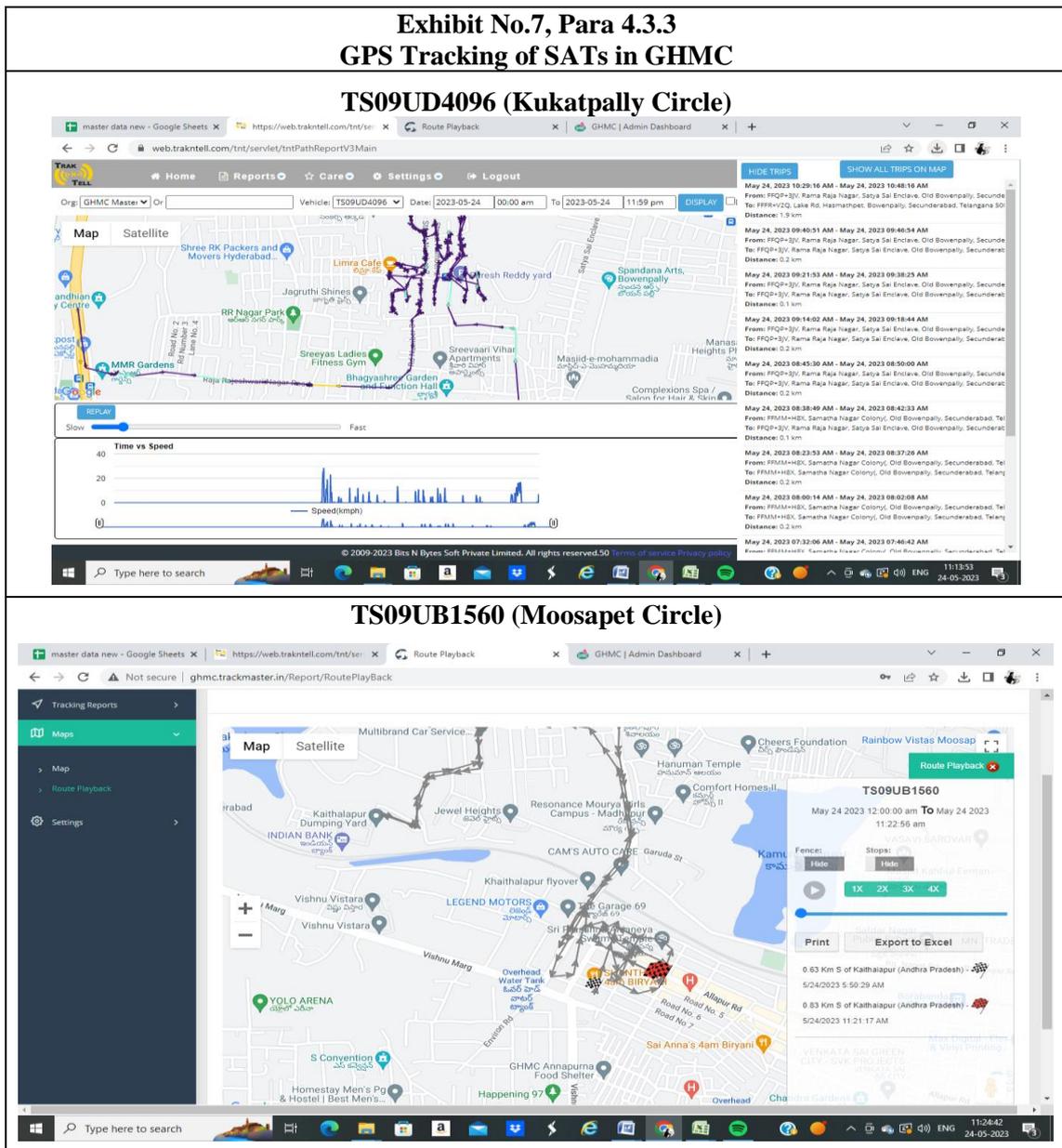
- i. 42 vehicles out of 428 had no Registration Certificate (9.8 per cent).
- ii. 198 vehicles out of 249 had no VFC (79.5 per cent). Information were not furnished in respect of the remaining 179 vehicles.
- iii. 187 vehicles out of 259 had no VIC (72.2 per cent). Information not furnished in respect of the remaining 169 vehicles.

These lapses defeated the legislative intent of ensuring road safety, accountability, and risk management in the operation of transport vehicles and indicated absence of internal control mechanism within the ULBs.

4.3.3 Management Information System for waste transportation

Transportation of Solid Waste from source of generation to the authorised destination is important to ensure its proper disposal. Section 2.3.12.1 of MSWM Manual, 2016 (Part-II) stipulates that communication technologies such as Global Positioning System (GPS), Geographic Information System (GIS) are to be integrated as part of monitoring of SWM system. A GPS can be synchronised with the GIS to monitor and track waste transportation vehicles and identify any irregularities in waste movement.

In GHMC: Out of 4,500 SATs supplied to the waste collectors covering 30 Circles of GHMC area for household MSW collection, only 4,274 were in operation and the reasons for non-operation of 226 SATs in 30 Circles were not furnished to Audit. Out of 4,274 SATs in operation, 4,146 were fitted with GPS device and GHMC stated (May 2023) that the balance 128 SATs would be fitted with GPS device shortly. SATs are monitored through GPS system/portal via a dedicated SAT control room (**Exhibit No.7**).



Source: Screenshots provided by GHMC

In test-checked other 14 ULBs: There are 428 vehicles in 14 other test-checked ULBs. The GPS devices were not installed in 65 vehicles¹²⁶ out of 193 vehicles of seven test-checked ULBs for which GPS devices information was furnished to Audit.

Hence, non-installation of GPS facility to 128 SATs in GHMC and to the 65 vehicles in the test-checked other 14 ULBs indicated deficient monitoring of MSW transportation vehicles and inadequate tracking system for monitoring SWM activities.

The State Government replied (November 2023) that in Chandur, Haliya, Kothagudem and Nagaram ULBs, the GPS tracking system was installed but not working and they would be rectified. The reply was, however, contrary to the information furnished to Audit by these four ULBs, wherein it was mentioned that GPS tracking was not provided to the vehicles.

¹²⁶ Chandur (4), Haliya (8), Kalwakurthy (15), Khammam (19), Kothagudem (2), Nagaram (12) and Wardhannapet (5)

The State Government also replied (November 2023) that in Khammam ULB, GPS tracking was installed to all the SWM vehicles and in Wardhannapet ULB, GPS tracking was installed recently. However, documentary evidence for installation of GPS tracking facility was not furnished to Audit.

4.3.4 Management of Transfer Stations in Greater Hyderabad Municipal Corporation

Primary transportation of Solid Waste involves movement from source generation to the intermediate storage facilities (TS, SCTPs and RCVs). Secondary transportation involves carriage of waste from intermediate storage facilities to the processing and disposal facilities. TS should be set up with sufficient space for segregation of waste with weighing facilities.

Article 2.1 (d) & (e) of the CA mandates that the Concessionaire had to upgrade¹²⁷, operate and maintain the existing three¹²⁸ TS and develop five¹²⁹ new TS. For construction of new TS, required land was to be provided by GHMC.

Audit observed from the information furnished by GHMC that the Concessionaire had developed and maintained 17 TS and in addition also established 28 SCTPs and deployed 66 Refuse Compactor Vehicles (RCVs-mobile SCTPs). The details of TS, SCTPs and RCVs for SWM in GHMC area are given in **Appendix-4.6**. Audit observations on land management for establishing TS are given in the succeeding paragraphs.

Greater Hyderabad Municipal Corporation replied (April 2023) that initially eight TS were operated in GHMC in the year 2009, later the number of TS were increased in view of increase in generation and collection of MSW. Further, TS/SCTPs at new places¹³⁰ were established in lieu of earmarked five locations envisaged in the CA to meet the corresponding requirements. It was also stated by GHMC that all the SCTPs were functioning on GHMC land.

4.3.4.1 Joint Physical Verification observations on Transfer Stations, Secondary Collection Transfer Points and Refuse Compactor Vehicles in the selected Zones of Greater Hyderabad Municipal Corporation

Audit conducted JPV of TS, SCTPs and RCV and the observations are detailed in **Table-4.5**.

¹²⁷ Preparation of drawings for the TS including details of layout, structural details *etc.*, provision of weigh bridges, computerised system for billing and tracking vehicle movement, facilities for segregation

¹²⁸ Imbliban, Lower Tank bund and Yousufguda

¹²⁹ Fathullaguda, Gandhamguda, Kapra, Serilingampally and Shamshiguda

¹³⁰ TS at Nagole in place of Fathullaguda, TS at Katedan in place of Gandhamguda, TS at Saket in place of Kapra, Khajaguda and Nehru Nagar SCTPs in place of Serilingampally and Jagadgirigutta TS & Yellammabanda SCTP in place of Shamshiguda

Table-4.5: JPV observations on TS, SCTP and RCVs in test-checked Circles

Sl. No	Name of the Zone	Location of the TS/SCTP and RFC	JPV Audit observations
1.	Kukatpally	Fatehnagar- SCTP	<ul style="list-style-type: none"> ➤ Primary collection of MSW is done through SATs and was transported to this SCTP without segregation of dry and wet waste (Exhibit No.8 (A)). ➤ There was no weighbridge, compound wall, and green belt. ➤ There was nala adjacent to SCTP with sewerage water flowing.
2.		Khaitlapur-TS	<ul style="list-style-type: none"> ➤ This TS has two level RCC structure with ground floor housing Hiva Static Containers (HSCs) to receive the MSW through the hoppers which were placed in first floor and connected to the HSCs. The SATs bring the garbage and dump in hoppers for compaction in HSCs. The compacted Containers are then securely shifted in a hook mounted vehicle without leakage during transit, for transfer to Jawaharnagar T&D facility (Exhibit No.8 (B)). ➤ There was no segregation of wet and dry waste and the entire garbage received in mixed manner was being dumped in the HSCs. ➤ Weighbridge platform was constructed but not put to use. ➤ There was no green belt and compound wall.
3.		Machabolaram- TS	<ul style="list-style-type: none"> ➤ There was no segregation of wet and dry waste and the entire garbage was received in mixed manner (Exhibit No.8 (Ci)). ➤ The TS was functioning in the open land without proper cover on its top (Exhibit No.8 (Cii)). ➤ There was no weighbridge installed. ➤ There was dispute on the ownership of the land on which the TS was set up.
4.		Kukatpally Metro Rail- SCTP	<ul style="list-style-type: none"> ➤ There was no segregation of wet and dry waste and the entire garbage was received in mixed manner. ➤ There was no weighbridge, compound wall, and green belt.
5.	Khairatabad	Peoples Plaza- SCTP	<ul style="list-style-type: none"> ➤ There was no segregation of wet and dry waste and the entire garbage was received in mixed manner. ➤ There was no weighbridge, compound wall, and green belt.
6.		JVR Park- SCTP	<ul style="list-style-type: none"> ➤ There was no weighbridge, compound wall. ➤ Operations were carried out in open space without closed shed, thereby causing pollution and also inconvenience to the citizens visiting the adjacent park (Exhibit No.8 (D)).
7.		Yousufguda-TS	<ul style="list-style-type: none"> ➤ The TS was not put to use despite establishment of required infrastructure (Exhibit No.8 (Ei)). ➤ The MSW brought in SATs was dumped on the approach road to TS (Exhibit No.8 (Eii)) and lifted by JCBs and placed in the Tipper vehicles of the Concessionaire. The mixed MSW was then transported with cover to Jawaharnagar T&D facility.
8.	Charminar	Katedan-TS	<ul style="list-style-type: none"> ➤ There was no segregation of wet and dry waste and the entire garbage was received in mixed manner. ➤ There was no weighbridge and green belt. ➤ The TS was functioning within the closed sheds and was well supported by a compound wall.
9.		Katedan-SCTP	<ul style="list-style-type: none"> ➤ DRCC was functioning for segregating dry waste such as pet bottles, glass, papers, iron <i>etc.</i> ➤ There was no weighbridge and green belt.
10.		Singareni Colony- RCV	<ul style="list-style-type: none"> ➤ It is a mobile waste collection Compactor vehicle. The MSW brought in SATs was unloaded into the compactor vehicle and then self-compressed. The loaded Compactor vehicle will then transport the MSW to Jawaharnagar T&D facility (Exhibit No.8 (F)).

Further, JPV was conducted at three TS to be developed by the Concessionaire as per Article 2.1 (e) of CA and observations on one TS at Yousufguda were given at **Sl.No.7 of Table-4.5**. The observations on the remaining two TS during JPV are as follows:

- (i) Transfer Station at Lower Tank Bund though was developed with necessary infrastructure facilities, was not operationalised (January 2023) (**Exhibit No.9 (A)**). Later, GHMC stated (April 2023) that the TS at Lower Tank Bund has been put into operation in March 2023.
- (ii) Transfer Station at Imlibun was not provided with the required infrastructure facilities (ground floor housing Hiva Static Containers (HSCs) to receive the MSW through the hoppers to be placed on the first floor and connected to the HSCs). At present the SATs with collected MSW go through a ramp to the first floor and drop the MSW through a passage directly into the Tipper Lorries stationed on the ground floor. The Tipper lorries directly transport the MSW to Jawaharnagar T&D facility (**Exhibit No.9 (B)**).

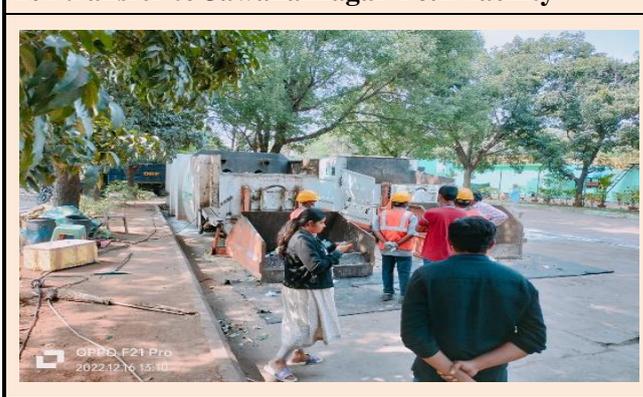
Article 5 (Schedule-2) of the CA mandates establishment of two weighbridges (at the entrance and exit) at TS. However, Audit observed that there were no weighbridges at entry and exit points in the TS. There was no mechanism to assess the quantity of actual waste generated / collected in the GHMC before its transportation to Jawaharnagar T&D facility, as weighbridges were not provided even in SCTPs. Hence, the quantum of waste collected in GHMC was not accurately known.

Greater Hyderabad Municipal Corporation replied (April 2023) that civil works were completed for modernisation of TS at Imlibun and mechanical arrangements are pending due to non-availability of working space and hence open operations are undertaken at present. In respect of Yousufguda TS, it was stated that commencement of mechanised operations was delayed due to issues with SAT vehicle workers and GHMC Tipper driver unions, which were resolved and mechanised operations commenced from March 2023.

Greater Hyderabad Municipal Corporation stated that due to space constraints, weighbridges were not provided in the Transfer Stations and SCTPs. However, the MSW was being weighed at Jawaharnagar T&D facility.

Thus, out of three TS to be upgraded, operated and maintained by the Concessionaire as per CA, one TS at Imlibun was not provided with adequate infrastructure. Besides, three other Transfer Stations not envisaged in CA but established by the Concessionaire at Saket, Machabolaram and Neredmet to meet the increase in load of MSW were not modernised due to disputes/local issues/Court case.

Exhibits: Para No.4.3.4.1/Table-4.5
JPV observations on TS, SCTPs and RCV in the selected Zones of GHMC

	
<p>Exhibit No.8 (A): Fatehnagar SCTP (JPV dated 27 October 2022): Transportation of MSW by SATs without segregation of dry and wet waste</p>	<p>Exhibit No.8 (B): Khaitlapur TS (JPV dated 26 October 2022): Mechanism showing transfer of MSW into the Hiva Static Containers</p>
	
<p>Exhibit No.8 (Ci): Machabolaram TS (JPV dated 21 October 2022): Mechanism showing shifting of Hiva Static Containers in a hook mounted vehicle for transfer to Jawaharnagar T&D facility</p>	<p>Exhibit No.8 (Cii): Machabolaram TS (JPV dated 21 October 2022): Functioning of TS in the open land without proper cover on its top</p>
	
<p>Exhibit No.8 (D): JVR Park SCTP (JPV dated 16 December 2022): Operations were carried out in open space affecting aesthetic appearance of surroundings and causing inconvenience to citizens visiting the park</p>	

Exhibits: Para No.4.3.4/Table-4.5
JPV observations on TS, SCTPs and RCV in the selected Zones of GHMC



Exhibit No.8 (Ei) Yousufguda TS (JPV dated 16 December 2022): Transfer Station not put to use despite establishment of required infrastructure



Exhibit No.8 (Eii) Yousufguda TS (JPV dated 16 December 2022): MSW brought in SATs was dumped on the approach road to TS



Exhibit No.8 (F) Singareni Colony RCV (JPV dated 02 November 2022): MSW brought in SATs unloaded into the compactor vehicle and then self-compressed. The loaded Compactor vehicle transports the MSW to Jawaharnagar T&D facility

Exhibit No. 9 (A), Para 4.3.4.1

Transfer Station at Lower Tank Bund developed by the Concessionaire not put to use as on date of JPV (18 January 2023)

	
<p>New Transfer Station covered with rooftop</p>	<p>Hiva Static Containers connected to hoppers in Ground floor</p>
	
<p>Vertical Hoppers in first floor</p>	<p>Existing open site where MSW transfer operations were carried out during JPV</p>

Exhibit No. 9 (B), Para 4.3.4.1

**Transfer Station at Imlibun not provided with required infrastructure
(JPV on 31 October 2022)**



4.3.4.2 Land management in establishment of Transfer Stations in Greater Hyderabad Municipal Corporation

Audit observed from the information furnished by GHMC on location of 17 TS set up at various places (*Appendix-4.6 refers*) that four¹³¹ TS were set up in private society/Defence/disputed lands including one TS in Graveyard. Further, one TS at Jiyaguda was set up on the banks of Musi River. This indicated improper selection of sites for establishment of TS, posing risk of environmental hazards and also pollution of air and water in the surroundings areas.

The State Government replied (September 2023) that due to non-availability of Government sites, the available sites were developed as TS and SCTPs were developed as mini transfer points.

¹³¹ Deepthisri Nagar, Machabolaram, Neredmet-Malkajgiri and Saket

4.3.5 Other Audit Findings – E-autos kept idle

Section 2.3.4 of MSWM Manual, 2016 (Part-II) stipulates that for primary collection, vehicles should meet local requirements. Before selecting a vehicle for primary collection, it is advisable to assess the amount of waste generated, local climatic conditions, topography of the area, and available facilities for repair and maintenance of vehicles.

Haliya ULB procured (November 2019) four e-Autos at total cost of ₹6.67 lakh for lifting and transportation of garbage. Audit observed that the e-Autos were not being used for the intended purpose and were lying idle (November 2022) at the office complex of the ULB (**Exhibit No.10**).

The Commissioner, Haliya Municipality stated (November 2022) that the vehicles were kept idle from October 2020 as it was found that the vehicles were of less capacity and could not move properly in gradient roads, thereby taking lot of time for door-to-door garbage collection. Hence, the vehicles were kept idle without periodic maintenance.

The State Government accepted the Audit observations and replied (November 2023) that during usage it was known that these types of vehicles are not appropriate for MSW collection and Operation & Maintenance services.

It was further noticed in Peerzadiguda ULB that five e-autos were kept idle as shown in the **Exhibit No.10** below. Further details were not furnished by the ULB.

The State Government accepted the audit observation and replied (November 2023) that these five e-autos were procured before 2016, as a new initiative but during usage it was found not suitable (viable) for collection of MSW. These five e-autos were now made to look beautiful and being used as a selfie point in the park as part of 3R initiative.

Thus, improper assessment of requirement of vehicle with reference to quantum of waste generated, capacity of the vehicle and topography of the area had resulted in procurement of vehicles at a cost of ₹6.67 lakh becoming unfruitful without their usage for the intended purpose.

Exhibit No.10, Para 4.3.5

	
<p>Haliya ULB: e-Autos for lifting and transportation of garbage lying idle (25 November 2022)</p>	<p>Peerzadiguda ULB (JPV dated 04 October 2022): Five mini autos were lying idle at the dumpsite</p>

4.4 Contract Management with the Concessionaire

4.4.1 Escrow account not maintained

Article 7.2 (b) (ii) of Concession Agreement stipulates that GHMC should deduct/ withhold 10 per cent of the Treatment & Disposal TF amount payable to the Concessionaire, which shall be held in Escrow account¹³² with a Nationalised Bank towards post-closure obligations¹³³. The amount shall be released to the Concessionaire in equal quarterly instalments during post closure period, and to be detailed in Escrow Agreement with the bankers. In the event of termination due to any reasons whatsoever, the amounts in the Escrow account will be appropriated by GHMC to be utilised towards post-closure obligations.

Audit observed from the information furnished by GHMC that the deducted amount was deposited in a separate Current Account of GHMC with State Bank of India (Banker), Lower Tank Bund Branch, Hyderabad during the period from February 2012 to March 2022, instead of the mandated Escrow Account. Further, out of ₹114.32 crore deducted¹³⁴ from the tipping fee bills, an amount of ₹105.27 crore was credited to the Current Account and the balance amount of ₹9.05 crore was yet to be credited to this account by GHMC as of March 2022. Reasons for non-crediting of the balance amount were not furnished to Audit.

Greater Hyderabad Municipal Corporation stated (May 2023) that the existing Current Bank account would be converted into Escrow account as and when a Tripartite Agreement is entered between GHMC, the Banker and the Concessionaire.

4.4.2 Irregular payment of Tipping Fee for Treatment and Disposal component to the Concessionaire

Article 7.1(b) of CA stipulates that TF shall be paid by GHMC to the Concessionaire for performing the services under the Agreement covering three components of work, out of which 40 per cent of TF was to be paid for T&D component. The Commercial Operations Date (COD) for T&D facility at Jawaharnagar was declared on 18 February 2012. The details of the establishment and operation of waste processing facilities in Jawaharnagar T&D facility are given in **Table-4.6**.

Table-4.6: Details of establishment and operation of waste processing facilities in Jawaharnagar T&D facility

Sl. No	Name of the Waste Processing Facility	Consent for Establishment given by TSPCB	Consent for Operations given by TSPCB	Date of commencement of operation of facility as stated by GHMC
1.	Compost Plant	19.12.2012	28.02.2015	February 2012
2.	Bio-Methanation Plant			July 2018
3.	Recycling Complex			April 2015
4.	RDF Plant			February 2015
5.	Landfill with leachate collection and treatment system	23.09.2017	15.07.2020	April 2013
6.	WtE Plant			August 2020

Source: Information furnished by GHMC and TSPCB orders

¹³² Escrow account is a temporary account held by a third party during the process of a transaction between two parties

¹³³ In the event of termination due to any reason whatsoever, the amounts in the escrow account would be appropriated by GHMC towards post-closure obligations

¹³⁴ 10 per cent of 40 per cent of TF for T&D Component, i.e., 4 per cent

Audit observed from the information furnished by GHMC that it had paid full TF of ₹178.26 crore and ₹662.05 crore to the Concessionaire towards T&D during the period from 18 February 2012 to 28 February 2015 and from 1 March 2015 to 14 July 2020 respectively, even though the Concessionaire did not carry out processing of dry waste.

Greater Hyderabad Municipal Corporation replied (May 2023) that T&D operations commenced from 18 February 2012 in Jawaharnagar T&D facility with pre-sorting and composting activities in view of the Hon'ble High Court Orders for commencement of the T&D facility on account of the then existing conditions. Further, it was stated that the Concessionaire had separated wet and dry waste, disposed of the wet waste duly composting and treating leachate. The dry waste was disposed through cement industry, recycling industry to the extent possible and the balance was stockpiled for future disposal through WtE Plant.

Since WtE plant operations began in August 2020, the Concessionaire carried out only wet waste processing from February 2012 to July 2020 and not dry waste processing. As per Article 2.1(g) under the Scope of the Project in the Agreement with the Concessionaire "Processing and Treatment of MSW" means "to process MSW as per MSW Rules and other applicable regulations and transport and dispose the residual inert matter at the Landfill site". The breakup of TF for processing of wet waste and dry waste was not defined in the CA.

Audit analysed the data on total waste¹³⁵ furnished (September 2023) by GHMC for the period from 18 February 2012 to 31 July 2020 and found that an amount of ₹313.2 crore¹³⁶ was paid to the Concessionaire towards T&D of dry waste of 44.16 lakh MT during that period, despite the Concessionaire not processing the dry waste.

The State Government replied (September 2023) that payment towards T&D had nothing to do with disposal of Refuse Derived Fuel (RDF) (bye product from dry waste) since the Concessionaire was free to sell as per Article 5.21 (b) of the CA, if demand (or off take by cement plants *etc.*) was available at such time when it was produced or otherwise dispose of the RDF (duly storing it for future use in WtE plants/ off take by cement plants).

The reply was not in consonance with the fact that Article 5.21(b) of the CA permits only sale or otherwise disposal of the recyclables, compost or organic manure, energy (Power) and other material recovered prior to or after processing of MSW. However, the Article does not permit direct disposal of transported dry waste through either sale or otherwise. TF for T&D should be paid for the actual quantity of MSW processed by the Concessionaire. However, in the instant case, the dry waste was not processed by the Concessionaire, but payment was made for the total waste. This was irregular and resulted in undue benefit to the Concessionaire of ₹313.2 crore.

¹³⁵ GHMC furnished data on wet waste (83,85,963 MT) and dry waste (44,15,823 MT) received for Treatment and Disposal at Jawaharnagar T&D facility during the period from 18 February 2012 to 31 July 2020

¹³⁶ Based on the Tipping Fee rates furnished by GHMC for the period from February 2012 to March 2013 and for the years from 2013-14 to 2020-21 (taking 40 per cent of the total Tipping Fee as per CA for T&D payment)

4.5 Conclusion

Segregation of waste at different levels was either absent or was being done partially in all the test-checked ULBs. The State/ ULBs did not notify the classification of items as domestic hazardous waste and sanitary waste and consequently, the need to segregate them separately was not emphasised through IEC activities. Hence, mixed waste was transported to Jawaharnagar T&D facility in GHMC and to dumpsites in the test-checked other 14 ULBs. There were discrepancies in the data on uncollected MSW reported in the Annual Reports of TSPCB on SWM and the data furnished by the test-checked ULBs for the years 2019-20 to 2021-22. The State Government did not issue guidelines for involvement of and social inclusion of waste pickers/ rag pickers. Also, there was no scheme for registration of waste pickers and waste dealers. Greater Hyderabad Municipal Corporation paid an amount of ₹313.2 crore to the Concessionaire towards treatment and disposal (T&D) charges of dry waste of 44.16 lakh MT during the period February 2012 to July 2020, despite the Concessionaire not processing the dry waste.

4.6 Recommendations

- (i) *State Government should direct the ULBs to ensure 100 per cent collection, segregation of MSW at household level and transportation of segregated waste to the Treatment and Disposal facilities.*
- (ii) *State Government should direct the ULBs to notify the items classified as DHW and Sanitary waste and publicise the methodologies and appropriate strategies for their effective disposal in consonance with MSWM Manual provisions.*
- (iii) *State Government should direct the TSPCB to reconcile the data on Municipal Solid Waste with the figures available with the ULBs before it is incorporated in the Annual Report on implementation of SWM Rules, 2016.*
- (iv) *State Government should formulate guidelines for involvement of and social inclusion of waste pickers/ rag pickers of informal sector in SWM and also evolve a scheme for registration of waste pickers and waste dealers as mandated in the State Policy.*

Chapter V

Processing and Disposal of Municipal Solid Waste

5.1 Processing of Municipal Solid Waste

Solid Waste Management Rules, 2016 define "processing" as any scientific process by which segregated Solid Waste is handled for the purpose of reuse, recycling or transformation into new products. Extent of processing done in the test-checked ULBs is discussed below.

5.1.1 Status of Municipal Solid Waste processing

The status of waste collected and processed in GHMC and in test-checked other 14 ULBs during the period 2017-18 to 2021-22 are given in **Table-5.1**.

Table-5.1: Status of waste processed in GHMC and test-checked other 14 ULBs

(Figures in TPD)

Year	GHMC			Other test-checked 14 ULBs		
	MSW collected	Processed*	Percentage of processing to collected MSW	MSW collected	Processed	Percentage of processing to collected MSW
2017-18	4,864	4,279	88	308	79	26
2018-19	5,298	4,610	87	345	106	31
2019-20	5,799	5,177	89	414	143	35
2020-21	5,668	4,958	87	477	181	38
2021-22	6,166	5,633	91	525	252	48

Source: Information furnished by GHMC and other test-checked 14 ULBs

* Includes MSW transported by other ULBs permitted by GHMC to Jawaharnagar Processing and Disposal facility

It could be seen from **Table-5.1** that percentage of waste processed in test-checked other 14 ULBs was less than 50 *per cent* when compared to nearly 90 *per cent* waste that was processed in GHMC during 2017-22. A major portion of Solid Waste in test-checked other 14 ULBs was dumped at respective dumpsites. Low rate of processing of waste in the test-checked other 14 ULBs indicates inadequate infrastructure/waste processing facilities and lack of appropriate strategies for SWM.

5.1.2 Jawaharnagar Treatment and Disposal Facility (Integrated Municipal Solid Waste Management for Hyderabad city)

The Jawaharnagar T&D facility commenced operations from 18 February 2012 and the MSW collected from GHMC and also certain surrounding Municipal Corporations, Municipalities and Gram Panchayat and other Authorities (*Para 3.5 refers*) was being treated and disposed at this Facility. The Facility commenced initially with 2,000 TPD treatment capacity in 2012, which was enhanced from time to time to 8,000 TPD as of 2022, in view of the increased quantity of MSW reaching the site. The project was being monitored by Environment Protection Training and Research Institute (EPTRI), Hyderabad as the Independent Engineer (IE).

A brief of various waste processing facilities in the Jawaharnagar T&D facility is as below:

- a. **Bio-Methanation Plant:** Established in July 2018 with 3 TPD capacity and not in operation from 2020-21 onwards.
- b. **Compressed Biogas (CBG) Plant:** Established in October 2021 with 5 TPD capacity. The landfill gas generated from the capped site is transported to the CBG plant using a common header line and after processing, it is bottled and sold to Bhagyanagar Gas Ltd.
- c. **Leachate Treatment Plant:** Established in April 2013 with 1,100 Kilo Liters per Day (KLD) capacity. Leachate generated during the waste treatment process *i.e.*, from tipping floor, pre-sorting area, compost area, RDF storage, sanitary landfill, MSW pit of WtE *etc.*, is collected at the common leachate collection sumps. The leachate is pre-treated at the 1,100 Kilo Liters per day capacity plant established in the site. The pre-treated leachate is treated in the Reverse Osmosis (RO) system and the permeate from RO System was being used to maintain greenery at the site and the rejects in the form of solid were mixed with RDF and utilised as fuel in WtE Plant instead of disposing in the scientific landfill. However, leachate problem was not fully resolved as observed during JPV of Jawaharnagar T&D facility (January 2023).
- d. **Refuse Derived Fuel plant:** Established in February 2015 with 150 Tonnes per Hour capacity. The RDF obtained from pre-sorting is sent to the WtE Plant operational at the site. Based on requirement from other consumers of RDF such as cement industries, the RDF from pre-sorting section is passed through magnetic separator and thereafter through a shredder for size reduction upto 15 mm in size. Further, it passes through a screen to remove sand/ silt. The end product would be converted into Briquettes for transporting to the end users.
- e. **Plastic Recycling Plant:** Established in April 2015 with a capacity of 20 TPD. The recyclable plastics are segregated, washed and processed into waste disposal bags.
- f. **Waste to Energy Plant:** Established in August 2020 with 24 Mega Watt (MW) capacity. The segregated inorganic fraction (Refuse Derived Fuel- RDF) of about 1,350 TPD was used as fuel in the WtE plant established at the site for generating electricity.
- g. **Windrow Composting:** Established in February 2012 with a capacity of 2,040 TPD and increased to 7,000 TPD in 2021-22. The segregated organic fraction is rearranged into trapezoidal heaps called windrows. The windrows are sprayed with Effective Micro-organisms culture and undergo weekly turning operations (for the purpose of aeration) to help biodegradation of the organic MSW into compost.

A flow chart (provided by GHMC) depicting the process of Municipal Solid Waste Management from household to disposal at Jawaharnagar T&D facility is shown in **Appendix-5.1**. A flow chart (provided by the Concessionaire) depicting the process of collection, Treatment and Disposal (T&D) of MSW at Jawaharnagar T&D facility is shown in **Appendix-5.2**.

A comparative picture of the status of Jawaharnagar Dumpsite prior to handing over to the Concessionaire and the present status of the Jawaharnagar T&D facility are shown in Exhibit No.11 and Exhibit No.12.

**Exhibit No.11, Para no.5.1.2
Jawaharnagar Dumpsite prior to handing over to the Concessionaire**

	
<p>Dump at Compost Plant area</p>	<p>Contaminated water bodies</p>
	
<p>Burning of waste</p>	<p>Uncontrolled flow of leachate</p>

Source: Pictures provided by GHMC

Exhibit No.12, Para no.5.1.2
Jawaharnagar Dumpsite after handing over to the Concessionaire



Source: Pictures provided by GHMC

5.2 Waste processing and treatment technology

In accordance with Section 4.1 of MSWM Manual, 2016 (Part-I), selection and adoption of MSW processing technologies should be based on defined selection criteria and subject to a detailed due diligence study which ascertains the appropriateness of the technology to the prevailing conditions of the respective ULB.

Solid Waste Management Policy and Strategy of Government of Telangana mandated (Para 8) few technology options for processing and treatment of Solid Waste as given below:

- Composting
- Bio-methanation
- Refuse Derived Fuel
- Material Recovery Facility
- Waste to Energy
- Integrated facility such as Material Recovery Facility and Composting/ Bio-methanation/ Waste to Energy

Rule 15(v) of SWM Rules-2016 stipulates that ULBs should facilitate construction, operation and maintenance of Solid Waste processing facilities and preference shall be given to decentralised processing to minimise transportation cost and environmental impacts such as bio-methanation, micro composting, vermicomposting, anaerobic digestion or any other appropriate processing for bio-stabilisation of bio-degradable wastes.

Audit observed the following on the establishment and operation of the waste processing facilities in the test-checked ULBs:

5.2.1 Composting

Solid Waste Management Rules, 2016 defines "composting" as a controlled process involving microbial decomposition of organic matter. Further, Rule 4 of SWM Rules, 2016 prescribes duties of waste generators¹³⁷, which *inter alia* include composting of bio-degradable waste in partnership with local body. The bio-degradable waste should be processed, treated and disposed through composting or bio-methanation. The residual waste should be given to the waste collectors or agency as directed by the local body.

Further, Rules 3(15) and 11(h) of SWM Rules, 2016 mandate establishment of dispersed facilities for decentralised processing by demarcating separate space in the development plan for group housing or commercial, institutional or any other non-residential complex exceeding 200 dwellings or having a plot area exceeding 5,000 square meters (*sqm*) for maximising the processing of bio-degradable waste and recovery of recyclables to minimise transportation of waste for processing or disposal.

¹³⁷ (i) All resident welfare and market associations, (ii) All gated communities and institutions with more than 5,000 *sqm* area, and (iii) All hotels and restaurants

In GHMC:

(i) Non-setting up of decentralised processing facilities for composting of bio-degradable waste

Greater Hyderabad Municipal Corporation had furnished a list of 142 BWGs¹³⁸ having decentralised processing facilities but the quantum of composting of bio-degradable waste done was not provided to Audit. Further, GHMC stated that there are 168 Group Housings (GHs) and Non-Residential Complexes (NRCs) with more than 200 dwellings and 385 GHs and NRCs having a plot area exceeding 5,000 *sqm* for whom separate space was demarcated for waste management (decentralised waste processing). However, it was observed from the data furnished to Audit by GHMC on these GHs and NRCs that decentralised waste processing facilities were not set up for composting of bio-degradable waste.

Further, GHMC did not quantify the MSW generated by these GHs and NRCs and there was no decentralised waste processing done during 2017-22. This indicated lack of monitoring by GHMC and resulted in transportation of unprocessed MSW load to Jawaharnagar T&D facility from these GHs and NRCs to that extent.

The State Government replied (September 2023) that GHMC has been putting all efforts for sensitising through IEC activities, the above categories of waste generators for following SWM Rules, 2016 and the same may show results in due course of time.

Since separate space was demarcated for waste management for decentralised processing, the same needs to be carried out by the GHs and NRCs. This would lead to a reduction of the quantum of unprocessed waste being transported from these GHs and NRCs to the TS/SCTPs and therefrom to Jawaharnagar T&D facility. This may result in consequent savings in payment of TF to the Concessionaire to that extent.

(ii) Decrease in quantity of compost due to mixing of MSW

In the DPR for IMSWM Project prepared by HIMSWL, it was mentioned (Para 4.2) that approximately 47 *per cent* of wastes was wet organic in nature and hence high rate of production of compost of 25 *per cent* was expected (Para 4.3.1 of DPR) as output from the 47 *per cent* wet organic waste.

Audit observed that out of 1,06,68,049 MT of MSW processed during 2017-22, a quantity of 50,13,983 MT (47 *per cent*) could be taken up for composting and the compost expected to be produced works out to 12,53,495 MT (25 *per cent* of 50,13,982 MT), as per the estimates made in the DPR. The compost generated as furnished to Audit was 2,63,179 MT, which constitutes only 5.2 *per cent* compost output against the estimated 25 *per cent*.

Greater Hyderabad Municipal Corporation replied that though source segregation was done, due to mixed MSW received at Jawaharnagar T&D facility, the envisaged compost output could not be achieved.

The reply confirms the fact that despite stated source segregation, MSW was transferred in mixed manner to Jawaharnagar T&D facility resulting in decrease in the quantity of compost.

¹³⁸ Hotels, Marriage Halls, Function Halls, Markets, etc.

In test-checked other 14 ULBs:

(i) **Decentralised processing facilities for composting:** Audit observed from the data on decentralised processing facilities furnished by the 14 ULBs that except three ULBs (Khammam, Mancherial and Peerzadiguda), the other 11 test-checked ULBs had no GHs and NRCs with more than 200 dwellings and GHs and NRCs with a plot area exceeding 5,000 sqm for whom separate space was required to be demarcated for waste management (decentralised waste processing).

In the three ULBs there were GHs and NRCs (Khammam-5 nos each, Mancherial-6 nos each and Peerzadiguda-5 nos each) and separate space was demarcated to them for decentralised waste processing. However, decentralised waste processing was not done during 2017-22.

(ii) **Composting facilities and utilisation of compost:** The data furnished by the nine test-checked ULBs on establishment of waste processing facilities were checked during JPV of dumpsites and the Audit observations are given in **Table-5.2**. The other five ULBs¹³⁹ had furnished that there are no waste processing facilities for composting under operation.

Table-5.2: JPV observations with regard to composting facilities in the test-checked ULBs with reference to the information furnished to Audit

Sl. No	Name of the ULB	Information furnished to Audit by the ULB regarding waste processing facilities	JPV observations
1.	Kalwakurthy	Windrow composting facility established with a capacity of 20 MT.	No composting plant facility exists. Though it was mentioned that wet waste was processed, the details of compost generated was shown as NIL in the data furnished to Audit.
2.	Khanapur	Windrow composting facility established with a capacity of 6 MT.	No composting facility exists and composting yard was under construction (Exhibit No.13 (A)).
3.	Kothagudem	Vermicomposting facilities established with 200 MT capacity.	Composting done in the facility and the compost was utilised for Municipal parks (Exhibit No.13 (B)).
4.	Mahabubnagar	Windrow composting facility established with 320 MT capacity and Vermicomposting facility established with 600 MT capacity.	Both the facilities exists and in operation. The compost generated was utilised by the ULB for its own plantations/parks/medians and other Harithaharam activities (Exhibit No.13 (C)).
5.	Mancherial	Vermicomposting facility established with 30 MT capacity.	Composting done in the facility and the compost was utilised for Municipal parks.
6.	Nagaram	Vermicomposting facility established with 60 MT capacity.	No composting facility/plant established and composting of MSW collected from households was not being done and Compost was prepared on open ground with left over vegetable waste collected from vegetable markets only (Exhibit No.13 (D)). Mixed MSW was transferred to Jawaharnagar T&D facility (under GHMC) for processing & treatment.

¹³⁹ Bollaram, Chandur, Haliya, Wardhannapet and Yellareddy

Sl. No	Name of the ULB	Information furnished to Audit by the ULB regarding waste processing facilities	JPV observations
7.	Peerzadiguda	Vermicomposting facility established with 100 MT capacity.	The MSW was transferred to Jawaharnagar facility (under GHMC) for processing & treatment. Hence, there was no composting activity of MSW in the ULB. However, left over vegetable waste from vegetable markets was collected and compost prepared in the facility, which was utilised for Harithaharam activities (Exhibit No.13 (E)).
8.	Zaheerabad	Vermicomposting facility established with 12 MT capacity.	Composting done in the facility and the compost was utilised for Municipal parks (Exhibit No.13 (F)).
9.	Khammam	Vermicomposting facility established with 45 MT capacity.	Compost facility established was not put to use (Exhibit No.13 (G)).

In the Annual Report on SWM activities for the year 2021-22, submitted (July 2022) by TSPCB to CPCB, it was mentioned that 229 waste to compost facilities were established in 141 ULBs in the State, with a total capacity of 1,120 TPD. However, Audit observed during test-check of dumpsites in 14 ULBs that no composting facilities were in operation in eight ULBs¹⁴⁰ and in Haliya ULB, a shed constructed for compost preparation in the dumpsite was lying idle (**Exhibit No.13 (H)**). Further, no other waste processing facilities (Refuse Derived Fuel, Bio-methanation, Waste to Energy, Biogas and Plastic Recycling units) were established in the test-checked other 14 ULBs.

The State Government replied (November-2023) that in Bollaram, Chandur, Kalwakurthy, Khammam and Khanapur ULBs, composting facilities were established and in operation. Supporting documentary/pictorial evidence, however, was not furnished to Audit. The State Government accepted (November 2023) that no composting facilities were established in Wardhannapet and Yellareddy ULBs.

Lack of strategy and planning for providing adequate infrastructure for MSW processing resulted in increased dumping of more unprocessed mixed MSW in the open dumpsites (*Para 5.3 refers and also Table-5.5 and Appendix-2.1*), leading to environmental pollution and posing health hazards.

¹⁴⁰ Bollaram, Chandur, Kalwakurthy, Khammam, Khanapur, Nagaram, Wardhannapet and Yellareddy

Exhibits: Para 5.2.1/Table-5.2
JPV observations on composting facilities in the test-checked ULBs

<p>Exhibit No.13 (A): Khanapur ULB (JPV dated 29 November 2022): Composting yard under construction</p>	<p>Exhibit No.13 (B): Kothagudem ULB (JPV dated 20 December 22): Composting facility</p>

Exhibits: Para 5.2.1/Table-5.2
JPV observations on composting facilities in the test-checked ULBs

<p>Exhibit No.13 (C): Mahabubnagar ULB (JPV dated 13 December 2022): Composting facility</p>	<p>Exhibit No. 13 (D): Nagaram ULB (JPV dated 15 November 2022): Left over vegetable waste from vegetable markets was collected and compost prepared on open ground</p>
<p>Exhibit No.13 (E): Peerzadiguda ULB (JPV dated 04 October 2022): Left over vegetable waste from vegetable markets was collected and compost prepared in the facility</p>	<p>Exhibit No.13 (F): Zaheerabad ULB (JPV dated 12 January 2023): Composting facility</p>

	
<p>Exhibit No.13 (G): Khammam ULB (JPV dated 20 March 2023): Compost Pits filled with mixed waste and not put to use</p>	<p>Exhibit No.13 (H): Haliya ULB (JPV dated 18 November 2022): Shed constructed for compost preparation in the dumpsite was lying idle</p>

5.2.2 Waste to Energy plants

Section 3.3 of MSWM Manual, 2016 (Part II) provides for Waste to energy which refers to the process of generating energy in the form of heat or electricity from MSW. Energy from MSW can be achieved through-

- Thermal processes like incineration or combustion of RDF; and
- Biological processes like bio-methanation and further conversion into electrical power or automotive fuel (compressed biogas).

5.2.2.1 Non-creation of special fund – Waste to Energy Plant in Greater Hyderabad Municipal Corporation

In the DPR (Para 5.1) of IMSWM, it was proposed to install a total of 4 units of 600 TPD MSW Combustors with an aggregate power capacity of 48 MW in total in Phase-I and Phase-II of 24 MW each. The Concessionaire initially, after obtaining Environmental Clearance (EC) from the State Level Environment Impact Assessment Authority (SEIAA) in June 2012 and Consent for Establishment (CFE) from TSPCB in September 2014, established one 19.8 MW WtE Plant, which was in operation since August 2020. Thereafter the Concessionaire obtained Environmental Clearance (EC) from MoEFCC, GoI in December 2021 for expansion of RDF based WtE Plant from 19.8 MW to 48 MW (2 units of 24 MW each). GHMC stated (April 2023) that at present, one 24 MW WtE Plant is in operation and the second 24 MW plant was under construction.

One of the conditions {Clause (xi)} set forth while giving Environmental Clearance (EC) by SEIAA in June 2012 was that a fund shall be maintained by the Concessionaire for Environment Protection measures, with a capital cost of ₹34 crore and recurring cost of ₹12 lakh per annum. Further ₹60 lakh shall be allocated for Socio-Economic Development. These funds are required to be kept in a separate account and should not be diverted for any other purpose. Year-wise expenditure shall be reported to the SEIAA, MoEFCC, GoI, and its Regional office located at Bengaluru.

In response to an Audit Enquiry, GHMC replied (April 2023) that the Concessionaire had not established a separate fund but had incurred an expenditure of ₹47.85 crore¹⁴¹ during September 2013 to March 2021.

Audit observed that items of expenditure relating to Environment Protection measures were not defined while according EC by SEIAA and also no expenditure was incurred by the Concessionaire towards Socio-Economic Development. Year-wise reports submitted by the Concessionaire as mandated to SEIAA, MoEFCC, GoI and its Regional Office at Bengaluru were not furnished to Audit.

5.2.2.2 Status of other Waste to Energy Plant taken up by Greater Hyderabad Municipal Corporation

In addition to the existing 24 MW WtE plant at Jawaharnagar, GHMC proposed WtE plant at Bibinagar and the status of is as follows:

Bibinagar WtE plant : GHMC entered into an MoU (May 2000) with M/s RDF Power Project Ltd (RDFPPL) (the Company) to establish WtE plant of 11 MW capacity at a total project cost of ₹82.50 crore. The debt equity ratio was 70:30 between the company and GHMC respectively. As per MoU, the Company should establish the WtE plant in its own land at Chinnaravulapally (Village) in Bibinagar.

An amount of ₹3.75 crore was invested as equity share by GHMC in this WtE project from March 2008 to September 2011 by purchasing 37,50,000 shares at ₹10 per share from the Company. MSW requirements were about 700 TPD as raw material for generating power and GHMC had to supply 630 TPD and the remaining 70 TPD shall be transported by the Company on its own. However, due to technical reasons the commissioning of the plant could not be done.

The proposed WtE plant at Bibinagar could not be commissioned even after a lapse of more than 22 years of MoU and the invested amount of ₹3.75 crore by GHMC remained unfruitful.

The State Government replied (September 2023) that the WtE plant would be commissioned after the ongoing legal issues are resolved.

5.2.2.3 Waste to Energy Plants in other Urban Local Bodies in the State

Central Pollution Control Board in compliance with the NGT orders (May & August 2016) had issued selection criteria for waste processing technologies, wherein it was suggested that the WtE plants are found cost-effective for processing waste 500 TPD and above.

Audit observed that there were no WtE plants in the test-checked other 14 ULBs.

The Commissioner and Director of Municipal Administration stated (May 2023) that in other 141 ULBs the MSW generated was less than 500 TPD and hence no WtE plants were established.

¹⁴¹ (i) Green Belt: ₹2.63 crore, (ii) Landfill gas through Compressed Bio-Gas (CBG): ₹12.89 crore, (iii) Odour Management in the T&D facility around critical areas: ₹0.56 crore, (iv) Solar one MW: ₹2.04 crore and (v) Waste water & Leachate: ₹29.73 crore

The reply was not in consonance with the fact that there was mention of three WtE Plants¹⁴² being proposed/setup in the Annual Reports 2020-21 and 2021-22 of TSPCB. Further progress on the establishment and operation of the above three WtE plants was not furnished to Audit.

5.2.3 Biogas facility

Biogas is a gaseous renewable energy source produced from raw materials such as agricultural waste, manure, municipal waste, plant material, sewage, green waste, wastewater, and food waste. Biogas is produced by anaerobic digestion with anaerobic organisms or methanogens inside an anaerobic digester, biodigester or a bioreactor.

A biogas plant is a facility that provides oxygen-free conditions where anaerobic digestion can occur. It is an artificial system where you can turn waste into sustainable energy and fertilizers, with positive effects on the environment.

5.2.3.1 Biogas facility in Greater Hyderabad Municipal Corporation

A Compressed Biogas (CBG) Plant was established in October 2021 with 5 TPD capacity in Jawaharnagar T&D facility. The landfill gas generated from the capped site is transported to the CBG plant using a common header line and after processing, it is bottled and sold to Bhagyanagar Gas Ltd.

5.2.3.2 Biogas facility in other Urban Local Bodies in the State

Audit observed that there were no Biogas plants in the test-checked other 14 ULBs.

In the Annual Report on SWM of TSPCB for the year 2021-22 submitted to CPCB, it was mentioned that Biogas facilities were set up and were in operation in five ULBs¹⁴³ with a capacity of 21 TPD (7 nos).

Audit enquired (March 2023) on the status of the Biogas facilities, output, revenue generated and utility of biogas generated. In response, CDMA replied (June 2023) that-

- In Greater Warangal Municipal Corporation (GWMC), 2.5 TPD Biogas plant was established and the generated biogas was being converted into electricity and utilised within GWMC office building premises and in Balasamudram Children's Park.
- In Siddipet ULB, 10 TPD Biogas plant was established and the biogas generated was converted into bio-Compressed Natural Gas and being sold to the agencies.
- In Kompally and Sircilla ULBs, one TPD each Biogas plant established were not put in operation.

¹⁴² WtE Plants established at Suryapet Municipality, Nalgonda District (12.6 MW) and Sultanabad (Mandal), Karimnagar District (12 MW) but not in operation; and proposed 12 MW WtE plant at Yacharam in Ibrahimpatnam Municipality

¹⁴³ GHMC, GWMC, Kompally, Siddipet and Sircilla

5.2.4 Establishment of additional processing facilities in Greater Hyderabad Municipal Corporation as per Concession Agreement

The Concessionaire, as part of PPP project was required (Clause 2.1(h)) to establish new processing & disposal facilities at two places Choutuppal in Nalgonda District), Lakdaram in Medak District and any other place as identified by GHMC during the course of time. The required land was to be provided by GHMC.

However, it was observed in audit that proposals for alienation of land to the extent of 100 acres in Survey No.738 located at Lakdaram (Village) were submitted (June 2018) by GHMC to the District Collector, Sangareddy District. However, the proposals were deferred as the said land was allotted to Rajiv Swagraha Corporation Limited. The matter was under pursuance by GHMC. The land allotment in and around Choutuppal could not materialise due to resistance from the local public and Public Representatives.

The extent of usage of land in Jawaharnagar T&D facility for various purposes of MSW management is given in **Appendix-5.3**. The available 339.01 acres of land has been utilised for various purposes of MSW management and land to the extent of 12.2 acres was stated as in dispute, leaving no unused land. In the Annual Report of the Concessionaire for the year 2021-22, it was mentioned that an extent of 14.5 acres of land was being utilised for waste disposal at Jawaharnagar.

Audit observed that the Concessionaire had addressed (August 2021) GHMC regarding shortage of land in the existing facility for developing further landfill cells for the process rejects and the ash from the WtE plants and also emphasised the urgent need to acquire additional land for sustainability of IMSWM project for the near future.

Audit enquired about the steps taken to identify alternate sites to establish SWM processing and disposal facilities and GHMC replied (February 2023) that a site at Pyaranagar was identified and land to the extent of 152 acres was given in advance possession to GHMC by the Revenue Department. It was stated that the land was handed over to the Concessionaire on 13 December 2022 for setting up MSW Processing and Disposal facility. TSPCB had accorded Consent for Establishment (CFE) for Processing and Disposal facility in the site and the work would be completed within six months (August 2023).

The State Government replied (September 2023) that Forest Department is resolving the issue at the proposed diversion of forest land and the approach road would be cleared shortly at Pyaranagar site. However, the fact remains that additional T&D facility was not yet set up by the GHMC at Pyaranagar and also could not be set up in the earlier identified sites at Lakdaram and Choutuppal due to unresolved titular issues.

5.3 Disposal of Municipal Solid Waste

The Solid Waste Management Rules, 2016 defines "disposal" as the final and safe disposal of post processed residual Solid Waste and inert from street sweepings and silt from surface drains on specified land, to prevent contamination of ground water, surface water, ambient air and attraction of animals or birds. All the waste that cannot be reused/recycled/processed

further finds its way to the landfills¹⁴⁴, the ultimate destination of the Solid Waste. The details of Solid Waste generated and final disposal of waste to landfill/dumpsite¹⁴⁵ in the State, GHMC and test-checked other 14 ULBs during 2017-22 are given in **Table-5.3**, **Table-5.4** and **Table-5.5** respectively.

Table-5.3: Details of Solid Waste generated by all ULBs in the State and final disposal of waste to landfill/dumpsites during 2017-22 (figures in TPD)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Waste generated	7,871	8,497	9,285	9,965	11,057
Collected	7,814	8,360	9,270	9,965	11,057
Uncollected	57	137	15	0	0
Processed*	4,895	5,747	6,070	7,530	8,611
Sanitary landfilled (Inert waste/rejects) in GHMC only	593	869	593	991	1,011
Waste to dumpsite	2,326	1,744	2,607	1,444	1,435
Percentage of waste to dumpsite out of collected waste	29.77	20.86	28.12	14.49	12.98

Source: Annual Reports on SWM submitted by TSPCB to CPCB

* Includes MSW transported from ULBs nearby GHMC to the Jawaharnagar T&D facility

Table-5.4: Details of Solid Waste generated and final disposal of waste to landfill in GHMC during 2017-22 (figures in TPD)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Waste generated	4,864	5,298	5,799	5,668	6,166
Collected	4,864	5,298	5,799	5,668	6,166
Uncollected	0	0	0	0	0
Processed*	4,279	4,610	5,177	4,958	5,633
Sanitary landfilled (Inert waste/rejects)	728	870	916	1,050	1,007
Percentage of waste landfilled out of collected waste	15	16	16	19	16

Source: Information provided by GHMC

* Includes MSW transported from ULBs nearby GHMC to the Jawaharnagar T&D facility

Table-5.5: Details of Solid Waste generated and final disposal of waste to dumpsites in test-checked other 14 ULBs during 2017-22 (figures in TPD)

Particulars	2017-18	2018-19	2019-20	2020-21	2021-22
Waste generated	337	382	437	494	538
Collected	308	345	414	477	525
Uncollected	29	37	23	17	13
Processed	79	106	143	181	252
Sanitary landfilled (Inert waste/rejects)	0	0	0	0	0
Waste to dumpsite (Collected minus Processed)	229	239	271	296	273
Percentage of waste to dumpsite out of collected waste	74	69	65	62	52

Source: Information provided by the test-checked other 14 ULBs

¹⁴⁴ The term sanitary landfill is defined as a unit in operation for final disposal of 'Municipal Solid Waste' on land, designed and constructed with the objective of minimising impact to the environment and according to the SWM Rules, 2016 (Section 4.4 of MSWM, Manual, 2016, Part-II)

¹⁴⁵ According to SWM Rules, 2016, 'dumpsites' mean a land utilised by local body for disposal of Solid Waste without following the principles of sanitary land filling

It could be seen from the above **Table-5.4** that MSW processing & disposal was effectively taking place only in GHMC. In the other test-checked 14 ULBs less than 50 *per cent* of waste was processed and major portion of remaining Solid Waste was dumped at dumpsites (**Table-5.5**). The landfills are designed to minimise the impact of the waste on the environment by containment of the waste. However, in the absence of adequate treatment/processing facilities in 14 ULBs, more than 50 *per cent* of unprocessed MSW was disposed to open dumpsites, posing health and environment hazards in the area.

Further, there were discrepancies in the data on sanitary landfilled (Inert waste/rejects) between State Annual Reports and GHMC figures furnished to Audit (**Table-5.3** and **Table-5.4**), which indicated non-reconciliation of figures by TSPCB with GHMC before inclusion in the Annual Reports and submission of the same to CPCB.

5.3.1 Failure to designate land for setting up landfill sites

The provisions of Rule 11 (f) and 12 (a) of SWM Rules, 2016, stipulate that the State and District authorities shall facilitate identification and allocation of suitable land for setting up Solid Waste processing and disposal facilities to local authorities within one year from the date of notification of the Rules.

It was mentioned in the Annual Reports 2020-21 and 2021-2022 on SWM submitted by TSPCB to CPCB that landfill sites were identified in 141 ULBs. However, landfills were not constructed for scientific disposal of MSW. The overall percentage of disposal of unprocessed MSW in the dumpsites in test-checked other 14 ULBs was more than 50 *per cent*, resulting in unhygienic disposal of mixed MSW posing health and environment hazards in the area (*Table-5.5, Para 5.3 refers*).

Non-allocation of suitable land for establishment of landfill sites to ULBs indicated lack of effective action by State/District level authorities and hence processing & disposal facilities could not be set up in the test-checked other 14 ULBs, even after a lapse of more than five years of notification of the SWM Rules, 2016.

5.3.2 Non-declaration of Buffer Zone in Jawaharnagar Treatment and Disposal Facility

Rule 3(7) of SWM Rules, 2016 defines “buffer zone” as a zone of no development to be maintained around Solid Waste Processing and Disposal facility, exceeding 5 TPD of installed capacity. This shall be maintained within total area allotted for the Solid Waste Processing and Disposal facility.

Rule 11(l) of SWM Rules, 2016 stipulate that Secretary–in-charge, Urban Development in the States shall notify buffer zone for the Solid Waste processing and disposal facilities of more than five TPD in consultation with the State Pollution Control Board. The buffer zone shall be prescribed on case-to-case basis by the local body in consultation with concerned State Pollution Control Board as per Schedule I A(ix) of SWM Rules, 2016.

In GHMC: When Audit enquired about development of buffer zone in Jawaharnagar Processing and Disposal facility, GHMC replied (November 2022) that a proposal was sent (April 2021) to Hyderabad Metropolitan Development Authority (HMDA) for notification

of buffer zone all around the facility and the same was under consideration by HMDA.

The reply underscores the fact that even though more than 10 years had lapsed after Jawaharnagar T&D facility started operations in 2012, MA&UD Department had not declared a buffer zone in consultation with TSPCB, which was in violation of SWM Rules, 2016 (Para 7.2 (c) refers).

5.3.3 Disposal of waste and management of dumpsites in test-checked other 14 Urban Local Bodies

Audit observed that there are no landfills in the 14 test-checked ULBs and MSW was dumped in the open dumpsites. Although the dumpsites were operated in the designated places, documentary evidence regarding receipt of approvals from the Revenue authorities were furnished by only eight ULBs¹⁴⁶. JPV observations on dumpsites are detailed in **Table-5.6**.

Table-5.6: JPV observations on dumpsites in test-checked other ULBs

Sl. No	Nature of observation	Name of the ULB in which noticed
1.	Dumping of mixed MSW without segregation (Exhibit No.14).	Khanapur, Mancherial, Peerzadiguda, Yellareddy, Zaheerabad, Chandur, Haliya, Khammam Mahabubnagar and Wardhannapet
2.	Fire emitting from the dumpsite/ MSW burnt at the site resulting in air pollution/Smoke emanating from the dumped MSW (Exhibit No.15).	Khanapur, Nagaram, Mancherial and Mahabubnagar
3.	The Dumpsite was adjacent to Government Junior and Degree College causing inconvenience to the students. A flood flow canal was adjacent to dumpsite, which may lead to mixing of waste in the dumpsite with flood water during heavy rains and also may pollute the water stream (Exhibit No.16 (A)).	Haliya
4.	A canal was adjacent to the dumpsite with possibility of mixed waste and rain water getting mixed in the canal, thereby polluting the water stream (Exhibit No.16 (B)).	Kothagudem
5.	The Dumpsite was adjacent to Agricultural fields with mixed waste and plastic waste spreading across the fields, causing foul smell and also causing inconvenience to the farmers in the surrounding Agricultural fields. (Exhibit No.16 (C)).	Chandur
6.	MSW collected was being dumped at Bathukamma Kunta (a water body) beside Road towards Somarpet village in Survey no.1406 of Yellareddy ULB, in the absence of approach road/road connectivity to the identified dumpsite. The water in the Bathukamma Kunta was getting polluted and emanating foul smell (Exhibit No.16 (D)).	Yellareddy
7.	The existing dumpsite was only a temporary storage for MSW collected as the waste was being transferred to Jawaharnagar T&D facility (under GHMC).	Nagaram and Peerzadiguda

It could be observed from **Table-5.6** above that the location of dumpsites near to flood canals and Agricultural lands pose a grave threat to the surrounding environment, polluting water streams and water bodies. Besides, there is the possibility of leaching over a period of time.

¹⁴⁶ Bollaram, Chandur, Haliya, Kothagudem, Mahabubnagar, Nagaram, Peerzadiguda and Wardhannapet

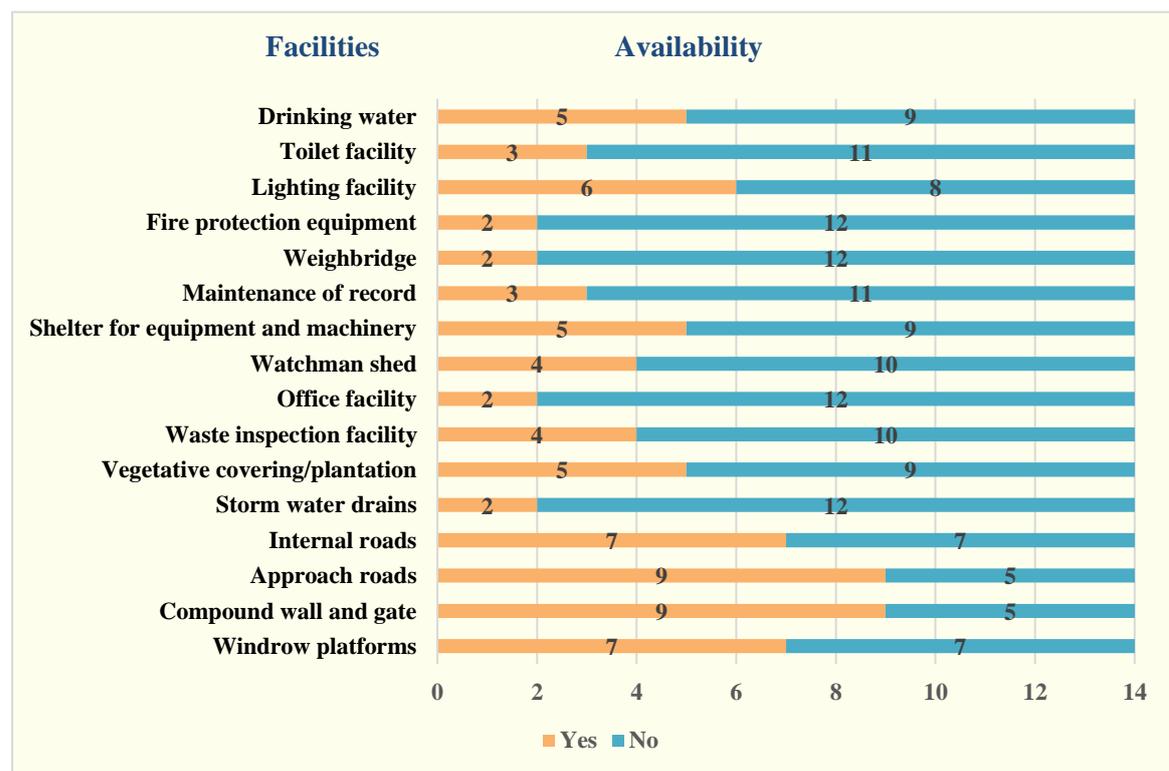
The State Government replied (November 2023) that-

- i. In Kothagudem ULB, remedial measures were taken and MSW would be transported to primary Dumping yard at Ramavaram to prevent possibility of mixed waste and rainwater getting mixed in canal and polluting the water stream.
- ii. In Yellareddy ULB, the MSW was dumped at Bathukamma Kunta (water body) by Somarpet (Village), GP and not by the ULB.

The reply indicated lack of monitoring by Yellareddy ULB within its limits regarding unauthorised dumping of MSW.

The status of the availability of basic facilities in the 14 dumpsites of the test-checked ULBs are depicted in **Chart-5.1**.

Chart-5.1: Status of availability of basic facilities in the dumpsites of test-checked other 14 ULBs



Source: Information furnished by the test-checked other 14 ULBs

It could be observed from **Chart-5.1**, that Weighbridges, Fire protection equipment, Office facility, storm water drains were not available in 12 dumpsites. Further, Compound Wall and gate were provided to dumpsites of nine ULBs¹⁴⁷ (**Exhibit No.16 (E)**) and not provided to dumpsites of five ULBs¹⁴⁸ (**Exhibit No.16 (F)**). Basic amenities like drinking water and toilets were not available in 9 and 11 dumpsites respectively¹⁴⁹. These facilities are essential to maintain the dumpsites safely and effectively.

¹⁴⁷ Kalwakurthy, Khammam, Khanapur, Kothagudem, Mahabubnagar, Mancherial, Peerzadiguda, Yellareddy and Zaheerabad

¹⁴⁸ Bollaram, Chandur, Haliya, Nagaram and Wardhannapet

¹⁴⁹ **Drinking water:** Bollaram, Chandur, Haliya, Khammam, Khanapur, Mahabubnagar, Nagaram, Wardhannapet and Yellareddy. **Toilets:** Bollaram, Chandur, Haliya, Kalwakurthy, Khammam, Khanapur, Mancherial, Nagaram, Wardhannapet, Yellareddy and Zaheerabad

Burning of Solid Waste was not only a violation of SWM Rules but was also fraught with severe environmental and health hazards. National Green Tribunal (NGT) directed (December 2016) ULBs to implement complete prohibition on open burning of waste on lands, including at landfill sites and to penalise violators including ULBs responsible for such burning with an environmental compensation of ₹5,000 in case of simple burning and ₹25,000 in cases of burning of bulk waste.

In compliance to the NGT directions, the State Government issued orders (July 2017)¹⁵⁰ in this regard. However, JPV observations in **Table-5.6** indicated that four ULBs (Khanapur, Mahabubnagar, Mancherial and Nagaram) failed to comply with NGT directives and the State Government orders prohibiting burning of MSW.

**Exhibit No.14, Para 5.3.3/Table-5.6
Dumping of mixed waste in the dumpsites**

	
<p>Chandur ULB (JPV dated 10 January 2023): Wet, dry and hazardous waste are dumped without segregation. Plastic waste was spread in large quantity without segregation</p>	<p>Haliya ULB (JPV dated 18 November 2022): Wet, dry and hazardous waste are dumped without segregation</p>
	
<p>Khammam ULB (JPV dated 20 March 2023): Wet and dry waste are dumped without segregation</p>	<p>Khanapur ULB (JPV dated 29 November 2022): Mixed MSW dumped in the dumpsite</p>

¹⁵⁰ G.O.Ms.No.27 dated 10 July 2017 of Environment, Forest, Science & Technology (For.III) Department

**Exhibit No.14, Para 5.3.3/Table-5.6
Dumping of mixed waste in the dumpsites**

	
<p>Mancherial ULB (JPV dated 03 November 2022): MSW collected was dumped in the dumpsite without segregation</p>	<p>Peerzadiguda ULB (JPV dated 04 October 2022): MSW collected was dumped in the dumpsite without segregation</p>
	
<p>Wardhannapet ULB (JPV dated 26 October 2022): MSW collected was dumped in the dumpsite without segregation</p>	<p>Zaheerabad ULB (JPV dated 12 January 2023): MSW collected was dumped in the dumpsite without segregation</p>
	
<p>Mahabubnagar ULB (JPV dated 24 March 2023): Mixed waste dumped in dumpsite without segregation</p>	<p>Yellareddy ULB (JPV dated 19 October 2022): Mixed waste dumped without segregation</p>

**Exhibit No.15, Para 5.3.3/Table-5.6
Fire emanating from the MSW in the dumpsites**

	
<p>Khanapur ULB (JPV dated 29 November 2022): Fire emitting from the dumpsite</p>	<p>Mahabubnagar ULB (JPV dated 24 March 2023): Mixed waste dumped and smoke was emanating from the Garbage dump</p>
	
<p>Nagaram ULB (JPV dated 15 November 2022): Smoke was emanating from the Garbage dump</p>	<p>Mancherial ULB (JPV dated 03 November 2022): MSW was burnt at the site resulting in smoke and leading to air pollution</p>

**Exhibits: Para 5.3.3/Table-5.6
Location of dumpsites adjacent to flood flow canal and Agriculture fields**

	
<p>Exhibit No. 16 (A): Haliya ULB (JPV dated 18 November 2022): A flood flow canal was adjacent to dumpsite</p>	<p>Exhibit No. 16 (B): Kothagudem ULB (JPV dated 20 December 2022): A canal adjacent to the dumpsite</p>

Exhibits: Para 5.3.3/Table-5.6
Location of dumpsites adjacent to flood flow canal and Agriculture fields

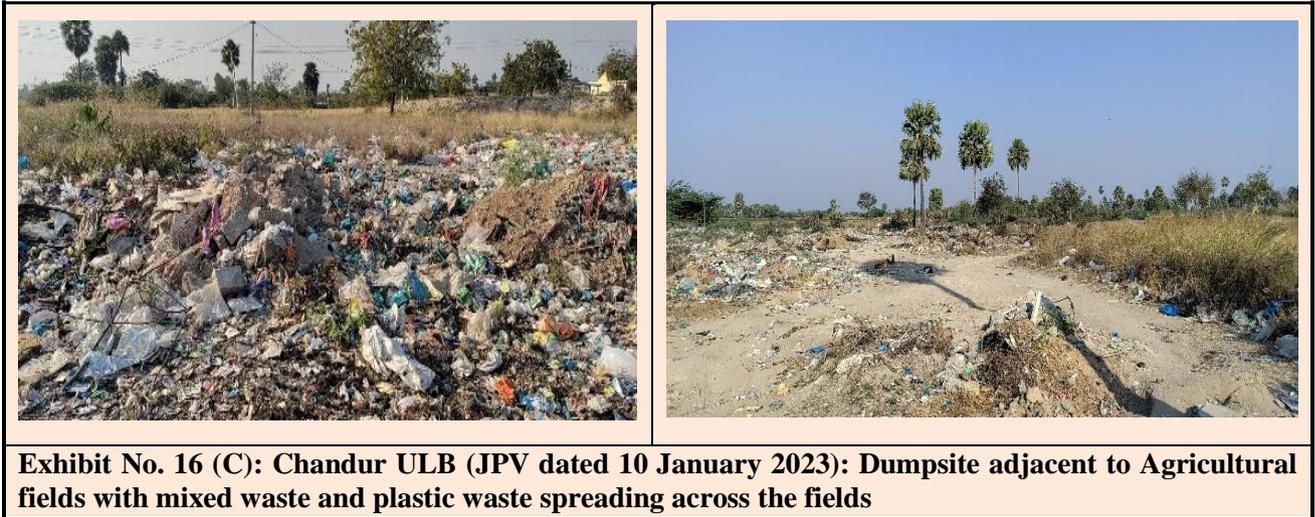


Exhibit No.16 (D), Para 5.3.3/Table-5.6
Dumping of MSW in water body



Exhibit No.16 (E), Para 5.3.3



Exhibit No.16 (E), Para 5.3.3



Khanapur ULB Dumpsite with Compound walls (Dated 27 September 2024). Source: Provided by Khanapur ULB

Exhibit No.16 (F), Para 5.3.3



**Nagaram ULB Dumpsite without Compound walls
JPV dated 15 November 2022**

**Bollaram ULB Dumpsite without Compound walls
JPV dated 15 December 2022**

5.3.4 Reclamation and Capping of Solid Waste Dumpsites

Section 4.5.7 of MSWM, Manual, 2016 (Part-II) stipulates that dumpsites¹⁵¹ that do not have an engineered liner system, Leachate Collection System (LCS), or an appropriately designed cover system, should be immediately closed to minimise their impact on land, groundwater, and surface water quality and on air quality in the vicinity of the dumpsite.

Further, Rule 15(zj) of SWM Rules, 2016 mandates that local authorities should investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio-mining¹⁵² and bio-remediation¹⁵³ and wheresoever feasible, take necessary actions to bio-mine or bio-remediate the sites.

¹⁵¹ A land utilised by local body for disposal of Solid Waste without following the principles of sanitary land filling

¹⁵² Bio-mining (also referred as landfill mining) refers to the process of digging out the previously dumped/disposed of materials from a Landfill (open dumpsite) to recover metal, plastic, glass, combustibles, soil and other fine materials by segregating the prevailing waste into different constituents and converting the biodegradable portion into compost, methane gas or bio-diesel and the remaining non-recyclable plastic as refuse derived fuels, which in turn can be used as an alternate fuel in Industries

¹⁵³ Bioremediation is a biotechnical process, which abates or cleans up contamination. It is a type of waste management technique which involves the use of organisms to remove or utilise the pollutants from a polluted area.

In GHMC: As per the CA {Clause 2.1(i)}, the Concessionaire had to reclaim four dumpsites¹⁵⁴. Audit observed that reclamation was done only in two sites at Fathullaguda and Jawaharnagar (*Para 2.1.1, Table-2.1, Sl.No.11 refers*) and the remaining two sites- Gandhamguda and Shamshiguda could not be reclaimed due to land title disputes. Thus, the objective of reclamation of the remaining two dumpsites could not be achieved even after more than 13 years of CA.

The State Government replied (September 2023) that Gandhamguda dumpsite reclamation could not be taken up due to the legal obstacles, whereas at Shamshiguda the land was already reclaimed and an animal care center was developed in the same site. However, documentary evidence for full reclamation of Shamshiguda site was not furnished to Audit.

In test-checked other 14 ULBs: Audit observed that there were old dumpsites in three ULBs (Kalwakurthy, Khammam and Kothagudem) and the following were noticed during JPV of the dumpsites of the three ULBs:

- The old dumpsite at Mallemadugu Village about 14 Km from Khammam ULB office, wherein MSW was dumped for a period of around four years up to 2021, but the legacy waste was left untreated (**Exhibit No.17 (A)**).
- The old dumpsite in Kothagudem located at Garimalapadu village was closed in December 2021 due to resistance from the villagers. The accumulated waste was spreading into adjoining places and roads. Further, the surrounding area was getting polluted with foul smell & dust from the dumped waste (**Exhibit No.17 (B)**).
- The old dumpsite in Kalwakurthy located at Raghupathipeta Road was abandoned (**Exhibit No.17 (C)**).

The State Government replied (November 2023) that in Kalwakurthy and Khammam ULBs, legacy waste in the old dumpsites was taken up for bioremediation and would be completed by December 2024. In Kothagudem ULB, the old dumpsite was closed and taken up for bioremediation.

Mahabubnagar ULB took up bio-mining work of legacy waste in July 2020 and scrutiny of records¹⁵⁵ to the extent produced to Audit, revealed that the Agency processed only 2,000 tonnes of legacy waste in 19 months against the estimated legacy waste of 1.5 to 2 lakh tonnes to be bio-mined as per the Agreement in 24 months. This indicated tardy progress in bio-mining of legacy waste in Mahabubnagar ULB. Further, no penalty clauses were incorporated in the Agreement for slow progress of work.

The State Government accepted the Audit observations and replied (November 2023) that delays in bio-mining of legacy waste were due to delayed installation of power supply, machinery, unfavourable seasonal behaviour and Covid-19 pandemic.

¹⁵⁴ Fathullaguda, Gandhamguda, Jawaharnagar and Shamshiguda

¹⁵⁵ (i) Agreement dated 02 July 2020, (ii) Note dated 23 July 2022 for payment of ₹15,51,269 for the bills submitted by the Agency till July 2022, (iii) Work Order dated 11 March 2019 issued to the Agency for the bio-mining work

Exhibits: Para 5.3.4
JPV observations on old dumpsites in test-checked ULBs



Exhibit No.17 (A): Khammam ULB (JPV dated 20 March 2023): Old dumpsite at Mallemadugu Village about 14 Km from Khammam ULB office, wherein MSW was dumped for a period of around four years up to 2021



Exhibit No.17 (B): Kothagudem ULB (JPV dated 20 December 2022): The old dumpsite was closed in December 2021 due to resistance from the villagers



Exhibit No.17 (C): Abandoned old dumpsite in Kalwakurthy ULB (JPV dated 21 October 2022)

5.4 Good practices noticed

Good practices observed during JPV of Jawaharnagar T&D facility in GHMC are given in Box No.1.

Box No.1

Good practices observed during JPV of Jawaharnagar T&D facility

Joint Physical Verification (JPV) was conducted on 18.01.2023 of the Jawaharnagar T&D facility maintained by Hyderabad Integrated Municipal Waste Ltd (HIMSW) which is the Special Purpose Vehicle (SPV) of M/s Ramky Enviro Engineers Ltd (now renamed as Re Sustainability Ltd), the Concessionaire for the IMSWM project of GHMC. The following were observed during the JPV:

- Weigh bridges are erected at the entrance of the T&D facility for weighing MSW both times at the time of entry and exit of the vehicle. MSW is dumped on tipping floor and one part is going to compost yard and one part is utilised for Waste to Energy Plant and the balance *i.e.*, inert waste is transferred to landfill.
- Legacy waste was Capped, and Leachate collection and its treatment was being done by the Concessionaire. Other facilities for processing of MSW *viz.*, Plastic recycling unit, Biogas plant, Refuse Derived Fuel (RDF) unit, Compost yard and the Waste to Energy Plant are operated and maintained (**Exhibit Nos.18 and 19**).
- The entire project area was covered with plantation and greenery. JCBs and machinery were used wherever required with less human intervention for handling MSW. The segregation was also done by machinery only. For reducing foul smell, odour maskants are sprayed through misting lines and drones. The entire T&D facility had internal roads.
- The various facilities established for processing MSW at Jawaharnagar T&D facility indicated Good practices followed in GHMC for processing & disposal of MSW.

Exhibit No. 18, Box No.1, Para 5.4
MSW processing facilities in Jawaharnagar T&D facility

 <p>MSW Reception & Weighment</p>	 <p>Pre-Segregation & Sorting</p>	 <p>Windrow Composting</p>
 <p>Coarse Segregation</p>	 <p>Refinement Section</p>	 <p>RDF</p>
 <p>Laboratory (Waste Characterisation, Compost Quality etc.)</p>	 <p>Plastic Recycling</p>	 <p>Leachate Treatment Plant</p>
 <p>Bio-methanation Plant</p>	 <p>CBG Plant</p>	 <p>WtE Plant</p>

Source: Photos provided by GHMC during JPV conducted on 18 January 2023

Exhibit No. 19, Box No.1, Para 5.4
JPV of Jawaharnagar T&D facility (18 January 2023)

 <p>Samsung Quad Camera 18.01.2023</p>	 <p>Samsung Quad Camera 18.01.2023</p>
<p>Administrative Building with Green cover</p>	<p>Green cover, internal roads and capped legacy MSW</p>
 <p>Samsung Quad Camera 18.01.2023</p>	 <p>Samsung Quad Camera 18.01.2023</p>
<p>Real time monitoring system at 24 MW WtE power plant</p>	<p>Segregation of MSW</p>
 <p>Samsung Quad Camera 18.01.2023</p>	 <p>Samsung Quad Camera 18.01.2023</p>
<p>Existing weigh bridge working on real time monitoring system</p>	<p>Compressed Bio-Gas chamber</p>
 <p>Samsung Quad Camera 18.01.2023</p>	 <p>Samsung Quad Camera 18.01.2023</p>
<p>24 MW Turbine</p>	<p>24 MW WtE plant</p>

Source: Photos taken during JPV conducted on 18 January 2023

5.5 Conclusion

The Concessionaire company did not create a special Fund for Environment protection measures with a capital cost of ₹34 crore and recurring cost of ₹12 lakh per annum, as per conditions set forth in the Environmental Clearance given by SEIAA for Waste to Energy plant. The State Government did not allocate suitable lands for establishment of landfill sites in the test-checked other 14 ULBs even after a lapse of more than five years of notification of the SWM Rules, 2016.

5.6 Recommendation

- *State Government should develop action plans for allocating suitable lands to ULBs for establishing sanitary landfill sites and also for setting up of MSW T&D facilities with necessary infrastructure.*

Chapter VI

Construction and Demolition waste

Ministry of Environment, Forest and Climate Change, GoI, notified (March 2016) Construction and Demolition Waste Management Rules, 2016. The Rules defined Construction and Demolition (C&D) waste as the waste comprising building materials, debris and rubble resulting from construction, re-modeling, repair and demolition of any civil structure.

6.1 State Policy for Construction & Demolition waste management

Rule 9(1) of C&D Waste Management Rules, 2016¹⁵⁶ stipulates that the Secretary in-charge of development in the State Government shall prepare their policy document with respect to management of Construction and Demolition of waste in accordance with the provisions of these rules within one year from date of final notification of these rules, *i.e.*, by 29 March 2017.

Greater Hyderabad Municipal Corporation Act, 1955 (Act II of 1956) was not amended to make suitable provisions for C&D waste management.

Section 132 (1) to (4) of Telangana Municipalities Act, 2019 applicable to other 141 ULBs mandates that ULBs have to undertake management of C&D Waste, which includes (i) identification of suitable places for processing & disposal of C&D waste and to engage private operator in accordance with the rules in force, (ii) payment by the C&D waste generator to the Municipal Corporation/Municipality, the cost of C&D waste disposal, in the manner prescribed and (iii) powers to the Municipal Corporation/Municipality to levy and collect penal charges from the individuals or institutions, causing or said to have caused un-safe, improper and unauthorised dumping, of C&D waste in places other than the designated places, and at the rates prescribed.

Audit observed that the MA&UD Department had not notified a State Policy for C&D Waste Management as of September 2023. In the absence of a State Policy, no action plan was developed by the MA&UD Department even after lapse of more than five years of notification of the C&D Waste Management Rules, 2016. Further, Audit observations on C&D waste management in GHMC and test-checked other 14 ULBs are discussed in the succeeding paragraphs.

Commissioner and Director of Municipal Administration Hyderabad confirmed (September 2022) that no C&D waste management policy was developed by the State Government.

6.2 Status of generation of Construction & Demolition waste

The quantum of C&D waste generated and processed in the State during the years 2017-18 to 2021-22 was not furnished to Audit by CDMA, Hyderabad. In GHMC, there was no C&D waste data for the year 2017-18, as there was no C&D waste management till

¹⁵⁶ Construction and Demolition Waste Management Rules, 2016 notified by MoEFCC, GoI, on 29 March 2016

2017-18. Further, test-checked other 14 ULBs do not have the data on C&D waste generation in their jurisdiction during the audit period. The details of C&D waste generated and processed for the years 2018-19 to 2021-22 in GHMC area are shown in **Table-6.1**.

Table-6.1: C&D waste generated and processed in GHMC during 2018-19 to 2021-22

(Figures in MT)

Year	Generated	Collected	Dumped without processing	Processed	Balance to be processed
2018-19	4,51,702	4,51,702	3,48,343	0	1,03,359
2019-20	4,69,862	4,69,862	2,79,534	0	1,90,328
2020-21	6,44,168	6,44,168	0	1,34,351	5,09,817
2021-22	4,40,827	4,40,827	0	1,81,843	2,58,984
Total	20,06,559	20,06,559	6,27,877	3,16,194	10,62,488

Source: Information provided by GHMC and Diagnostic Assessment Report of the Consultant, M/s Ernst & Young LLP engaged by GHMC

The above C&D waste generated figures include the waste dumped without processing during 2018-19 at a separate place in Jawaharnagar T&D site (72,067 MT) and in Kothwalguda (4,996 MT). Besides, the entire quantity of C&D waste of 5,50,814 MT collected and transported during 2018-20 to Jeedimetla C&D waste processing plant was utilised to fill the existing abandoned quarry in the site and for levelling the site.

Audit observed from the information furnished by GHMC that initially it had planned to establish four C&D waste processing plants at Fathullaguda, Jeedimetla, Kothwalguda and Mallapur sites by dividing the GHMC area into four collection centres. However, due to non-identification/non handing over of feasible lands at Kothwalguda and Mallapur by the Revenue Department, GHMC could not establish C&D waste processing plants at these two sites.

Greater Hyderabad Municipal Corporation replied (April 2023) that in view of Swachh Survekshan, C&D waste of 4,996 MT was deposited in the low-lying area in Kothwalguda area as shown by the Revenue Department. Later, as feasible land was not allotted to GHMC by the Revenue Department, no further C&D waste was dumped in Kothwalguda site. The C&D waste of 72,067 MT collected was transported to Jawaharnagar T&D facility for levelling the site.

At present, two C&D waste processing plants at Jeedimetla and Fathullaguda are in operation. Audit observations on dumping of C&D waste without processing and operations of these two plants are discussed in the succeeding paragraphs.

6.3 Identification of site for disposal of Construction & Demolition waste and setting up processing units

Rule 9(2) of C&D Waste Management Rules, 2016 stipulates that the concerned department in the State Government dealing with land shall be responsible for providing suitable sites for setting up of the storage, processing and recycling facilities for construction and demolition waste.

In GHMC: In the GHMC area, two C&D waste processing facilities with 500 TPD operating capacity each were established on PPP mode at Jeedimetla and Fathullaguda sites with permission from TSPCB in May 2018 and May 2020 respectively, covering initially a total of 30 Circles in GHMC. Later, GHMC entered into Agreement (October 2022) with a Licensee for setting up two C&D waste units at Shamshabad (covering eight Circles¹⁵⁷) and Thumukunta (covering seven Circles¹⁵⁸) on licensing model¹⁵⁹ and only Collection & Transportation of C&D waste had commenced from November 2022 onwards in these two new units (**Exhibit No.20**). The C&D waste processing facilities at Jeedimetla and Fathullaguda are now catering to eight¹⁶⁰ and seven¹⁶¹ Circles each respectively.

In test-checked other 14 ULBs: Section 132 (1) of the Telangana Municipalities Act, 2019 mandates that the ULBs may handle the C&D waste and identify suitable places for its disposal and processing. Audit observed that no sites were identified for processing & disposal of C&D waste in the 14 test-checked ULBs. The following were observed with regard to C&D waste disposal during JPV of MSW dumpsites of test-checked 14 ULBs.

- a. Collected C&D waste was dumped at a corner in the Solid Waste dumpsites (Khanapur, Peerzadiguda, Yellareddy and Zaheerabad ULBs) for its later use.
- b. Collected C&D waste mixed with MSW in the dumpsite (Chandur ULB).
- c. Khammam and Mahabubnagar ULBs earmarked separate places in the dumpsite for C&D waste. However, no processing facilities for C&D waste were established.

Eight ULBs (Bollaram, Khanapur, Khammam, Kothagudem, Mancherial, Peerzadiguda, Yellareddy and Zaheerabad) stated that C&D waste was being utilised for filling low lying areas and Kalwakurthy ULB stated that it was being utilised for lower layers of road pavements in colonies and rural roads as and when required.

Audit also observed that the test-checked 14 ULBs had neither identified suitable places for C&D waste disposal nor prepared a comprehensive plan for setting up of processing facilities to process C&D waste, though mandated as per Telangana Municipalities Act, 2019. In the absence of separate debris disposal site for C&D waste, it was being dumped/utilised as per the convenience and requirements of the ULBs.

Commissioner and Director of Municipal Administration, Hyderabad confirmed (September 2022) that suitable land for setting up of C&D waste processing facilities were not yet identified.

¹⁵⁷ Chandrayangutta, Charminar, Falaknuma, Goshamahal, Jubilee Hills, Karwan, Mehdipatnam and Rajendranagar

¹⁵⁸ Alwal, Begumpet, Kapra, Khairatabad, Musheerabad, Malkajgiri and Secunderabad

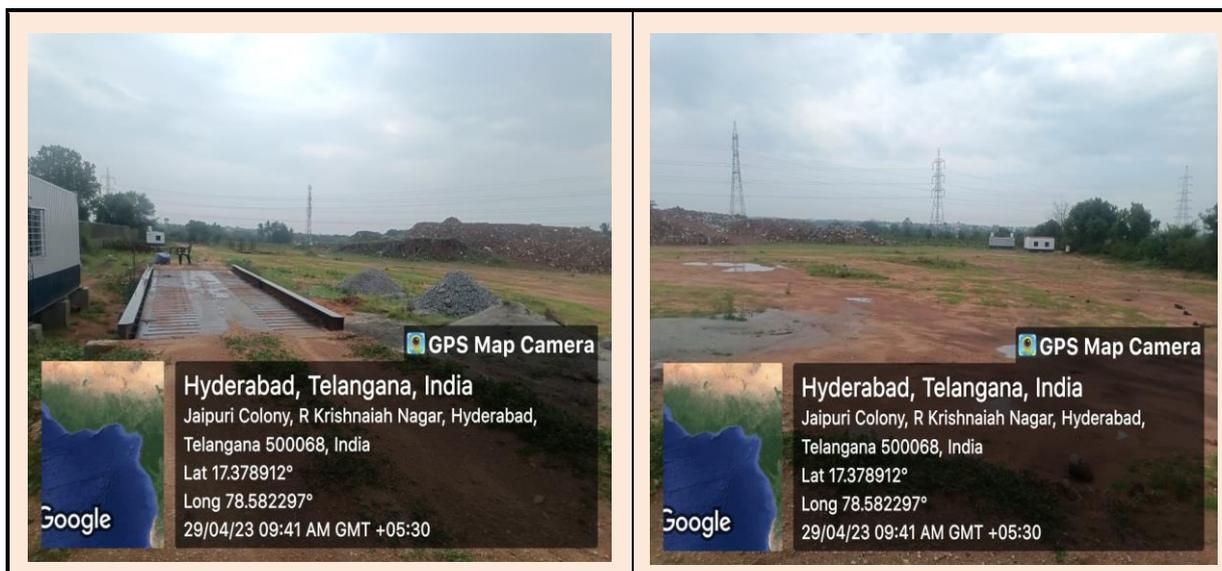
¹⁵⁹ The selected agency shall procure/own/obtain on lease basis the land to establish C&D waste plant

¹⁶⁰ Chandanagar, Gajularamaram, 24-Kukatpally, Moosapet, Quthubullapur, RC Puram, Serilingampally and Yousufguda

¹⁶¹ Amberpet, Hayathnagar, LB Nagar, Malakpet, Santoshnagar, Saroonagar and Uppal

Exhibit No. 20, Para 6.3

Setting up two new C&D waste units in GHMC area at Shamshabad (covering eight Circles) and Thumukunta (covering seven Circles), where only Collection & Transportation of C&D waste had commenced



Thumukunta C&D waste facility site (dated 29 April 2023) under construction. Source: Provided by GHMC



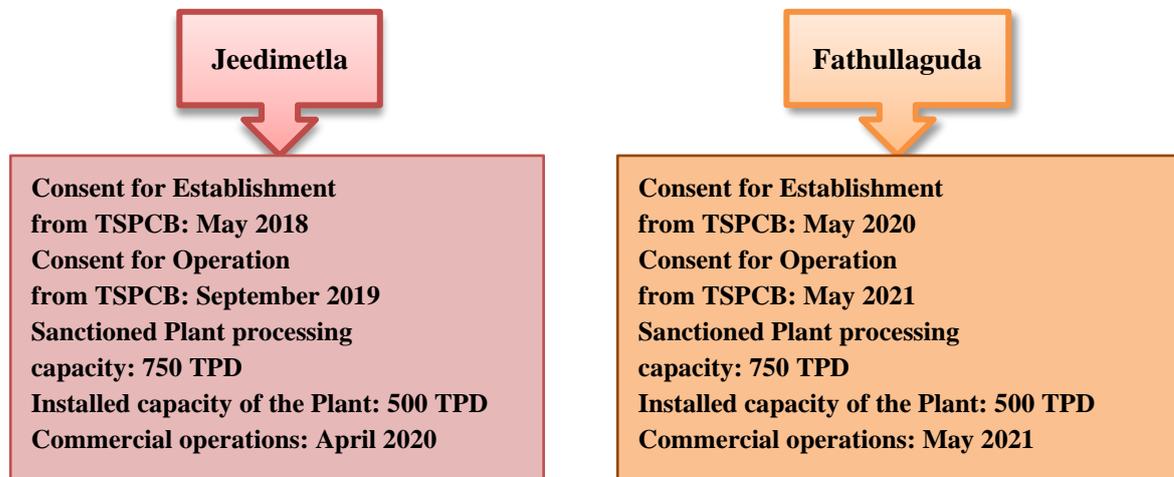
Shamshabad C&D waste facility site (dated 18 April 2023). Source: Provided by GHMC

6.4 Non-operation of Construction & Demolition waste processing plants to full capacity-Stockpiling of unprocessed Construction & Demolition waste in Greater Hyderabad Municipal Corporation

Greater Hyderabad Municipal Corporation concluded Concession Agreement (CA) with Ramky Enviro Engineers Ltd (REEL) [later novated to Hyderabad C&D Waste Pvt. Ltd (HCDWL, the Concessionaire for C&D waste)] to undertake collection, transportation, processing, management and safe disposal of C&D waste for a period of 25 years on Public Private Partnership (PPP)- Build, Operate and Transfer (BOT) mode. The Agreements were

entered into for the two C&D waste processing plants in Jeedimetla and Fathullaguda in February 2018 and December 2019 respectively. A process flow chart showing the working mechanism of C&D waste plant at Jeedimetla is given in **Appendix-6.1** as an illustration. The details of these two plants are given in **Chart-6.1**.

Chart-6.1: Details of C&D Waste Processing Plants in operation in GHMC



Source: Information provided by GHMC

Article 3.6 (c) of the respective Concession Agreements (CAs) of the two processing plants stipulate that the Concessionaire for C&D waste should plan to handle additional waste as appropriate each year and plan to augment the capacity of the C&D waste processing facility at the rate of 5 per cent every year during the Concession period (25 years). The details of C&D waste received and processed in the two plants are given in **Table-6.2**.

Table-6.2: C&D waste received and processed during 2018-19 to 2021-22 in Jeedimetla and Fathullaguda C&D waste processing plants

(Figures in MT)

Year	Jeedimetla				Fathullaguda		
	Collected	Processed	Dumped without processing#	Balance not processed	Collected	Processed	Balance not processed
2018-19	2,71,280	0	2,71,280	0	1,03,358	0	1,03,358
2019-20	2,79,534	0	2,79,534	0	190328	0	1,90,328
2020-21	3,99,927*	1,34,351	0	2,65,576	2,44,241	0	2,44,241
2021-22	2,16,856	1,31,246	0	85,610	2,23,970	50,597	1,73,373
Total	11,67,597	2,65,597	5,50,814	3,51,186	7,61,897	50,597	7,11,300

Source: Information provided by GHMC and Diagnostic Assessment Report of the Consultant, M/s Ernst & Young LLP engaged by GHMC

* Includes State Secretariat demolition C&D waste of 1,46,054.43 MT

Disposed by filling the existing quarry in Jeedimetla C&D waste processing site

It could be observed from **Table-6.2**, that after commencement of commercial operations, out of total C&D waste of 6,16,783 MT received during 2020-22 in Jeedimetla plant, only 2,65,597 MT (43 per cent) could be processed and in Fathullaguda plant out of 2,23,970 MT received during 2021-22, only 50,597 MT (22.6 per cent) could be processed.

Article 3.2(q) (ii) of the CAs stipulate that after COD, the Concessionaire for C&D waste shall not be permitted to stockpile unprocessed C&D waste exceeding a quantity equivalent to previous three months cumulative collection of C&D waste as determined by the

Authority at any point of time during the Concession period. However, Audit observed that after COD in both Jeedimetla and Fathullaguda plants, the quantum of cumulative unprocessed C&D waste was more than previous three months cumulative collection of C&D waste as detailed in **Appendix-6.2**. GHMC did not incorporate penalty clause for stockpiling of C&D waste as a deterrent measure in the event of non-adherence by the Concessionaire for C&D waste to Article 3.2(q) (ii) of the CAs.

Thus, failure of the Concessionaire for C&D waste to operate the plants at full capacity resulted in cumulative accumulation of C&D waste of 3,51,186 MT in Jeedimetla and 7,11,300 MT in Fathullaguda plants as on 31 March 2022. It is imperative on the Concessionaire to augment the capacity of the plant to process accumulated C&D waste.

Greater Hyderabad Municipal Corporation replied (February 2023) that C&D waste transported to both the plants consisted of major portion of soil and hence the Concessionaire installed soil separation system in August 2022. Further, the Concessionaire was planning for additional crushers to increase the processing capacity. It was also stated that since the new two plants have been finalised at Shamshabad and Thumukunta covering 15 Circles, the incoming C&D waste load on the Jeedimetla and Fathullaguda plants would reduce.

The reply was not in consonance with the fact that the Concessionaire for C&D waste did not operate the plants to installed capacity of 500 TPD and also failed to augment the plants operating capacity though mandated as per Article 3.6 (c) of the Agreements to process the additional waste.

6.5 Increase in unclaimed Construction & Demolition waste due to ineffective monitoring and enforcement

The Concessionaire for C&D waste as part of CAs of two plants at Jeedimetla and Fathullaguda does collection, transportation, processing and disposal of C&D waste of two types- Claimed C&D waste¹⁶² and Unclaimed C&D waste¹⁶³. The details of claimed and unclaimed C&D waste collected and transported to Jeedimetla and Fathullaguda plants during 2018-19 to 2021-22 are given in **Table-6.3**.

¹⁶² Claimed waste means C&D waste, which is generated by any entity whether individual or bulk generators wherein the generator of waste can be identified by the Concessionaire or Local Authority User fee for collection, transportation and processing of C&D waste levied by the Concessionaire from the C&D waste generators at the rates specified by GHMC

¹⁶³ Unclaimed waste means C&D waste, wherein the generator cannot be identified by the Local Authority or the Concessionaire. Tipping fee for collection, transportation and processing of C&D waste is paid by GHMC to the Concessionaire at the rates specified by GHMC

Table-6.3: Details of claimed and unclaimed C&D waste collected and transported to Jeedimetla and Fathullaguda C&D waste processing plants during 2018-22

(Figures in MT)

Year	Jeedimetla-C&D waste collected			Fathullaguda-C&D waste collected		
	Claimed (percentage to total waste collected)	Unclaimed (percentage to total waste collected)	Total	Claimed (percentage to total waste collected)	Unclaimed (percentage to total waste collected)	Total
2018-19	3,127 (1.15)	2,68,154 (98.85)	2,71,281	0	1,03,358 (100)	1,03,358
2019-20	3,159 (1.13)	2,76,375 (98.87)	2,79,534	439 (0.23)	1,89,889 (99.77)	1,90,328
2020-21	1,47,385 * (36.85)	2,52,541 (63.15)	3,99,926	164 (0.07)	2,44,076 (99.93)	2,44,240
2021-22	18,581 (8.57)	1,98,276 (91.43)	2,16,857	2,530 (1.13)	2,21,441 (98.87)	2,23,971
Total	1,72,252 (14.75)	9,95,346 (85.25)	11,67,598	3,133 (0.42)	7,58,764 (99.58)	7,61,897

Source: Information furnished by GHMC

*Includes State Secretariat demolition C&D waste of 1,46,054 MT

Rule 6(10) of C&D Waste Management Rules, 2016, stipulates that the Local Authority shall create a sustained system of information, education and communication for construction and demolition waste through collaboration with expert institutions and civil societies and also disseminate through their own website.

Greater Hyderabad Municipal Corporation stated that it had conducted awareness programmes and also the Concessionaire for C&D waste had conducted awareness programmes for the C&D waste generators to utilise their services for C&D waste lifting. Documentary evidence in the form of pamphlets creating awareness among citizens on C&D waste was furnished to Audit.

However, it could be observed from **Table-6.3** that the percentage of unclaimed C&D waste received in Jeedimetla and Fathullaguda C&D waste processing plants was more than 80 per cent of the total C&D waste received. Since in the case of unclaimed waste, the waste generator cannot be identified, this amounts to unauthorised dumping, despite the stated awareness programmes or IEC activities conducted by the Concessionaire and the GHMC.

Greater Hyderabad Municipal Corporation replied (March 2023) that unauthorised dumping of C&D waste was linked with the behavioural changes in the citizens, which takes time to change and despite their awareness programmes at circle level to citizens, builders *etc.*, there was increase in unclaimed waste. Further, it was stated that C&D waste from public works was contributing more to the unclaimed waste and hence a Committee has been constituted to formulate guidelines for sending C&D waste from the public works to the C&D waste processing plants.

The reply of GHMC regarding increased contribution to unclaimed waste by public works was contradictory to the fact that in the case of public works, the waste generators are known and hence cannot be termed as unclaimed waste. The reply also confirms the fact that there is a need to conduct more awareness/IEC activities more effectively by both GHMC and the Concessionaire for C&D waste. The GHMC should also ensure that enforcement activities are carried out more effectively.

6.6 Utilisation of collected Construction & Demolition waste by the Concessionaire for site development without processing and without permission of Greater Hyderabad Municipal Corporation

Article 2.2 of the CA for Jeedimetla C&D waste processing plant on “Rights associated with the Grant of Concession”, Article 3 on “Scope of work” and Article 3.3 on “Site Development” does not permit the Concessionaire for C&D waste to utilise the collected and transported C&D waste for site development in the plant.

Audit observed that the Concessionaire for C&D waste had utilised the entire quantity of C&D waste collected during 2018-19 and 2019-20 of 5,50,814 MT for filling the abandoned quarry in the Jeedimetla C&D waste processing site and for levelling the site. Though, GHMC had not paid processing fee for this dumped C&D waste, utilisation of the same for site development by the Concessionaire for C&D waste was in violation of the Agreement conditions. The CAs have no provision for levying of penalty for such unauthorised utilisation of collected C&D waste.

Greater Hyderabad Municipal Corporation replied (April 2023) that no written permission was given to the Concessionaire of C&D waste for utilising the entire quantity of C&D waste collected of 5.5 lakh MT for filling the abandoned quarry and levelling the Jeedimetla C&D waste processing site. It was stated that the same was done by the Concessionaire of C&D waste with knowledge of GHMC and TSPCB.

The reply confirms the fact that collected C&D waste was not processed and utilised by the Concessionaire of C&D waste for site development which was in violation of Article 3.3 of the CA for Jeedimetla C&D waste processing plant and without proper authorisation from GHMC. Further, the statement that it was done by the Concessionaire of C&D waste with knowledge of GHMC and TSPCB was neither on record nor there was documentary evidence.

The State Government replied (September 2023) that the C&D waste collected was used for filling the low-lying area in the Jeedimetla site to reclaim the land for the construction of the plant as per the provision made at Article 3.2(j) of the Agreement and on mutual understanding. It was recorded at site and to that extent no processing charges were made.

Article 3.2(j) stipulates that until COD of processing facility, C&D waste if collected by the Concessionaire under any special request by the Authority may be stored in the plant site or disposed off at a mutually agreed location in a manner not detrimental to the environment or any other accepted norms.

In the instant case, there was no documentary evidence submitted to Audit to show that the C&D waste was collected on special request by the GHMC and also for the disposal recorded at site. The collected C&D waste was dumped without processing.

6.7 Penalties levied on unauthorised/ dangerous transportation and dumping of Construction & Demolition waste

Government of Telangana issued (September 2019) orders¹⁶⁴ for levying of penalties against unauthorised/dangerous transportation and dumping of C&D waste as ₹25,000 for first offence, ₹50,000 for second offence and ₹one lakh for third offence along with confiscation of vehicle used. Further, a penalty of ₹50,000 shall be levied against the entity for every offence on whose behalf the C&D waste was being transported/dumped in an unauthorised/dangerous manner. Government revised (November 2021)¹⁶⁵ the penalty rates as ₹5,000 in case of individual households other than slum areas and ₹25,000 in case of bulk generators, such as builders/work contractors, institutions, commercial establishments *etc.*

6.7.1 Difference in penalties levied and collected figures between Annual Reports submitted to Telangana State Pollution Control Board and Greater Hyderabad Municipal Corporation figures

The details of penalties levied and collected by GHMC during the period 2019-22 furnished to Audit were compared with the figures mentioned in the Annual Reports for 2018-19 to 2021-22 on implementation of C&D Waste Management Rules, 2016 submitted by GHMC to TSPCB. There were no Annual Reports prior to 2018-19. It was observed that there were differences in figures as indicated in **Table-6.4**.

Table-6.4: Details of penalties levied and collected as per information furnished to Audit and as per Annual Reports on C&D waste for the years 2018-22

(₹ in lakh)

Year	As per Annual Reports (2018-22)				As per information furnished to Audit by GHMC			
	No. of offences	Penalty amount imposed	Penalty amount collected	Penalty amount pending collection	No. of offences	Penalty amount imposed	Penalty amount collected	Penalty amount pending collection
2018-19*	2,451	40.26	NIL	40.26	No levy and collection of penalties by EV&DM as the G.O on levy of penalties was issued in September 2019.			
2019-20	4,333	1,260.84	290.09	970.75	3,296	824	77.75	746.25
2020-21	NIL	NIL	NIL	NIL	73	18.25	2.5	15.75
2021-22	412	12.2	NIL	12.2	12	3.00	0.75	2.25
Total	7,196	1,313.3	290.09	1,023.21	3,381	845.25	81.00	764.25

Source: Information furnished by GHMC and Annual Reports on C&D waste for the years 2018-20 submitted by GHMC to TSPCB

* Inclusive of 2017-18 figures mentioned in the 2018-19 Annual Report

Greater Hyderabad Municipal Corporation replied (April 2023) that the figures in Annual Reports were inclusive of penalties levied by Enforcement Vigilance & Disaster Management (EV&DM) Wing and also penalties levied at Circle level by the sanitation staff, whereas the figures furnished to Audit pertain to penalties levied by EV&DM Wing.

¹⁶⁴ G.O.Rt.No. 632 dated 23 September 2019 of MA&UD (GHMC-II) Department

¹⁶⁵ G.O.Rt.No. 854 dated 27 November 2021 of MA&UD (GHMC-II) Department

The reply of GHMC was not in consonance with the fact that since the figures in Annual Reports include penalties levied by both EV&DM and at Circle level as per the statement of GHMC, the figures pertaining to penalties levied by EV&DM for the year 2020-21 should have been atleast reflected in that year instead of showing NIL figures, even if there was delay in receipt of figures from Circle level. Similarly, penalty collected during the year 2021-22 was ₹0.75 lakh as per EV&DM figures (figures furnished to Audit), whereas corresponding figure was shown as NIL in the Annual Report for the year 2021-22.

Discrepancies in the outstanding penalty amount between the Annual Reports of TSPCB and GHMC were not reconciled.

6.7.2 Non-recovery of pending penalty amounts

Audit enquired about action taken to recover the pending penalty amount of ₹7.64 crore due as on 31 March 2022 (**Table-6.4**) and GHMC replied (April 2023) that its General Body had passed a Resolution dated 8 February 2020 directing to keep in abeyance the system of imposing penalties by the EV&DM Wing on the owners of the buildings for wayward dumping of building C&D waste material on the roadside. However, it was stated that the system of imposing penalties on vehicles transporting C&D waste and boulders in a dangerous manner was being continued and hence there was reduction of number of penalty cases in subsequent years.

The reply was not in consonance with the fact that the Resolution does not prevent collection of already imposed pending penalties. Hence, effective action was not taken by GHMC to recover the pending penalties. There was also no reconciliation and consolidation of penalty amounts at Circle level and those imposed by EV&DM to the end of 31 March 2022 to arrive at the actual penalty amounts to be recovered (*Para 6.7.1 refers*).

6.7.3 Non-constitution of a Committee to streamline the process of imposing penalties

The Resolution (February 2020) of GHMC Council mandated that it should constitute a committee to examine the matter in detail with regard to curtailing of haphazard dumping of C&D waste and to streamline the process of imposing penalties and subsequently the proposal/Report of the constituted Committee should be placed before the Standing Committee of GHMC for consideration.

In response to an Audit Enquiry, GHMC replied (May 2023) that Committee was not constituted.

The State Government replied (September 2023) that in view of the existing orders on levy of penalties issued in September 2019 and November 2021 (*Para 6.7 refers*), the Committee formation was not done.

The reply was not in consonance with the fact that despite the existing orders, there was increase in unclaimed C&D Waste and non-recovery of penalties amount of ₹7.64 crore (*Para Nos. 6.5 and 6.7.2 refer*).

The resolution was to streamline the process of imposing penalties, which needs to be implemented by formation of Committee, which was not done. Thus, non-constitution of a Committee by GHMC even after lapse of more than two years, to streamline the process of imposing penalties had led to ineffective enforcement and consequent increase in dumping of unclaimed C&D waste (*Para 6.5 refers*).

In test-checked other 14 ULBs: Section 132 (3) of The Telangana Municipalities Act, 2019 stipulate that the onus, to get the C&D waste collected is on the person generating, and such a person shall pay to the municipality for the cost of its disposal, in the manner prescribed. Further, Section 132 (4) provides that the Municipality shall have the powers to levy and collect penal charges from the individuals or institutions, causing or said to have caused un-safe, improper and unauthorised dumping, of C&D waste in places other than the designated places, and at the rates prescribed.

Audit observed that Nagaram ULB only notified (September 2021) a rate of ₹1,000 for collection of C&D waste. In Khammam ULB, notification was issued (February 2021) assigning dedicated teams for collection & disposal of C&D waste. Further, six ULBs¹⁶⁶ had notified rates for levy of penalty for unauthorised dumping of C&D waste. However, no effective actions were taken by these ULBs to impose penalty for unauthorised dumping.

6.8 Non-use of Construction & Demolition Waste for construction works

Rules 9(4) of C&D Waste Management Rules, 2016 stipulates that procurement of materials made from C&D waste shall be made mandatory by the State Government to a certain percentage (say 10-20 *per cent*) in Municipal and Government contracts subject to strict quality control.

Audit observed during JPV (February 2023) of Jeedimetla and Fathullaguda C&D waste processing plants that an in-house production facility was developed where the processed recycled waste (stone aggregates, sand, *etc.*) (**Exhibit No.21**) was used as raw material for producing wide range of building materials like cement bricks, paver blocks, tiles, kerb stones, *etc.* The Concessionaire for C&D waste was earning revenue by selling these building materials. However, the State Government had not made it mandatory for usage of materials made from C&D waste in Municipal and Government contracts.

Greater Hyderabad Municipal Corporation replied (September 2022) that the issue was addressed (August 2022) to the MA&UD Department with a request to constitute a Committee for issuing guidelines and recommendations for utilisation of recycled C&D waste material. In response, MA&UD Department constituted (December 2022) a Committee for this purpose and guidelines and recommendations are awaited as of September 2023.

¹⁶⁶ Kalwakurthy, Khanapur, Khammam, Mahabubnagar, Nagaram and Zaheerabad

Exhibit No.21, Para 6.8

**JPV of Jeedimetla and Fathullaguda C&D waste processing plants on 03 February 2023
Recycled and reusable materials out of C&D waste**

	
<p>Recycled sand</p>	<p>Recycled aggregate</p>
	
<p>Recycled aggregates</p>	<p>Reusable Paver blocks out of processed C&D Waste</p>

6.9 Non-monitoring of implementation of Construction & Demolition Waste Management Rules, 2016 by Telangana State Pollution Control Board

Rule 13 of C&D Waste Management Rules, 2016 prescribed a time frame¹⁶⁷, for monitoring by SPCBs for implementation of these Rules.

Documentary evidence with regard to monitoring done by TSPCB in GHMC and in test-checked other 14 ULBs on C&D waste management, was not furnished to Audit.

¹⁶⁷ Three times a year in cities with population of 10 lakh and above; and two times a year in cities with population less than 10 lakh

Audit observed during JPV (February 2023) of Jeedimetla and Fathullaguda C&D waste processing plants that those standards or facilities (Schedule-B) mandated by TSPCB while sanctioning CFO and CFE to the Concessionaire for C&D waste were not followed. Details of non-compliance are shown below:

- a. Facility of regular water sprinkling on the roads to avoid fugitive emissions was not provided at the plant.
- b. Buffer zone of 40 m all around boundary of the processing area was not provided.
- c. The Concessionaire did not install a dust extractions system with proper ducting, to extract the fugitive emissions generated in the processing area.
- d. Continuous Ambient Air Quality Station with connectivity to TSPCB server for measuring particulate matter was not installed.
- e. Wind breaking walls around construction site not constructed, though mandated in Article 3.3 (d) of the CAs entered with the Concessionaire.

Further, the following standards were not followed in the C&D waste processing plant in Fathullaguda:

- a. The operations of the plant were carried out in a partially closed manner instead of in closed sheds (**Exhibit No.22**).
- b. Water sprinklers were not provided at primary crusher, secondary crusher, conveyor belts and at all transfer points.

The above observations during JPV of the two plants in GHMC indicate lack of effective monitoring by TSPCB.

Hence, GHMC had not taken appropriate action to ensure that the Concessionaire for C&D waste maintain the prescribed standards & facilities mandated by TSPCB uniformly in the two C&D waste processing plants.

6.10 Good practices noticed

Good practices that were followed in operation of these two plants by maintaining few required facilities as detailed in Box No.2.

Box No.2

Good practices in Fathullaguda and Jeedimetla C&D waste processing plants

During JPV of the Fathullaguda and Jeedimetla C&D waste plants on 03 February 2023, Audit observed that the Concessionaire for C&D waste had provided in the plants (i) Weighbridge, (ii) Green cover, (iii) approach roads, (iv) PPE kits to the personnel handling C&D waste (**Exhibit No.23 and Exhibit No.24**).

Exhibit No.22, Para 6.9
Fathullaguda C&D waste processing plant operating in partially closed shed



Exhibit No.23, Para 6.10
Jeedimetla C&D Waste processing plant



Weighbridge



Green cover inside the plant premises with approach roads



Green cover inside the plant premises



Personnel with PPE kit doing manual sorting of C&D waste

Exhibit No.24, Para 6.10
Fathullaguda C&D waste processing plant



Weighbridge



Manual sorting of C&D Waste by personnel with PPE kits



Green cover inside plant premises



Approach roads with green cover inside plant premises

6.11 Non-conduct of Social Audit to assess the performance of Concessionaire for Construction & Demolition waste

Article 3.8.5 of the CAs stipulate that Social Audit should be conducted by GHMC for assessment of the performance of the C&T by the Concessionaire for C&D waste yearly and findings shall be considered for the improvement of the performance of the project.

Audit observed that GHMC had not conducted Social Audit to assess the performance of the Concessionaire for C&D waste. GHMC replied that the same would be conducted.

6.12 Implementation of recommendations of the Consulting firm on Road Map for sustainable and efficient management of Construction & Demolition waste

Greater Hyderabad Municipal Corporation engaged Consultancy Services of M/s Ernst & Young LLP for strategy and implementation support for C&D waste management in GHMC area and an Agreement was entered into (July 2020) with a contract period of six months. The Consultant as a part of the contract, submitted (January 2021) Implementation Road Map Report with recommendations for sustainable and efficient management of C&D waste in GHMC area.

The recommendations of the Consultant on eight work tracks¹⁶⁸ and status on its implementation by GHMC are detailed in **Appendix-6.3**. Action/decision was still pending on the recommendations pertaining to three¹⁶⁹ out of eight work tracks as detailed below:

- a. **Construction and Demolition Waste Management:** Considering C&D waste processing plant as a recycling industry for providing land in Telangana State Industrial Infrastructure Corporation (TSIIC) industrial areas. Though State Government replied (September 2023) that pursuance was made by GHMC with TSIIC, documentary evidence for GHMC having pursued the matter with TSIIC in this regard was not furnished to Audit.
- b. **Greater Hyderabad Municipal Corporation Act Amendment:** Amendment to GHMC Act for making a provision for collection of C&D waste charges and levying of penalties to avoid legal implications.
- c. **Bulk Waste Generators:** Streamlining Bulk Waste Generators and informal processing units and to authorise them after compliance with C&D Waste Management Rules, 2016 to reduce adverse environmental impacts. Though State Government replied (September 2023) that GHMC had not taken up this issue due to possible legal issues, specific reasons for not implementing the recommendation were not furnished to Audit.

¹⁶⁸ (i) User charges and Penalties, (ii) C&D Waste Management, (iii) GHMC Act Amendment, (iv) Works Contract (Public Works), (v) Demolition Permit, (vi) Tech-Upgradation, (vii) Bulk Waste Generators and (viii) Awareness and IEC Activities

¹⁶⁹ (i) User charges and Penalties, (ii) Works Contract (Public Works) and (iii) Demolition Permit

6.13 Conclusion

The State Government had not notified a State Policy for C&D Waste Management as of September 2023. Though C&D Waste Processing Plants were set up in GHMC at four places, the GHMC Act, 1955 (Act II of 1956) was not amended to make suitable provisions for C&D waste management. Test-checked other 14 ULBs had neither identified suitable places for C&D waste disposal nor prepared a comprehensive plan for setting up of processing facilities to process C&D waste, though mandated as per Telangana Municipalities Act, 2019. The Concessionaire did not operate plant for Construction and Demolition (C&D) waste at full capacity which resulted in accumulation of C&D waste of 3,51,186 MT in Jeedimetla and 7,11,300 MT in Fathullaguda plants as on 31 March 2022.

6.14 Recommendations

- (i) *State Government should notify a State Policy for C&D Waste Management and allocate suitable lands to the ULBs for proper disposal of C&D waste.*
- (ii) *State Government should direct GHMC to make suitable provisions for C&D waste management in GHMC Act.*

Chapter VII

Monitoring and Evaluation

7.1 Monitoring by State Level Advisory Body

Rule 23(2) & (3) of SWM Rules, 2016, mandates that the SLAB shall meet at least once in every six months to review the matters related to implementation of these rules, State Policy and Strategy on Solid Waste management and give advice to the State Government for taking measures that are necessary for expeditious and appropriate implementation of these Rules. The copies of the review report shall be forwarded to the State Pollution Control Board or Pollution Control Committee for necessary action.

State Level Advisory Body in the State was constituted¹⁷⁰ in July 2017 and it was mandated that it shall meet at least once in every three months (four meetings in a financial year).

Audit observed that after SLAB constitution, only two meetings (October 2017 and March 2018) were held during 2017-22 against mandatory 19 meetings (3 meetings in 2017-18 and 4 meetings each in a year from 2018-19 to 2021-22).

Non-conduct of periodical meetings by SLAB even after a lapse of five years of the last meeting in March 2018, indicated lack of monitoring by SLAB on SWM activities in the State.

7.2 Monitoring by Telangana State Pollution Control Board

Rule 16(1) of SWM Rules, 2016, stipulates that SPCB should enforce the Rules in the State through ULBs and review implementation of these Rules at least twice in a year in close coordination with concerned Directorate or Municipal Administration or Secretary in charge of State Urban Development Department.

Rule 24 (3) of the SWM Rules, 2016 stipulates that each State Pollution Control Board or Pollution Control Committee as the case may be, shall prepare and submit the consolidated annual report to the CPCB and MoUD on the implementation of these rules and action taken against non-complying local body by the 31st day of July of each year in Form-V.

Annual Reports on implementation of SWM, Rules 2016 were submitted by TSPCB to CPCB during 2017-22 and the latest Report for the year 2021-22 was submitted to CPCB on 23 July 2022.

Audit observed the following on monitoring by TSPCB:

- a. Monitoring the performance of MSW T&D facility set up at Jawaharnagar was not carried out for compliance with standards specified in Schedules-I and II of SWM Rules, 2016.

¹⁷⁰ G.O. Rt.No.447 dated 26 July 2017 of MA&UD Department

- b.** Telangana State Pollution Control Board is the competent authority for levying the environmental compensation for open waste burning done by ULBs/GPs. However, burning of MSW in dumpsites was noticed during JPV of four ULBs (Khanapur, Mahabubnagar, Mancherial and Nagaram, *Table-5.6, Para 5.3.3 refers*). However, penalties levied by TSPCB were not on record.

Further, dumping of MSW by Yellareddy ULB at a water body also indicated laxity on the part of monitoring by TSPCB (*Table- 5.6/Sl.No.6, Para 5.3.3 refers*).

- c.** As per Schedule-I(A)(vii) of SWM Rules, 2016, the habitations should be 200 meters away from landfill site. However, in the Jawaharnagar landfill site, the habitations were only 100 m away, as per the data furnished by GHMC.

The State Government replied (September 2023) that subsequent to the establishment of Jawaharnagar T&D facility in the year 2012, encroachments happened and habitations came out near to the site.

The reply underscores the fact that declaration of buffer zone by the State Government could have prevented encroachments (*Para 5.3.2 refers*).

- d.** Schedule-I(E)(i) of SWM Rules, 2016 stipulates that groundwater quality within the landfill site should not be contaminated. The Concessionaire had conducted ground water tests on 798 samples collected from the Jawaharnagar landfill site during 2017-18 to 2021-22 and none of the samples tested met the prescribed standards. Even the ground water sample test reports¹⁷¹ of TSPCB furnished to Audit showed that the test results did not meet the prescribed standards.

The State Government replied (September 2023) that contamination of the ground water was due to legacy waste dumped in the site before establishment of T&D facility for long time since 2000. It was stated that after establishing the T&D facility plant in 2012, measures were taken up to reduce the pollution.

The tests were conducted on samples collected during 2017-18 to 2021-22 and despite establishing LCS and capping of legacy waste, the ground water samples tested did not meet the acceptable limits.

- e.** Though Consent for Operations of Composting Facility and Leachate collection & treatment system in Jawaharnagar T&D facility was accorded by TSPCB in February 2015 (*Para 4.4.2, Table-4.6 refers*), GHMC started its operations of the two Waste Processing Facilities in February 2012 and April 2013 respectively, which was more than one year before permission given by TSPCB.

The State Government replied (September 2023) that in view of Hon'ble High Court orders in 2011 to start the T&D facility immediately, the Concessionaire started T&D facility for fresh waste coming from the GHMC area duly reclaiming the land in phases without waiting for the Consent for Operation from the TSPCB.

¹⁷¹ January to March 2019 (5 sample reports), May to September 2019 (10 sample reports), June 2021 (3 sample reports) and November 2021 (3 sample reports)

The reply was not in consonance with the fact that the said Hon'ble High Court orders pertain to the Writ Petition No.2546 of 2011 filed by the Greater Hyderabad Municipal Employees Union against the GHMC for entrustment of work and operation of T&D facility at Jawaharnagar to the Concessionaire through the CA. This petition was dismissed by the Hon'ble High Court.

Hence, starting of T&D facility operations by the Concessionaire before TSPCB approval/permission indicated lack of monitoring by TSPCB.

- f. There were instances of transfer of MSW in open vehicles instead of in closed manner in the test-checked other 14 ULBs (*Para 4.3.1 refers*), which was not properly monitored by the TSPCB.

The above Audit observations clearly indicated that there was laxity and ineffective monitoring by TSPCB on implementation of SWM Rules, 2016 in the State.

7.3 Environmental Monitoring by Telangana State Pollution Control Board

Solid Waste Management Rules, 2016 stipulate regular monitoring of soil, water, and air quality around the municipal waste processing, treatment, and disposal facility. Schedules-I and II of SWM Rules, 2016 stipulate environmental norms for treatment, processing, and disposal facilities. Operators of MSW treatment, processing, and disposal facilities are responsible for regular monitoring of these parameters. The SPCB should monitor the compliance of standards for groundwater, ambient air, leachate, compost quality, and incineration as specified under Schedules-I and II (Section 6.5.1 of MSWM, Manual, 2016, Part-II).

Audit observed that Environmental Monitoring of the Jawaharnagar T&D facility was not done by TSPCB and there were no inspection/monitoring reports on compliance to the standards for groundwater, ambient air, leachate, compost quality, and incineration as specified under Schedules-I and II. Further, reply of the GHMC that three ULBs-Dammaiguda, Jawaharnagar and Nagaram nearby Jawaharnagar T&D facility were affected, underscores the fact that Jawaharnagar T&D facility was not maintained as per prescribed environmental standards, which indicated lack of adequate monitoring by TSPCB.

The State Government replied (September 2023) that TSPCB Regional office was inspecting regularly and collecting the ground water samples and monitoring the ground water.

The reply of the State Government confirms that the monitoring by TSPCB in Jawaharnagar T&D facility was only to the extent of testing ground water samples and evident from the documents furnished to Audit. The monitoring was not with regard to compliance of the standards of all parameters as specified in Schedules-I and II under the Rules and the MSWM Manual, 2016 *ibid*.

7.4 Monitoring and Evaluation System and Ward Level Committees in the Urban Local Bodies

Section 6.1 of MSWM, Manual, 2016 (Part-II) stipulates that a comprehensive Monitoring and Evaluation (M&E) system should be adopted for proper implementation of the MSWM plan and for assessing progress toward meeting the targets of the plan. The head of the MSWM department should be responsible for M&E. A dedicated M&E Team should be constituted from amongst the MSWM department staff, with distinct roles and responsibilities.

Rule 12 of SWM Rule, 2016 stipulates that at District level, District Collector should review the performance of ULBs on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the CDMA. Audit observations in this regard are as follows.

In GHMC: Though GHMC created a separate SWM Department (*Para 2.8 refers*), a dedicated M&E Team was not constituted from amongst the SWM Department. There were no Ward Level Committees for reviewing the performance of SWM activities during the audit period 2017-22.

The State Government replied (September 2023) that GHCM had formed (May 2023) Ward Level Committees for monitoring of Solid Waste Management.

In test-checked other 14 ULBs: There was no separate SWM Department in the 14 ULBs and hence no dedicated M&E Team. Further, documentary evidence for having constituted dedicated Ward Level Committees for reviewing the performance of SWM activities and also detailed reviews conducted by the District Collectors were not furnished to Audit.

Hence, there was no dedicated M&E Team in all the test-checked ULBs to monitor the SWM activities indicating no Monitoring mechanism.

7.5 Submission of Annual Reports by Urban Local Bodies

Rule 24(2) of SWM Rules, 2016 mandates that the local body shall submit its annual report in Form-IV to State Pollution Control Board or Pollution Committee and the Secretary-in-Charge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city and to the Director of Municipal Administration or Commissioner of Municipal Administration or Officer in-charge of Urban local bodies in the State in case of all other local bodies of State on or before the 30th day of June every year.

In GHMC: Annual Reports for the years 2018-19 to 2021-22 were submitted by GHMC to TSPCB in the month of July of each succeeding year. Documentary evidence for submission of Annual Report for the year 2017-18 to TSPCB and copy of the same were not furnished to Audit. Further, the MSW transported & processed and disposed figures as per Annual Reports for the year 2018-19 to 2021-22 and the corresponding data furnished to Audit were at variance as detailed in **Table-7.1**.

Table-7.1: Statement showing MSW transported & processed and disposed figures between Annual Reports of GHMC on SWM for the year 2018-22 and the corresponding data furnished to Audit

(Figures in MT)

Year	As per Annual Reports of GHMC		As per data furnished to Audit		Difference in MSW [Excess (+)/Less (-)]	
	Transported and Processed*	Disposed	Transported and Processed*	Disposed	Transported and Processed*	Disposed
2018-19	20,24,290	3,17,477	20,00,120	3,17,500	24,170	(-)23
2019-20	21,06,050	3,17,915	22,23,793	3,34,370	(-)1,17,743	(-)16,455
2020-21	20,69,185	3,61,715	21,92,926	3,83,385	(-)1,23,741	(-) 21,670
2021-22	24,60,465	3,69,015	24,23,637	3,67,441	36,828	1,574

Source: Annual Reports on SWM for the years 2018-22 of GHMC and data furnished by GHMC

*The above figures Include MSW from other ULBs transported with the permission of GHMC to Jawaharnagar T&D facility for processing & disposal

Greater Hyderabad Municipal Corporation did not furnish a reply to the differences pointed out by Audit. Hence, the correctness or otherwise of the data furnished by GHMC to Audit could not be vouchsafed.

In test-checked other 14 ULBs: Nine ULBs¹⁷² stated that they had prepared and submitted to TSPCB Annual Reports for the years 2017-22 but documentary evidence was not produced to Audit. The remaining five ULBs¹⁷³ stated that they had not prepared Annual Reports for the years 2017-22.

7.6 Submission of Annual Reports by the Concessionaire

Rule 24(1) of SWM Rules, 2016 mandates that the operator of facility¹⁷⁴ shall submit the annual report to the local body in Form-III on or before the 30th day of April every year.

The Concessionaire operating the Jawaharnagar T&D facility had submitted Annual Reports for the years 2017-18 to 2021-22 to GHMC. However, Audit observed that the figures of MSW transported and processed at Jawaharnagar T&D facility as reported in the Annual Reports 2018-19 to 2021-22 submitted by GHMC to TSPCB were at variance with the corresponding figures mentioned in the Annual Reports submitted by the Concessionaire to GHMC as detailed in **Table-7.2** and **Table-7.3**.

Table-7.2: Differences in MSW transported figures between Annual Reports for the year 2018-22 of GHMC and the Concessionaire

(Figures in MT)

Year	MSW transported *		Difference in MSW [Excess (+)/Less (-)]
	As per Annual Report of GHMC	As per Annual Report of the Concessionaire	
2018-19	20,24,290	20,24,254	36
2019-20	21,06,050	21,18,825	(-)12,775
2020-21	20,69,185	21,92,920	(-)1,23,735
2021-22	24,60,465	24,60,465	NIL

Source: Annual Reports on SWM for the years 2018-22 of GHMC and the Concessionaire

*The above figures Include MSW from other ULBs transported to Jawaharnagar T&D facility for processing & disposal

¹⁷² Bollaram, Chandur, Khanapur, Khammam, Kothagudem, Mancherla, Nagaram, Peerzadiguda and Yellareddy¹⁷³ Haliya, Kalwakurthy, Mahabubnagar, Wardhannapet and Zaheerabad¹⁷⁴ According to SWM Rules, 2016, "operator of a facility" means a person or entity, who owns or operates a facility for handling Solid Waste which includes the local body and any other entity or agency appointed by the local body

Table-7.3: Differences in MSW processed figures between Annual Reports for the year 2018-22 of GHMC and the Concessionaire

(Figures in MT)

Year	MSW processed*		Difference in MSW [Excess (+)/Less (-)]
	As per Annual Report of GHMC	As per Annual Report of the Concessionaire	
2018-19	19,88,155	19,88,119	36
2019-20	21,06,050	21,18,825	(-)12,775
2020-21	20,69,185	21,71,020	(-)1,01,835
2021-22	24,60,465	24,26,885	33,580

Source: Annual Reports on SWM for the years 2018-22 of GHMC and the Concessionaire

*The above figures include MSW from other ULBs transported to Jawaharnagar T&D facility for processing & disposal

Greater Hyderabad Municipal Corporation replied (May 2023) that the processed quantities are same as the transported quantities in the prescribed format Form-IV for Annual Report as per SWM, Rules 2016, but TF payment was made on the quantities certified by the Independent Engineer (IE) after deduction of quantities of inert material. It was stated that the figures provided in the Annual Reports were tentative in nature.

Greater Hyderabad Municipal Corporation also replied (June 2023) that Annual Reports were submitted every year to TSPCB based on the certified figures by IE and whenever there was a situation of non-availability of IE certified figures, the monthly report of the Concessionaire was taken for the gap periods.

The reply does not clearly answer the reasons for differences pointed out by Audit. The figures reported in the Annual Reports should be reconciled by GHMC in consultation with the Independent Engineer and with the Concessionaire before its incorporation in the Annual Reports. As the figures are reported to TSPCB for incorporation in CPCB, New Delhi SWM Annual Reports, certified figures only need to be adopted instead of tentative figures.

The State Government replied (September 2023) that regarding preparation of Annual Accounts by GHMC and the Concessionaire, only figures certified by the IE were adopted in the Annual Accounts for the year 2022-23.

The reply confirms the fact that the previous Annual Accounts for the years 2017-22 were prepared based on tentative figures without adopting IE certified figures.

7.7 Complaint redressal system in the Urban Local Bodies

Section 6.4 of MSWM Manual, 2016 (Part-II) provides for a complaint redressal system to voice the citizen complaints and grievances regarding provision of MSWM services and also helps in promoting efficiency and transparency at the ULB level. A complaint redressal system is effectively supported through the introduction of a citizen charter. The citizen's charter is a written voluntary declaration by a ULB with the basic objective to empower the citizens to get public service in a given time frame.

In GHMC: GHMC stated that it had established a Command Control Room to keep track of various complaints/grievances received, to be attended by the respective field staff with their individual Log-in IDs and passwords. The complaints/grievances can be registered by

the citizens through (i) GHMC's twitter handle, (ii) My GHM mobile app, (iii) Toll free no. and (iv) GHMC official website. Further, it was stated by GHMC that all data was available online.

Audit observed from the year-wise data on redressal of complaints received during 2017-22 that redressal of complaints was done within a minimum time of 48 hours and not within 24 hours as mandated in the SLB Handbook of MoUD, GoI (*Para 2.7.1, Sl.No. (b) refers*).

The State Government replied (September 2023) that redressal of complaints within a minimum time of 24 hours would be taken up as per the observations of the Audit.

In test-checked other 14 ULBs: It could be observed from *Para 2.7.1, Table-2.5, Appendix-2.5* on SLBs declarations (2021-22), that out of 12 ULBs which furnished data, seven ULBs¹⁷⁵ had declared 51 to 80 *per cent* SLB achievement with regard to efficiency in redressal of customer complaints, four ULBs¹⁷⁶ made SLB achievement declarations ranging from 81 to 100 *per cent* and Zaheerabad ULB made zero *per cent* achievement declaration. However, documentary evidence for total number of MSWM related complaints resolved against total number of MSWM complaints received within 24 hours was not made available to Audit, to assess the efficiency of complaints redressal system against the SLB indicator.

7.8 Compliance to National Green Tribunal directions by the Urban Local Bodies

The National Green Tribunal was established in October 2010 under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.

7.8.1 Implementation of Action Plan in the test-checked Urban Local Bodies

The State Government in compliance with the Hon'ble NGT orders (December 2016, February 2017 and March 2017) on implementation of SWM had submitted an Action Plan for SWM to CPCB.

The following comments and recommendations were made by CPCB in March 2017:

- The Action Plan to be prepared for each activity of SWM Rules, 2016 with timeline.
- The detailed road map for implementing action plans was not shown.
- State Policy/Strategy needs to be adopted earlier.
- There was no assessment of waste characteristics.

The extent of implementation of the Action Plan in the test-checked ULBs as observed in audit are given in **Table-7.4**.

¹⁷⁵ Chandur, Haliya, Khanapur, Khammam, Mancherla, Peerzadiguda and Yellareddy

¹⁷⁶ Bollaram, Kalwakurthy, Mahabubnagar and Nagaram

Table-7.4: Extent of implementation of the Action Plan submitted by the State Government in compliance to NGT orders and status in ULBs

Sl. No	Action Plan item proposed by the State Government	Implementation status as observed in GHMC during audit	Implementation status as observed in test-checked other 14 ULBs during audit
1.	IEC and Awareness by March 2017	The IEC and awareness activities conducted by GHMC and test-checked other 14 ULBs were found to be deficient when compared to the suggested IEC activities as per SWM Rules, 2016 and coverage of target stakeholders as per MSWM, Manual 2016 (<i>Para 7.10 refers</i>).	
2.	Inventory of Bulk Generators by March 2017	There are 1,876 BWGs identified in GHMC area. User charges have been fixed and the same are collected. (<i>Para 3.3 refers</i>)	Not furnished to Audit.
3.	Advisory Committee by June 2017	The State Level Advisory Board in the State was constituted in July 2017 (<i>Para 7.1 refers</i>).	
4.	State Policy/ Strategy by June 2017	State Policy and Strategy on Solid Waste Management was issued in September 2018 (<i>Para 2.1 refers</i>) with a delay of 14 months.	
5.	Identification of landfill sites by March 2018	Landfill site set up only at Jawaharnagar T&D facility.	In the test-checked other 14 ULBs, landfill sites are yet to be identified (<i>Para 5.3.1 refers</i>). CDMA replied (June 2023) that establishment of scientific landfill sites was proposed under SBM (Urban)-2.0.
6.	100 per cent door to door waste collection by June 2017	Achieved as per the data furnished by GHMC.	There was inadequate coverage of wards, Hotels, Restaurants, Shops, etc., in three test-checked ULBs in door-to-door collection of waste (<i>Para 4.2.1 refers</i>).
7.	Frame bye-laws by June 2017	GHMC submitted bye-laws to the State Government (December 2019) and it is under review/approval of the Government.	CDMA replied (June 2023) that a Model draft bye-laws was circulated to all the ULBs for framing the bye-laws.
8.	Material Recovery Facility (MRF) by December 2017	In GHMC, out of 17 TS and 28 SCTPs, DRCCs were established in 13 TS and in one SCTP at Auto Nagar (<i>Para 4.1.2 refers</i>).	Dry Resource Collection Centres (DRCCs) were established in 10 out of 14 ULBs (<i>Para 4.1.2 refers</i>).
9.	Onsite composting of horticulture waste by March 2018	GHMC stated that pit composting was established in 482 parks till 2021-22. Compost quantity of 573 MT was generated annually in six Zones of GHMC and the same was utilised in the parks.	CDMA stated that all Bulk Waste Generators were practicing onsite composting including at parks. However, list of Bulk Waste Generators was not furnished to Audit.
10.	DPR/processing and disposal facilities to be developed by March 2018	Processing and Disposal facility set up only at Jawaharnagar. No DPR/additional T&D facility set up till date (<i>Para 5.2.4 refers</i>).	CDMA stated that DPRs for SWM were prepared under SBM-Urban and sample copy of one DPR pertaining to Adibatla Municipality was furnished to Audit. Copies of DPRs of test-checked 14 ULBs were not furnished to Audit.
11.	Reclamation/bio-mining of old dumpsites by March 2019	Reclamation was done at two sites at Jawaharnagar and Fathullaguda. Gandhamguda and Shamshiguda sites could not be reclaimed due to title disputes (<i>Para 2.1.1, Table-2.1, Sl.No.11 refers</i>).	State Government had taken initiative for bio-mining of legacy waste and the process of reclamation/bio-mining was yet to be completed.

Thus, it could be observed from **Table-7.4** that the proposed Action Plan was not fully implemented in the test-checked other 14 ULBs, even after lapse of more than three years.

The State Government replied (September 2023) regarding actionable point at **Sl.No.8** of **Table-7.4** that due to space constraints the DRCCs were not established in other TS/SCTPs in GHMC. However, the waste collectors operating SATs are recovering the material during door-to-door collection of waste and are depositing the recyclables at nearest DRCC/ directly selling to recyclers.

7.8.2 Constitution of Special Task Force to oversee the implementation of Solid Waste Management Rules, 2016

In compliance to the NGT orders dated 16 January 2019, the State Government issued orders¹⁷⁷ for constitution of Special Task Force with the following members in the districts to oversee the implementation of SWM Rules, 2016:

- a. District Collector
- b. Superintendent of Police
- c. Regional Officer, TSPCB and
- d. One person to be nominated by the Chairperson, District Legal Services Authority

Audit enquired about the constitution of Special Task Force, details of year-wise meetings conducted, recommendations made and follow up action taken by the test-checked ULBs.

Greater Hyderabad Municipal Corporation replied (June 2023) that letters were addressed to the District Collectors of the districts in GHMC area calling for the required information and that the same would be submitted in due course on receipt from the District Collectors concerned. The information is awaited as of March 2024.

In case of test-checked other 14 ULBs, reply from CDMA, Hyderabad is awaited as of March 2024.

The State Government replied (November 2023) that seven ULBs¹⁷⁸ Special Task Force headed by District Collector /Additional District Collector (ULBs) were constituted in the respective Districts of the ULBs. The details of year-wise meetings conducted by the Special Task Force, recommendations made and follow up action taken by the above ULBs were not furnished to Audit.

7.9 Swachh Survekshan awards received by the test-checked Urban Local Bodies in the State of Telangana

Swachh Survekshan is an annual cleanliness survey conducted by the Ministry of Housing & Urban Affairs (MoH&UA) (erstwhile MoUD). The primary goal of Swachh Survekshan is to encourage large scale citizen participation and to create awareness amongst all sections of society about the importance of working together towards making towns and cities better places to reside in. Swachh Survekshan has enthused cities with a healthy spirit of competition to improve the status of urban sanitation and ensure best service delivery to

¹⁷⁷ G.O. Rt.No.223 dated 11 March 2019 of MA&UD (T.P & E2) Department

¹⁷⁸ Bollaram, Chandur, Haliya, Mahabubnagar, Mancherla, Nagaram and Peerzadiguda

their citizens. The achievements in implementation of Swachh Survekshan improved the ranking as detailed below.

- a. Greater Hyderabad Municipal Corporation has improved its ranking from 22 in the year 2017 to 10th rank in the year 2022.
- b. Khammam and Mahabubnagar cities also improved their ranking from 236 and 249 in the year 2017 to 156 and 109 respectively in the year 2022.

The details of Swachh Survekshan awards received by the test-checked ULBs in the State of Telangana during the audit period 2017-18 to 2021-22 are given in **Table-7.5**.

Table-7.5: Swachh Survekshan Awards in Telangana for test-checked ULBs for the period from 2017 to 2022

Year	Number of cities participated in India	Number of Awards for Telangana	Name of the ULB and its rank	Remarks	
2017	434	Not available	Hyderabad (GHMC) - 22	--	
			Mahbubnagar-249		
			Khammam -236		
2018	4,230	7	GHMC -27	Best Capital City in more than 40 lakh population	
			Khammam -302		
			Mahbubnagar-161	Best city in South India in 25000-50000 population category for innovations and best practices	
			Peerzadiguda		
2019	4,237	8	Hyderabad (GHMC) -35	----	
			Khammam-261		
			Mahbubnagar-180		
			Peerzadiguda		Best city in South India in 25000-50000 population category for "Best City in Citizen feedback"
2020	4,242	18	GHMC- 23	Best Mega City in Citizen Feedback in above 40 lakh population category	
			Khammam-329		--
			Mahbubnagar-200	Fastest Growing City in 50 thousand – one lakh population category	
			Zaheerabad		
2021	4,320	10	GHMC- 13	Best self-sustainable city in more than 40 lakh population category	
			Khammam – 198		---
			Mahbubnagar -189		
2022	4,320	4	GHMC-10	Rapidly developing city – 1 st rank in South India	
			Khammam-156		
			Mahbubnagar-109		
			Chandur		Rapidly developing city – 2 nd rank in South India
			Wardhannapet		Rapidly developing city – 2 nd rank in South India
			Peerzadiguda		Swachhata League Award in 25,000-50,000 population category in South India

Source: Information furnished by CDMA

7.10 Implementation of Information, Education and Communication activities

Behavioural change is vital for effective SWM. Information, Education and Communication is a multilevel tool for promoting and sustaining risk-reducing behaviour change in individuals and communities. Provisions of SWM Rules, 2016 (Rule 15 (zg)); Section 1.4.5.13 of MSWM, Manual, 2016 (Part-II) underscores the importance of IEC activities. The ULBs should create public awareness and educate waste generators to achieve the overall objectives of MSWM. The MSWM issues, target audience and objective under IEC activities are given in **Appendix-7.1**.

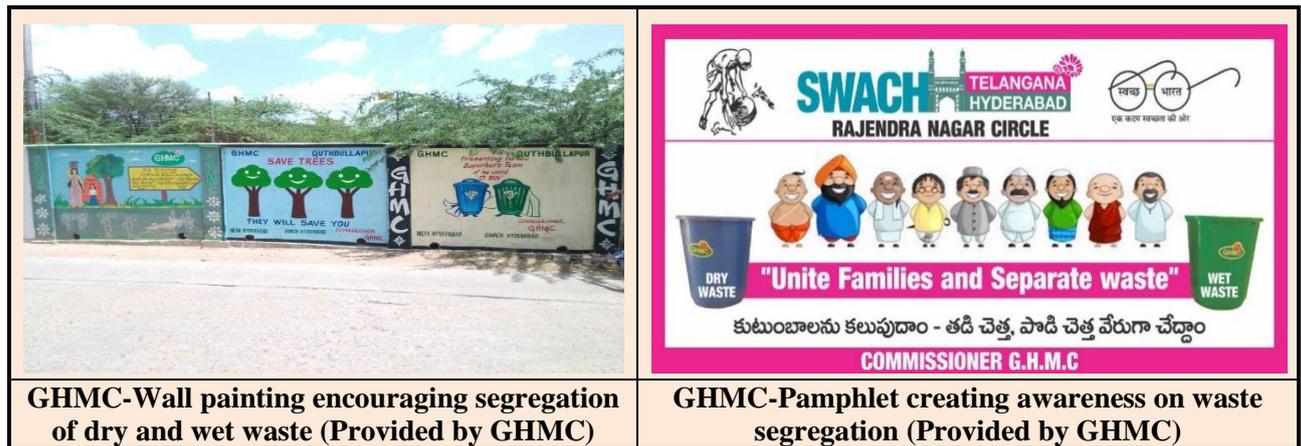
In reply to Audit enquiry, GHMC replied (May 2023) that the following awareness programmes were conducted by them:

- Door-to-Door awareness programmes on cleanliness to citizens and school students
- Meeting with Resident Welfare Associations on Home Composting.
- ‘Stop burning of waste and gain fresh air’- to Sweepers, SAT drivers and sanitary field assistants.
- ‘Let’s segregate’- for citizens
- ‘Reduction of waste’- for citizens

Some of the images showing awareness activities are shown in **Exhibit No.25 (A)**.

Exhibit No.25 (A), Para No.7.10

IEC activities by GHMC



In test-checked other 14 ULBs: The ULBs stated that they had conducted IEC activities, by issue of pamphlets, banners, stickers, wall paintings, mass communication, *etc.* Out of 14 ULBs, documentary evidence for IEC activities conducted were furnished by five ULBs as mentioned below:

- Bollaram ULB conducted IEC campaigns for SWM during Swachh Survekshan 2022.
- Chandur ULB- a wall painting encouraging segregation of dry and wet waste (**Exhibit No.25 (B)**).

- Khammam ULB- pamphlets distributed to households and establishments creating awareness on dry and wet waste segregation (**Exhibit No.25 (C)**).
- Khanapur ULB had conducted IEC campaigns on source segregation.
- Mahabubnagar ULB- pamphlet propagating importance of source segregation of dry, wet and hazardous waste in different bins (**Exhibit No.25 (D)**).

Further, Khammam ULB had also provided documentary evidence regarding conduct of awareness campaign under Swachh Survekshan on dry, wet and domestic hazardous waste segregation (i) through social media-twitter (**Exhibit No.25 (E)**), (ii) on streets, (iii) among women groups, (iv) through rangoli on streets (**Exhibit No.25 (F)**) and (v) in meetings.

However, Audit noticed that there were deficiencies in source segregation, coverage of households, handling and transportation of MSW and disposal of MSW in dumpsites. Hence there is a need to conduct more IEC activities in an effective manner by the ULBs.

Exhibits: Para No.7.10/IEC activities by the test-checked other ULBs

<p>Exhibit No. 25 (B) Chandur ULB-Wall painting encouraging segregation of dry and wet waste (JPV dated 11 January 2023)</p>	<p>Exhibit No.25 (C): Khammam ULB-distribution of pamphlets creating awareness on dry and wet waste segregation (dated 11 December 2021) Source: Provided by Khammam ULB</p>

Exhibits: Para No.7.10/IEC activities by the test-checked other ULBs

<p align="center">Exhibit No. 25(D): Pamphlet propagating importance of dry and wet waste segregation Source: Provided by Mahabubnagar ULB</p>	<p align="center">Exhibit No.25 (E) MSW awareness programme through Social Media-Twitter (dated 03 December 2022) Source: Provided by Khammam ULB</p>
<p align="center">Exhibit No. 25 (F) Khammam ULB-MSW awareness programme through Rangoli art (dated 13 January 2021) Source: Provided by Khammam ULB</p>	

7.11 Conclusion

Monitoring by TSPCB on implementation of SWM Rules, 2016 in the State indicated laxity, was not effective and there was also no monitoring in Jawaharnagar T&D facility of all the prescribed parameters of the standards specified in the Rules. Ward Level Committees were not constituted in the test-checked ULBs for reviewing the performance of SWM activities during the audit period. Dedicated Monitoring & Evaluation Team was not formed for monitoring of SWM activities in the test-checked ULBs.

7.12 Recommendations

- (i) *State Government should direct the TSPCB for ensuring monitoring of the implementation of SWM Rules, 2016 in the State and to take action on ULBs dumping MSW in water bodies.*
- (ii) *State Government should direct the ULBs for constitution of Ward Level Committees for reviewing the performance of SWM activities and also to set up dedicated Monitoring and Evaluation Team in all the ULBs to monitor the SWM activities.*

Part III
Compliance Audit Paragraphs

Municipal Administration and Urban Development Department

1.1 Incorrect levy of Environment Impact Fee of ₹2.29 crore

Greater Hyderabad Municipal Corporation failed to comply with Government orders on levy of Environment Impact Fee, resulting in loss of revenue amounting to ₹2.29 crore to the Government.

In June 2015, the State Government issued orders¹⁷⁹ for the levy of Environment Impact Fee (EIF) on buildings with a built-up area of more than 10,000 square feet (*sft*), as per the plan approved by the competent authority, *i.e.*, Local Bodies. The fee was to be levied in lieu of seigniorage charges on building or construction material. It was to be collected at the rate of ₹3 per square feet while sanctioning building plans and was to be remitted into the Treasury¹⁸⁰. In February 2016, the State Government issued further orders¹⁸¹ clarifying that EIF is payable for the entire built-up area, including the area meant for parking and other allied services, which includes pathways.

During the test check (September 2019) of records in the office of the Zonal Commissioner, LB Nagar, Greater Hyderabad Municipal Corporation (GHMC), Audit noticed that there was a non-levy of EIF amounting to ₹0.45 crore in 133 cases and a short levy of EIF amounting to ₹0.17 crore in 156 cases. The non/short levy of EIF was mainly due to non-consideration of built-up area pertaining to parking and cellar while computing EIF.

Building Permission-sanctioned cases during the period from 2016-17 to 2021-22 in all the six zones¹⁸² of GHMC through the Development Permission Management System (DPMS) portal¹⁸³ were analysed. Audit observed that out of 6,175 new Building Permissions sanctioned during the period, 4,632 cases were regulated with built-up areas of more than 10,000 *sft* and Environment impact fee of ₹2.29 crore was not levied/short-levied in¹⁸⁴ 1,052 cases (22.71 per cent), as detailed in **Table-1.1**.

Table-1.1: Details of non-levy/short levy of EIF by GHMC during 2016-17 to 2021-22

Year	No. of building permissions issued	No. of cases checked	No. of buildings with built-up area above 10,000 <i>sft</i>	EIF non-levy		EIF short levy	
				No. of cases	Amount (₹)	No. of cases	Amount (₹)
2016-17	493	493	341	234	83,66,399	32	2,30,809
2017-18	1,217	1,217	969	136	47,53,335	131	16,66,786
2018-19	1,516	1,516	1176	47	15,64,732	192	14,87,680
2019-20	1,235	1,235	965	77	27,12,433	149	13,69,879
2020-21	1,316	1,316	905	6	2,00,170	38	3,76,852
2021-22	398	398	276	3	96,032	7	48,790
Total	6,175	6,175	4,632	503	1,76,93,101	549	51,80,796

Source: Information furnished by GHMC

¹⁷⁹ G.O.Ms. No. 34 of Industries and Commerce (Mines. I) Department dated 17 June 2015

¹⁸⁰ Head of Account 0853-Non-Ferrous Mining and Metallurgical Industry, 102-Mineral Concessions, fee, rent, royalties *etc.*, SH (03)-Royalty on Environment Impact fee

¹⁸¹ G.O.Ms.No.8 of Industries and Commerce (Mines. I) Department dated 24 February 2016

¹⁸² Charminar, Khairatabad, Kukatpally, LB Nagar, Secunderabad and Serilingampally

¹⁸³ Portal containing year-wise, zone-wise Building Permissions-sanctioned cases in PDF

¹⁸⁴ Non-levy: ₹1.77 crore (503 cases) and short levy: ₹0.52 crore (549 cases)

The Greater Hyderabad Municipal Corporation replied (February 2023) with reference to cases pertaining to Zonal Commissioner, LB Nagar, stating that as per Rule 19(c) of Telangana Building Rules 2012¹⁸⁵, no fee would be levied for parking spaces provided on any floor. However, it was mentioned that necessary amendment orders were not issued to the Building Rules 2012 consequent to the issuance of Government Orders in February 2016 on the levy of EIF on the entire built-up area, including the area meant for parking spaces.

The reply of GHMC was not acceptable as Audit noticed that out of 4,632 Building Permission-sanctioned cases which were regulated with a built-up area of more than 10,000 *sft*, EIF was correctly collected in 3,580 cases considering entire built-up area including parking area in accordance with Government Orders issued in February 2016. However, in 1,052 cases EIF was not collected correctly.

Thus, incorrect computation of EIF without considering the parking area was in violation of Government Orders and resulted in a loss of revenue of ₹2.29 crore to the Government.

Greater Hyderabad Municipal Corporation replied (June 2023) to the Special Secretary, MA & UD Department, Government of Telangana that the following corrective measures would be initiated to recoup the loss of revenue:

- a. Instructions are given to the respective Zones in GHMC to verify all the cases pointed out by Audit to find out short levy of EIF, if any, and in case of non/short levy, the same would be collected by issuing separate notices to the applicants/owners of the building.
- b. Zonal City Planners to monitor and to ensure remittance of EIF in all above cases.
- c. All the officers and staff need to have proper check on levy of EIF while computing the Building Permission charges.

Response of the State Government to the audit observation (May 2023) is awaited as of March 2024.

¹⁸⁵ G.O.MS.No.168, MA&UD (M) Department dated 07 April 2012

1.2 Short collection/remittance of Library Cess

Short collection/ remittance of Library Cess amounting to ₹324.96 crore by Urban Local Bodies in the State had resulted in non-compliance to the Telangana Public Libraries Act, 1960 provisions and legislative intention of funding the Zilla Grandhalaya Samsthas was not achieved.

Section 20(1) of the Telangana Public Libraries Act, 1960 (Act no. VIII of 1960)¹⁸⁶ mandates every Zilla Grandhalaya Samstha (ZGS) to levy in its area a Library Cess in the form of a surcharge on the property tax or house tax levied in such area under the relevant laws providing for the levy of such property tax or house tax, with the previous sanction of the Government so as not to exceed eight paise for every rupee collected. The Cess levied under sub-section 20 (2) shall be collected by the respective Municipal Corporation or Municipal Council or a Gram Panchayat or by any other local body having jurisdiction and authority to levy and collect property tax. According to Section 20(3) of the Act, the amount of Library Cess collected by these local bodies shall be paid to the ZGS.

The Director of Municipal Administration, Telangana issued instructions in June 2016 to all the Commissioners of the Municipal Corporations and Municipalities (ULBs) in the State that Library cess at the rate of eight *per cent* on the Property Tax would be collected. Out of the collected amount as Library cess, 15 *per cent* is to be retained in their Treasury Personal Deposit Account and the balance 85 *per cent* to be remitted to the ZGS Head of Account as Library Cess at the end of every month without fail, to provide Library services to the public.

During test check of records of three Municipal Corporations¹⁸⁷ between September 2021 and September 2022, Audit observed instances of non-remittance of Library Cess collections to ZGS to the extent of ₹6.37 crore by Municipal Corporations. Further, Audit collected remittance particulars of Library Cess in respect of all the ULBs of the State from the Commissioner, Greater Hyderabad Municipal Corporation and the Director of Municipal Administration for the period 2017-18 to 2021-22.

The status of Library Cess collections and remittances in all the ULBs of the State during the period 2017-18 to 2021-22 are given in **Table-1.2**. (Year-wise details are given in **Appendix-1.1 and 1.2**).

¹⁸⁶ Post-bifurcation of the State of Andhra Pradesh on 02 June 2014, The Andhra Pradesh Libraries Act, 1960 of the composite State of Andhra Pradesh was adapted by the State of Telangana as per Telangana Adaptation of Laws Order, 2016 notified by the Law Department in GO.Ms.No.45, Law (F) dated 01 June 2016

¹⁸⁷ (i) Khammam Municipal Corporation (₹2.55 crore), (ii) Peerzadiguda Municipal Corporation (₹1.56 crore) and (iii) Greater Warangal Municipal Corporation (₹2.26 crore)

Table-1.2: Status of Library Cess collections and remittances in the State during the period 2017-18 to 2021-22

(₹ in crore)

ULB	Property Tax collected	Library Cess collection			Library Cess remittance to ZGS on actual Library Cess collected			Library Cess remittance to ZGS on Library Cess short collected (85 per cent of column 5)	Total short collection/remittance (column 8 plus column 9)
		to be collected (8 per cent of column 2)	actually collected	short collection (column 3 minus column 4)	to be remitted (85 per cent of column 4)	actually remitted	short remittance (column 6 minus column 7)		
1	2	3	4	5	6	7	8	9	10
GHMC	4,349.38	347.94	321.51	26.43	273.29	20.12	253.17	22.47	275.64
Other 141 ULBs	2,298.68	183.89	183.89	0	156.30	106.98	49.32	0	49.32
Total	6,648.06	531.83	505.40	26.43	429.59	127.10	302.49	22.47	324.96

Source: Information furnished by the Commissioner, GHMC and the Commissioner and Director of Municipal Administration

Audit observed that in GHMC there was a short collection of Library Cess amounting to ₹26.43 crore (8 per cent) against ₹347.94 crore to be collected during the five-year period 2017-2022. Further, even from the collected Library Cess amount of ₹321.51 crore in GHMC, against the mandatory remittance of ₹273.29 crore (85 per cent), the remittance to ZGS was only ₹20.12 crore (7 per cent).

There was also short remittance of Library Cess of ₹49.32 crore (32 per cent) in respect of 141 ULBs against the mandated remittance of ₹156.30 crore. Total short remittance/collection of Library cess works out to ₹324.96 crore for the period 2017-22.

Thus, failure of the GHMC in the collection of Library Cess of ₹22.47 crore and short remittance of total Library Cess amount of ₹302.49 crore¹⁸⁸ by GHMC and other 141 ULBs resulted in non-compliance to the Act provisions by the ULBs. Hence, the legislative intent of funding the ZGS sufficiently for providing library services to the public was not fulfilled.

The State Government stated (August 2023) that instructions have been issued (May 2023) by the DMA to the 141 ULBs in the State (except GHMC) for immediate remittance of the pending due amount of Library Cess to the respective ZGS and to remit the Library Cess amount henceforth on regular basis to the ZGS concerned.

Further, the State Government stated (August 2023) that in GHMC, Library Cess was collected from the 14,09,501 properties assessed with Library Cess bifurcation as on 31 March 2022 and included in the Annual Demand. The properties assessed before 2009, which do not have Library Cess bifurcation are not included in the Annual Demand and hence Library Cess was not collected.

¹⁸⁸ GHMC: ₹253.17 crore and 141 ULBs: ₹49.32 crore

The number of properties assessed before 2009, which do not have Library Cess bifurcation were not furnished to Audit as of September 2023.

The State Government may ensure that mandatory levy and collection of Library Cess is done on all the assessed properties and timely remittance of the Library Cess to ZGS is done for providing effective library services to the public.

Hyderabad
The 25 FEB 2025


(P. MADHAVI)
Principal Accountant General (Audit)
Telangana

Countersigned

New Delhi
The 27 FEB 2025


(K. SANJAY MURTHY)
Comptroller and Auditor General of India

Appendices

PART II – Performance Audit

Appendix-1.1

(Reference to Paragraph 1.8.1, Page 31)

Statement showing the 30 Circles in the six Zones of Greater Hyderabad Municipal Corporation

Sl. No.	Circle No.	Name of the Circle	Name of the Zone
1.	Circle – 1	Kapra	LB Nagar
2.	Circle – 2	Uppal	LB Nagar
3.	Circle – 3	Hayathnagar	LB Nagar
4.	Circle – 4	LB Nagar Zone	LB Nagar
5.	Circle – 5	Saroornagar	LB Nagar
6.	Circle – 6	Malakpet	Charminar
7.	Circle – 7	Santoshnagar	Charminar
8.	Circle – 8	Chandrayangutta	Charminar
9.	Circle – 9	Charminar	Charminar
10.	Circle – 10	Falaknuma	Charminar
11.	Circle – 11	Rajendra Nagar	Charminar
12.	Circle – 12	Mehdipatnam	Khairatabad
13.	Circle – 13	Karwan	Khairatabad
14.	Circle – 14	Goshamahhal	Khairatabad
15.	Circle – 15	Musheerabad	Secunderabad
16.	Circle – 16	Amberpet	Secunderabad
17.	Circle – 17	Khairtabad	Khairatabad
18.	Circle – 18	Jubilee Hills	Khairatabad
19.	Circle – 19	Yousufguda	Serlingampally
20.	Circle – 20	Serlingampally	Serlingampally
21.	Circle - 21	Chandanagar	Serlingampally
22.	Circle – 22	RC Puram, Patancheru	Serlingampally
23.	Circle – 23	Moosapet	Kukatpally
24.	Circle – 24	Kukatpally	Kukatpally
25.	Circle – 25	Qutbullapur	Kukatpally
26.	Circle – 26	Gajularamaram	Kukatpally
27.	Circle – 27	Alwal	Kukatpally
28.	Circle – 28	Malkajgiri	Secunderabad
29.	Circle - 29	Secunderabad	Secunderabad
30.	Circle – 30	Begumpet	Secunderabad

Source: Information provided by GHMC

Appendix-2.1

(Reference to Paragraph 2.2, Page 37)

Details of actual MSW assessed, generated, segregated, processed and disposed during audit period (2017-18 to 2021-22) in the test-checked other 14 ULBs

(MSW figures in MT)

Sl. No	Name of the ULB	MSW generated	MSW collected	MSW Un-collected	MSW segregated/ processed	Unprocessed MSW disposed in dumpsite	Percentage of unprocessed MSW disposed to the collected MSW	JPV observations on waste processing facilities in Dumpsites of the respective ULBs
	1	2	3	4=(2-3)	5	6=(3-5)	7=(6/3)*100	8
1.	Bollaram	17,520	17,520	0	8,031	9,489	54	DRCC exists but not in operation due to fire accident. No composting facility.
2.	Chandur	8,834	8,631	203	8,184	447	5	DRCC and composting facility does not exist.
3.	Haliya	7,210	7,170	40	6,720	450	6	No composting facility and DRCC under construction.
4.	Kalwakurthy	20,100	20,000	100	12,200	7,800	39	DRCC exists. No composting facility.
5.	Khammam	2,51,700	2,23,842	27,858	23,871	1,99,971	89	DRCC exists. Composting facility not put to use.
6.	Khanapur	14,350	14,350	0	11,300	3,050	21	DRCC exists. Composting facility under construction.
7.	Kothagudem	48,960	48,960	0	39,600	9,360	19	DRCC and composting facility exists.
8.	Mahabubnagar	1,59,120	1,55,520	3,600	39,600	1,15,920	75	DRCC and composting facility exists.
9.	Mancherial	70,445	70,445	0	60,210	10,235	15	DRCC and composting facility exists.
10.	Nagaram	24,929	24,929	0	14,895	10,034	40	DRCC exists. No composting facility
11.	Peerzadiguda	58,400	58,400	0	28,725	29,675	51	DRCC exists. No composting facility for MSW.
12.	Wardhannapet	32,688	20,750	11,938	20,750	0	0	DRCC and composting facility does not exist.
13.	Yellareddy	4,549	4,549	0	3,623	926	20	DRCC not put to use. No composting facility.
14.	Zaheerabad	79,920	79,920	0	95	79,825	99	DRCC and composting facility exists.
	Total	7,98,725	7,54,986	43,739	2,77,804	4,77,182	63	

Source: Information furnished by the test-checked other 14 ULBs

Appendix-2.2
(Reference to Paragraph 2.6.1, Page 41)

Statement showing population projections and MSW assessed figures for the years 2011 to 2041 in the DPR prepared by GHMC

Year	Population projection as per Table-1.9 of DPR	MSW assessment (tonnes/day) as per Table-1.9 of DPR
2011	83,89,068	4,400
2016	90,14,472	5,085
2021	1,03,05,480	6,263
2026	1,10,15,852	7,320
2031	1,20,11,547	8,598
2036	1,32,98,779	10,255
2041	1,43,96,379	11,960

Source: DPR on IMSWM system furnished by GHMC

Appendix-2.3

(Reference to Paragraph 2.6.2, Page 42)

Assessment and Generation of Solid Waste in 14 test-checked other ULBs during 2017-22

Name of the ULB: Bollaram			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB constituted in 2019		
2018-19			
2019-20	41,833	4,581	3,650
2020-21	46,016	5,879	5,840
2021-22	56,000	8,176	8,030
Name of the ULB: Chandur			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB constituted in 2018		
2018-19	14,125	2,373	2,300
2019-20	14,500	2,446	2,373
2020-21	14,888	2,482	2,409
2021-22	15,559	2,628	2,482
Name of the ULB: Haliya			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB constituted in 2018		
2018-19	13,358	1,825	1,752
2019-20	14,588	2,008	1,935
2020-21	16,553	2,190	2,081
2021-22	17,371	2,555	2,555
Name of the ULB: Kalwakurthy			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	28,110	2,581	2,581
2018-19	30,091	2,776	2,776
2019-20	30,091	4,257	4,257
2020-21	30,091	4,550	4,550
2021-22	30,091	4,782	4,782
Name of the ULB: Khammam			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	2,38,000	46,355	43,435
2018-19	2,69,000	51,830	48,910
2019-20	3,12,000	58,765	56,940
2020-21	3,65,000	64,970	61,685
2021-22	3,98,000	67,525	65,700

Name of the ULB: Khanapur			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB Constituted in 2018		
2018-19	22,622	2,920	2,920
2019-20	22,848	3,285	3,285
2020-21	23,076	4,015	4,015
2021-22	24,757	4,380	4,380
Name of the ULB: Kothagudem			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	79,850	9,125	9,125
2018-19	79,850	9,125	9,125
2019-20	79,850	9,125	9,125
2020-21	79,850	9,125	9,125
2021-22	87,370	13,140	13,140
Name of the ULB: Mahabubnagar			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	2,17,143	28,080	28,080
2018-19	2,20,513	28,080	28,080
2019-20	2,23,481	29,520	29,520
2020-21	2,40,564	35,280	35,280
2021-22	2,54,514	38,160	38,160
Name of the ULB: Mancherial			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	87,153	13,505	12,775
2018-19	87,153	13,505	12,775
2019-20	87,153	13,505	12,775
2020-21	1,10,000	16,790	16,060
2021-22	1,10,000	16,790	16,060
Name of the ULB: Nagaram			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB Constituted in 2018		
2018-19	ULB Constituted in 2018		
2019-20	53,400	6,935	6,935
2020-21	64,544	8,869	8,869
2021-22	82,446	9,125	9,125
Name of the ULB: Peerzadiguda			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	51,689	10,950	10,950
2018-19	51,689	12,775	12,775
2019-20	51,689	14,600	14,600
2020-21	51,689	16,060	16,060
2021-22	1,20,000	16,790	16,790

Name of the ULB: Wardhannapet			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB Constituted in 2018		
2018-19	13,732	1,825	1,752
2019-20	13,732	2,008	1,935
2020-21	13,732	2,190	2,081
2021-22	13,732	2,555	2,519
Name of the ULB: Yellareddy			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	ULB Constituted in 2018		
2018-19	19,750	1,168	1,168
2019-20	19,750	1,387	1,387
2020-21	19,750	1,460	1,460
2021-22	21,725	1,570	1,570
Name of the ULB: Zaheerabad			
Year	Population projected	MSW Assessed (MT/year)	Actual MSW Generated (MT/year)
2017-18	52,193	4,285	4,285
2018-19	52,193	4,285	4,285
2019-20	89,355	7,351	7,351
2020-21	89,355	7,351	7,351
2021-22	89,355	7,351	7,351

Source: Information furnished by the test-checked other 14 ULBs

Appendix-2.4

(Reference to Paragraph 2.7, Page 44)

SLB performance indicators and benchmarks pertaining to SWM

Sl. No.	Performance indicator	Unit As percentage of	Benchmark (in per cent)
1	Household level coverage of SWM services	households and establishments covered by daily doorstep collection system	100
2	Efficiency of collection of municipal Solid Waste	total waste collected against waste generated within the project area	100
3	Extent of segregation of municipal Solid Waste	households and establishments that segregate their waste	100
4	Extent of municipal Solid Waste recovered	quantum of waste collected, which is either recycled or processed	80
5	Extent of scientific disposal of municipal Solid Waste	waste disposed in a sanitary landfill against total quantum of waste disposed in landfills and dumpsites	100
6	Extent of cost recovery in SWM services	recovery of all operating expenses related to MSWM services that the ULB is able to meet from the operating revenues of sources related exclusively to MSWM	100
7	Efficiency in redressal of customer complaints	total number of MSWM related complaints resolved against total number of MSWM complaints received within 24 hours	80
8	Efficiency in collection of SWM user charges	current year revenues collected against total operating revenues for the corresponding period	90

Source: "Handbook of Service Level Benchmarking", Ministry of Urban Development (2008), GoI

Appendix-2.5
(Reference to Paragraph 2.7.1, Page 45)

SLB achievements by test-checked other 12 ULBs against performance indicators pertaining to SWM for the year 2021-22

Sl. No	Particulars of SLB declaration in test-checked ULBs	Number of ULBs (range in percentage)								
		Zero	Name of the ULB	1 to 20	21 to 50	Name of the ULB	51 to 80	Name of the ULB	81 to 100	Name of the ULB
1	Household level coverage of SWM services	0		0	0		0		12	Bollaram Chandur Haliya Kalwakurthy Khammam Khanapur Mahabubnagar Mancherial Nagaram Peerzadiguda Yellareddy Zaheerabad
2	Efficiency of collection of municipal Solid Waste	0		0	0		0		12	Bollaram Chandur Haliya Kalwakurthy Khammam Khanapur Mahabubnagar Mancherial Nagaram Peerzadiguda Yellareddy Zaheerabad
3	Extent of segregation of municipal Solid Waste	0		0	6	Chandur Haliya Khammam Mancherial Peerzadiguda Yellareddy	5	Bollaram Kalwakurthy Khanapur Nagaram Zaheerabad	1	Mahabubnagar
4	Extent of municipal Solid Waste recovered	1	Kalwakurthy	0	1	Haliya	9	Bollaram Chandur Khammam Khanapur Mahabubnagar Mancherial Nagaram Peerzadiguda Yellareddy	1	Zaheerabad
5	Extent of scientific disposal of municipal Solid Waste	10	Bollaram Chandur Haliya Kalwakurthy Khammam Khanapur Mancherial Peerzadiguda Yellareddy Zaheerabad	0	0		0		2	Mahabubnagar Nagaram

Sl. No	Particulars of SLB declaration in test-checked ULBs	Number of ULBs (range in percentage)								
		Zero	Name of the ULB	1 to 20	21 to 50	Name of the ULB	51 to 80	Name of the ULB	81 to 100	Name of the ULB
6	Extent of cost recovery in SWM services	9	Chandur Haliya Kalwakurthy Khammam Khanapur Mancherial Peerzadiguda Yellareddy Zaheerabad	0	2	Bollaram Mahabubnagar	1	Nagaram	0	
7	Efficiency in redressal of customer complaints	1	Zaheerabad	0	0		7	Chandur Haliya Khammam Khanapur Mancherial Peerzadiguda Yellareddy	4	Bollaram Kalwakurthy Mahabubnagar Nagaram
8	Efficiency in collection of SWM user charges	5	Haliya Kalwakurthy Khanapur Yellareddy Zaheerabad	0	0		1	Mahabubnagar	6	Bollaram Chandur Khammam Mancherial Nagaram Peerzadiguda

Source: Information furnished by the test-checked other 12 ULBs

Appendix-2.6
(Reference to Paragraph 2.7.1, Page 46)

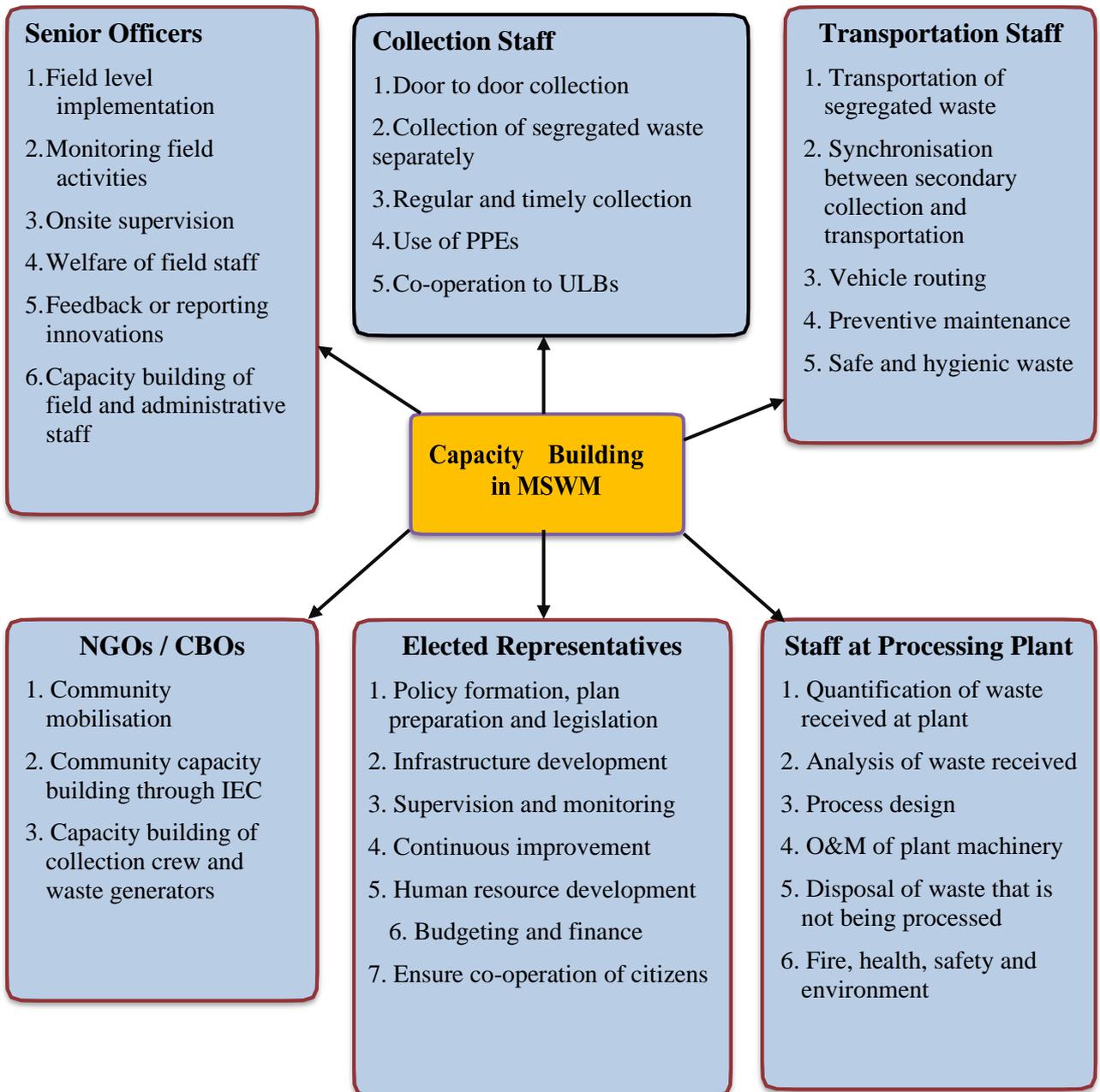
Statement showing MSW generated, collected, segregated/processed and disposed during 2021-22 in test-checked other 14 ULBs

(MSW figures in MT)

Sl. No	Name of the ULB	MSW generated	MSW collected	MSW uncollected	MSW segregated/processed	Unprocessed MSW disposed in dumpsite	Percentage of unprocessed MSW disposed to the collected MSW
		1	2	3=(1-2)	4	5= (2-4)	6=[(5/2)*100]
1.	Bollaram	8,030	8,030	NIL	3,833	4,197	52
2.	Chandur	2,628	2,628	NIL	2,484	144	5
3.	Haliya	2,520	2,520	NIL	2,320	200	8
4.	Kalwakurthy	5,000	4,900	100	3,100	1,800	37
5.	Khammam	52,500	49,875	2,625	7,481	42,394	85
6.	Khanapur	4,320	4,320	NIL	3,560	760	18
7.	Kothagudem	12,960	12,960	NIL	10,800	2,160	17
8.	Mahabubnagar	38,160	37,440	720	15,120	22,320	60
9.	Mancherial	16,060	16,060	NIL	13,680	2,380	15
10.	Nagaram	9,125	9,125	NIL	7,300	1,825	20
11.	Peerzadiguda	13,870	13,870	NIL	12,483	1,387	10
12.	Wardhannapet	9,936	8,510	1,426	8,510	0	0
13.	Yellareddy	1,555	1,555	NIL	1,244	311	20
14.	Zaheerabad	19,800	19,800	NIL	38	19,762	99

Source: Information furnished by the test-checked other 14 ULBs

Appendix-2.7
(Reference to Paragraph 2.9, Page 50)
Capacity Building Approaches for Different Stakeholders



Source: MSWM, Manual 2016 (Part-II), Section 1.4.5.4

Appendix-3.1
(Reference to Paragraph 3.5, Page 59)

Tipping Fee dues from 9 ULBs and one Gram Panchayat for MSW transported to Jawaharnagar Treatment and Disposal facility in GHMC

Sl. No	Name of the ULB/Gram Panchayat	Dues as on 31.03.2022 (₹)
1.	Pocharam	51,81,245
2.	Peerzadiguda	3,55,10,321
3.	Nizampet	3,54,79,136
4.	Narsingi	2,39,20,965
5.	Manikonda	5,24,39,625
6.	Kompally	15,91,593
7.	Ameenpur	2,12,03,452
8.	Bandlaguda	26,00,109
9.	Boduppall	52,93,819
10.	Peeram Cheruvu (Gram Panchayat)	1,01,60,511
Total		19,33,80,776

Source: Information and documents on levy and collection of TF furnished by GHMC

Appendix-4.1

(Reference to Paragraph 4.1.1.1, Page 61)

Procurement of bins for source segregation of MSW by the test-checked other 14 ULBs during 2017-22

Name of the ULB	Number of bins procured			Expenditure incurred (₹)	Number of bins supplied to households		
	Dry waste	Wet waste	Domestic Hazardous waste		Dry waste	Wet waste	Domestic Hazardous waste
Bollaram	10,000	10,000	0	5,97,996	10,000	10,000	0
Chandur	4,400	4,400	0	4,43,812	4,400	4,400	0
Haliya	7,500	7,500	0	9,81,750	7,500	7,500	0
Kalwakurthy	7,500	7,500	0	8,97,974	7,500	7,500	0
Khammam	1,00,000	1,00,000	0	95,00,000	1,00,000	1,00,000	0
Khanapur	4,000	4,000	0	10,57,903*	4,000	4,000	0
Kothagudem	22,000	22,000	0	31,24,130	22,000	22,000	0
Mancherial	29,671	29,671	0	31,94,344	29,671	29,671	0
Mahabubnagar	No procurement						
Nagaram	15,000	15,000	0	19,63,500	15,000	15,000	0
Peerzadiguda	30,000	30,000	30,000	58,90,000	30,000	30,000	30,000
Wardhannapet	4,000	4,000	0	4,48,000	4,000	4,000	0
Yellareddy	Details not furnished			5,61,000	Details not furnished		
Zaheerabad	20,000	20,000	0	Supplied By Mahindra Company as Corporate Social Responsibility	20,000	20,000	0
Total				2,86,60,409			

Source: Information furnished by the test-checked other 14 ULBs

* Includes expenditure incurred for procurement of 20 dry waste community/litter bins for placement at strategic points (refer Appendix-4.2)

Appendix-4.2

(Reference to Paragraph 4.1.1.1, Page 61)

Procurement of community/litter bins for source segregation of MSW by the test-checked other 14 ULBs during 2017-22

Name of the ULB	Number of community/litter bins procured			Expenditure incurred (₹)	Number of community/litter bins kept at strategic points		
	Dry waste	Wet waste	Domestic Hazardous waste		Dry waste	Wet waste	Domestic Hazardous waste
Bollaram	55	55	55	7,66,482	55	55	55
Chandur	15	15	0	45,000	15	15	0
Haliya	0	0	0	0	0	0	0
Kalwakurthy	0	0	0	0	0	0	0
Khammam	120	120	120	14,00,000	120	120	120
Khanapur	20*	0	0	*	20	0	0
Kothagudem	16	16	16	1,00,000	16	16	16
Mahabubnagar	120	120	70	10,00,000	120	120	70
Mancherial	0	0	0	0	0	0	0
Nagaram	38	38	15	1,34,500	38	38	0
Peerzadiguda	35	35	35	4,99,878	35	35	35
Wardhannapet	5	5	5	75,000	5	5	5
Yellareddy	Details not furnished			1,60,000	Details not furnished		
Zaheerabad	114	114	0	8,50,000	114	114	0
Total				50,30,860			

Source: Information furnished by the test-checked other 14 ULBs

*Expenditure met from procurement of 4,000 nos. of dry and wet waste bins for ₹10,57,903 (refer Appendix-4.1)

Appendix-4.3

(Reference to Paragraph 4.2.1, Page 69)

Vehicles available for SWM activities with the test-checked other 14 ULBs

Sl. No	Name of the ULB	Number of Households (in 2021-22)	Number of wards (in 2021-22)	No. Hotels, Restaurants, Shops etc., in the ULB (in 2021-22)	Own vehicles for SWM activities		Hired vehicles for SWM activities	
					Number	Type of vehicles	Number	Type of vehicles
1.	Bollaram	17,500	22	215	17	Tractors-2 Sewer-cum-Jetting Machine-1 Autos-12 JCB-1 Sweeping Machine-1	0	0
2.	Chandur	4,133	10	600	4	Autos-1 Tractors-3	0	0
3.	Haliya	5,262	12	Not furnished	9	Autos-6 Tractors-3	0	0
4.	Kalwakurthy	7,900	22	1,100	15	Autos-11 Tractors-4	0	0
5.	Khammam	94,417	60	6,000	103	Tractors-38 Autos-64 RCV-1	0	0
6.	Khanapur	6,767	12	193	9	Autos-6 Tractors-2 Dozers-1	0	0
7.	Kothagudem	22,109	36	2,143	51	Autos-41, Tractors-5 Compactor-1 JCB-1 Sweeping Machine-2 Jetting Machine 1	0	0
8.	Mahabubnagar	55,738	49	2,042	65	Proclainer-1 Autos-52 Dozers-1 Tractors-11	10	Tractor-10
9.	Mancherial	29,450	36	2,768	61	Autos-46 Tractors-15	0	0
10.	Nagaram	17,031	20	570	12	Autos-10 Tractors-2	3	Tractors-3
11.	Peerzadiguda	30,656	26	1,605	23	Autos-15 Tippers-2 Tractors-5 JCB-1	53	Autos-50, Tractors-2, JCB-1
12.	Wardhannapet	3,850	12	Not furnished	5	Autos-4 Tractors-1	0	0
13.	Yellareddy	4,196	12	252	7	Autos-5, Tractors-2	0	0
14.	Zaheerabad	23,482	37	2,500	47	Autos-40, Tractors-7	0	0
Total					428			

Source: Information furnished by the test-checked other 14 ULBs

Appendix-4.4

(Reference to Paragraph 4.2.2, Page 70)

Coverage of daily sweeping of roads by the test-checked other 14 ULBs

Sl. No	Name of the ULB	No of wards	Total road distance (KM)	Daily coverage of road sweeping (in KM)	Percentage of Road sweeping made on daily basis	Percentage of non-coverage of roads for daily sweeping
1.	Bollaram	22	42	36	86	14
2.	Chandur	10	12	10	83	17
3.	Haliya	12	5	5	100	0
4.	Kalwakurthy	22	10	10	100	0
5.	Khammam	60	1034	156	15	85
6.	Khanapur	12	53.82	12	22	78
7.	Kothagudem	36	191.15	45	24	76
8.	Mahabubnagar	49	395	351	89	11
9.	Mancherial	36	244	63	26	74
10.	Nagaram	20	230.41	20	9	91
11.	Peerzadiguda	26	260	260	100	0
12.	Wardhannapet	12	32	3	9	91
13.	Yellareddy	12	23.52	Data not made available	Data not made available	Data not made available
14.	Zaheerabad	37	153	48	31	69
Total		366	2,685.9	1,019		

Source: Information furnished by the test-checked other 14 ULBs

Appendix-4.5

(Reference to Paragraph 4.3.2, Page 76)

Vehicles utilised for SWM activities by test-checked other 14 ULBs without proper authorisation

Sl. No	Name of the ULB	Number of vehicles				Number of vehicles for which information not furnished to Audit		
		Available	Without Registration Certificate (RC)	Without valid Fitness Certificate (FC)	Without Insurance	On RC	On FC	On Insurance
1.	Bollaram	17	4	7	1	0	10	4
2.	Chandur	4	4	4	4	0	0	0
3.	Haliya	9	1	8	8	0	1	1
4.	Kalwakurthy	15	1	NF	NF	0	15	15
5.	Khammam	103	6	NF	55	0	103	48
6.	Khanapur	9	2	NF	NF	0	9	9
7.	Kothagudem	51	5	NF	2	0	0	51
8.	Mahabubnagar	65	4	61	61	0	4	4
9.	Mancherial	61	0	41	41	0	20	20
10.	Nagaram	12	11	12	0	0	0	0
11.	Peerzadiguda	23	1	13	10	0	10	10
12.	Wardhannapet	5	3	5	5	0	0	0
13.	Yellareddy	7	0	NF	NF	0	7	7
14.	Zaheerabad	47	0	47	0	0	0	0
Total		428	42	198	187	0	179	169

Source: Information furnished by the test-checked other 14 ULBs

NF: Information not furnished to Audit

Appendix-4.6
(Reference to Paragraph 4.3.4, Page 78)

List of Transfer Station, Secondary Collection Transport Points and Refuse Compactor Vehicles in GHMC area

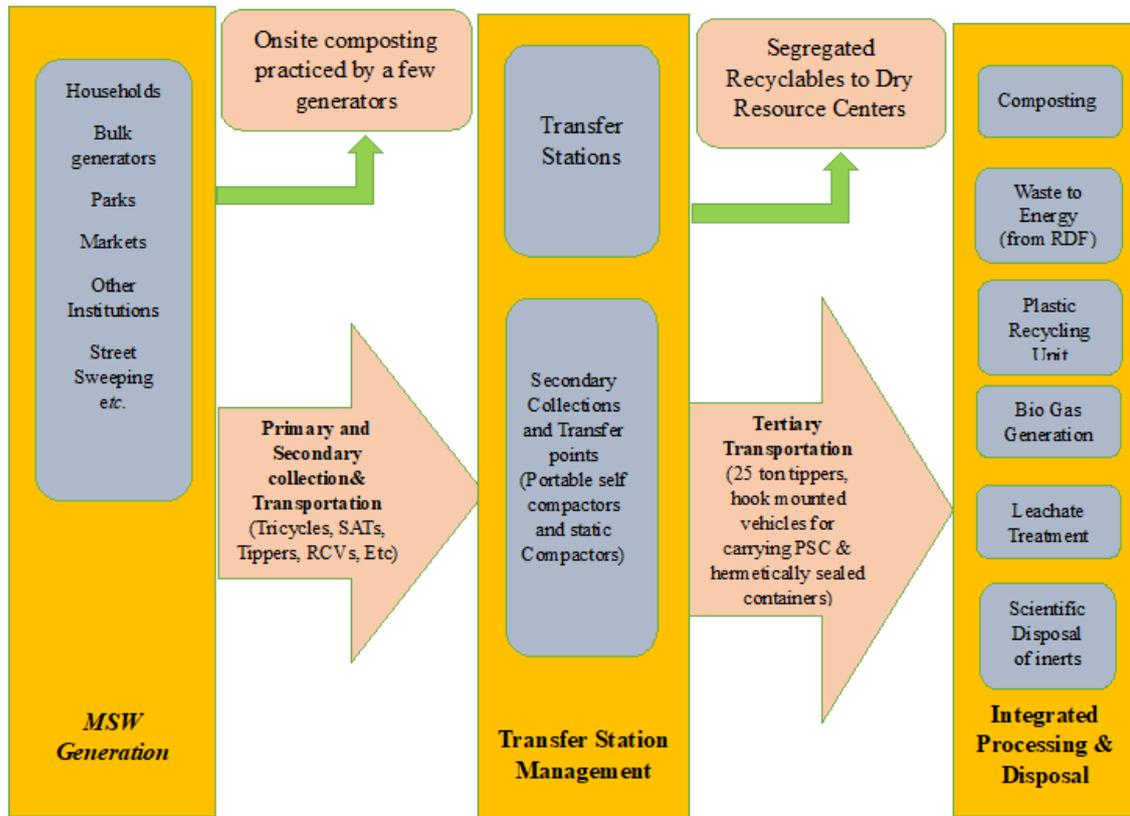
Transfer Stations in GHMC area					
Sl. No	Zone	Location of the Transfer Station	Number of Circles Covered	Title of land	Extent of land area in acres
1	LB Nagar	Mallapur	1	GHMC	1.00
2		Saket	1	Private land – disputed land	0.50
3		Devender Nagar	1	Industrial Area Local Authority (IALA) land	0.65
4		Nagole	3	HMDA	1.50
5	Charminar	Imlibun	5	GHMC	0.50
6		Katedan	1	ILA land	5.25
7	Khairatabad	Jiyaguda	2	GHMC (TS is in banks of Musi)	1.38
8		Yousufguda	3	GHMC	0.62
9	Serlingampally	Deepthisri Nagar	1	HMDA (Court case between heirs of the Nizam)	3.50
10		RC puram- Patancheru	1	GHMC (Handed over from ILA)	2.60
11	Kukatpally	Khaithlapur	2	GHMC	4.90
12		HMT pipeline Chintal- Jagadgirigutta	2	HMT land	6.00
13		Machhobalarum	1	Society land (Graveyard)	2.00
14	Secunderabad	Neredmet- Malkajgiri	1	Defence society land	0.50
15		Sanjeevaiah Park	2	GHMC	1.00
16		Lower Tank Bund	1	GHMC	1.50
17		Amberpet	1	GHMC	2.50

List of SCTPs and RCVs in GHMC area

Sl. No	Location of the SCTP	Sl. No	Location of the RCVs
1	Hasthinapuram	1	Chintakunta
2	Autonagar	2	Chaitanyapuri
3	Fathe Nagar Nala	3	Lingojiguda
4	Metro Mall backside	4	Anupuram Colony
5	Jubilee Hills Civic Exnora	5	Bathukammakunta
6	Khajaguda	6	Miyapur Metro
7	Peoples Plaza	7	Kala Pattar
8	Vayupuri	8	Singareni Colony
9	Chacha Nehru Park	9	Babanagar
10	Jubilee Hills Road #51	10	OGH
11	Bandlaguda	11	Langer House
12	Lower Tank Bund-Goshala (ACTC)	12	Seethaphalmandi
13	Hasmathpet Lake	13	Taranaka Flyover Under Bridge
14	Sainikpuri	14	Malkajgiri
15	Sanathnagar	15	Kachiguda Railway Station
16	Madhapur under Bridge	16	Borabanda
17	Vengal Rao Park	17	OU campus
18	Osmania General Hospital Backside	18	Allwyn colony
19	Ramnagar	19 to 23	Uppal & Kapra circles (5 Nos)
20	KPHB Road No.1	24 to 31	Various points in Kukatpally & Secunderabad Zones (8 Nos)
21	Yellammabanda	32 to 66	Various points in all circles (35 Nos)
22	Karmika nagar		
23	Mir Alam Tank		
24	Nehru Nagar Area (Chandanagar)		
25	Azamoura Nala		
26	Votta Pally Temple		
27	Tadbund Labour Adda		
28	Nagina Point		

Source: Information from the document provided by GHMC

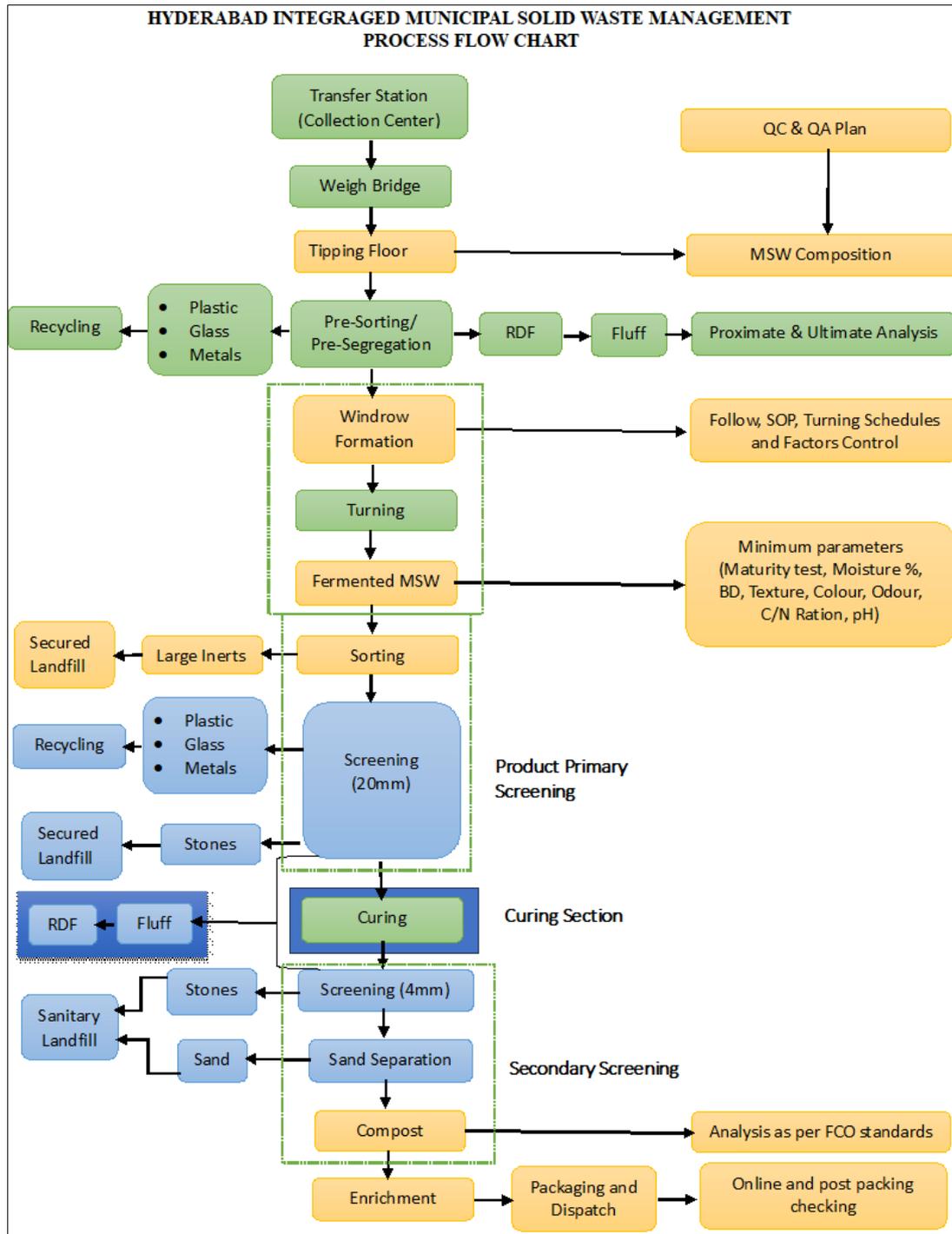
Appendix-5.1
(Reference to Paragraph 5.1.2, Page 90)
Process of MSWM from household to disposal at Jawaharnagar Treatment and Disposal facility



Source: Flowchart provided by GHMC

Appendix-5.2
(Reference to Paragraph 5.1.2, Page 90)

Process of collection, treatment and disposal of MSW at Jawaharnagar Treatment and Disposal facility



Source: Flowchart provided by M/s Ramky Enviro Engineers Limited (renamed as Re Sustainability Limited), the Concessionaire for Integrated Municipal Solid Waste Management (IMSWM) system in GHMC area

Appendix-5.3

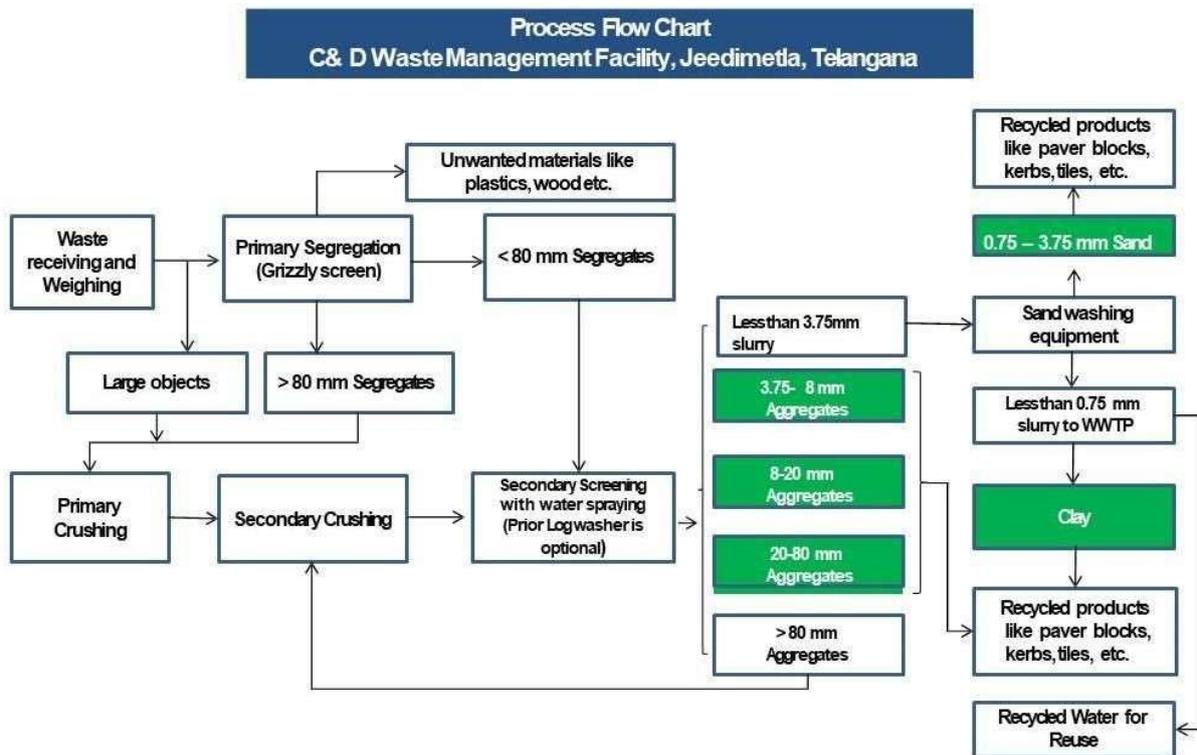
(Reference to Paragraph 5.2.4, Page 101)

Usage of land in Jawaharnagar Treatment and Disposal facility for various purposes of MSW management

Sl. No	Description of the facility	Extent of land utilised in acres
1	Administration Building	6.69
2	EPTRI Building	
3	Laboratory	
4	Internal Roads and Drains	19.09
5	WtE Plant	17.10
6	Leachate Collection Ponds, Compressed Bio-Gas area, Boulders area	4.20
7	Bio-Methanation Plant	0.17
8	RDF Storage area	13.74
9	Leachate Treatment Plant (Wastewater Collection)	3.43
10	Legacy waste capped area	123.86
11	Existing Landfill site area	16.19
12	Compost yard (Old + New)	24.00
13	Weighbridge facility	1.15
14	Auxiliary Units	11.74
15	Present Operation area	43.06
16	Greenery & Plantation	54.59
Total area utilised (A)		339.01
17	Disputed land (B)	12.20
Total Area (A) + (B)		351.21

Source: Information furnished by GHMC

Appendix-6.1
(Reference to Paragraph 6.4, Page 121)
Process Flow Chart of C&D Waste Management Facility, Jeedimetla, Telangana



Source: Flow chart provided by the Concessionaire for C&D waste

Appendix-6.2

(Reference to Paragraph 6.4, Page 122)

Statement showing quantum of cumulative unprocessed C&D waste more than previous three months cumulative collection of C&D waste during 2020-22 at Jeedimetla C&D Waste Processing Plant

(C&D waste figures in MT)

Month	Total C&D waste received	Cumulative previous 3 months total of C&D waste received	C&D waste Processed	C&D waste unprocessed	Cumulative unprocessed C&D waste
May 2020	9,196	0	3,324	5,872	5,872
Jun 2020	26,227	0	12,412	13,815	19,687
Jul 2020	92,905	0	8,580	84,325	1,04,012
Aug 2020	65,827	1,28,327	15,539	50,288	1,54,300
Sep 2020	25,306	1,84,958	11,543	13,763	1,68,063
Oct 2020	18,394	1,84,038	11,383	7,011	1,75,074
Nov 2020	28,787	1,09,527	9,962	18,825	1,93,899
Dec 2020	27,957	72,487	10,915	17,042	2,10,941
Jan 2021	31,693	75,138	6,219	25,474	2,36,415
Feb 2021	28,235	88,437	15,857	12,378	2,48,793
Mar 2021	31,045	87,886	28,617	2,428	2,51,221
Apr 2021	30,514	90,973	18,571	11,943	2,63,164
May 2021	31,953	89,794	15,768	16,185	2,79,349
Jun 2021	21,733	93,511	9,915	11,818	2,91,167
Jul 2021	20,235	84,200	3,698	16,537	3,07,704
Aug 2021	20,585	73,921	7,376	13,209	3,20,913
Sep 2021	19,282	62,553	8,507	10,775	3,31,688
Oct 2021	20,646	60,103	13,137	7,509	3,39,197
Nov 2021	17,905	60,513	13,132	4,773	3,43,970
Dec 2021	16,089	57,833	13,971	2,118	3,46,088
Jan 2022	9,121	54,640	11,811	(-)2,690	3,43,398
Feb 2022	2,975	43,116	9,276	(-)6,301	3,37,097
Mar 2022	5,817	28,186	6,084	(-)267	3,36,830

Source: Information furnished by GHMC

Fathullaguda C&D Waste Processing Plant

(C&D waste figures in MT)

Month	Total C&D waste received	Cumulative previous 3 months Total of C&D waste received	C&D waste Processed	C&D waste unprocessed	Cumulative unprocessed C&D waste
Jun 2021	23,831	0	612	23,219	23,219
Jul 2021	25,238	0	2,874	22,364	45,583
Aug 2021	16,015	0	6,310	9,705	55,288
Sep 2021	21,358	65,084	10,021	11,337	66,625
Oct 2021	14,698	62,611	3,933	10,765	77,390
Nov 2021	23,172	52,071	1,921	21,251	98,641
Dec 2021	23,301	59,228	5,703	17,598	1,16,239
Jan 2022	5,845	61,171	6,842	(-)997	1,15,242
Feb 2022	14,044	52,318	8,062	5,981	1,21,223
Mar 2022	8,830	43,190	4,318	4,512	1,25,735

Source: Information furnished by GHMC

Appendix-6.3

(Reference to Paragraph 6.12, Page 133)

Recommendation in the Road Map Report for sustainable and efficient management of C&D waste and status on implementation by GHMC

Sl. No	Name of the work track	Recommendations	Status on implementation by GHMC
1.	User charges and penalties	<p>a. As the penalties levied are spread across different wings in GHMC, the amount collected is not being used for development of C&D waste management. Hence coordination enhancement is also required in the long- term for better levying of penalties.</p> <p>b. A common penalty framework across GHMC for C&D waste collection is essential for enhancing user awareness.</p>	<p>Govt. issued orders for penalties to be levied on C&D violators and need to be notified after due approval from GHMC General body. Meanwhile, to streamline the penalties, the C&D agencies were authorised to levy penalties themselves.</p>
2.	C&D Waste Management Plan	<p>a. There is low record-keeping for each of the obligations to be fulfilled by the Concessionaire which makes levying of penalties difficult. Hence, GHMC may develop an MIS database to monitor the concessionaire activities. As the current state stands, GHMC relies on the data provided by the concessionaire at the time of billing supported by physical slips such as pick-up slips, acknowledgment slips and weighment slip. Data flow from these may be rationalised using development of a digital monitoring database.</p> <p>b. C&D waste processing plant can be considered as a recycling industry for providing land in TSIIC industrial areas</p>	<p>a. MIS database is developed currently through Project Monitoring Unit team engaged by GHMC.</p> <p>b. Jeedimetla plant was provided in the land allotted by TSIIC only. Fathullaguda plant in GHMC land. Though the proposal of "Considering C&D waste processing plant as a recycling industry for providing land in TSIIC industrial areas" was pursued with TSIIC, the suitable sites were not materialised for the establishment of (02) more C&D waste recycling plants. Hence, alternate C&D Waste Processing plants set up on licensing model at Shamshabad and Thumukunta.</p>
3.	GHMC Act Amendment	<p>a. There is no provision for collection of C&D waste charges, levying of penalties and its implementation in GHMC Act. It is necessary to amend the same to avoid legal implications.</p> <p>b. Government may constitute special task force at the city level to detect and monitor the unauthorised constructions and take timely enforcement action in the manner as prescribed.</p>	<p>C&D Waste management proposed in the revised Hyderabad Municipal Corporation Act/GHMC Act and was under revision stage.</p> <p>City Level Task Force was constituted by the Town Planning Section of GHMC (May 2021) with reference to implementation of Telangana State Building Permission Approval and Self-Certification System (TS-bPASS (Telangana) to check violations and unauthorised</p>

Sl. No	Name of the work track	Recommendations	Status on implementation by GHMC
			<p>constructions <i>vis-à-vis</i> Building permissions sanctioned.</p>
4.	<p>Works Contractors (Public Works)</p>	<p>Construction and Maintenance of various infrastructure works ex: roads, drains, buildings, bridges <i>etc.</i>, generate C&D waste which is to be properly disposed. While the amount is budgeted in BOQs of the contract, the contractor disposes at an unofficial site and GHMC also pays tipping fee to concessionaire to lift the waste. This accounts for double payment. Waste generated during maintenance and other works to be lifted directly by concessionaire. Payment to the concessionaire shall be made by GHMC directly as unclaimed waste.</p>	<p>Constituted a committee for finalising the guidelines for transportation of C&D waste from the public works/ service providers to the respective C&D waste processing plants and usage of recycled C&D products in public works and it is under examination by the committee.</p>
5.	<p>Demolition Permit</p>	<p>a. Demolition permit works to both maintain a record of all demolitions being undertaken in the city and also act as an enforcement mechanism. The permit contains information on the location of demolition, plan for disposal of waste and proposed timeline for undertaking the work. The permit shall help in managing the influx of waste at facilities and help GHMC track demolition and construction activity at a local level.</p> <p>b. The permit may be developed and managed by the town planning department as it is similar to the Building Plan Approval System. Upon approval of the permit, a unique token number may be assigned to the applicant which shall have to be input at the time of raising requests for C&D waste pickup via the MyGHMC App.</p> <p>c. To establish a Management Information System (MIS) for C&D waste, using information tools to manage manifests from the generation of C&D waste, to discharging, transportation and disposal to allow for tracking of sources, prediction of destinations, and accountability of responsibilities</p>	<p>The recommendations of the Consultant on Demolition permit were submitted to Town Planning section in GHMC for taking necessary action, which was under examination stage by the Town Planning section.</p>
6.	<p>Tech up-gradation</p>	<p>Presently, only grievance service is available in MyGHMC app. A comprehensive system need to be developed through a mobile application which connects various stake holders involved in the C&D waste management.</p>	<p>Online App for C&D waste management is developed through CGG and integrated with the My GHMC app.</p>

Sl. No	Name of the work track	Recommendations	Status on implementation by GHMC
7.	Bulk Waste Generators	<p>a. Apply for Demolition Permit by submitting waste management plan.</p> <p>b. Approval from GHMC concerned Authority.</p> <p>c. Segregate Concrete, Soil, Steel, Wood & Plastics, bricks & mortar.</p> <p>d. Pay relevant fee for collection, transportation and processing to the Concessionaire, if not having own waste Management plan.</p> <p>e. It is observed that, on the outskirts of Hyderabad, many processing/crushing plants are being operated informally which are backed by the large scale construction firms. These processing units needs to be streamlined and authorised after the compliance with C&D rules, 2016 to reduce adverse environmental impacts.</p> <p>f. A minimum compliance criteria can be developed with a temporary permission mechanism.</p>	<p>The recommendation "Informal processing units and to authorise them after compliance with C&D Waste Management Rules, 2016, to reduce adverse environmental impacts" was not taken up in view of possible legal complications.</p> <p>No reply was furnished for status on recommendations at Sl.Nos.7 (a), (b), (c), (d) and (f).</p>
8.	Awareness and IEC activities	<p>a. Awareness and IEC activities for C&D waste for waste generators, waste collectors and waste facilitators through short- term and long-term plans. The short term plan will focus on issues of immediate importance whereas the long term plan will have a holistic and comprehensive outlook.</p> <p>b. Strengthening of internal organisational structures, systems and processes, management, leadership, governance and overall staff capacity to enhance organisational, team and individual performance.</p> <p>c. Inter-departmental coordination to generate synergies for coordination in C&D waste.</p> <p>d. Continuous engagement with citizens, societies, corporates, waste handlers via relevant channels.</p>	<p>IEC activities are conducted at field level with Citizens, Resident Welfare Associations, builders <i>etc.</i>, and Distributed pamphlets to create the awareness among the citizen on C&D waste management plants. Interaction sessions were conducted with builder associations and contractors on the C&D waste management in GHMC. Orientation workshops were conducted with truck operators/owners on penalties for unauthorised dumping.</p> <p>Conducted circle level workshops through Project Monitoring Unit to enhance the awareness among the various stakeholders including GHMC staff.</p>

Source: Information furnished by GHMC

Appendix-7.1
(Reference to Paragraph 7.10, Page 145)

Stages of Municipal Solid Waste Management Plan Implementation – Objectives and Target Audience under IEC activities

MSWM Issue	Target Audience	Objective
Generation	All waste generators in the city including informal settlements and floating population	<ul style="list-style-type: none"> • Reduce amount of waste generated • Promote reuse and recycling
Littering	Community	Prevent open littering by communicating penalties for littering
Burning of waste	ULB staff, community, floating population (focus on informal workers, low-income group localities)	<ul style="list-style-type: none"> • Prevent burning of waste as a disposal option • Dissuade and prevent open burning of waste for heating (in cities with harsh winters)
Waste segregation	All waste generators: households, commercial establishments, institutions, ULB staff	<ul style="list-style-type: none"> • Communicate importance of waste segregation in ensuring sustainable management of waste, performance of processing and treatment systems, and health and environmental aspects
Door-to-door collection	<ul style="list-style-type: none"> • Waste generators serviced by door-to-door collection (e.g., households, commercial establishments, markets, institutions, etc.) • ULB staff, NGOs, RWAs, etc., responsible for door-to-door collection 	<ul style="list-style-type: none"> • Provide information on level of segregation required • Provide information on waste collection schedule for different waste fractions (where applicable) • Provide information on timings of collection
Secondary collection	<ul style="list-style-type: none"> • Agencies involved in transportation of waste • Sanitary inspectors and other MSWM department staff 	<ul style="list-style-type: none"> • Ensure segregated transportation of waste as per MSWM plan • Ensure adoption of best practices, efficient transportation of waste to avoid illegal dumping and malpractices
Transportation	Agencies involved in transport of waste, sanitary inspectors and other Solid Waste management department staff involved in providing or monitoring these services	<ul style="list-style-type: none"> • Ensuring segregated transportation of waste as per MSWM Plan • Ensuring adoption of best practices to ensure efficient transportation of waste, avoiding illegal dumping and mal- practices in waste transportation
Waste treatment orprocessing	<ul style="list-style-type: none"> • Community • MSWM department staff • Agencies, NGOs, and formal and informal recyclers involved in Solid Waste processing of treatment 	<p>Dissemination of the following:</p> <ul style="list-style-type: none"> • Information on need for segregation for improved efficiency of waste treatment and processing • Information on planned treatment and processing facilities • Information on environmental safeguards in MSWM treatment and processing • Information on monitoring requirements • Periodic information on analysis of monitoring data
Waste disposal	<ul style="list-style-type: none"> • Community • MSWM department staff • Agencies, NGOs, and formal and informal recyclers involved in Solid Waste disposal 	<p>Disseminate the following:</p> <ul style="list-style-type: none"> • Information on waste disposal plans of the ULB • Information on environmental safeguards in MSWM disposal facilities • Information on monitoring requirements • Periodic information on analysis of monitoring data

Source: MSWM Manual, 2016 (Section 1.4.5.13.1)

PART III – Compliance Audit Paragraphs

Appendix-1.1

(Reference to paragraph 1.2, Page 151)

Library Cess collections and remittances by Municipal Corporations and Municipalities (except GHMC)

(₹ in crore)

Year	Property Tax collected	Library Cess to be collected (8 per cent of column 2)	Library Cess to be remitted to ZGS (85 per cent of column 3)	Library Cess actually remitted to ZGS	Short remittance (column 4 minus 5)
1	2	3	4	5	6
2017-18	293.28	23.46	19.94	16.33	3.61
2018-19	374.28	29.94	25.45	19.19	6.26
2019-20	476.36	38.11	32.39	22.35	10.04
2020-21	584.26	46.74	39.73	26.31	13.42
2021-22	570.50	45.64	38.79	22.80	15.99
Total	2,298.68	183.89	156.30	106.98	49.32

Source: Information furnished by CDMA

Appendix-1.2

(Reference to paragraph 1.2, Page 151)

Library Cess collections and remittances by GHMC

(₹ in crore)

Year	Property Tax collected	Library Cess to be collected (8 per cent of column 2)	Library Cess actually collected	Short collection (column 3 minus column 4)	Library Cess to be remitted to ZGS (85 per cent of column 4)	Library Cess actually remitted to ZGS	Short remittance (column 6 minus column 7)
1	2	3	4	5	6	7	8
2017-18	774.93	61.99	58.87	3.12	50.04	8.77	41.27
2018-19	801.02	64.08	59.29	4.79	50.40	3.79	46.61
2019-20	845.82	67.67	62.09	5.58	52.78	1.80	50.98
2020-21	1,015.74	81.26	77.51	3.75	65.88	2.62	63.26
2021-22	911.87	72.94	63.75	9.19	54.19	3.14	51.05
Total	4349.38	347.94	321.51	26.43	273.29	20.12	253.17

Source: Information furnished by GHMC

Glossary of Abbreviations

GLOSSARY

AC bill	Abstract Contingent Bill
3R	Reduce, Reuse and Recycle
AE	Assistant Engineer
App	Application
BG	Basic Grants
BOT	Build, Operate and Transfer
BWGs	Bulk Waste Generators
C&D	Construction And Demolition
CA	Concession Agreement
CAG	Comptroller and Auditor General
CBG	Compressed Bio-Gas
CBOs	Community Based Organisations
CFE	Consent For Establishment
COD	Commercial Operations Date
CPCB	Central Pollution Control Board
CPHEEO	Central Public Health and Environmental Engineering Organisation
CSP	City Sanitation Plan
DEABAS	Double Entry Accrual Based Accounting System
DC	District Collector or Deputy Commissioner
DC bill	Detailed Contingent Bill
DHW	Domestic Hazardous Waste
DMA	Director of Municipal Administration
DPC	District Planning Committee
DPC Act	Duties, Powers and Conditions of Service Act
DPRs	Detailed Project Reports
DRCCs	Dry Resource Collection Centres
DSA	Director State Audit
EE	Executive Engineer
EIF	Environment Impact Fee
EPTRI	Environment Protection Training and Research Institute
ERMPL	Everenviro Resource Management Private Limited
FFC	Fourteenth Finance Commission
GHMC	Greater Hyderabad Municipal Corporation
GHs	Group Housings
GIS	Geographic Information System

GoI	Government of India
GP	Gram Panchayat
GPS	Global Positioning System
HCDWL	Hyderabad C&D Waste Pvt. Ltd
HIMSWL	Hyderabad Integrated Municipal Solid Waste Limited
HSCs	Hiva Static Containers
IALA	Industrial Area Local Authority
IEC	Information, Education and Communication
IEISL	M/S Indo Enviro Integrated Solutions Limited
IMSWM	Integrated Municipal Solid Waste Management
ISWM	Integrated Solid Waste Management
JPV	Joint Physical Verification
KLD	Kilo Liters Per Day
LCS	Leachate Collection System
M&E	Monitoring and Evaluation
MA&UD	Municipal Administration and Urban Development
MIS	Management Information System
MMTS	Multi-Modal Transit System
MPP	Mandal Praja Parishad
MoEFCC	Ministry Of Environment, Forest and Climate Change
MoUD	Ministry Of Urban Development
MSW	Municipal Solid Waste
MSWM	Municipal Solid Waste Management
MT	Metric Tonne
MV	Motor Vehicle
MW	Mega Watt
NGOs	Non-Governmental Organisations
NGT	National Green Tribunal
NRCs	Non-Residential Complexes
PG	Performance Grant
PPE	Personal Protection Equipment
PPP	Public Private Partnership
PRIs	Panchayati Raj Institutions
PRIASoft	Panchayati Raj Institutions Accounting Software
PR&RE	Panchayat Raj and Rural Employment
QR	Quick Response

RC	Registration Certificate
RCVs	Refuse Compactor Vehicles
RDF	Refuse Derived Fuel
RDFPPL	RDF Power Project Ltd
REEL	Ramky Enviro Engineers Ltd
RO	Reverse Osmosis
RRR	Reduce, Reuse and Recycle
SATs	Swachh Auto Tippers
SBM-U	Swachh Bharat Mission-Urban
SCTP	Secondary Collection Transport Point
SEIAA	State Level Environment Impact Assessment Authority
SHGs	Self-Help Groups
SLAB	State Level Advisory Body
SLB	Service Level Benchmark
SPCB	State Pollution Control Board
SSAAT	Society for Social Audit, Accountability and Transparency
SWM	Solid Waste Management
T&D	Treatment and Disposal
TF	Tipping Fees
TGS	Technical Guidance and Support
TPD	Tonnes Per Day
TS	Transfer Stations
TSPCB	Telangana State Pollution Control Board
ULB	Urban Local Body
VFC	Vehicle Fitness Certificate
VIC	Vehicle Insurance Certificate
WtE	Waste to Energy
ZGS	Zilla Grandhalaya Samstha
ZPP	Zilla Praja Parishad

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