

10-11

THOOTHUKUDI CITY MUNICIPAL CORPORATION



13TH FINANCE COMMISSION **SERVICE LEVEL BENCHMARK OF ESSENTIAL** **SERVICES**

BENCHMARKS AT A GLANCE

2.1 Water Supply Services

S. No.	Proposed Indicator	Benchmark
2.1.1	Coverage of water supply connections	100%
2.1.2	Per capita supply of water	135 lpcd
2.1.3	Extent of metering of water connections	100%
2.1.4	Extent of non-revenue water (NRW)	20%
2.1.5	Continuity of water supply	24 hours
2.1.6	Quality of water supplied	100%
2.1.7	Efficiency in redressal of customer complaints	80%
2.1.8	Cost recovery in water supply services	100%
2.1.9	Efficiency in collection of water supply-related charges	90%

2.2 Sewage Management (Sewerage and Sanitation)

S. No.	Proposed Indicator	Benchmark
2.2.1	Coverage of toilets	100%
2.2.2	Coverage of sewage network services	100%
2.2.3	Collection efficiency of the sewage network	100%
2.2.4	Adequacy of sewage treatment capacity	100%
2.2.5	Quality of sewage treatment	100%
2.2.6	Extent of reuse and recycling of sewage	20%
2.2.7	Efficiency in redressal of customer complaints	80%
2.2.8	Extent of cost recovery in sewage management	100%
2.2.9	Efficiency in collection of sewage charges	90%

2.3 Solid Waste Management

S. No.	Proposed Indicator	Benchmark
2.3.1	Household level coverage of solid waste management services	100%
2.3.2	Efficiency of collection of municipal solid waste	100%
2.3.3	Extent of segregation of municipal solid waste	100%
2.3.4	Extent of municipal solid waste recovered	80%
2.3.5	Extent of scientific disposal of municipal solid waste	100%
2.3.6	Efficiency in redressal of customer complaints	80%
2.3.7	Extent of cost recovery in SWM services	100%
2.3.8	Efficiency in collection of SWM charges	90%

2.4 Storm Water Drainage

S. No.	Proposed Indicator	Benchmark
2.4.1	Coverage of storm water drainage network	100%
2.4.2	Incidence of water logging/flooding	0

2.1 | WATER SUPPLY SERVICES

2.1.1 COVERAGE OF WATER SUPPLY CONNECTIONS

Performance Indicator		
Indicator	Unit	Definition
Household level coverage of direct water supply connections	%	Total number of households in the service area that are connected to the water supply network with direct service connections, as a percentage of the total number of households in that service area. Service area implies a specific jurisdiction in which service is required to be provided.

Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of households in the service area 82420	Number 80173	The total number of households (not properties) in the service area should be calculated. The service area refers to either the ward or ULB limits. Cadastre maps supplemented through actual ground level surveys (carried out once in four to five years) should provide these data. Exclusive surveys need not be carried out, and data can be collected during other surveys carried out for property tax, or other such purposes.
b. Total number of households with direct water supply connection 43160	Number 38229	This will include households which receive municipal water supply at one common point, from where it is stored and distributed to all households (for example, as in apartment complexes). Households supplied water through public standposts or tankers should be excluded. Households completely dependent on other water sources such as borewells, open wells, etc., should not be included.
Household coverage for water supply connections	%	Coverage = [(b/a)*100]

2.1.2 PER CAPITA SUPPLY OF WATER

Performance Indicator		
Indicator	Unit	Definition
Per capita quantum of water supplied	litres per capita per day (lpcd)	Total water supplied to consumers expressed by population served per day.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Water supplied to the distribution system 691.20	litres per month 640.8	Daily quantities should be measured through metering, and records maintained. The total supply for the month should be based on an aggregate of daily quantum. Only treated water input into the distribution system should be measured. If water is distributed from multiple points, the aggregate of that quantity should be considered. The quantum should exclude bulk water transmission and distribution losses, as measured through water audit tests. This quantum should include water purchased directly from any other sources and put into the distribution system, if any. Water may have been purchased from neighbouring ULBs, Cantonment Boards, etc. Water supplied in bulk to large water intensive industries/industrial estates should be excluded.
b. Population served 240000	Number 240000	The number of people in the service area served by the utility. While typically the number of residents are considered, if the city has a significant floating population of tourists who temporarily reside in the city, such a population should be included. Tourist population estimates can be reasonably computed on the basis of bed capacity of hotels, and occupancy rates.
c. Number of days in the month 30	Number 30	The number of days in the specific month.
d. Additional information on areas where water is supplied at a rate less than 70 lpcd	litres per capita per day (lpcd)	The number of people in these service areas served by the utility. The quantity of water supplied to these areas measured through bulk meters or by scientific calculation using flow velocity and head.
Water supplied	lpcd	Per capita water supplied = [(a/c) / b]

2.1.3 EXTENT OF METERING OF WATER CONNECTIONS

Performance Indicator

Indicator	Unit	Definition
Extent of metering of water connections	%	The total number of functional metered water connections expressed as a percentage of the total number of water supply connections. Public standpost connections should also be included.

Data Requirements

Data required for calculating the indicator	Unit	Remarks
a. Total number of direct service connections 43160	Number 38229	This will include households and establishments which receive municipal water supply at one common point, from where it may be stored and distributed for all households (for example, as in apartment complexes). Households completely dependent on other water sources such as bore wells, open wells, etc., should not be included.
b. Total number of public standposts 684	Number 684	The total number of public standpost connections, which are currently in use, should be considered.
c. Number of metered direct service connections 43160	Number 38229	Of the total number of direct service connections (to all categories of consumers), the number of connections which have functional meters, and metered quantities is the basis for billing of water charges.
d. Number of metered public standposts 0	Number 0	Typically, public standposts are not metered. However, if some are metered, they should be included.
Extent of metering of water connections	%	Extent of metered connections = $[(c + d) / (a + b)] * 100$

2.1.4 EXTENT OF
NON-REVENUE WATER (NRW)

Performance Indicator		
Indicator	Unit	Definition
Extent of NRW	%	This indicator highlights the extent of water produced which does not earn the utility any revenue. This is computed as the difference between the total water produced (ex-treatment plant) and the total water sold expressed as a percentage of the total water produced. NRW comprises: a) Consumption which is authorised but not billed, such as public standposts; b) Apparent losses such as illegal water connections, water theft and metering inaccuracies; and c) Real losses which are leakages in the transmission and distribution networks.

Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total water produced and put into the transmission and distribution system	million litres per day (or) month 25	Daily quantities should be measured through metering, and records on the transmission and distribution system should be maintained. The total supply for the month should be based on the aggregate of the daily quantum. Only treated water input into the distribution system should be measured. If water is distributed from multiple points, the aggregate of that quantity should be considered. This quantum should include water purchased directly from any other sources and put into the distribution system, if any. Water may have been purchased from neighbouring ULBs, Cantonment Boards, etc.
b. Total water sold	million litres per day (or) month 21-36	The actual volume of water supplied to customers who are billed for the water provided. Ideally, this should be the aggregate volume of water consumed as per which consumers have been billed. However, in the absence of a complete and functionally effective metering regimen, alternate methods of measurement need to be evolved, with lower but acceptable levels of reliability.
NRW	%	$NRW = [(a - b)/a] * 100$

2.1.5 CONTINUITY OF WATER SUPPLY

Performance Indicator

Indicator	Unit	Definition
Continuity of water supply	Hours per day	Continuity of supply is measured as the average number of hours of pressurised water supply per day. Water pressure should be equal to or more than a head of 7 metre (m) at the ferrule point/meter point for the connection (7 m head corresponds to the ability to supply to a single-storey building).

Data Requirements

Data required for calculating the indicator	Unit	Remarks
Average hours of pressurised supply per day	Hours 3 hrs	The number of hours of supply in each operational zone (or DMA) should be measured continuously for a period of seven days. The average of the seven days should be considered for that month. Measurement should exclude hours of supply where the pressure is less than the minimum standards for piped water supply. The zone-wise figures should be averaged out to get city-wise data.

2.1.6 QUALITY OF WATER SUPPLIED

Performance Indicator		
Indicator	Unit	Definition
Quality of water supplied	%	The percentage of water samples that meet or exceed the specified potable water standards, as defined by the Central Public Health and Environmental Engineering Organisation (CPHEEO). The sampling regimen should meet standards and norms laid down.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of water supply-related complaints received per month	Number per month 4	The actual number of water samples that are taken for testing in the month. Samples should be drawn at both points—outlet of the treatment plant and at the consumer end. The sampling regimen should meet laid down standards and norms.
b. Number of samples that meet the specified potable water standards in the month	Number per month 4	Of the total number of samples drawn in the month, the number of samples that have met or exceeded the specified potable water standards. All parameters of the quality standards should be met. Even if one standard is not met, the sample cannot be assumed to have met the standards.
Quality of water supply	%	Quality of water supply = $[(b/a) \times 100]$

2.1.7 EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Performance Indicator		
Indicator	Unit	Definition
Efficiency in redressal of customer complaints	%	The total number of water supply-related complaints redressed within 24 hours of receipt of complaint, as a percentage of the total number of water supply-related complaints received in the given time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of water supply-related complaints received per month	Number per month 24	The total number of all supply-related complaints from consumers received during the month. Systems for receiving and logging in complaints should be effective and easily accessible to the citizens. Points of customer contact will include common phone numbers, written complaints at ward offices, collection centres, drop boxes, online complaints on the website, etc.
b. Total number of complaints redressed within the month	Number per month 17	The total number of water supply-related complaints that are satisfactorily redressed within 24 hours or the next working day, within that particular month. Satisfactory resolution of the complaint should be endorsed by the person making the complaint in writing, as a part of any format/proforma that is used to track complaints.
Efficiency in redressal of complaints	%	Efficiency in redressal of complaints = $[(b/a)*100]$

2.1.8 COST RECOVERY IN WATER SUPPLY SERVICES

Performance Indicator		
Indicator	Unit	Definition
Cost recovery in water supply services	%	The total operating revenues expressed as a percentage of the total operating expenses incurred in the corresponding time period. Only income and expenditure of the revenue account must be considered, and income and expenditure from the capital account should be excluded.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total annual operating expenses	Rs crore per quarter 0.57	Should include all operating expenses (for the year) such as electricity, chemicals, staff, outsourced operations/staff related to water supply, bulk water purchase costs and other operations and maintenance (O&M) expenses. Should exclude interest payments, principal repayments and other capital expenses.
b. Total annual operating revenues	Rs crore per quarter 0.61	Should include all water supply-related revenues (billed) during the corresponding time period, including taxes/cess/surcharges, user charges, connection charges, sale of bulk water, etc. This should exclude capital income such as grants, loans, etc.
Cost recovery in water supply services	%	Cost recovery = [(b/a)*100]

2.1.9 EFFICIENCY IN COLLECTION OF WATER SUPPLY-RELATED CHARGES

Performance Indicator		
Indicator	Unit	Definition
Efficiency in collection of water-related charges	%	Efficiency in collection is defined as current year revenues collected, expressed as a percentage of the total operating revenues, for the corresponding time period
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Current revenues collected in the given year	Rs crore per annum 480.62	Revenues collected for bills raised during the year. This should exclude collection of arrears as inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how many arrears are being built up, and therefore only current revenues should be considered.
b. Total operating revenues billed during the given year	Rs crore per annum 586.13	The total quantum of revenues related to water supply services that is billed during the year. This should include revenues from all sources related to water such as taxes, charges, cess, surcharges, sale of bulk water, etc.
Collection efficiency	%	Collection efficiency = $[(a/b)*100]$

2.2 | SEWAGE MANAGEMENT (SEWERAGE AND SANITATION)

2.2.1 COVERAGE OF TOILETS

Performance Indicator		
Indicator	Unit	Definition
Coverage of toilets	%	This indicator denotes the extent to which citizens have access to a toilet (whether individual or community) in a service area. The toilets would include those in the category of residential, commercial, industrial and institutional properties. The service area implies a specific jurisdiction in which the service is required to be provided.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of properties with access to individual or community toilets within walking distance in the service area	Number 72186	The total number of toilets (as against households) should be assessed. A property may have multiple tenants. A property is considered unique if it is recorded as a unique property in the municipal records. Municipal records should be up-to-date, and preferably backed up by a cadastre map.
b. Total number of properties without individual or community toilets within walking distance	Number —	Only the total number of properties without access to individual or community toilets should be assessed.
Coverage of toilets	%	Coverage of toilets = $[a/a+b]*100$

2.2.2 COVERAGE OF SEWAGE NETWORK SERVICES

Performance Indicator		
Indicator	Unit	Definition
Coverage of sewage network services	%	This indicator denotes the extent to which the underground sewage (or sewerage collection) network has reached out to individual properties across the service area. Properties include those in the categories of residential, commercial, industrial and institutional. The service area implies a specific jurisdiction in which service is required to be provided.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of properties in the service area	Number 24660	The total number of properties (as against households) should be assessed. A property may have multiple tenants. A property is considered unique if it is recorded as a unique property in the municipal records. Municipal records should be up-to-date, and preferably backed up by a cadastre map.
b. Total number of properties with direct connection to the sewage network	Number 2242	Only properties with access connection to the underground sewage network should be included. Properties that connect their sewerage outlet to storm water drains or open drainage systems should not be considered. However, this may include one or more properties with access to decentralised/standalone underground sewage networks, which have treatment and safe effluent disposal facilities, which has been set up and operated according to laid down environmental standards.
Coverage of sewage network	%	Coverage of sewage network services = $[b/a] * 100$

2.2.3 COLLECTION EFFICIENCY OF THE SEWAGE NETWORK

Performance Indicator		
Indicator	Unit	Definition
Efficiency in collection of sewage	%	<p>This indicator is measured as the quantum of wastewater collected as a percentage of normative sewage generation in the ULB. Wastewater generation is linked to the quantum of water supplied through piped systems, and other sources such as bore wells, when they are very extensively used.</p> <p>Data should be collected daily for an entire month, so as to measure the quantities per month. While daily variations may be normalised, monthly variations may exist on account of seasonal variations. Data should be aggregated from multiple points across the ULB.</p>
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total water supplied	million litres per day (or) month 22	Data on the total quantum of water supplied to consumers should be based on the water supplied to the distribution system (ex-treatment plant and including purchased water, if any), less physical losses of water in the transmission and distribution system through leakages. In case municipal water is supplied through decentralised distribution networks or sourcing water from deep bore wells, it should be included.
b. Estimated water use from other sources	million litres per day (or) month 0	An estimate of water drawn from other sources such as private bore wells. Data that will drive this estimate include the number of properties with access to bore wells or other sources of water, spatially spread across the city, and the quantity of water supplied in those areas. Alternately, data may also be collected from sample surveys.
c. Wastewater collected	million litres per day (or) month 4.60	The quantum of wastewater measured at the inlet of treatment plants. The quantum of untreated sewage at outfalls, leading into rivers, lakes or other water bodies should not be included in the quantum of sewage collected.
Wastewater collection efficiency	%	Collection efficiency of sewage networks = $[c / ((a+b)*0.8)] \times 100$

2.2.4 ADEQUACY OF SEWAGE TREATMENT CAPACITY

Performance Indicator		
Indicator	Unit	Definition
Adequacy of capacity for treatment of sewage	%	Adequacy is expressed as secondary treatment (that is, removing oxygen demand as well as solids, normally biological) capacity available as a percentage of normative wastewater generation, for the same time period

Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total water consumed	million litres per day (or) month <i>2.2</i>	Data on the total quantum of water supplied to consumers should be based on the water supplied to the distribution system (ex-treatment plant and including purchased water, if any), less physical losses of water in the transmission and distribution system through leakages. In case municipal water is supplied through decentralised distribution networks or sourcing water from deep bore wells, it should be included.
b. Total number of properties with direct connection to the sewage network	million litres per day (or) month <i>1.01</i>	An estimate of water drawn from other sources such as private bore wells. Data that will drive this estimate include the number of properties with access to bore wells or other sources of water, spatially spread across the city, and the quantity of water supplied in those areas. Alternately, data may also be collected from sample surveys.
c. Treatment plant capacity	million litres per day (or) month	Total functional capacity of all wastewater treatment plants that can meet secondary treatment standards.
Wastewater treatment capacity	%	Adequacy of treatment capacity = $[c / ((a+b)*0.8)] \times 100$

2.2.5 QUALITY OF SEWAGE TREATMENT

Performance Indicator		
Indicator	Unit	Definition
Quality of treatment	%	Quality of treatment is measured as a percentage of wastewater samples that pass the specified secondary treatment standards, that is, treated water samples from the outlet of STPs are equal to or better than the standards laid down by the Government of India agencies for secondary treatment of sewage. While the samples are collected at the STP outlet and results should be computed per STP, this indicator should be reported at city/ULB level.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of wastewater samples tested in a month	Number per month	Sampling (quantity, periodicity, point of sample collection, etc.) should be taken as per good industry practices and laid down norms by environmental agencies, such as pollution control boards of respective States.
b. Number of samples that pass the specified secondary treatment standards	Number per month	Within the total valid samples, the number of samples that pass the specified secondary treatment standards, along all key parameters.
Quality of treatment	%	Quality of treatment capacity = [(b/a)*100]

2.2.6 EXTENT OF REUSE AND RECYCLING OF SEWAGE

Performance Indicator		
Indicator	Unit	Definition
Extent of recycling or reuse of sewage	%	<p>The percentage of wastewater received at the treatment plant that is recycled or reused after appropriate treatment for various purposes. This should only consider water that is directly conveyed for recycling or reuse, such as use in gardens and parks, use for irrigation, etc. Water that is discharged into water bodies, which is subsequently used for a variety of purposes, should not be included in this quantum.</p> <p>While measurements are done at STP inlets and outlets, the indicator should be reported at the city/ULB level as a whole.</p>
Data Requirements		
Data required for calculating the Indicator	Unit	Remarks
a. Wastewater received at STPs	million litres per day (or) month	This should be based on the actual flow measurement, the quantum for which should be measured daily. Daily quantities should be aggregated to arrive at monthly quantum.
b. Wastewater recycled or reused after appropriate treatment	million litres per day (or) month	This should be based on the actual flow measurement by functional flow meters, the quantum for which should be measured daily. Daily quantities should be aggregated to arrive at the monthly quantum.
Wastewater recycled or reused	%	Extent of sewage recycled or reused = $[(b/a) * 100]$

2.2.7 EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Performance Indicator		
Indicator	Unit	Definition
Efficiency in redressal of customer complaints	%	The total number of sewage-related complaints redressed within 24 hours of receipt of complaints, as a percentage of the total number of sewage-related complaints received in the given time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of sewage-related complaints received per month	Number per month 138	The total number of all sewage-related complaints from consumers received during the month. Systems for receiving and logging in complaints should be effective and easily accessible to the citizens. Points of customer contact will include common phone numbers, written complaints at ward offices, collection centres, drop boxes, online complaints on the website, etc.
b. Total number of complaints redressed within the month	Number per month 102	The total number of sewage-related complaints that are satisfactorily redressed within 24 hours or the next working day, within that particular month. Satisfactory resolution of the complaint should be endorsed by the person making the complaint in writing, as part of any format/proforma that is used to track complaints.
Efficiency in redressal of complaints	%	Efficiency in redressal of complaints = $[(b/a)*100]$

2.2.8 EXTENT OF COST RECOVERY IN SEWAGE MANAGEMENT

Performance Indicator		
Indicator	Unit	Definition
Extent of cost recovery in sewage management	%	The extent of cost recovery is expressed as wastewater revenues as a percentage of wastewater expenses, for the corresponding time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total annual operating expenses	Rs crore	Should include all operating expenses (for the year) such as electricity, chemicals, staff and other establishment costs, outsourced operations/staff related to wastewater collection and treatment, and O&M expenses. Should exclude interest payments and principal repayments.
b. Total annual operating revenues	Rs crore	Should include all wastewater-related revenues billed for the year including taxes/cess/surcharges, user charges, connection charges, sale of sludge, sale of recycled water, etc.
Cost recovery in sewage management	%	Cost recovery = $[(b/a)*100]$

2.2.9 EFFICIENCY IN COLLECTION OF SEWAGE CHARGES

Performance Indicator		
Indicator	Unit	Definition
Efficiency in collection of sewage charges	%	Efficiency in collection is defined as current year revenues collected, expressed as a percentage of the total operating revenues, for the corresponding time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Current revenues collected in the given year	Rs crore per annum	Revenues collected for bills raised during the year. This should exclude collection of arrears as inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how many arrears are being built up, and therefore only current revenues should be considered.
b. Total operating revenues billed during the given year	Rs crore per annum	The total quantum of revenues related to sewage services that are billed during the year. This should include revenues from all sources related to sewage such as taxes, charges, cess, surcharges, etc.
Collection efficiency	%	Collection efficiency = $[(a/b)*100]$

2.3 | SOLID WASTE MANAGEMENT

2.3.1 HOUSEHOLD LEVEL COVERAGE OF SOLID WASTE MANAGEMENT SERVICES

Performance Indicator		
Indicator	Unit	Definition
Household level coverage of SWM services through door-to-door collection of waste	%	Percentage of households and establishments that are covered by a daily doorstep collection system.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of households and establishments in the service area	Number 80196	The total number of households and establishments (not properties) in the service area should be calculated. The service area refers to either the ward or the ULB limits.
b. Total number of households and establishments with daily doorstep collection	Number 80196	Include doorstep collection by the ULB itself or ULB approved service providers. This can even include door-to-door collection systems operated by RWAs, etc.
Coverage	%	Coverage = $[(b/a)*100]$

2.3.2 EFFICIENCY OF COLLECTION OF MUNICIPAL SOLID WASTE

Performance Indicator		
Indicator	Unit	Definition
Collection efficiency	%	The total waste collected by the ULB and authorised service providers versus the total waste generated within the ULB, excluding recycling or processing at the generation point. (Typically, some amount of waste generated is either recycled or reused by the citizens themselves. This quantity is excluded from the total quantity generated, as reliable estimates will not be available for these.)
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total waste that is generated and which needs to be collected	Tonnes per month 32040	The total waste generated excluding waste processed or recycled at the generation point. This would depend on the population of the city, and the composition of economic activities.
b. Total quantum of waste that is collected by the ULB or authorised service providers	Tonnes per month 30391	The total waste collected from households, establishments and common collection points. This should be based on actual weighing of the collected waste. Daily generation should be aggregated to calculate the total monthly quantum. This should exclude any special drives for waste collection, and waste generated from one-off activities such as demolitions, desilting canals, etc.
Collection efficiency	%	Collection efficiency = [(b/a)*100]

2.3.3 EXTENT OF SEGREGATION OF MUNICIPAL SOLID WASTE

Performance Indicator		
Indicator	Unit	Definition
Extent of segregation of waste	%	Percentage of waste from households and establishments that is segregated. Segregation should at least be at the level of separation of wet and dry waste at the source, that is, at the household or establishment level. Ideally, the separation should be in the following categories: bio-degradable waste, waste that is non-biodegradable, and hazardous domestic waste such as batteries, etc. In line with this description, the ULB may further refine the criteria for classifying waste as being 'segregated'.

It is important that waste segregated at the source is not again mixed, but transported through the entire chain in a segregated manner. It is therefore important that this indicator is based on measurement of waste arriving in a segregated manner at the treatment/disposal site, rather than being measured at the collection point.

Data Requirements		
Data required for calculating the Indicator	Unit	Remarks
a. Quantum of waste that is segregated	Tonnes per month 3799	The total quantum of waste that arrives in a segregated manner at the treatment and/or disposal site (that is, composting yards, waste treatment plants, landfill sites, etc.). Waste that arrives at these locations in an unsegregated manner should not be considered. Waste taken away by recyclers from intermediate points should be added to this quantum.
b. Total quantum of waste that is collected by the ULB or authorised service providers	Tonnes per month 30391	The total waste collected from households, establishments and common collection points. This should be based on actual weighing of the collected waste, and should exclude any special drives for waste collection, and waste generated from one-off activities such as demolitions, desilting canals, etc. (This corresponds to the quantity of (b), as measured for the indicator on collection efficiency.)
Extent of segregation	%	Extent of segregation = $[(a/b)*100]$

2.3.4 EXTENT OF MUNICIPAL SOLID WASTE RECOVERED

Performance Indicator		
Indicator	Unit	Definition
Extent of recovery of waste collected	%	This is an indication of the quantum of waste collected, which is either recycled or processed. This is expressed in terms of percentage of waste collected.
Data Requirements		
Data required for calculating the Indicator	Unit	Remarks
a. Amount of waste that is processed or recycled	Tonnes per month 2974	The total quantum of waste intake by waste processing/recycling facilities operated by the ULB or operator at a city/ward/locality level. Inert matter, and other material refused by the processing/recycling facilities, which will go back to the dumping sites/landfills, should be deducted from the intake quantities. Waste collected at intermediate points by informal mechanisms (rag pickers, etc.) and fed back into the recycling chain should be included in this quantity. This can be assessed through data from wholesale traders of such waste at the city level. Typically, there would be a few wholesalers at the city level from whom data can be collected.
b. Total quantum of waste that is collected by the ULB or authorised service providers	Tonnes per month 30391	The total waste collected from households, establishments and common collection points. This should be based on actual weighing of the collected waste. This should exclude any special drives for waste collection, and waste generated from one-off activities such as demolitions, desilting canals, etc. (This corresponds to the quantity of (b), as measured for the indicator on collection efficiency.)
Recovery	%	Extent of recovery = $[a/b] * 100$

2.3.5 EXTENT OF SCIENTIFIC DISPOSAL OF MUNICIPAL SOLID WASTE

Performance Indicator

Indicator	Unit	Definition
Extent of scientific disposal of waste at landfill sites	%	The amount of waste that is disposed in landfills that have been designed, built, operated and maintained as per standards laid down by Central agencies. This extent of compliance should be expressed as a percentage of the total quantum of waste disposed at landfill sites, including open dump sites.

Data Requirements

Data required for calculating the indicator	Unit	Remarks
a. Total waste disposed in 'compliant' landfills every month	Tonnes per month 0	A daily log of waste being disposed at such 'compliant' landfill sites should be maintained, based on actual measurement at weighbridges that are preferably located at the entrance to such sites. The monthly total should be the sum of daily totals in the month.
b. Total waste disposed in all landfills every month	Tonnes per month 2747	The total waste disposed after collection and recovery (if any) at landfills (including compliant landfills and open dumpsites). This quantity should be based on actual measurement at weighbridges that are preferably located at the entrance to such sites. The monthly total should be the sum of daily totals in the month.

Extent of scientific disposal

%

Extent of scientific disposal = $[a/b] \times 100$

2.3.6 EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Performance Indicator		
Indicator	Unit	Definition
Efficiency in redressal of customer complaints	%	The total number of SWM-related complaints redressed within 24 hours of receipt of the complaint, as a percentage of the total number of SWM-related complaints received in the given time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Total number of SWM-related complaints received per month	Number per month 78	The total number of all SWM-related complaints from consumers received during the month. Systems for receiving and logging in complaints should be effective and easily accessible to the citizens. Points of customer contact will include common phone numbers, written complaints at ward offices, collection centres, drop boxes, online complaints on the website, etc.
b. Total number of complaints redressed within the month	Number per month 78	The total number of SWM-related complaints that are satisfactorily redressed within 24 hours or the next working day, within that particular month. Satisfactory resolution of the complaint should be endorsed by the person making the complaint in writing, as part of any format/proforma that is used to track complaints.
Efficiency in redressal of complaints	%	Efficiency in redressal of complaints = $[(b/a)*100]$

2.3.7 EXTENT OF COST RECOVERY IN SWM SERVICES

Performance Indicator		
Indicator	Unit	Definition
Extent of cost recovery for the ULB in SWM services	%	<p>This indicator denotes the extent to which the ULB is able to recover all operating expenses relating to SWM services from operating revenues of sources related exclusively to SWM.</p> <p>This indicator is defined as the total annual operating revenues from SWM as a percentage of the total annual operating expenses on SWM.</p>
Data Requirements		
Data required for calculating the Indicator	Unit	Remarks
a. Total annual operating expenses	Rs crore 0.76	Should include all operating expenses incurred by the ULB towards SWM services. This should include costs related to O&M expenses, all directly attributable administrative and establishment expenditure (including salaries, wages, contract labour hire charges, etc.). Operating expenses should also include payments to contractors for activities outsourced by the ULB. Should exclude interest payments and principal repayments.
b. Total annual operating revenues	Rs crore 0	Should include all taxes and charges for SWM, plus proceeds from processing or recycling that accrue to the account of the ULB. This should exclude income earned by contractors, or the informal sector, that is not passed onto the ULB.
Cost recovery	%	Cost recovery = $[b/a] \times 100$

2.3.8 EFFICIENCY IN COLLECTION OF SWM CHARGES

Performance Indicator		
Indicator	Unit	Definition
Efficiency in collection of SWM charges	%	Efficiency in collection is defined as current year revenues collected, expressed as a percentage of the total operating revenues, for the corresponding time period.
Data Requirements		
Data required for calculating the indicator	Unit	Remarks
a. Current revenues collected in the given year	Rs crore per annum	Revenues collected for bills raised during the year. This should exclude collection of arrears as inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how many arrears are being built up, and therefore only current revenues should be considered.
b. Total operating revenues billed during the given year	Rs crore per annum	The total quantum of revenues related to SWM services that are billed during the year. This should include revenues from all sources related to SWM such as taxes, charges, cess, surcharges, etc.
Cost recovery	%	Collection efficiency = $[(a/b)*100]$

2.4 | STORM WATER DRAINAGE

2.4.1 COVERAGE OF STORM WATER DRAINAGE NETWORK

Performance Indicator

Indicator	Unit	Definition
Coverage of storm water drainage network	%	Coverage is defined in terms of the percentage of road length covered by the storm water drainage network

Data Requirements

Data required for calculating the indicator	Unit	Remarks
a. Total length of road network in the ULB	km	Only consider roads that are more than 3.5 m wide carriageway
b. Total length of primary, secondary and tertiary drains	km	Only consider drains that are trained, made of pucca construction and are covered.

125.82

3.34

Coverage of storm water drainage networks	%	Coverage = $[(b/a)*100]$
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2.4.2 INCIDENCE OF WATER LOGGING/FLOODING

Performance Indicator		
Indicator	Unit	Definition
Aggregate number of incidents of water logging reported in a year	Number per year	The number of times water logging is reported in a year, at flood prone points within the city.
Data Requirements		
Data required for calculating the Indicator	Unit	Remarks
a. Identification of flood prone points within the ULB limits. The points may be named as A1, A2, A3,.....An	Number 13	Flood prone points within the city should be identified as locations that experience water logging at key road intersections, or along a road length of 50 m or more, or in a locality affecting 50 households or more.
b. Number of occasions of flooding/water logging in a year	Number per year (An occasion or incident of flooding/water logging should be considered if it affects transportation and normal life. Typically, stagnant water for more than four hours of a depth more than six inches.
The aggregate number of instances or occasions of water logging/flooding reported across the city in a year	Number per year	Aggregate incidence = (b at A1) + (b at A2) + (b at An)

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 THOOTHUKUDI CITY MUNICIPAL CORPORATION
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 20/4/11