Annual Performance Report

(January to December 2015)

Thimphu Thromde

Contents

1.0	Introduction

Background

The Performance Report has been prepared in the backdrop of the **Policy Note on Performance Reporting and Design of Performance Reports** issued under the BUDP II project. The indicators mentioned in the reports are based on the guidelines described in the Performance manual.

Performance Measurement (PM) is a practice that many organizations use with a view to achieve desired levels of effectiveness and efficiency in their functions/ operations. It can also be served as a tool for strategic decision-making and long term planning process. It is a technique for regular monitoring and reporting of the performance of various schemes and programmes, departments, or divisions of the organizations. PM is concerned with not only how much is being done, but also how efficiently, of what quality, and to what effect.

Performance measures in local government gauge the quantity, quality, efficiency, and impact of the work of a city government. These measures usually focus on the work of crews, programs, or entire departments rather than the work of individual employees.

The performance indicators (PI) have been primarily classified into 4 core services covering 28 indicators and 7 other services covering 26 indicators.

The list of indicators is illustrated in Chapter 3 of this report.

Objective of the Report

The report will enable the thromde officials to determine how efficiently and effectively the concerned departments or divisions are delivering services. It would provide an assessment of the quality of work the local body is doing and how successful it has been in satisfying beneficiaries' needs and expectations.

It involves indicators that would ensure that goals are consistently being met in an effective and efficient manner. Introduction of Performance reporting in relation to service delivery at Thimphu Thromde (TT) and Phuentsholing Thromde (PT) aims to ensure that each Thromde is able to introduce a standard periodic monitoring mechanism to assess if their respective actual performance is in consonance with the vision, mission and objectives/benchmarks established by each department/division of Thromdes. Its benefits include an availability of framework for evaluation of performance of each service; thromdes are mandated to deliver effectively and efficiently.

2.0 Need for Performance Measurement

To usefully serve the various purposes of performance measurement, a set of measures must be multidimensional. It must focus not just on the quantity of services provided by a department or program but also on the quality of services, the efficiency with which services are provided, and the extent to which objectives are being achieved. An especially good set of measures may even assess the overall productivity of a program—often by means of an index that taps both efficiency and effectiveness—and the impact that the program or service is having on service recipients or the community as a whole.

Performance measurement provides vital information for management and oversight

Those who manage a program and those who have oversight responsibility for it should know what is being done and how well it is being done.

Performance measurement focuses attention on priorities and results

The identification of key objectives for a department or program and the measurement of progress toward these objectives focus the attention of program officials and employees, and, where needed, prompt the development of new strategies to achieve the program's objectives.

Performance measurement identifies successful strategies

Evidence of performance progress will reveal strategies that are working. In contrast, evidence of performance decline or performance gaps will challenge the status quo, leading managers to revise their strategies or test new approaches and, perhaps in especially severe cases, prompt decision makers to consider service delivery alternatives or even program discontinuation.

Performance measurement enhances accountability

Those who pay for public programs deserve an accounting that reassures them that funds are being spent properly, that programs are being managed efficiently, and that expectations for service quantity, quality, and results are being met.

More specific applications include:

Performance reporting, both internal and external to the local government, serves as a method of accountability for performance.

Directing operations, making adjustments where measures indicate areas or patterns of deficiency.

Deciding Priorities, Performance indicators can measure the contribution of each activity towards achieving the agency's objectives and help in deciding priorities as the available resources are limited against numerous competing demands.

Testing new procedures or equipment, comparing new measures with prior results or comparing pilot project results to measures elsewhere.

Contract monitoring to ensure that promises regarding service quantity and quality are being kept.

Supporting planning and budgeting systems by providing objective information on the condition of programs and services.

Program evaluation, which often begins with routinely collected performance measures and proceeds with the compiling of new measures specific to the needs of more detailed analysis.

Assigning responsibilities, Performance indicators enables to identify the areas where the performance is not up to the mark, and then assign specific responsibilities to the concerned staff and hold them accountable for improving performance.

Benchmarking, usually by comparing the performance measures of one's own organization to professional standards or to the results achieved by respected counterparts, often as a catalyst for improving local operations.

3.0 Performance Indicators

3.1 Development of Performance Indicators

The challenges of the urban sector are growing rapidly, and government agencies at various levels are taking steps to address the gaps in service delivery. One of the important steps towards this is introduction of appropriate systems for information management, performance monitoring, benchmarking.

Core Services PI's:

There are 28 service level performance indicators identified covering four core/ basic urban services, viz., Water Supply, Sewerage Management, Solid Waste Management and Storm Water Drainage.

I. Water Supply

As water supply is a basic need, emphasis has been laid on performance related to reach and access to quality service and prevalence and effectiveness of the systems to manage the water supply networks. As financial sustainability is critical for continued effectiveness in service delivery, performance is measured on this aspect too. Indicators selected are illustrated in Chap 3.2 of this report.

II. Waste water management (Sewerage and Sanitation)

For waste water management, performance related to reach and access of the service, effectiveness of the network and environmental sustainability have been emphasized, apart from financial sustainability of operations. Indicators selected are illustrated in Chap 3.2 of this report.

III. Solid Waste Management

Performance related to reach and access, effectiveness of network operations and environmental sustainability has been considered, apart from financial sustainability of operations. Indicators selected are illustrated in Chap 3.2 of this report.

IV. Storm Water Drainage

Extent of the network and effectiveness of the network are emphasized to assess storm water drainage systems performance. As this service does not yield any direct revenues, financial sustainability is not considered. Indicators selected are illustrated in Chap 3.2 of this report.

Other Services PI's:

There are 26 service level performance indicators identified covering 7 other urban services, viz., Urban Roads, Footpaths, parking, open spaces, street lights, bus stops and fire stations and hydrants.

I. Urban Roads

Urban roads could be classified as follows:

Urban Expressway: Expressways are divided highways for through traffic with full or partial control of access and generally with grade separations at major crossroads

Arterial roads: They are the primary roads for ensuring mobility function. They carry the largest volumes of traffic and longest trips in a city. These roads are characterized by mobility and cater to through traffic with restricted access from carriageway to the side. In such cases, special provisions should be introduced to reduce conflict with the through traffic.

Sub Arterial Road: This category of road follows all the functions of an Arterial Urban road and is characterized by mobility, and caters to through traffic with restricted access from carriageway to the side. It carries same traffic volumes as the arterial roads. Due to its overlapping nature, Sub arterial roads can act as arterials. This is context specific and is based on the function and the land use development it passes through.

Distributor/Collector Roads: As the name suggests, these are connector roads which distribute the traffic from access streets to arterial and sub arterial roads. They are characterized by mobility and access equally. It carries moderate traffic volumes compared to the arterial roads. Due to its

overlapping nature, distributor roads can act as sub arterial and as access streets, depending upon the function and the land use of the surroundings.

Local Streets: These are intended for neighborhood (or local) use on which through traffic is to be discouraged. These roads should be made pedestrian and bicycle friendly by using modern traffic calming designs to keep the speeds within limits as per design.

Access Street: These are used for access functions to adjoining properties and areas. A majority of trips in urban areas usually originate or terminate on these streets.

Indicators selected are illustrated in Chap 3.2 of this report.

II. Footpaths

Footpath should normally be designed for a pedestrian Level of Service (LOS), thereby providing wide pedestrian facilities for pleasant and comfortable walking. The width of footpaths depends upon the expected pedestrian traffic and may be fixed as per the land use adjacent to roads which significantly influences generation of pedestrian traffic on the footpaths. Indicators selected are illustrated in Chap 3.2 of this report.

III. Street Lights

To provide an effective safety to the citizens of the thromde especially after sunset/ dark and venerable places, provision of adequate street lights is essential which could be used as an indicator to assess the performance of the thromde/ department concerned. Indicators selected are illustrated in Chap 3.2 of this report.

IV. Open Spaces

The open spaces can include the following three broad categories, namely:

a) Organized Green

b) Recreational purpose

c) Other common open spaces (such as vacant lands/ open spaces including flood plains, forest cover etc. in plain areas.

In hilly areas the protected zones and ecological conservation areas shall be considered to be over and above this open space requirement.

Organized Green refer to parks, play fields and other open spaces like specified park, amusement park, play grounds, a multipurpose open space, botanical garden and zoological parks, traffic parks, etc. It is suggested that-

- In each residential complex there should be 2-3 parks and playgrounds
- In a housing cluster, there should be community level park and open space

- At zonal level, there should be a district level park and sports center; and
- At a city level, there should be a city level park, sports complex, botanical / zoological garden, exhibition ground, cultural gathering ground etc. depending upon design and space availability.
- The community open space shall be reserved for recreational purposes which shall as far as possible be provided in one place.

It is suggested that the open spaces are to be developed with other socio cultural and commercial facilities so that they can serve multiple purposes. The size, design etc. of open spaces should be govern as per the rules and regulations in force in this regard. Indicators selected are illustrated in Chap 3.2 of this report.

V. Fire Station/sub fire station/ Fire Hydrants

It is one of the most important components of disaster management. Ideally fire stations should be located in such a way that fire tenders are able to reach any disaster site within 3-5 minutes. Fire stations should be located on corner plots as far as possible and on main roads with minimum of two entries. Necessary provisions for laying underground/ surface firefighting measures, water lines, hydrants etc. may be kept wherever provision of fire station is not possible. Indicators selected are illustrated in Chap 3.2 of this report.

VI. Parking Facilities

Provision of adequate parking spaces to park various types of vehicles including cars, taxi, two wheelers, truck, buses, emergency vehicles, cycles etc. is one of the important functions of Thromdes. Provision of parking areas both surfaced and multi-level parking facility in any settlement depends on number of factors including topography, settlement typology, land use, population growth,, socio- economic characteristics of the city/ town, traffic congestion level during peak hours and otherwise, number registered vehicles of different types and average annual growth in them, tourist inflow and such other parameters. Therefore there is a need to have an updated, preferably computerized intelligent vehicle management information system to design, operate and maintain parking system in different locations in a city in an efficient manner. Proper coordination with different line departments such as road transport department, traffic police etc. is required to implement and maintain effective parking management system. Indicators selected are illustrated in Chap 3.2 of this report.

VII. Bus stops/ Bus stand

The bus stops used for intra city travel by the passengers both by local residents and floating population and tourists. Its function therefore, is different from the bus terminals which are primarily utilized for inter-city travel and require various kinds of facilities for the smooth flow of vehicular movement. The bus terminal serves as a point and unit where necessary information to user is made available for processing and it broadly needs to perform the functions to meet the requirements of the passengers, vehicles, crew and management. Usually every city have one

inter-sate bus terminal having the facilities of passengers platforms, waiting lounges, maintenance depot, rest house/ rooms, baggage storage facilities, utilities and amenities, communication and information system, shelter from different weather conditions, eating facilities etc.

In case of intra-city bus stops, however, the scale and level of facilities are different and depends largely on the passengers traffic and there location. The basic facilities which every stop should have are: , platform to stop buses with electronic display mentioning timing of departure and arrival of different route buses with watch, covered space with all-weather material, proper lighting arrangements for security and safety specially women, children, senior citizens and disabled people and good quality benches for waiting passengers.

Indicators selected are illustrated in Chap 3.2 of this report.

3.2 List of indicators

Sr. No.	Performance Indicator-Core services
I. Water Supply	
1	Coverage of water supply connections
2	Per capita supply of water
3	Extent of metering of water connections
4	Extent of Non-Revenue Water
5	Continuity of water supply by the thromde
6	Efficiency in redressal of customer complaints
7	Quality of Water supplied
8	Cost recovery in water supply services
9	Efficiency in collection of water related charges
II. Waste Water Management (Sewerage and Sanitation)	
1	Coverage of Toilets
2	Coverage of waste water network services
3	Efficiency in collection of waste water
4	Adequacy of capacity for treatment of waste water
5	Quality of waste water treatment
6	Extent of recycling or reuse of waste water
7	Extent of Cost recovery in waste water management
8	Efficiency in redressal of customer complaints
9	Efficiency in collection of sewerage charges

III. Solid Waste Management	
1	Household level coverage of SWM services through door-to-door collection of waste
2	Collection Efficiency of Municipal solid waste
3	Extent (%) of solid waste recovered/ recycled
4	Extent of recovery of waste collected
5	Extent of scientific disposal of waste in landfill sites
6	Extent of Cost Recovery in SWM services
7	Efficiency in redressal of customer complaints
8	Efficiency in collection of SWM charges
IV. Storm Water Drainage	
1	Coverage of storm water drainage network
2	Aggregate number of incidents of water logging reported in a year

Sr. No.	**Performance Indicator-Other services**
I. Urban Roads	
1	Coverage by all types of roads in the municipal jurisdiction
2	Roads density
3	Coverage by surfaced/ all-weather roads
4	Length of different types of surfaced roads per 1000 population (in running kilometres-RKM)
5	Operational Cost per kilometre of road length (Operations and maintenance cost per month in Nu)
II. Footpaths/Walkways	
1	Coverage by footpaths and walkways
2	Footpath Density
3	Accessibility to Footpaths per 1000 population
4	Operational cost per kilometre length of walkways/ footpaths (operations and maintenance cost per month in Nu)
III. Street Lights	
1	Number of lamp posts per kilometre road length
2	Spacing between street lights/ poles on different roads/ streets. To be determined keeping in view the types of lights installed and influence area of such lights

3	Cost of maintenance (per month in Nu)
IV. Open Spaces	
1	No of parks/ playgrounds per 1000 population
2	Area Covered under open spaces
3	Cost of Maintenance (Per month in Nu)
V. Fire Stations/ Fire Hydrants	
1	No of fire stations per sq. km of area under thromde jurisdiction
2	No of fire hydrants per sq. km municipal area
3	No of fire hydrants per km of road length
VI. Parking Facilities	
1	No of vehicles per parking slot
2	Coverage by authorized parking facilities
3	Total vehicle parking slots per 1000 population
4	No of traffic challan per month for unauthorized parking
5	Extent of cost recovery
VII. Bus Stops and Bus stands	
1	No of bus stops per km road length
2	% of bus stops covered and well illuminated
3	No of Bus stops per 1000 population

3.3 Approach and Methodology

The report on performance reporting and design of performance reports for TT and PT has been developed on the basis of available data, literature, documents and reports in the field, followed by the discussions with the heads of various departments and divisions of both the Thromdes in reference. The indicators are calculated on the basis of the guidelines as mentioned in the **Policy Note on Performance Reporting and Design of Performance Reports** issued under the BUDP II project.

The data relating to the inputs required for calculation of the indicators are collected from different departments. Subsequently, the indicators are calculated based on the formula given in the guidelines of the **Policy Note on Performance Reporting and Design of Performance Reports** issued under the BUDP II project.

3.4 Frequency of data collection and measuring performance indicators

The data shall be updated regularly for all the indicators in both core and other services sector. However, frequency of data collection and measurement of performance indicators in each city is dependent on a number of factors such as:

- Size of the city (in terms of its population and area)
- Staff deployment for the service concerned
- Governance/administrative structure of the service delivery agency
- Nature and scale of service provided
- Nature of data management & information system and other aspects.

Therefore, reporting officer of the department or Thromde concerned has to take the decision on the frequency of data collection to work out various indictors for different services/ facilities as well as frequency of measurement of different performance indicators. The minimum frequency of measurement of PI in Chapter 4 and 5 of this report is may be treated as suggestive.

4.0	Performance Reporting, Indicators and Guidelines -Core Services

WATER SUPPLY SERVICES

Indicator 1: COVERAGE OF WATER SUPPLY CONNECTIONS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage of water supply connections	%	Total number of households in the service area that are connected to the water supply network with a direct service connection, as percentage of Total number of households in that service area. The service area may be either an electoral ward, or the THROMDE as a whole	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Total number of households with direct water supply connection	Number	2500	100%	Engineering Dept.	The total number of households (not properties) in the service area should be calculated. Service area refers to either the ward or the THROMDE limits. Cadaster maps supplemented through actual ground level surveys (carried out once in 4-5 years) should provide this 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.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
b)	Total number of households in the service area	Number	2500		Engineering Dept.	This will include households which receive municipal water supply at one common point, from where it is stored and distributed for all households (for e.g. as in apartment complexes). Households supplied water through public stand posts or tankers should be excluded. Households completely dependent on other water sources such as bore wells, open wells, etc. should not be included.

Indicator 2: PER CAPITA SUPPLY OF WATER

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Per capita supply of water	liters per capita per day (lpcd)	Total water supplied into the distribution system (ex-treatment plant and including purchased water, if any) expressed by population served per day.	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/c)/b]	Department	Remarks
a)	Water supplied to the distribution system	Million Liter	4.90	Refer Note 2	Engineering Dept.	Daily quantities to be measured through metering, and records should be maintained. Total supply for the quarter should be based on aggregate of daily quantum. Only treated water input into the distribution system should be measured. If water is distributed from multiple points, aggregate of that quantity should be considered. The quantum should exclude bulk water transmission 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 neighboring THROMDEs, Cantonment Boards, etc. Water supplied in bulk to large water intensive industries / industrial estates should be excluded.
b)	Population served	Number	122500		Engineering Dept.	Number of people in the service area served by the utility. While typically number of residents are considered, if the city has a significant floating population of tourists who temporarily reside in the city, such population should be included. Tourist population estimates can be reasonably computed on basis of bed capacity of hotels, and occupancy rates.
c)	Number of days in a quarter	Number	Refer Note 1		Engineering Dept.	Number of days in the specific month
d)	Additional information in respect of areas where water is supplied at a rate less than 70 LPCD	liters per capita per day (lpcd)	Refer Note 1		Engineering Dept.	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.

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

Indicator 3: EXTENT OF METERING OF WATER CONNECTIONS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of metering of water connections	%	Total number of functional metered water connections expressed as a percentage of total number of water supply connections. Public stand post connections should also be included.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(c+d)/(a+b)]*100	Department	Remarks
a)	Total number of direct service connections	Number	3810	99.96%	Engineering Dept.	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 e.g. as in apartment complexes). Households supplied

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(c+d)/(a+b)]*100	Department	Remarks
						water through public stand posts or tankers should be excluded. Households completely dependent on other water sources such as bore wells, open wells, etc. should not be included.
b)	Total number of public stand posts	Number	2		Engineering Dept.	The total number of public stand post connections, which are currently in use should be considered.
c)	Number of metered direct service connections	Number	3810		Engineering Dept.	Out 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 stand posts	Number	0		Engineering Dept.	Typically, public stand posts are not metered. However, if some of them are metered, they should be included.

Indicator 4: EXTENT OF NON-REVENUE WATER

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of Non-Revenue Water	%	This indicator highlights the extent of water produced which does not earn the utility any revenue. This is computed as: Difference between total water produced (ex-treatment plant) and total water sold expressed as a percentage of total water produced. NRW comprises – a) Consumption which is authorized but not billed, such as public stand posts; b) Apparent losses such as illegal water connections, water theft and metering inaccuracies;	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a-b)/a)*100]	Department	Remarks
a)	Total water produced and put into the transmission and distribution system	Million liters per day (or) **month**	409	32.03%	Engineering Dept.	Daily quantities to be measured through metering, and records should be maintained. Total supply for the month should be based on aggregate of daily quantum. Only treated water input into the distribution system should be measured. If water is distributed from multiple points, 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 neighboring THROMDEs, Cantonment Boards, etc.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a-b)/a)*100]	Department	Remarks
b)	Total water sold	million liters per day (or) month	278		Engineering Dept.	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.

Indicator 5: CONTINUITY OF WATER SUPPLY BY THE THROMDE

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Continuity of water supply by the thromde	Hours per day	Continuity of supply is measured as - Average number of hours of pressurized water supply per day. Water pressure should be equal to or more than a head of 7 meters at the ferrule point / meter point for the connection. [7 m head corresponds to ability to supply to a single story building]	Zone	Quarterly

Data Required for calculation	Unit	Input data	As of June 2014	Department	Remarks
Average hours of pressurized supply per day	Hours	7	7	Engineering Dept.	The number of hours of supply in each of the operational zones should be measured, continuously for a period of 7 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 mentioned above. The zone-wise figures should be averaged out to get city-wise data.

Indicator 6: EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in redressal of customer complaints	%	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	Each water distribution Zone	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of water supply related complaints received per month	Number per month	141		Engineering Dept.	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. Point of customer contact will include Common phone numbers, Written complaint at ward offices, Collection centers, Drop boxes, Online complaints on web-site, etc.
b)	Total number of complaints redressed within the month	Number per month	134	95.04%	Engineering Dept.	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 part of any format / Proforma that is used to track complaints

Indicator 7: QUALITY OF WATER SUPPLIED

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Quality of water supplied	%	Percentage of water samples that meet or exceed the specified potable water standards, as defined by the concerned agency/ ministry of health. Sampling regimen should be as per standards and norms laid down for the same.	THROMDE level	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of water samples in a month	Number per month	120		Engineering Dept.	Actual number of water samples that are taken for testing in the month. Samples should be drawn at both points - outlet of treatment plant and at consumer end. Sampling regimen should be as per laid down standards and norms.
b)	Number of samples that meet the specified potable water standards in that month	Number per month	120	100%	Engineering Dept.	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.

Indicator 8: COST RECOVERY IN WATER SUPPLY SERVICES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Cost Recovery in Water Supply Services	%	Total operating revenues expressed as percentage of 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.	City Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total operating expenses	Nu Million	13.50		Engineering Dept.	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 expenses. Should exclude interest payments, principal repayments and other capital expenses.
b)	Total operating revenues	Nu Million	24.31	180.1%	Engineering Dept.	Should include all water supply related revenues (billed) during the corresponding time period. Revenues may be in the form of taxes / Cess / surcharges, user charges, connection charges, sale of bulk water, etc. This should exclude capital income such as grants, loans, etc.

Indicator 9: EFFICIENCY IN COLLECTION OF WATER RELATED CHARGES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in collection of water related charges	%	Efficiency in collection is defined as – actual revenues collected in a year/reporting period as a percentage of demand rose during the corresponding period.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
a)	Current revenues collected	Nu Million	24.31		Engineering Dept.	Revenues collected for bills raised during the year. This should exclude collection of arrears. Inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how much arrears are being built up, and therefore only Current Revenues should be considered.
b)	Total operating revenues billed	Nu Million	25	97.24	Engineering Dept.	Total quantum of revenues related to water supply services that are 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.

II. WASTE WATER MANAGEMENT (SEWERAGE AND SANITATION)

Indicator 1: COVERAGE OF TOILETS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage of Toilets	%	This indicator denotes the extent to which citizens have private toilets in a service area. The toilets would include those in the category of residential, commercial, industrial and institutional properties. Service area implies a specific jurisdiction in which the service is required to be provided i.e. either an electoral ward or a THROMDE as a whole. This indicator denotes the extent to which citizens have access to public/ community toilets in a service area. Service area implies a specific jurisdiction in which the service is required to be provided i.e. either an electoral ward or a THROMDE as a whole.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/a+b)*100]	Department	Remarks
a)	Total number of properties having access to individual toilets or community toilet within walking distance in the service area	Number			Engineering Dept.	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 cadaster map.
b)	Total number of properties without individual toilet or community toilet within walking distance	Number	0		Engineering Dept.	Only total number of properties without access to an individual or community toilet should be assessed.

Notes	
1	Data relating to (a) and (b)was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

Indicator 2: COVERAGE OF WASTE WATER NETWORK SERVICES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage of waste water network services	%	This indicator denotes the extent to which the underground sewerage (or waste water collection) network has reached out to individual properties across the service area. Properties include those in the category of residential, commercial, industrial and institutional. Service area implies a specific jurisdiction in which service is required to be provided, either an electoral ward or the THROMDE as a whole.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of properties in the service area	Number	Refer Note 1		Engineering Dept.	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 cadaster map.
b)	Total number of properties with direct connection to the sewerage	Number	Refer Note 1	Refer Note 2	Engineering Dept.	Only properties with access connection to underground sewerage network should be included. Properties that connect their waste water outlet to storm

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
	network					water drains or open drainage systems should not be considered. However, this may include one or more properties with access to decentralized / stand-alone underground sewerage networks, which have treatment and safe effluent disposal facilities, which has been setup and operated as per laid down environmental standards.

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

Indicator 3: EFFICIENCY IN COLLECTION OF WASTE WATER

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in collection of waste water	%	This indicator is measured as - Quantum of wastewater collected as a % of normative waste water generation in the THROMDE. Water generation is linked to quantum of water supplied through piped systems, and other sources such as bore-wells, when they are very extensively used. Data should be collected daily for an entire month, so as to measure the quantities per month. While daily variations may be normalized out, monthly variations may exist on account of seasonal variations. Data should be aggregated from multiple points across the THROMDE.	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[c/((a+b)*0.8)]	Department	Remarks
a)	Total water produced	million liters	Refer Note 1	Refer Note 2	Engineering Dept.	Total quantum of water supplied to consumers. This data 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 transmission and distribution system through leakages. In case municipal water is supplied through decentralized distribution networks, sourcing water from deep bore wells, the same should be included.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[c/((a+b)*0.8)]	Department	Remarks
b)	Estimated water use from other sources	million liters	Refer Note 1		Engineering Dept.	An estimate of water drawn from other sources such as private bore wells. Data that will drive this estimate include - number of properties with access to bore wells or other sources of water, spatially spread across the city; quantity of water supplied in those areas. Alternately, data may also be collected from sample surveys.
c)	Wastewater collected	million liters	Refer Note 1		Engineering Dept.	Quantum of wastewater measured at the inlet of treatment plants. Quantum of waste water at outfalls of untreated sewerage, leading into rivers, lakes or other water bodies should not be included in the quantum of waste water collected.

Notes	
1	Data relating to (a) ,(b) and (c) was not available
2	Indicator could not be calculated because data relating to (a) , (b) and (c) was not available

Indicator 4: ADEQUACY OF CAPACITY FOR TREATMENT OF WASTE WATER

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Adequacy of capacity for treatment of waste water	%	Adequacy is expressed as - Secondary treatment (i.e. removing oxygen demand as well as solids, normally biological) capacity available as a percentage of normative wastewater generation, for the same time period	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 = [c/ ((a+b)*0.8)]	Department	Remarks
a)	Total water consumed	million liters	Refer Note 1	Refer Note 2	Engineering Dept.	Total quantum of water supplied to consumers. This data 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 transmission and distribution system through leakages. In case municipal water is supplied through decentralized distribution networks, sourcing water from deep bore wells, the same should be included.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 = [c/ ((a+b)*0.8)]	Department	Remarks
b)	Estimated water use from other sources	million liters	Refer Note 1		Engineering Dept.	An estimate of water drawn from other sources such as private bore wells. Data that will drive this estimate include - number of properties with access to bore wells or other sources of water, spatially spread across the city; quantity of water supplied in those areas. Alternately, data may also be collected from sample surveys.
c)	Treatment plant capacity	million liters	Refer Note 1			Total functional capacity of all wastewater treatment plants that can meet secondary treatment standards.
d)	Capacity utilization	million liters	---			c-b

Notes	
1	Data relating to (a) , (b) and (c) was not available
2	Indicator could not be calculated because data relating to (a) , (b) and (c) was not available

Indicator 5: QUALITY OF WASTE WATER TREATMENT

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator	Calculation methodology
Quality of waste water treatment	%	Quality of treatment is measured as - Percentage of wastewater samples that pass the specified secondary treatment standards. I.e. Treated water samples from outlet of waste water treatment plants are equal to or better than the standards laid down by Govt. of Bhutan agencies for secondary treatment of waste water. While the samples are collected at the waste water treatment plant outlet and results should be computed per treatment plant, this indicator should be reported at city / THROMDE level.	Thromde Level	Monthly	For quarterly reporting total samples that pass the treatment in 3 months divided by total sample taken in 3 months multiplied by 100

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of wastewater samples in a month	Nos. per Month	36	100%	Engineering Dept.	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 etc.
b)	Number of samples that pass the specified secondary treatment standards	Nos. per Month	36		Engineering Dept.	Within the total valid samples, the number of samples that pass the specified secondary treatment standards, along all key parameters.

Indicator 6: EXTENT OF RECYCLING OR REUSE OF WASTE WATER

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of recycling or reuse of waste water	%	Percentage of wastewater received at the treatment plant that is recycled or reused 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 variety of purposes should not be included in this quantum. While measurements are done at treatment plants inlets and outlets, the indicator should be reported at the city / THROMDE level as a whole.	Thromde Level	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Wastewater received at the treatment plants	million liters per day (or) month	2.35	0	Engineering Dept.	This should be based on actual flow measurement by functional flow meters, the quantum for which should be measured daily. Daily quantities should be aggregated to arrive at monthly quantum.
b)	Wastewater recycled or reused	million liters per day (or) month	0		Engineering Dept.	This should be based on actual flow measurement by functional flow meters, the quantum for which should be measured daily. Daily quantities should be aggregated to arrive at monthly quantum.

Indicator 7: EXTENT OF COST RECOVERY IN WASTE WATER MANAGEMENT

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of Cost recovery in waste water management	%	Extent of cost recovery is expressed as - Wastewater revenues as a percentage of wastewater expenses, for the corresponding time period.	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total operating expenses	Nu Millions	1.3		Engineering Dept.	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 operating revenues	Nu Millions	0	0	Engineering Dept.	Should include all wastewater related revenues billed for the year. Revenues may be in the form of taxes / Cess / surcharges, user charges, connection charges, sale of sludge, sale of recycled water, etc.

INDICATOR 8: EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator	Calculation Methodology
Efficiency in redressal of customer complaints	%	Total number of sewerage related complaints redressed within 24 hours of receipt of complaint, as a percentage of the total number of sewerage related complaints received in the given time period	Each water distribution Zone / MOW&HS level	Monthly	For quarterly reporting total complaints redressed in 3 months divided by total complaints received in 3 months multiplied by 100

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of sewerage related complaints received per month	Number per month	25	100%	Engineering Dept.	Total number of all sewerage related complaints from consumers received during the month. Systems for receiving and logging in complaints should be effective and easily accessible to the citizens. Point of customer contact will include Common phone numbers, Written complaint at ward offices, Collection centers, Drop boxes, Online complaints on web-site, etc.
b)	Total number of complaints redressed within the month	Number per month	25		Engineering Dept.	Total number of sewerage 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.

INDICATOR 9: EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in collection of sewerage 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.	Measurement	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
a)	Current revenues collected	Nu Million	Refer Note 1	Refer Note 2	Engineering Dept.	Revenues collected for bills raised. This should exclude collection of arrears. Inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how much arrears are being built up, and therefore only Current Revenues should be considered.
b)	Total operating revenues billed	Nu Million	Refer Note 1		Engineering Dept.	Total quantum of revenues related to sewerage services that are billed. This should include revenues from all sources related to sewerage such as taxes, charges, Cess, surcharges, etc.

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

III. SOLID WASTE MANAGEMENT (SWM)—Environment

INDICATOR 1: HOUSEHOLD LEVEL COVERAGE OF SOLID WASTE MANAGEMENT SERVICES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Household level coverage of SWM services through door-to-door collection of waste	%	Percentage of households and establishments that are covered by daily door-step collection system.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of households and establishments in the service area	Number	22786		Environment	The total number of households and establishments (not properties) in the service area should be calculated. Service area refers to either the ward or the THROMDE limits.
b)	Total number of households and establishments with daily doorstep collection	Number	22786	100%	Environment	Include doorstep collection through THROMDE itself or THROMDE approved service providers. This can even include door-to-door collection systems operated by Resident Welfare Associations, etc.

INDICATOR 2: COLLECTION EFFICIENCY OF MUNICIPAL SOLID WASTE

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Collection Efficiency of Municipal solid waste	%	Total waste collected by THROMDE and authorized service providers versus the total waste generated within the THROMDE excluding recycling or processing at the generation point. [Typically, some amount of waste generated is either recycled or reused by the citizen itself. This quantity is excluded from the total quantity generated, as reliable estimates will not be available for these.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total waste that is generated and which needs to be collected	Tonnes	51		Environment	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 THROMDE or authorized service providers	Tonnes	47.3	92.7%	Environment	Total waste collected from households, establishments and common collection points. This should be based on actual weighment 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.

INDICATOR 3: EXTENT (%) OF SOLID WASTE RECOVERED/ RECYCLED

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent (%) of solid waste recovered/ recycled	%	% of households and establishments that segregate their waste. Segregation should be at least separation of wet and dry waste at the source, i.e. at household or establishment level. Ideally, the separation should be in following categories: bio-degradable waste, waste that is non-biodegradable, and hazardous domestic waste such as batteries, etc. In line with this description, the THROMDE may further refine the criteria for classifying waste as being "segregated". It is important that waste segregated at 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 segregated manner at the treatment / disposal site, rather than measuring the same at collection point	Thromde level	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]]	Department	Remarks
a)	Quantum of waste that is segregated	tonnes per month	219	15.4%	Environment	Total quantum of waste that arrives in segregated manner at the treatment and / or disposal site (viz. composting yards, waste treatment plants, landfill sites, etc.). Waste that arrives at these locations in an un-segregated manner should not be considered

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]]	Department	Remarks
b)	Total quantum of waste that is collected by the THROMDE or authorised service providers	tonnes per month	1419		Environment	Total waste collected from households, establishments and common collection points. This should be based on actual weighment 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.]

INDICATOR 4: EXTENT OF RECOVERY OF WASTE COLLECTED

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of recovery of waste	%	This is an indication of the quantum of waste collected, which is either recycled or processed. This is expressed in terms of % of waste collected.	Thromde Level	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
a)	Amount of waste that is processed or recycled	Tonnes per month	295	20.8%	Environment	Total quantum of waste intake by waste processing/ recycling facilities operated by the THROMDE 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 whole sale traders of such waste at the city level. Typically there would be few wholesalers at the city level, from whom data can be collected.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
b)	Total quantum of waste that is collected by the THROMDE or authorised service providers	Tonnes per month	1419		Environment	Total waste collected from households, establishments and common collection points. This should be based on actual weighment 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.]

INDICATOR 5: EXTENT OF SCIENTIFIC DISPOSAL OF WASTE IN LANDFILL SITES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of scientific disposal of waste in landfill sites	%	Amount of waste that is disposed in landfills that have been designed, built, operated and maintained as per standards lay down by Central agencies. This extent of compliance should be expressed as percentage of total quantum of waste disposed at landfill sites, including open dump sites.	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
a)	Total waste disposed in "compliant" landfills every month	Tonnes	1200	100%	Environment	Daily log of waste being disposed at such "compliant" land fill sites should be maintained based on actual measurement at weighbridges that are preferably located at the entrance to such sites. Monthly total should be sum of daily totals in the month.
b)	Total waste disposed in all landfills every month	Tonnes	1200		Environment	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. Monthly total should be sum of daily totals in the month.

INDICATOR 6: EXTENT OF COST RECOVERY IN SWM SERVICES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Extent of Cost Recovery in SWM services	%	This indicator denotes the extent to which the THROMDE is able to recover all operating expenses relating to SWM services from operating revenues of sources related exclusively to SWM. This indicator is defined as --> Total annual operating revenues from solid waste management / Total annual operating expenses on solid waste management, expressed in % terms.	Thromde Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]]	Department	Remarks
a)	Total operating expenses	Nu Million	0.95	Refer Note 2	Environment	Should include all operating expenses incurred by the THROMDE towards SWM services. This should include costs related to - operations and maintenance 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

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]]	Department	Remarks
						outsourced by the THROMDE. Should exclude interest payments and principal repayments.
b)	Total operating revenues	Nu Million	Refer Note 1		Environment	Should include all taxes and charges for SWM, plus proceeds from processing or recycling that accrue to the account of the THROMDE. This should exclude income earned by contractors, or the informal sector that is not passed on to the THROMDE.

Notes	
1	Data relating to (b) was not available
2	Indicator could not be calculated because data relating to (b) was not available

INDICATOR 7: EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in redressal of customer complaints	%	Total number of SWM related complaints redressed within 24 hours of receipt of complaint, as a percentage of the total number of SWM related complaints received in the given time period	Each water distribution Zone / MOW&HS level	Monthly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total number of SWM related complaints received per month	Number per month	Refer Note 1		Environment	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. Point of customer contact will include Common phone numbers, Written complaint at ward offices, Collection centers, Drop boxes, Online complaints on web-site, etc.
b)	Total number of complaints redressed within the month	Number per month	Refer Note 1	Refer Note 2	Environment	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.

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

INDICATOR 8: EFFICIENCY IN COLLECTION OF SWM CHARGES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Efficiency in collection of SWM charges	%	Efficiency in collection is defined as - Current quarter revenues collected, expressed as a percentage of the Total operating revenues, for the corresponding time period.	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/b)*100]	Department	Remarks
a)	Current revenues collected	Nu Million	Refer Note 1	Refer Note 2	Environment	Revenues collected for bills raised. This should exclude collection of arrears. Inclusion of arrears will skew the performance reflected. Collection efficiency is in fact an indicator of how much arrears are being built up, and therefore only Current Revenues should be considered.
b)	Total operating revenues billed	Nu Million	Refer Note 1		Environment	Total quantum of revenues related to SWM services that are billed. This should include revenues from all sources related to SWM such as taxes, charges, Cess, surcharges, etc.

Notes	
1	Not Applicable
2	Data relating to (a) and (b) is not applicable

IV. STORM WATER DRAINAGE

INDICATOR 1: COVERAGE OF STORM WATER DRAINAGE NETWORK

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage of storm water drainage network	%	Coverage is defined in terms of - % of road length covered by storm water drainage network	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(b/a)*100]	Department	Remarks
a)	Total length of road network in the THROMDE	Kms	246	2%	Engineering Division	Only consider roads that are more than 3.5 m wide carriageway
b)	Total length of primary, secondary and tertiary drains	Kms	5		Engineering Division	Only consider drains that are trained, made of Cemented construction and are covered.

INDICATOR 2: AGGREGATE NUMBER OF INCIDENTS OF WATER LOGGING REPORTED IN A YEAR

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Aggregate number of incidents of water logging reported in a year	Number	Number of times water logging is reported in a year, at flood prone points within the city	Ward Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(b at A1)+(b at A2)+(b at A3)+…...(b at An)+	Department	Remarks
a)	Identification of flood prone points within the THROMDE limits. The points may be named as A1, A2, A3, …. An.	Nos.	3	8	Environment	Flood prone points within the city should be identified as locations that experience water logging - at key road intersections, or along road length of 50 meters or more, or in a locality affecting 50 households or more.
b)	Number of occasions of flooding / water logging in a year	Nos.	5		Environment	Occasion or an incident of flooding / water logging should be considered if the same affects transportation and normal life. Typically stagnant water for more than 4 hours of depth more than 6 inches.

5.0	Performance Reporting, Indicators and Guidelines -Other Services

I. URBAN ROADS (ENGG.)

INDICATOR 1: COVERAGE BY ALL TYPES OF ROADS IN THE MUNICIPAL JURISDICTION

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage by all types of roads in the municipal jurisdiction	%	Coverage is defined - % of total roads network including principal roads, streets and lanes to the total area under the Thromde jurisdiction.	City Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Length and width of different types of roads in the thromde. It includes both surfaced and unsurfaced roads)	Kilometers (Km)	246		Engineering Division	Total roads length worked out by multiplying width and length of each category of roads. Total of such computation with be total roads length in the Thromde
b)	Total area of the thromde	Kilometers (Km)	676	36.4%	Engineering Division	As in the roads length, it also refer to the total area of the thromde(length X width= total area)

INDICATOR 2: ROADS DENSITY

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Roads density	Km/ Sq. Km area)	It indicates the extent of road network in a Thromde in terms of its geographical area and refers to the accessibility.	City Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total length of all types of roads	Running Kilometers(RKM)	246		Engineering Division	Total roads length (RKM) divided by the total area of Thromde (in Sq. Kms).
b)	Total Area under the thromde jurisdiction	Sq. Kms	26	9.5	Engineering Division	Total area under the thromde jurisdiction

INDICATOR 3: COVERAGE BY SURFACED/ ALL-WEATHER ROADS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage by surfaced/ all-weather roads	%	It indicates the quality of roads in terms of areas covered by surfaced or all-weather roads. These are pucca roads suitable for smooth flow of traffic and vehicular movement.	City Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Total area of surfaced roads	Sq. Kms	14		Engineering Division	Data both on width and length of different types of surfaced/ pucca/ metaled roads, streets and lanes is needed to compute the total area under surfaced roads network in a thromde
b)	Total area of all roads both surfaced and un surfaced	Sq. Kms	15.7	89.2%	Engineering Division	As in the case of surfaced roads, data both in terms of width and length of various types of roads required to work out total area of roads in the Thromde

INDICATOR 4: LENGTH OF DIFFERENT TYPES OF SURFACED ROADS PER 1000 POPULATION (IN RUNNING KILOMETERS-RKM)

Indicator	Unit
Length of different types of surfaced roads per 1000 population (in running kilometre)	**Running Kms**

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[a/(b/1000)]	Department
a)	Total length of different types of surfaced roads	Running Kilometers(RKM)	246		Engineering Division
b)	Total population of the Thromde/ city	Number	122500	2.01	Engineering Division

INDICATOR 5: OPERATIONAL COST PER KILOMETER OF ROAD LENGTH

Indicator	Unit
Operational Cost per kilometer of road length (Operations and maintenance cost per month in Nu)	Nu

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department
a)	Total Operational cost of Road length	Nu	1800,000		Engineering Division
b)	Total length (km) of road	Kilometers	246	7217	Engineering Division

II. FOOTPATHS/ WALKWAYS (Engg.)

INDICATOR 1: COVERAGE BY FOOTPATHS AND WALKWAYS

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage by Footpaths and Walkways	%	Total area covered by the footpaths (length X width) in different land uses such as residential, commercial, institutional, mixed land use etc. It will help to assess the adequacy of footpaths in a thromde for the easy safe and comfortable movement of pedestrian population. It will be worked out with the total area under the Thromde jurisdiction. Ideally pedestrian walkways or footpaths should be on both sides of principle and main roads of the city mainly connecting different commercial and mixed land use areas.	To begin with at the city level, gradually to be compiled and reported on the basis of land use in the city.	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Total area of footpaths/ walkways under the Thromde jurisdiction.	Sq. Kms.	Refer Note 1	Refer Note 2	Engineering Division	Data both in terms of length and width of different footpaths constructed alongside of different categories of roads in the city need to be compiled for this purpose with its regular updating. Formula: width X length= total area in running kilometers (RKM)

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
b)	Total area under Thromde jurisdiction	Sq. Kms	26		Engineering Division	Data both in terms of width and length of the city need to be calculated with a view to work out percentage of area covered by the footpaths. It needs to be updated regularly to have the real life situation assessment. Formula: width X length= total area in running kilometers (RKM)

Notes	
1	Data relating to (a) was not available
2	Indicator could not be calculated because data relating to (a) was not available

INDICATOR 2: FOOTPATH DENSITY

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Footpath Density	Km per Sq.km area	Density refers to the intensity of service concerned in relation to total area of the settlement / urban center / Thromde. It calculated in terms of total length of footpaths in RKM in the context of per Sq. Km area of Thromde	To begin with at the city level, gradually to be compiled and reported on the basis of land use in the city.	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Total length of all types of footpaths/ walkways under the thromde jurisdiction.	Running Kilometers(RKM)	96	369	Engineering Division	Data in terms of length of different footpaths constructed alongside of different categories of roads in the city need to be compiled for this purpose with its regular updating.
b)	Total area under Thromde jurisdiction	Sq. Km	26		Engineering Division	Total area under thromde jurisdiction

INDICATOR 3: ACCESSIBILITY TO FOOTPATHS PER 1000 POPULATION

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Accessibility to footpaths per 1000 population	RKM	To assess the availability of footpaths in the context of urban population in a thromde. It should be linked with the growth of population to provide better services to the citizens.	To begin with at the city level, gradually to be compiled and reported on the basis of land use in the city.	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/(b/1000)]	Department	Remarks
a)	a) Total length of all types of footpaths in the city	RKM	96	0.8	Engineering Division	Length need to be measured of all footpaths in the city/ thromde. Record to be updated regularly to capture the actual status of the service in reference.
b)	b) Total population of the Thromde/ city	Number	122500		Engineering Division	Projections for population need to be done to assess the service level.

INDICATOR 4: OPERATIONAL COST PER KILOMETER LENGTH OF WALKWAYS/ FOOTPATHS (OPERATIONS AND MAINTENANCE COST

PER MONTH IN NU)

Indicator	Unit
Operational cost per kilometer length of walkways/ footpaths	Nu

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b*100)	Department	Remarks
a)	Total Operational cost of walkways/ footpaths	Nu	6450		Engineering Division	
b)	Total length (km) of walkways/ footpaths	Km	96	67.2	Engineering Division	

III. Street Lights (Engg.-Electrical section)

INDICATOR 1: NUMBER OF LAMP POSTS PER KILOMETER ROAD LENGTH

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Number of lamp posts per kilometer road length	Number	It will provide the level of street lights and its coverage in terms of area served by them	City/ settlement level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total number of lamp post/ street lights in the city	Number	2719	11.4	Engg. Div. Electrical section	It includes all kind of lights such as LED, Tube lights, Halogen etc. The intensity of street lights usually depend on the height of poles, type of lamp/ light installed, its power (watts) width of roads etc. Here only basic indicator has been used to assess the general performance of street lights being the part of public safety function of Thromdes.
b)	Total road length within the jurisdiction of thromde	RKM	238			It includes all types of roads and streets in the city

INDICATOR 2: SPACING BETWEEN STREET LIGHTS/ POLES ON DIFFERENT ROADS

Indicator	Unit
Spacing between street lights/ poles on different roads/ streets. To be determined keeping in view the types of lights installed and influence area of such lights	Meter

Data Required for calculation	Unit	Input data	As of June 2014	Period	Department	Remarks
Spacing between different types of poles with respect to the length of roads in running kilometers	Meter	30-40	35	current	Engg. Div. Electrical section	

INDICATOR 3: COST OF MAINTENANCE (PER MONTH IN NU)

Indicator	Unit
Cost of Maintenance	Nu (per month)

Data Required for calculation	Unit	Input data	As of June 2014	Period	Department	Remarks
Cost of maintenance(per month)	Nu (per month)	75000	75000	Current	Engg. Div. Electrical section	

IV. Open Spaces (Environment Head)

INDICATOR 1: NO OF PARKS/ PLAYGROUNDS PER 1000 POPULATION

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of parks/ playgrounds per 1000 population	parks/playground per 1000 population	To assess the provision of open spaces in the context of population served	Ward/ zonal Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[a/(b/1000)]	Department	Remarks
a)	Total number of parks,open gym and playgrounds in the thromde	Number	4	0.03 parks/playground per 1000 population	Environment	Data on Total no of open spaces in different land uses and settlement/ clusters shall be collected and complied. System need to maintain the area of each of open spaces along with facilities provided in it. These open spaces should be well equipped with all kind of facilities such as lighting arrangements, security, wash rooms, drinking water facilities, small eating places, etc.
b)	Total population of thromde	Number	122500		Environment	Projected population

INDICATOR 2: AREA COVERED UNDER OPEN SPACES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Area Covered under open spaces	%	How much area is covered under open spaces to the total area of the thromde? This is one of the parameter to assess the quality of life in a city.	Ward/ zonal Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)*100	Department	Remarks
a)	Total area under open spaces	Sq. Km	8		Environment	To be calculated by measuring the covered area of different parks and playgrounds maintained in different part of the city.
b)	Total area under Thromde jurisdiction	Sq. Km	26	30.77	Environment	It requires regular updating to include the urban extensions for which Thromdes are responsible for provision of various services and amenities. Zone wise data may be compiled for better monitoring system.

INDICATOR 3: COST OF MAINTENANCE (PER MONTH IN NU)

Indicator	Unit
Cost of Maintenance	Nu

Data Required for calculation	Unit	Input data	As of June 2014 (Nu)	Period	Department
Total cost of maintenance of open spaces	Nu	1 Million	1 Million	Current	Environment

V. Fire Stations/ Fire Hydrants (Disaster-Environment)

INDICATOR 1: NO OF FIRE STATIONS PER SQ KM OF AREA UNDER THROMDE JURISDICTION

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of fire stations per sq. km of area under thromde jurisdiction	Number	The purpose of this indicator is to measure the accessibility of fire stations in the event of fire or other kind of disasters in the city. It will suggest the average influence area of each fire station in a city/ town	To begin with city level and gradually shall be measured at ward/ zone level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total number of fire stations in a thromde	Number	4		Environment	Data need to be maintained, ward wise or at least zone wise on the availability of fire stations.
b)	Total area under Thromde jurisdiction	Sq. Km	26	0.15	Environment	This should include the extended municipal limits also.

INDICATOR 2: NO. OF FIRE HYDRANTS PER SQ KM MUNICIPAL AREA

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of fire hydrants per sq. km municipal area	Number	The purpose of this indicator is to measure the accessibility of fire stations in the event of fire or other kind of disasters in the city. It will suggest the average influence area of each fire station in a city/ town	To begin with city level and gradually shall be measured at ward/ zone level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total no of fire hydrants covering all fire stations in the city/ town	Number	62	2.3	Environment	Functional fire hydrants need to be recorded in this indicator.
b)	Total area under Thromde jurisdiction	Sq. km	26		Environment	Including extended urban limits.

INDICATOR 3: NO OF FIRE HYDRANTS PER KM OF ROAD LENGTH

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of fire hydrants per km of road length	Number per km	Provision of fire safety services under this indicator has been assessed in the context of road coverage	At City Level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(b/a)	Department
a)	total no of fire hydrants covering all fire stations and locations in the city/ town	Number	62		Environment
b)	Total length of roads	Km	246	3.9	Environment

VI. Parking Facilities (Engg.)

INDICATOR 1: NO OF VEHICLES PER PARKING SLOT

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of vehicles per parking slot	Number	How many vehicles of different types such as cars, two-wheelers, cycles, etc. are registered with the transport department in the city/ Thromde and availability of existing parking slots in the city (total) to accommodate these vehicles. This will help to assess the estimated no of parking slots required to accommodate different types of vehicles in the city.	To begin with city level and gradually shall be measured for different locations and use.	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total number of vehicles of different types registered in the city	Number	38760	55	Engineering Division	Require regular updating of information in coordination with the transport department. Average growth of varying nature of vehicles need to be worked out to plan the requirement of parking facilities. Further periodical vehicle survey at household level need to be carried out to assess the parking requirements for different locations and use. Data on average no of vehicles per day entering in the city also need to be collected from the traffic department to plan better parking facilities in the city concerned.

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
b)	Existing no of parking slots to park different types of vehicles	Number	701		Engineering Division	Data to be complied at the city level. Calculation shall be made on the basis of total parking slots available in different part of the city. Data need to be collected both for privately managed parking spaces and parking facilities provided by the thromde and other institutions.

INDICATOR 2: COVERAGE BY AUTHORIZED PARKING FACILITIES

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
Coverage by authorized parking facilities	Sq. Km	Area coverage by the parking facilities in the city in different land use to work out the proportionate area covered under parking to the total area of the city/ town	To begin with city level and gradually shall be measured for different locations and use	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)*100	Department	Remarks
a)	Total authorized parking area in the city/ thromde	Sq. Km	Refer Note 1		Engineering Division	This should include all types of parking viz; surfaced parking, underground parking multi-level parking etc.
b)	Total area under thromde jurisdiction	Sq. Km	26	Refer Note 2	Engineering Division	

Notes	
1	Data relating to (a) was not available
2	Indicator could not be calculated because data relating to (a) was not available

INDICATOR 3: TOTAL VEHICLE PARKING SLOTS PER 1000 POPULATION

Indicator	Unit
Total vehicle parking slots per 1000 population	Number

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[(a/(b/1000)]	Department
a)	Total vehicle parking slots	Number	701	5.7	Engineering Division
b)	Total population	Number	122500		Engineering Division

INDICATOR 4: NO OF TRAFFIC CHALLANS PER MONTH FOR UNAUTHORIZED PARKING

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of traffic challans per month for unauthorized parking	Number/month	This suggest the adequacy or otherwise of parking spaces on different locations	For different locations in the city	Quarter

Data Required for calculation	Unit	Input data	As of June 2014	Department	Remarks
Average number of challans in a quarter for unauthorized parking	Numbers/quarter	Refer note 1	Refer Note 2		To be collected from traffic police/ transport department for various locations. This suggests the most visited area and least visited area as far as vehicle parking is concerned.

Notes	
1	Data relating to average number of challans in a quarter for unauthorized parking was not available
2	Indicator could not be calculated because data relating to average number of challans in a quarter for unauthorized parking was not available

INDICATOR 5: EXTENT OF COST RECOVERY

Indicator	Unit
Extent of Cost Recovery	%

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(b/a*100)	Department
a)	Total annual operating expenses	Nu in million	Refer Note 1		Engineering Division
b)	Total annual operating revenues	Nu in million	Refer Note 1	Refer Note 2	Engineering Division

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

VII. Bus Stops and bus stands (Engg.)

INDICATOR 1: NO OF BUS STOPS PER KM ROAD LENGTH

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of bus stops per km road length	Number	It suggests the distribution of bus stops in the context of total road length in the thromde.	To begin with city level and gradually shall be measured at ward/ zone level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(a/b)	Department	Remarks
a)	Total no of bus stops in the city limits	Number	Refer note 1	Refer note 2	Engineering Division	All bus stops both covered and without shelter should be recorded to work out the coverage. It require periodical updating of records
b)	Total length of roads in the jurisdiction of thromde	Running Kilometers (RKM)	Refer Note 1		Engineering Division	Regular updating is required to add the up gradation of road network in the extended urban limits. All motorized roads shall be covered to measure the length of roads in RKMs

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

INDICATOR 2: PERCENTAGE OF BUS STOPS COVERED AND WELL ILLUMINATED

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
% of bus stops covered and well illuminated	%	How many bus stops to the total number of bus stops have puck shed with railing for security of commuters and lighting arrangements for dark hours/evenings or vulnerable locations in the city ? This is one of the parameter to assess the quality of bus stops in a city.	To begin with city level and gradually shall be measured at ward/ zone level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =(b/a)*100	Department	Remarks
a)	Total no of bus stops in the city	Numbers	Refer Note 1	Refer Note 2	Engineering Division	It includes all types of bus stops provided in different parts of the city for the intra city transport purpose.
b)	No of bus stops having pucca sheds, railing and lights in different part of the city	Numbers	Refer Note 1		Engineering Division	Only those bus stops which have proper shed, lighting for dark hours and security chain/ railing shall be recorded for this quality indicator. Regular updating is required to accommodate upgraded stops with the above facilities. Similarly degraded due to nonfunctioning of some of the suggested facilities

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available

INDICATOR 3: NO OF BUS STOPS PER 1000 POPULATION

Indicator	Unit	Definition	Smallest geographical jurisdiction for measurement of performance	Minimum frequency of measurement of performance indicator
No of Bus stops per 1000 population	Number	How much population is being served by one bus stop to cater the need of intra city commuters? This is one of the important indicators to assess the performance of Thromdes in then provision of bus stops for intra city travel. Usually the distance of one bus stop from another should not be more than 500 meters.	To begin with city level and gradually shall be measured at ward/ zone level	Quarterly

Sl.	Data Required for calculation	Unit	Input data	As of June 2014 =[a/(b/1000)]	Department	Remarks
a)	Total no of bus stops within the city limits	Number	Refer Note 1		Engineering Division	It should include all types and location of bus stops meant for intra city travel. Need to be updated periodically to capture the data on functioning and non-functioning stops.
b)	Total projected population of the city	Number	Refer Note 1	Refer Note 2	Engineering Division	Projections should include the floating population, tourist inflow etc. Population should be projected on annual basis

Notes	
1	Data relating to (a) and (b) was not available
2	Indicator could not be calculated because data relating to (a) and (b) was not available