Service Level Benchmarks

Cornerstone of the Urban Reforms and An Audit Tool

A Research Paper

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Preface

Urban Local Bodies (ULBs) are deficient in providing quality services to the existing population in spite of their accountability to citizens. To meet the need, cities are in the process of urbanization. The challenge of urbanization is to ensure service delivery at enhanced minimum standards that are necessary. Ministry of Urban Development set out the service norms in the Handbook of Service Level Benchmarking (SLB) published in 2008.

Benchmarking is a well recognised important tool for performance management and accountability in service delivery by the ULBs. It involves the measuring and monitoring of service provider performance on a systematic and continuous basis. Sustained benchmarking can help to identify performance gaps in service delivery and introduce improvements through the sharing of information and best practices, ultimately resulting in better services to people. Thirteenth Finance Commission made it mandatory to notify, by the end of fiscal year, the service standards proposed to be achieved in the succeeding fiscal year in four service sectors – water supply, sewerage, solid waste management and storm water drainage, by each ULB. Commission recommended declaration of minimum level of service against each of the indicators of the four service sectors as framed in the Handbook of SLB.

The Handbook also specified examination of SLB by the Audit during the course of interaction with the ULBs. Thus audit has an important role to gauge the endeavour of ULBs to provide standard basic services to its citizens which is a constitutional responsibility of ULB.

This introductory paper is an attempt to highlight the need of basic services for civil society and focus of audit on each performance parameter. It is hoped that this paper would help to enhance audit skill and competence in the sphere.

Finally any suggestions, feedback and views on this paper are earnestly welcome.

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Kolkata
December 2016

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Service Level Benchmark – Cornerstone of Urban Reforms and an Audit Tool

Service Level Benchmark (SLB)

Introduction

The principle of decentralisation of funds, functions and functionaries in Urban Local Bodies (ULBs) articulated under 74th Constitutional Amendment mandated the responsibility of ULBs in providing the basic services to the taxpayers. The responsibility to provide basic services has become challenging due to rapid growth rate in urban population. Out of total population of 1210.2 million as on 1st March 2011, about 377.1 million are urban population which is 31.16 per cent. The net addition of population in urban areas over the last decade is 91.0 million. As presently defined the urban population will be close to 600 million by 2031. Even in the existing population, ULBs remained well below the desired level of providing basic services.

To improve service delivery level, investments are being made by the Central Government and State Government through urban reform agenda under various centrally or state sponsored scheme (e.g. JNNURM, UIDSSMT, AMRUT, SBA, MPLAD etc.). It envisages a shift on focus from infrastructure creation to delivery of services outcomes.

Accountability of service delivery is an integral part to gauge the end use of the fund earmarked. Benchmarking mechanism is a tool to establish accountability in service delivery by measuring and monitoring the performance of ULBs in providing services to its taxpayers. Benchmarking helps to identify performance gap and introduce improvements through the sharing of information and adoption of best practices by all ULBs. This is a process to provide better services to people.

Need of SLB

Alike other sectors urban sectors have a number of performance indicators related to urban management and service delivery that have been defined, measured and reported. However, most of the initiatives of performance management have some limitations such as:

- Different sets of performance indicators have been defined under different initiatives

- Even for the same performance indicator the definition may vary, the assessment may vary, thus hindering the inter-city or intra-city comparison
- Most performance measurement have not been institutionalised, thus limiting the monitoring trends in performance
- The process of performance measurements is different

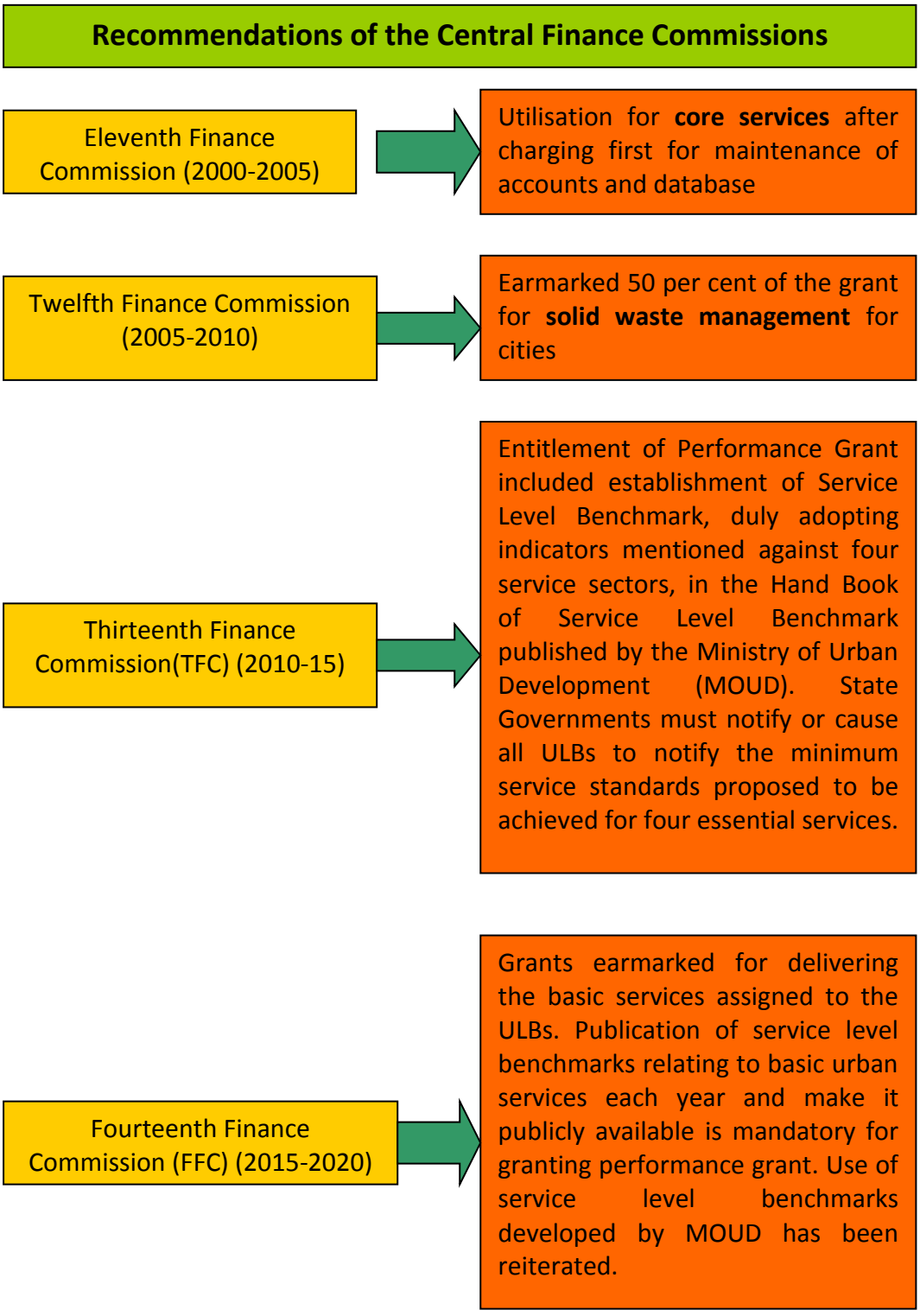
Due to these variable performance indicators it is difficult to put forth a common platform for comparison of performance amongst different ULBs. Thus to facilitate comparison between cities / service delivery jurisdiction and improvement of performance, it is important that the performance levels are **benchmarked** which can be commonly understood / used by all. Performance can be measured against those benchmarks. Depending on the specific needs additional parameters can be defined and used. Measuring service level implies the measuring of the outcome, capacity of the civic body, financial performance and other parameters.

Importance of SLB

With urbanisation, ULBs are facing service delivery deficiencies. To bridge the deficiencies, apart from launching various Central/State Sponsored Schemes and Programmes by the Government of India/State Governments, Central Finance Commissions emphasised importance on service delivery and recommended the utilisation of grants for the purposes earmarked.

The Twelfth Five Year Plan (2012-17) underpinned the need and urgency to improve service level. Plan stipulated that every municipality should publish a citizen's charter which should contain comprehensive information on service levels for all urban services including basic services. The Charter should specify the relief available to the citizens in case of non-adherence.

Thus the significance and recognition of urban services have gained the impetus of utilisation Service Level Benchmark. SLB would assist in evaluating the improvement in basic services comparing to the investment made. It is expected that future investment decisions on infrastructure investments will prioritize cities that are undertaking benchmarking.


Recommendations of the Central Finance Commissions
Eleventh Finance Commission (2000-2005)
Utilisation for **core services** after charging first for maintenance of accounts and database
Twelfth Finance Commission (2005-2010)
Earmarked 50 per cent of the grant for **solid waste management** for cities
Thirteenth Finance Commission(TFC) (2010-15)
Entitlement of Performance Grant included establishment of Service Level Benchmark, duly adopting indicators mentioned against four service sectors, in the Hand Book of Service Level Benchmark published by the Ministry of Urban Development (MOUD). State Governments must notify or cause all ULBs to notify the minimum service standards proposed to be achieved for four essential services.
Fourteenth Finance Commission (FFC) (2015-2020)
Grants earmarked for delivering the basic services assigned to the ULBs. Publication of service level benchmarks relating to basic urban services each year and make it publicly available is mandatory for granting performance grant. Use of service level benchmarks developed by MOUD has been reiterated.

Performance Parameters-Handbook of Service Level Benchmarking

The functional responsibilities of urban local body are categorized as water supply, sewerage, solid waste management and storm water drainage sparing few other marginal functions. These four basic services are provided in the jurisdiction of the ULBs haphazardly in absence of adequate fund, skilled and competent manpower and technical know how. The standard of basic urban services in terms of quality and adequacy has been observed meager across the country. The disparity in services has been observed from area to area within the same ULB.

Recognising the importance of delivery of basic services in the urban sector and monitoring of the performances, Ministry of Urban Development published Handbook of Service Level Benchmarking in 2008 covering services of-

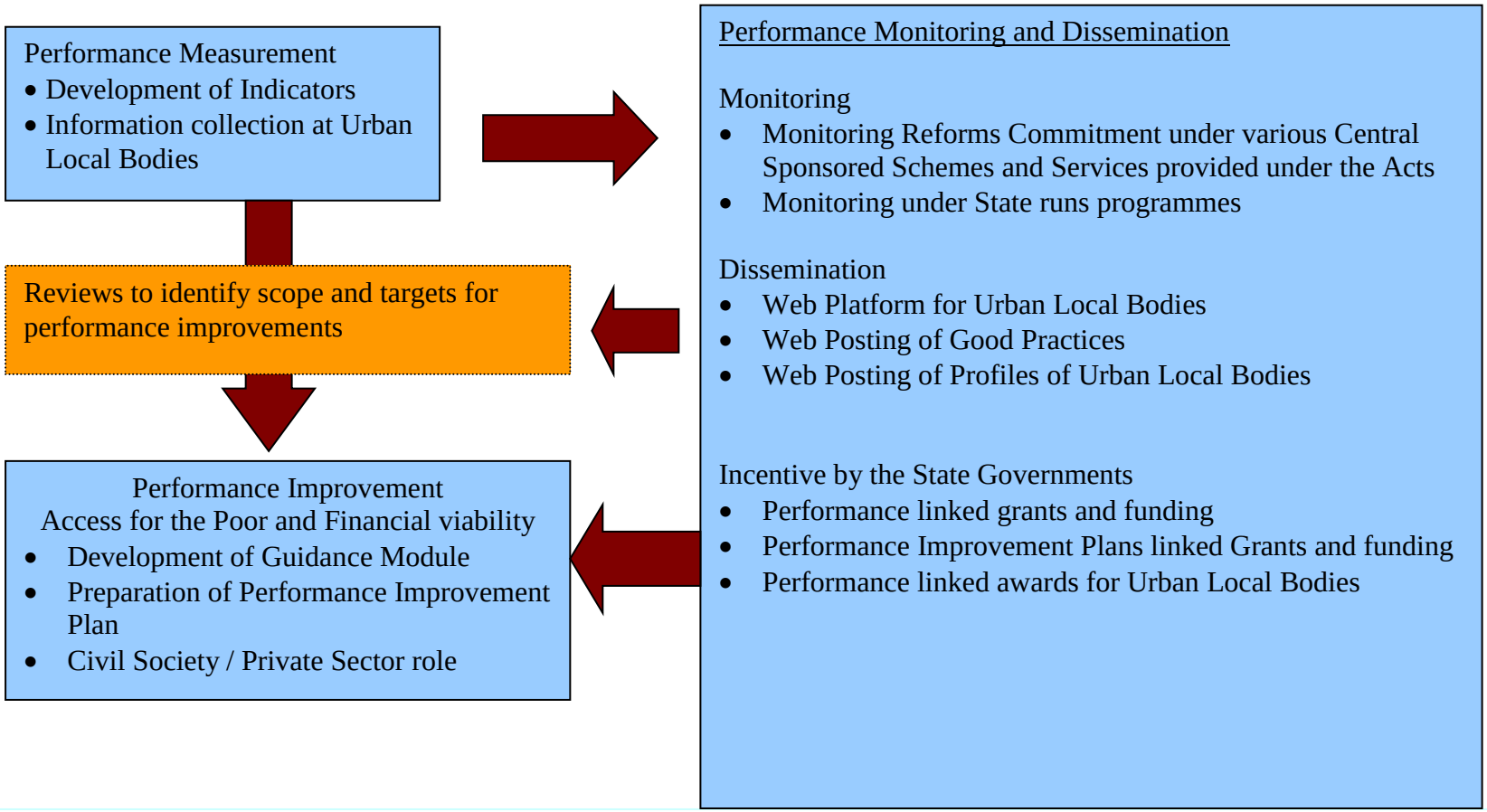
- Water Supply,
- Sewage Management (Sewerage and Sanitation),
- Solid Waste Management and
- Storm Water Drainage

There are 28 performance indicators **(Table 1)** for four services. The SLB data requirements can be determined from the definitions of the 28 SLB indicators. Handbook enabled systematic and sustained monitoring of services introducing standardised indicators against agreed targets and benchmarks. For each required data corresponding to an SLB indicator, three components must be present:

Benchmarking and performance monitoring require the collection and analysis of reliable and accurate performance data of service provider operations. Any inadequacy in the measurement system, collection and recording system, and data base maintenance must be addressed through actions or series of activities. Cities

should develop Information Systems Improvement Plans (ISIP) and Performance Improvement Plans (PIPs), which identify specific actions they propose to take and expected service levels consequent to their implementation. ISIP helps to evaluate the data requirements for each indicator and the necessary steps required to improve or setting up the corresponding information and data system. An example of evaluating the data requirements of a number of indicators and the necessary steps required to improve or setting up the corresponding information and data system is shown in **Table II**. ISIP would help in identifying PIP for each service. Examples for improvement plans for water supply, solid waste, sewage are cost recovery, revenue collection efficiency and redressal of complaints. Some improvement plans involve the procurement and installation of equipment like production and consumption meters, and weighing stations for solid waste. Setting up of data bases could involve the procurement of computer hardware and software.

Procedure for Service Level Benchmarking



Good Practices

The National Institute of Urban Affairs, under Ministry of Urban Development (MoUD,) takes initiative for Peer Experience and Reflective Learning (PEARL) which provides a platform for deliberation and knowledge exchange for Indian cities and towns as well as professionals working in the urban domain. Few exemplary good practices to enhance the quality of service delivery of selected cities are enumerated.

Information and Efficiency Improvement

SLB connect in Pimpri-Chinchawad Municipal Corporation (PCMC)

MoUD in association with World Bank's Water and Sanitation Programme (WSP) launched SLB Connect 2012, an initiative to strengthen citizen engagement to track service delivery from citizen's perspective through Information and Communication Technology (ICT) for Water Supply and Sewerage Management. PCMC is the fifth most populated ULB in Maharashtra with a population of 1.7 crore according to Census 2011.

Summary of performance of PCMC - SLB indicator 2011-12

Water Supply	Sewerage
Scored 85 per cent on coverage, higher per capita supply of 182 lpcd against SLB norms 135 lpcd of MoUD. While PCMC reported 90 per cent cost recovery, collection efficiency was lower at 65 per cent. Non revenue water was reported at 25 per cent, however discussion with PCMC suggested constraint in data acquisition due to non availability of volumetric measurement on water flows.	Sewage coverage was 76 per cent and sewage collection efficiency was 72 per cent. Service levels in adequacy, quality of sewage treatment and redressing customer complaints met or exceeded the norms. Service level was lower than SLB norms on reuse, cost recovery and collection efficiency.

Reporting on SLB relied mainly on ULB level feedback without adequately reflecting citizens' opinion. It was felt necessary to involve citizens in capturing and reporting citizens' feedback on service delivery performance for strengthening the performance reporting. With the objective to engage citizen 'SLB Connect' programme in PCMC Water Supply and Sewerage was selected as first step.

A three stage assessment was adopted-

- Conducting a mobile based survey:
  Android based mobile application used to gather feedback on service related issues from the selected household. Over 3200 mobile numbers were collected who provided feedback on an ongoing basis.

- Real time monitoring of survey using web based survey
  Survey managers and sector experts monitor and manage survey activities and progress to enhance quality control
- Real time analysis of survey results using online dashboard and data analysis tools
  A customised dashboard prepared to address information needs of various stakeholder groups and survey results using easy to read tables / maps etc.

The analytical tool of SLB connect enabled review and analysis of data, on citizens point of view, under various dimensions including comparison of the level services, level of satisfaction with reference to service indicators. A website is maintained wherein the results and findings are viewed by the citizens.

SLB connects ensures engagement of citizens through use of ICT tools. It also established that effective engagement can be achieved by leveraging high mobile tele-densities in Indian cities and use of the same for both data collection and information dissemination. ULBs are depending on time consuming and costly conventional household survey. The use of registered mobile phone to track and capture household level feedback is an innovative idea that can be adopted in most of the Indian cities. In June 2013, MoUD requested all State Governments to consider implementation of SLB connect as a good practice for citizens engagement.

Bangalore Bulk Flow Metering and online monitoring

Bangalore Water Supply and Sewerage Board (BWSSB) noticed that about 45 per cent of the water supplied by the Board went unaccounted for. In order to have effective management of the water supply system and to achieve the desired service level BWSSB felt the need of proper control and management of water flows. Accordingly BWSSB took initiative for installation of 218 bulk meters and implementation of a software application to capture and track information from these bulk meters to monitor and regulate the water supply. Flow meters were installed at all critical locations including inlet and outlet of all Ground Level Reservoirs and Elevated Service Reservoirs and all the flow meters were given an ID. Each flow meter was assigned specific quantity of flow depending on the requirement of the area and availability of water. Each flow meter measures the rate of flow of water at particular moment of time and transmits through GSM network to the central server. To analyse data for decision making, future planning, online

tracking and monitoring IT software, Intelligent Operation of Water (IOW), developed by IBM to transmit data to users for analysis.

Bulk flow metering helps in assessing overall water balance along with identification of illegal water connection and providing indicators for water leakage reduction programme. IOW would help to manage water balance and provide equitable water distribution across the city. Thus BWSSB's initiative to combine ICT application with bulk metering helped to collect data and the use the of the same for decision making.

Environment Sustainability and Technology Use

Pimpri-Chinchwad –Helium Based Link Detection

PCMC decided to shift to continuous water supply to its tax payers in place of intermittent supply. While implementing the decision it identified leakages and technical losses in its water supply distribution system which lead to constraints in achieving the target. Though PCMC was reporting, as per norms of SLB, per capita supply of over 180 lpcd it was receiving complaints from customers. PCMC wanted to address the aspect of technical losses in its distribution system for successful operation of continuous water supply. PCMC selected a zone for the programme which had uneven supply, low pressure and higher customer complaint.

PCMC with the help of Suez Environment Limited (Suez), a French water operator, took up a programme of leak detection using helium gas during January to July 2012. Suez introduced helium gas technique for detecting invisible leaks. This gas easily passes through leaks due to its small atomic size, and is also safe for use in drinking water. The programme identified 132 leaks within a 20 kms network. After mapping the leakage PCMC started leak repair work which was not upto the mark according to Suez team. Suez assisted PCMC in use of better technique including use of mechanised cutting tools, under pressure drill and tap machine and repair clamps. They also assisted in monitoring the work including the revision of network. PCMC also took up consumer awareness programme simultaneously to repair their sumps to avoid overflow.

Thus the leak detection programme enabled PCMC to take a structured approach to address service delivery improvements in the selected zone. PCMC also initiated effort to replicate the programme in other three zones.

Audit Observations

Few audit observations on Service Level Benchmark incorporated in the Audit Report of the Local Bodies of the Comptroller and Auditor General of India, in respect of certain states are highlighted which indicate the shortfall and deficiencies in following the benchmark thereby affecting the service delivery towards taxpayers.

1 Bhopal Municipal Corporation (Madhya Pradesh)

(a) Water Supply Services

SLBs for Water Supply Services - during 2011-12 to 2014-15

Sl. No.	Service Indicators	Benchmarks as per SLB Handbook	Notified SLBs during the 2011-15	
			Targets	Achievements
1	Coverage of water supply connection (*per cent)*	100	60-100	56-80
2	*Per Capita* supply of Water (lpcd)	135	150	150
3	Extent of metering of water connections (*per cent*)	100	7-100	2-40
4	Extent of Non-Revenue water (*per cent)*	20	15-35	20-35
5	Continuity of Water Supply (hours)	24	1-24	1-8
6	Quality of Water supplied (*per cent*)	100	90-100	95-100
7	Efficiency in redressal of customer complaints (*per cent*)	80	90-100	90-98
8	Cost Recovery in Water Supply services (per cent)	100	50-90	40-50
9	Efficiency in collection of water supply related charges (*per cent*)	90	72-90	75-83

(i) *Coverage of Water Supply Connection*

Aachievement of BMC was notified as 80 *per cent* in 2014-15 against this SLB indicator. However, scrutiny of records revealed that 180000 HHs out of 390445 HHs in the service area of BMC were connected with the direct water supply service connection. Thus, there was 46 *per cent* coverage of water supply connections in Bhopal, whereas inflated coverage figures (80 *per cent*) was reported in the Gazette notification.

Government replied that water supply works were under progress and instructions were being issued to the ULBs for expediting implementation of works.

(ii) ***Per capita supply of water***

Against this SLB indicator, BMC notified the achievement of 150 lpcd during the year 2011-12 to 2014-15, which was more than the benchmark fixed by GoI. However, it was noticed that the duration of water supply was not equal in each service area. Though in some service area water supply was up to 9 hours per day, water was supplied on alternate day in 77 service areas out of 305 number of total service areas (70 wards) of BMC.

(iii) ***Extent of metering of water connections***

BMC did not install meters for water connections. Despite this, Government notified 40 *per cent* achievement under this indicator during 2014-15. Thus, the achievements shown in the Gazette in respect of this service indicator was incorrect.

(iv) ***Extent of non-revenue water***

Government notified achievement of 20 *per cent* against the target of 15 *per cent* for the extent of non-revenue water in BMC during 2014-15. However, the achievement notified in the Gazette was incorrect, as the quantum of non-revenue water could not be assessed due to absence of metering system at transmission as well as at consumer end.

(v) ***Service indicator 'quality of water supply'***

Quality of water supply was to be measured with the actual number of water samples that are taken at both points- outlet of the treatment plant and at the consumer end. A periodic independent audit of water quality was also to be carried out. It was, however, noticed that the water samples were not taken at consumer end and periodic independent audit of water quality was also not carried out. Thus, the achievement notified in the Gazette under 'quality of water supply' by BMC was unrealistic.

(vi) ***Efficiency in redressal of customer complaint***

Government notified achievement of 100 *per cent* against the benchmark of 80 *per cent.* It was observed that BMC was maintaining the records of complaints received, however, the status of redressal was not recorded. Therefore, the basis, on which 100 *per cent* achievement was notified, could not be ascertained in audit.

(vii) Cost recovery in water supply services

The details of operating expenditure and cost recovery in water supply services by BMC were as detailed below:

Year	Operating Expenses	Cost recovery	percentage of cost recovery
2011-12	**56.79**	**29.08**	**51**
2012-13	**65.47**	**29.50**	**45**
2013-14	**81.40**	**29.47**	**36**
2014-15	**78.81**	**29.44**	**37**

It is evident from above that actual cost recovery in BMC was between 36 and 51 *per cent*. It was also noticed that the target for this SLB indicator was notified as 70 *per cent* during 2014-15*,* which was much below the benchmark fixed by GoI. In exit conference (September 2015), the Government replied that the audit observation had been noted for action.

(b) *Sewage and sanitation*

The achievement of BMC against three indicators of SLBs for sewage and sanitation services, as notified in State Gazette during 2011-12 to 2014-15, was as under:

Sl. No.	Service Indicators	Benchmarks as per SLB Handbook	Notified SLBs during the 2011-15	
			Targets	Achievements
1	**Coverage of sewage network**	**100**	**12-50**	**10-40**
2	Collection efficiency of sewage network	100	12-50	11-40
3	Extent of cost recovery in sewage management	100	7-15	7-10

(i) *Coverage of sewage network*

We observed that coverage of sewage network in Bhopal was 38 *per cent*, as against the notified target of 40 *per cent.* Thus, the coverage as well as the notified target was lower than the benchmark value (100 *per cent*) fixed by GoI.

(ii) *Collection efficiency of the sewage network*

The achievement notified in respect of this indicator was 40 *per cent* during 2014-15. However, based on total capacity of seven Sewage Treatment Plants (STPs) in Bhopal, the collection efficiency of sewage generated worked out to 28 *per cent* during 2014-15. Thus, notified achievement of 40 *per cent* towards collection efficiency of sewage water was incorrect.

(iii) *Extent of cost recovery*

It was observed that operating expenses for sewage management in Bhopal were Rs.2.89 crore during 2014-15. However, the charges for cost recovery of sewage

management were not imposed. Despite this, the achievement of BMC in respect of this benchmark was shown as 10 *per cent* in the Gazette.

BMC accepted (July 2015) that the achievement was wrongly notified in the Gazette. In exit conference (September 2015), the Government replied that action would be taken.

(c) *Solid Waste Management (SWM)*

The achievement of BMC with reference to SLBs for SWM, as notified in State Gazette during 2011-12 to 2014-15, was as under:

Sl. No.	Service Indicators	Benchmarks as per SLB Handbook	Notified SLBs during the 2011-15	
			Targets	Achievements
1	Household level coverage	100	40-75	30-70
2	Efficiency of collection of MSW	100	80-95	80-91
3	Extent of segregation of MSW	100	15-30	15-24
4	Extent of MSW recovered	80	15-25	10-19
5	Extent of Scientific Disposal of MSW	100	15-25	5-15
6	Efficiency in redressal of customer complaints	80	99	95-99
7	Extent of Cost recovery in SWM charges	100	Nil	42-52
8	Efficiency in collection of SWM charges	90	Nil	40-63

(i) Extent of segregation of Municipal Solid Waste (MSW)

It was observed that the segregation of waste was not done. BMC informed that un-segregated waste was being dumped at dumping site. Despite this, 15 to 24 *per cent* achievement was notified under this indicator, which was incorrect.

(ii) Efficiency in scientific disposal of MSW

It was noticed that BMC received 12th Finance Commission grants-in-aid (2007-10) of Rs 6.83 crore, out of which 50 *per cent* was to be incurred on SWM. However, no landfill site for scientific disposal of MSW could be developed by BMC. Despite this, 5 to 15 *per cent* achievement was notified under the indicator 'efficiency in scientific disposal of MSW'.

In the exit conference (September 2015), the Government stated that the State had converted 378 ULBs of the State in 26 clusters with a view to effectively and scientifically manage solid waste. The target was to organise full SWM within two years.

(iii) ***Efficiency in redressal of customer complaint***

It was observed that the records of enrolment of complaints were maintained in BMC. However, status of redressal of complaints was not recorded. Therefore, the notified percentage of complaints redressal could not be verified.

In exit conference (September 2015), the Government replied that it had been noted for further action.

(d) ***Storm Water Drainage***

(i) ***Coverage of storm water drainage***

Coverage of storm water drainage network was to be computed on the basis of total length of road having more than 3.5m wide carriageway in service area and total length of drains that are made of pucca construction and are covered.

It was noticed that the total length of road network (more than 3.5m wide) in the service area of BMC was 3,200 km. The length of drains was 2,400 km, which was uncovered. Due to uncovered drains, the indicator for coverage of storm water drainage network was not computable as per prescribed parameters of SLB Handbook. Despite this, the achievement of 75 *per cent* was notified during 2014-15.

(ii) ***Incidence of water logging/flooding***

BMC had identified four low lying flood prone areas, where four to five incidences of water logging occurred during the year 2014-15. Despite this, no target was notified for SLB indicator 'incidence of water logging'. BMC replied that incidences of water logging were decreased after completion of JNNURM project. However, proposal would be prepared for another project to avoid water logging incidences.

2 Dewas Municipal Corporation (Madhya Pradesh)

(a) ***Water supply services***

The status of performance of DMC relating to SLBs for water supply service, as notified in State Gazette during 2011-12 to 2014-15, was as under:

Sl. No.	Service Indicators	Benchmarks as per SLB Handbook	Notified SLBs during the 2011-15	
			Targets	Achievements
1	Coverage of water supply connection (*per cent)*	100	60-75	42-74
2	*Per Capita* supply of Water (lpcd)	135	80-100	50-90
3	Extent of metering of water connections (*per cent*)	100	10	Nil
4	Extent of Non-Revenue water (*per cent)*	20	30-45	3-45
5	Continuity of Water Supply (hours)	24	30-60	30-75 minutes

			minutes	
6	Quality of Water supplied (*per cent*)	100	80-95	50-90
7	Efficiency in redressal of customer complaints (*per cent*)	80	100	100
8	Cost Recovery in Water Supply services (per cent)	100	60-75	50-60
9	Efficiency in collection of water supply related charges (*per cent*)	90	70-80	50-75

(i) ***Coverage of water supply connections***

As against notified coverage of 74 per cent, actual coverage of water supply connection in the service area of DMC was only 47 *per cent,* as 30,665 HHs were provided direct water supply connection against 65,276 number of HHs. Further the distribution pipeline was laid in 60 *per cent* service area and State Government had approved (September 2014) a proposal (sanctioned cost of ` 40.00 crore) for laying pipeline in another 10 *per cent* service area, thus there was no planning for remaining 30 per cent area and inflated figures were reported in the Gazette notification.

(ii) ***Per capita supply of water***

As against notified coverage of 90 lpcd during 2013-14 and 50 lpcd during 2014-15 against the SLB indicator, treated water supply for 2.90 lakh people was only 34 lpcd during these years. Thus inflated figures were reported in the Gazette notification.

(iii) ***Continuity of water supply***

The benchmark value of this indicator was 24 hours. It was noticed that water supply in the service area of DMC was 45 minutes alternate day, as against notified achievement of 75 minutes per day under this indicator. Thus the notified achievement was incorrect.

(iv) ***Quality of water supply***

Testing of treated water was being done in the laboratory established in DMC. However, the water samples for testing were never taken at consumer end as envisaged in SLB Handbook. Periodic independent audit of water quality was also not carried out. Thus, the achievement of 50 *per cent* shown in the Gazette during 2014-15, was without basis.

(v) ***Efficiency in redressal of customer complaint***

Records of enrolment of complaints were maintained in DMC but the status of complaints redressal was not recorded. Therefore, the complaints redressed within the time period as envisaged in SLB Handbook, could not be verified

(b) ***Sewage and sanitation***

DMC did not maintain database in respect of 'coverage of toilets'. Despite this, DMC showed achievement of 80 *per cent* under the indicator. DMC informed (April 2015) that the achievement was published in the Gazette on the basis of available information. DMC could not produce any record in support of the information.

No target was notified for service indicators - adequacy of sewage treatment capacity, quality of sewage treatment and extent of reuse and recycling of sewage.

(c) ***Solid Waste Management (SWM)***

Landfill site was not developed for scientific disposal of MSW in DMC and no target was fixed for 'scientific disposal of MSW', though it was required to be 100 *per cent.* Further no tax or fee was imposed and recovered against operating expenses of Rs.2.91 crore during 2011-15 on SWM. Therefore, notified achievements 10-40 *per cent* under the indicator 'extent of cost recovery' was without basis.

(d) ***Storm water drainage services***

Total length of road network (more than 3.5 meter wide) in the jurisdiction of DMC was 427 km during 2014-15. These roads did not have covered drains. For measuring the 'coverage of storm water drainage' network, the performance against this indicator was not computable in the absence of covered drainage network. Despite this, DMC notified achievement of 70 *per cent* during 2014-15, which was incorrect.

3 Junnardev Municipal Council (Madhya Pradesh)

The achievements of Junnardev Municipal Corporation (JMC), during 2011-12 to 2014-15, in implementing SLBs targets are discussed in succeeding paragraphs.

(a) ***Water Supply Services***

JMC reported incorrect achievements to the State Government for publishing in Gazette Notification, as stated below:

(i) Achievement of JMC in per capita supply of water was notified as 90 lpcd in 2014-15. However, treated water supply for 0.23 lakh people was 53 lpcd during 2014-15.

(ii) JMC did not have metering system at transmission end as well as consumers end. Thus extent of non-revenue water, could not be computed in the absence of water metering system but JMC had reported achievement of three to five *per cent* against this SLB indicator.

(iii) Against continuity of water supply JMC notified achievement of 60 minutes per day during 2014-15, whereas the actual water supply in its service areas was only 45 minutes alternate day.

(iv) JMC notified 100 *per cent* achievement (100 *per cent*) against 'quality of water supply' in the Gazette. It was observed that testing of water was never done.

(v) The SLB indicator - efficiency in redressal of customer complaint, was reported 100 *per cent* which was without any basis. Achievement against indicator - cost recovery in water supply services, was not reported on the basis of actual recovery of operating cost. The achievement was 14 *per cent* (revenue of Rs.0.11 crore against operating expenditure Rs.0.82 crore) during 2014-15, but it was notified as 80 *per cent*.

JMC accepted that the incorrect data was mistakenly furnished for Gazette notification.

(b) *Sewage and sanitation*

JMC did not fix any target for coverage of sewage network, whereas this was to be 100 *per cent* as per SLB Handbook. Government replied that centralised sewage management system was not envisaged in smaller ULBs like JMC. Thus flowing sewage through open drains and storm water drains pauses serious public health hazard.

(c) *Solid Waste Management (SWM)*

JMC notified achievement (up to 90 *per cent*) with reference to Household level coverage, whereas, out of 4844 HHs, 2880 HHs (59 *per cent*) were connected with the doorstep collection during 2014-15. Further, achievement against 'efficiency in redressal of customer complaint' was notified 100 *per cent* while no record was maintained for enrolment and redressal of complaints.

(d) *Storm water drainage services*

Achievement under SLB indicator- 'coverage of storm water drainage' was reported 80 per cent, on estimated basis, as no record indicating the length of roads and drains (covered/uncovered) was available in JMC.

(Source: Para 5.2 of Audit Report of Local Bodies for the year ended March 2015, Madhya Pradesh)

4 Ulhasnagar Municipal Corporation (Maharashtra)

Audit observations on achievement of SLBs by Ulhasnagar Municipal Corporation (UMC), against national benchmarks as well as own targets, and the adequacy of CSP in improving the SLBs are discussed below.

(a) ***Water Supply Services***

Targets and achievements as per SLB Indicator

Sl. No.	*Service Indicators*	*Benchmarks as per SLB Handbook*	*Notified SLBs during the 2010-14*	
			Targets	**Achievements**
1	Coverage of water supply connection (*per cent)*	100	100	80-90
2	*Per Capita* supply of Water (lpcd)	135	135	135-145
3	Extent of metering of water connections (*per cent*)	100	100	2-20
4	Extent of Non-Revenue water (*per cent)*	20	20	30-35
5	Continuity of Water Supply (hours)	24	4-6	1-2
6	Quality of Water supplied (*per cent*)	100	80-100	90-100
7	Efficiency in redressal of customer complaints (*per cent*)	80	80	70-96
8	Cost Recovery in Water Supply services (per cent)	100	85-100	35-101
9	Efficiency in collection of water supply related charges (*per cent*)	90	80-90	20-70

UMC could achieve the SLBs in respect of only three indicators at Sl. No. 2, 6 and 7. Further, UMC claimed 101 *per cent* achievement (Sl. No. 8) against cost recovery in water supply during 2013-14. This achievement appeared to be overstated as the operating revenue of UMC during 2013-14 was only Rs. 33.73 crore while the operating expenses during the same period was Rs 42.35 crore2, indicating that the cost recovery in water supply services was only to the extent of 80 *per cent*3. The under-achievement of SLB against the remaining indicators was primarily due to time

and cost overrun in augmentation of an existing water supply project under JNNURM and failure of UMC to develop its own water source, as discussed below.

- A water supply augmentation project at a cost of Rs. 127.65 crore under JNNURM was approved (December 2008) by the Govt. of India. Due to non-inclusion of an additional Elevated Service Reservoir (ESR) in the initial estimates, the scope of work increased significantly and led to revision of the original scheduled date of completion up to December 2014 and cost overrun of Rs. 104.97 crore. Due to delay in completion of the water supply augmentation project, the extent of non-revenue water, remained a cause of concern for UMC.
- The UMC does not have its own source of water. It receives water from Maharashtra Industrial Development Corporation (MIDC). In order to develop its own water source, UMC planned to execute a water supply project on Ulhas river. The work was awarded (November 2011) to a contractor and was to be completed in 18 months (May 2013). Audit observed that the work did not commence as of December 2014 due to non-acquisition of land and pending approval for allocation of water to the project from the Water Resources Department. To compound the problem, MIDC revised (December 2013) the water charges rates from ` eight per thousand litre to ` 14 per thousand litre which would put an additional financial burden on UMC to the extent of Rs. 34.54 crore per year.

(b) ***Solid Waste Management***

Targets and achievements as per SLB Indicator

Sl. No.	*Service Indicators*	*Benchmarks as per SLB Handbook*	*Notified SLBs during the 2010-14*	
			Targets	**Achievements**
1	Household level coverage	100	40-100	22-36
2	Efficiency of collection of MSW	100	97-100	80-100
3	Extent of segregation of MSW	100	40-80	0-10
4	Extent of MSW recovered	80	20-80	0-70
5	Extent of Scientific Disposal of MSW	100	0-100	0-20
6	Efficiency in redressal of customer complaints	80	80-100	78-93
7	Extent of Cost recovery in SWM charges	100	40-90	13-50

8	Efficiency in collection of SWM charges	90	80-90	16-60

There were shortfalls in achievement of SLB indicators by UMC due to shortfall in household level coverage for collection of waste, non-segregation/recycling of collected waste, unscientific disposal of waste at landfill site, short-recovery of solid waste management charges *etc*. A contract for collection (door-to-door and from bins), segregation and transportation of solid waste was awarded for 10 years effective from 01 October 2003. The contract was terminated after nine years and three months in January 2013 due to violation of contract provisions. But, no penal action was taken against the contractor till the termination of contract in January 2013. In October 2013, UMC appointed another contractor for a period of eight years.

Further, the CSP envisaged an expenditure of Rs.58.89 crore on the MSW component during 2012-16. However, UMC made a budget provision of only Rs. 4.25 crore against Rs.34.20 crore proposed to be spent during 2012-14. Consequently, none of the planned works of CSP could be taken up during 2012-14.

(c) *Sewage Management*

Targets and achievements as per SLB Indicator

Sl. No.	***Service Indicators***	***Benchmarks as per SLB Handbook***	***Notified SLBs during the 2011-15***	
			Targets	Achievements
1	Coverage of Toilets	100	85-100	15-65
2	Coverage of sewage network	100	70-80	15-65
3	Collection efficiency of sewage network	100	60-80	0-35
4	Adequacy of Sewage Treatment Capacity	100	15-80	0-50
5	Quality of Sewage Treatment	100	80-85	0-55
6	Extent of reuse and recycling of sewage	20	10-20	0
7	Efficiency in redressal of customer complaints	80	75-80	60-95
8	Extent of cost recovery in sewage management	100	65-80	50-68
9	Efficiency in collection of sewage charges	90	60-80	31-55

There was significant under-achievement of SLBs (zero to 15 *per cent*) during 2013-14 in five8 of the nine indicators. The under achievement was mainly due to the inadequacy of the existing sewage network system, which was very old and broken. As a result, only 10 to 12 MLD reaches the STP for treatment out of 96 MLD generated.

Further, the CSP envisaged an expenditure of Rs. 289.87 crore during 2012-16 for sewage management component. However, UMC did not make any budget provision against Rs.165.49 crore proposed to be spent during 2012-14. Consequently, none of the works planned to be taken up under CSP for improving sewage network could be taken up during 2012-14.

The UMC accepted the facts and attributed (April 2015) the shortfalls in achievement of SLBs to old underground sewage system which was constructed in 1994.

(d) ***Storm Water Drainage***

Audit observed that against UMC's own benchmarking of 80 *per cent* (against SLB indicator 100 per cent) for coverage of storm water drainage network during 2013-14, the achievement was 94 *per cent* indicating that the target was exceeded by 14 *per cent*. But, there were 21 incidents of water logging/flooding during 2013-14 against the benchmarking of five such incidents set by the UMC during the same period.

(Source: Para 5.1 of Audit Report of Local Bodies for the year ended March 2014, Maharashtra)

SLB an Instrument for Audit

Service Level Benchmark is developed with the objective to improve the performances of ULBs on core municipal services across the country. State Governments and cities are responsible to design and implement performance management systems, with a focus on the SLBs defined. Thus SLB is an audit tool to gauze the present status of service delivery by the ULBs in comparison to the target fixed by each ULB and achievement recorded by them.

Study and workshop conducted by NIUA/CEPT University on implementation of SLB exposed several shortcomings in the move from performance measurement to performance management by ULBs such as –

- Poor data quality and challenges in collection of data from ward level affecting decision making and the preparing of the plan.
- Low priority accorded by ULBs and State Govts. to generate data on field basis regularly and to sustain periodic performance management
- Inadequate capacity of local level resulted in poor SLB network thereby upsetting the planning, capital investment, and service delivery

Considering the rapid urbanisation and increasing demand of citizens for better and efficient services with funds provided by the Central Govt. and State Govts., it has become the mandatory responsibility of the auditor to examine effective implementation of SLB by the ULBs. Creation of infrastructure for improvement in service delivery is the main thrust area for audit to find out the end result. Corrective actions are also recommended in the areas of shortfall for enhancing the performance level in each field of service. Thus audit has a vital role on enhancement of standard of service delivery towards tax payers by the ULBs. Audit checklists to evaluate the success are enumerated.

Checklist for Service Level Benchmark to gauge the performance of ULB

Audit Area	Audit Points
Water Supply Coverage of Water Supply	• Did ULB maintain a detailed list of households? Does it correlate with the cadastre map prepared after ground level survey? If not reasons to be ascertained. • Does the household recorded as direct water supply connection includes household supplied water through public stand post or tankers? To ascertain the authenticity physical verification may be taken up on selected areas. • Does the list exclude households dependent on water source from borewells, openwells etc.? • Is there system of updating data periodically on the basis of building units approved and new household level connection provided? • Whether data is obtained from ward level and citizens' participation encouraged?
Per Capita quantum of water supplied	• Did ULB install meters at the outlet of treatment plant? • Whether measurement of water supplied was obtained daily and recorded? • Was the list of number of people in the service area maintained? • Was it ensured that the measured water includes only treated water? • Did data exclude water supplied in bulk to large water intensive industries / industrial estates? • Was any system established to monitor the adequacy of water supplied for enhancement of service delivery?

Extent of metering water connection	• Were meter installed to all categories of customers supplied with water? • Did database/record identify customers with specific meters bearing specific nos.? • Whether billing is done on the basis of regular meter reading? • Were installation of new connections, installation of meter and generation of bills interlinked and enable data system to data flow?
Extent of Non revenue water	• Did they maintain system of measuring total water produced and put for distribution ? Whether the measurement is recorded? • Whether measured quantity of water is treated water? • What are the differences between total water produced and volume of water supplied to customers? • What action was taken to identify the reasons of differences and take corrective action to reduce quantum of non revenue water? • Did billing records and database revealed regular reading of meters and billing to customers at the given time period?
Efficiency in redressal of customer complaint	• Is there any effective system to capture customer complaint/grievances? • What action was taken for the remedy of the complaints within the specified period of 24 hours? • Is there a proper recording and monitoring system?
Quality of water supplied	• Whether system of testing water sample exists?

	• Was testing got done by the authorised organisation? • Is the system of collecting samples from outlet of treatment plant and consumer end prevailing?
Cost recovery in water supply services	• Did ULB realise water tax, user charges and connection charges from the tax payers supplied with water? • Did the revenue compensate the operating cost for the corresponding period? • Was any action taken to enhance the revenue in the cases of shortfall to realise the operating cost or to control the cost of delivery?
Efficiency in collection of water related charges	• Is the collection of revenue update? • Whether revenue related to corresponding periods are only included and arrear revenue, if any, excluded?
Waste Water Management (Sewerage and Water Supply Coverage of toilets	• Was regular field survey conducted to ascertain the total number of properties having access to individual toilets or community toilets within walking distance? • Were total number of properties without access to toilets within walking distance were quantified? • Was data updated regularly on the basis of data on provision of toilet facilities and approved building plan?

Coverage of waste water network services	• Did data include only properties/households connected to underground sewerage network which have treatment and safe effluent disposal facility? • Was any survey conducted? Was this cross checked with the records maintained by the building plan approval department?
Collection efficiency of waste water network	• Is there any system of measuring waste water at the inlet of treatment plant? • Did ULB ascertained the quantum of water supplied to consumers and quantity of water used from other sources? • Is data accurate regarding water production, distribution, for sewerage intake and treatment?
Adequacy of waste water treatment capacity	• Is there any system to estimate waste water treatment capacity or its operation? • Whether treatment capacity of the plants is assessed by conducting rigorous testing and commissioning procedures? • Did ULB reassesse system capacity in cases of modification of the treatment plants?
Quality of waste water treatment	• Did ULB follow norms laid down by the Pollution Control Board of the States for collection of the sample? • Is there any record indicating the number of samples that pass the specified secondary treatment standard in all key parameters? • Does the system of periodic independent audit of waste water quality exist?

Extent of reuse and recycle of water	• Was the quantity of wastewater (received, recycled and reused) measured on daily basis? • Were the flow meters functioning at inlets and outlets of the treatment plant? • Did record show reutilisation of water for gardening or irrigation?
Extent of cost recovery in waste water management	• Does the system of charging taxes or fees are in operation? • Do the municipal accounts exhibit clearly the expenditure incurred on waster water management and revenue earned from the taxpayer for providing the services? Did this tally with the information provided at city level?
Efficiency in redressal of customer complaints?	• Is effective system established for receiving and logging in the complaints? Has that been recorded? • Do the total numbers of complains i.e received at word level, collection centres, drop boxes and online are taken into account? • Were those redressed satisfactorily within 24 hours?
Efficiency in collection of sewerage charges	• Does the collected amount relate to the current period i.e. related to the corresponding operating period? Does it excluded arrear fees or charges? • Whether accounts are transparent to ascertain the billing and collection from each word?

Solid Waste Management Household level coverage of solid waste management services	• Has the system of door to door collection of solid waste management established? Whether all the households and establishments are connected for door to door collection? • Do the number of households connected for door to door collection cross checked with records of collection user charges? • Do the number of total household/establishment tally with the MIS data or municipal record?
Efficiency of collection municipal solid waste	• Is there weighbridge at the disposal sight? Do the quantity of waste collection recorded on the basis of weighment on the weighbridge? • Whether quantum of waste generation recorded statistically significant and commensurate with number of household and establishment?
Extent of segregation of municipal solid waste	• Do the system of segregation bio-degradable waste and hazardous waste prevailing? • Is the segregated waste recorded authentic and supported with record? • Are daily log of waste intake at processing facilities maintained? Is this aggregated to get the monthly data? • Does the quantum of un-segregated waste and segregated waste represent the total waste generated?

Extent of municipal solid waste recovered	• Is the recovery estimate of waste based on measured consumption/inputs at the organised large waste processing facilities i.e. composting yards and waste to energy facilities? • Did the estimate included waste collected through unorganised sector? • Did they maintain daily log of waste intake at processing facilities?
Extent of scientific disposal of municipal solid waste	• Do the landfill sites fulfil the criteria of specific design, operation and maintenance norms as laid down in the laws? • Does the system of collection and treatment of leacheate at landfill sites prevailing? • Does the quantum of scientific disposal of waste recorded based on actual measurement in weighbridges at 'compliant' landfill sites? • Whether the extent of compliance correctly expressed as percentage of total quantity of waste disposed?
Extent of cost recovery in SWM services	• Did operating expenses include all expenditure incurred towards SWM services? • Did this include payment to contractors outsourced by the ULB? • Whether operating revenue include all taxes and user charges realised towards SWM? • Was the amount of expenses and revenue supported with audited Annual Accounts for the corresponding period?

Efficiency in redressal of customer complaint	• Is there effective system to record customer complaints and take the remedial actions? • Whether complaints are satisfactorily redressed within 24 hours of its receipt? • Is there any system of monitoring of redressal of complaint on daily basis?
Efficiency in collection of SWM charges	• Did ULB maintain day to day collection record? • Whether the recording of collection is transparent and collection includes only current year period? • Is the system transparent to identify current year revenue and arrear revenue? • Did ULB consider expenditure for the corresponding period only for comparison?
Storm Water Drainage Coverage of storm water drainage network	• Did ULB carry out any ground level survey to measure road and drain length? • Did they cover all roads of more than 3.5 m carriageway? • Was data of pucca and covered drains only gathered for calculating the indicator? • Did ULB identify flood prone area? Was any complaint received from citizen for water logging/flooding?
Incidence of water logging and flooding	• Whether the number of incident of flooding/water logging was recorded? • Were all the cases of water logging for more than 4 hours of depth more than 6 inches recorded? • Is there any monitoring system or central control room for monitoring

Table 1
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 recover 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

Table II

Evaluation of Data Requirements for SLB Indicators

SLB Indicator	Data Required	Data Generation Requirement	Information System Improvement Plan
Water Supply Coverage	• **HHs connected** • **HHs in service are**	• **Survey to determine HHs connected and HHs in service area** • **Regular update** • **Coverage data base**	• Conduct survey if no data available • Update data if data available is not up to date • Set up coverage data base
Non Revenue Water	• **Annual production** • **Annual consumption**	• **Production meters** • **Consumption meters** • **Meter reading system** • **Meter testing and calibration** • **Meter reading data base**	• Install production and consumption meters • Hire and train meter readers and installers • Set up meter reading system • Set up meter calibration and testing system • Train staff on meter calibration and testing • Set up meter reading data base
Cost recovery	• **Annual operating expenses** • **Annual operating revenues**	• **Record of expense items and costs** • **Record of revenues** • **Financial data base**	• Set up a system of recording operating expenses and operating revenues • Set up a billing and collection system • Set up a financial data base
Revenue Collection Efficiency	• **Current revenues collected for year** • **Annual operating revenues billed**	• **Record of revenues collected** • **Record of revenues billed** • **Financial data base**	• Set up a system of recording revenues billed and revenues collected • Set up a billing and collection system • Set up a financial data base
Redressal of Customer Complaints	• **Total of complaints received/month** • **Total of complaints redressed/month**	• **Recording of complaints received** • **Recording of complaints redressed**	• Setting up a system of receiving, recording and redressal of complaints • Setting up of complaints data base • Monthly update of complaints data base
Efficiency of Collection of Municipal Solid Waste	• **Total waste generated in service area to be collected** • **Total waste collected in service area**	• **Measurement or estimate of waste generated** • **Measurement or estimate of waste collected**	• Conduct survey of waste generation for each type of customer (residential, commercial, institutions, etc. • Set up a system of quantifying waste generation and collection • Monitor and record waste collection of service provider

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