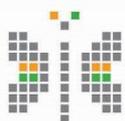


URBAN WATER SUPPLY AND WASTE WATER

EVALUATION METRICS



Smart City
MISSION TRANSFORM-NATION



Ministry of Housing and Urban Affairs
Government of India



National Institute of Urban Affairs



Ministry of Housing and Urban Affairs
Government of India

ABOUT MINISTRY OF HOUSING AND URBAN AFFAIRS (MoHUA)

The Ministry of Housing and Urban Affairs is the apex authority of Government of India to formulate policies, coordinate the activities of various Central Ministries, State Governments and other nodal authorities and monitor programmes related to issues of housing and urban affairs in the country. The Smart Cities Mission was launched by the Ministry in 2015 to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions.



National Institute of Urban Affairs

ABOUT NATIONAL INSTITUTE OF URBAN AFFAIRS (NIUA)

National Institute of Urban Affairs (NIUA) is a premier institute for research, capacity building and dissemination of knowledge for the urban sector in India. It conducts research on urbanization, urban policy and planning, municipal finance and governance, land economics, transit oriented development, urban livelihoods, environment & climate change and smart cities.

The institute was set up to bridge the gap between research and practice, and to provide critical and objective analyses of trends and prospects for urban development. NIUA has assisted in policy formulation and programme appraisal and monitoring for the Ministry of Urban Development, state governments, multilateral agencies and other private organizations. It contributed to the National Commission on Urbanisation, participated in drafting the 74th Constitutional Amendment of 1992, prepared the Draft National Urban Policy and other documents for the roll out of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). It also guided the discourse on municipal finance by framing the Model Municipal Law.

1. Background

Monitoring and evaluation of any program is vital to assess whether the objectives as defined at the time of initiating the program, or for a given baseline, have been fulfilled or not. Program evaluation not only provides feedback on the effectiveness of a program but also helps determining whether the program is appropriate for the target population, whether there are any problems with its implementation and support and if there are any issues that needs to be resolved for implementation of the program.

2. Service Level Benchmarking

Service Level Benchmarks (SLBs) for the urban water and sanitation sector have been formulated with a need of evaluating service delivery outcomes rather than infrastructure creation alone. SLBs can be broadly defined as minimum set of standard performance indicators commonly understood and adopted by stakeholders across the country. SLBs now are well recognized mechanism for performance management and accountability in service delivery.

MoHUA (earlier MoUD), created SLBs for measuring and monitoring performance of service provider on a systematic and continuous basis and helps utilities in identifying performance gaps and introduce improvements through sharing of information and best practices. SLBs cover services like water supply, wastewater, solid waste management and storm water drainage and has 28 performance indicators under the evaluation framework.

Service Level Benchmarking at <http://mohua.gov.in/cms/Service-Level-Benchmarks.php>

Handbook of Service Level Benchmarking, MoUD, 2010

<http://cpheeo.gov.in/upload/uploadfiles/files/Handbook.pdf>

3. City Sanitation Plan¹

The Ministry of Urban Development (MoUD) formulated the National Urban Sanitation Policy (NUSP) in 2008 with an aim to improve the sanitation situation in urban areas. The overall goal of this policy is to transform urban India into community driven, totally sanitized, healthy and livable cities and towns. The Ministry also prepared checklist for collection of baseline information related to sanitation and related services in the city so that CSPs prepared are comprehensive in nature.

¹ Source: Fact Sheet, City Sanitation Plans, GIZ

http://mohua.gov.in/upload/uploadfiles/files/CSP_Baseline_Assessment_sheets.pdf

3.1. City Sanitation Plan Self Review Checklist

With an objective of ensuring each CSP to have required extent of information and detailing so as to have an inclusive plan, MoUD prepared the self-evaluation checklist for city authorities/agencies engaged in preparing CSPs so that the required information is not missed. The self-assessment needs to be done in-house by the ULB. The results should indicate the gaps in contents and process that need to be remedied – and thereby ensure that CSP is ready for submission, and presentation as one of the model CSPs prepared for implementation under the NUSP.

http://mohua.gov.in/upload/uploadfiles/files/CSP_Checklist_for_cities.pdf

3.2. SANIPLAN - Toolkit on Citywide Sanitation Planning

SANIPLAN is a decision support tool that provides a structured approach in planning for urban

sanitation. It focuses on integrated service performance with a detailed assessment of finances. It is a planning tool which can support more informed stakeholder participation.

SANIPLAN has three modules: a) performance assessment, b) planning and c) financial planning. It provides a multi-year planning framework for improving performance on five service themes: access, equity, service levels and quality, efficiency and financial sustainability. A key feature of SANIPLAN is to develop a feasible financing plan for both capital and operating expenditures in context of local finances. SANIPLAN can be used for various sectors - water, sanitation, solid waste; and can also be customized for a specific context. SANIPLAN was developed at the CEPT University under the Performance Assessment System (PAS) Project, an action research programme funded by the Bill and Melinda Gates Foundation. For detailed presentation on the planning tool, follow link below:

https://www.pas.org.in/Portal/document/UrbanSanitation/uploads/SaniPlan_CEPT_AIT.pdf

3.3. Saniplan – IFSM – Citywide Integrated Faecal Sludge Management Planning

Based on the framework of Saniplan, PAS has developed an online toolkit Integrated Faecal Sludge Management Planning (IFSM). Citywide Integrated Faecal Sludge Management (IFSM) planning involves assessment and planning across the full-service chain. Citywide approach suggests universal coverage of services in all areas and for all properties in the city. It also involves a review of the full-service chain – user interface, storage, conveyance, treatment and reuse. The focus here is on providing effective and sustainable sanitation services by the local government and other service providers. The online toolkit can be accessed at following link:

<https://sites.google.com/site/pasprojectifsmguide/home/toolkit>

3.4. Shit Flow Diagram (SFD)²

The fate of excreta produced by urban populations across the globe is often poorly understood. Particularly in low and middle-income countries with rapidly expanding cities, excreta management represents a growing challenge; generating significant negative public health and environmental risks. A first step towards providing adequate sanitation services in urban areas is to monitor the sanitation service chain, to identify its strengths and weaknesses, from containment, including emptying, transport, treatment and safe disposal or resource recovery.

SFD is a tool to readily understand and communicate how excreta ‘flow’ through a city or town. It shows how all excreta generated in a city is or is not contained as it moves from defecation to disposal or end-use. SFDs helps to identify the aspects of service delivery where improvements are needed. It offers an innovative way to engage city stakeholders from political leaders to sanitation experts and civil society organizations in a coordinated dialogue about excreta management. For more details on SFD, follow below link: <https://sfd.susana.org/about/the-sfd>

² Information sourced from Susana website

4. Urban Water Supply and Waste Water: Framework Indicators

Managing Demand

- Plan for Integrated water and waste water management**
 - City Sanitation Plan prepared and adopted by the city

- Reduce Non Revenue Water(NRW)**
 - Percentage Water billed to Water Supplied
 - Percentage of household water meter connections to Total Households in the city
 - Tariff collection efficiency – percentage of bills paid
 - Complaints redressal

- Ensuring universal access to affordable, safe and adequate water supply**
 - Percentage households with 135 lpcd supply of treated drinking water supply
 - Continuity of water supply(hours)
 - Water Quality

Reducing Waste Water Footprint

- Prioritise Operations and Management of Water Supply and Waste Water Treatment Infrastructure**
 - Adequacy of Treatment facility
 - Percentage Treatment of Sewerage, Septage and Grey Water or Co Treatment facility for Septage with STPs
 - Cost recovery
 - Percentage re use of waste water and waste

- Prioritise non sewerred and decentralised sanitation systems**
 - Percentage Coverage of sewerage, septage and storm water infrastructure
 - Percentage Conveyance and Transportation of Sewage, Septage and Grey Water

- Ending manual cleaning of septic tanks and sewers**
 - Registration of septic tank and sewer cleaning agencies
 - Registration of de sludging tanker operators
 - Registration of workers engaged in septic tank and sewer cleaning
 - Safety equipment and protocols followed while cleaning

4.4. City Sanitation Planning and Ending Manual Cleaning of Septic Tanks and Sewers

	City Sanitation Plan Prepared and adopted by City	Non Sewered Connections	Septic tanks cleaned once in 4 years or less	Septic Tank Cleaning agencies registered	Sewer Cleaning agencies registered	Identity cards issued to workers engaged for cleaning of Septic Tanks and Sewers	Machines and safety equipment employed for cleaning
Benchmarks	Yes/No	%	100 %	100%	100%	100%	Yes/No
Cities							

5. Urban Water Supply and Waste Water:Input Data Set for Cities

5.1. Performance Assessment System (PAS) Project: General Information

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT ³			
GENERAL INFORMATION			
S.No	Description of data elements	Unit	FY 2016-17
1	Demographics		
1.1	Population (Census 2001/2011)	Persons	
1.2	Decadal Growth Rate of the City	%	
1.3	Population (Present Year)	Persons	
1.4	Number of Households (Census 2001/2011)	Number	
1.5	Number of Households (Present Year)	Number	
1.6	Family Size (Census 2001/2011)	Persons	#DIV/0!
1.7	Family Size (Present Year)	Persons	#DIV/0!
1.8	Number of Slums (2001/2011)	Number	
1.9	Number of Slums (Present Year)	Number	
1.10	Number of Slum Households (2001/2011)	Number	
1.11	Number of Slum Households (Present Year)	Number	
1.12	Number of Properties (2001/2011)	Number	
1.13	Number of Properties (Present Year)	Number	
1.14	Number of Election Wards (2001/2011)	Number	
1.15	Number of Election Wards (Present Year)	Number	
1.16	Town/City Area (Census 2001/2011)	sq.km	
1.17	Present Town/City Area	sq.km	
1.18	Population Density (Present Year)	Persons / sq. km	
1.19	Number of Commercial and other establishments (offices, institutions, markets), Hotels and Restaurants (Year 2001/2011)	Number	
1.20	Number of Commercial and other establishments (offices, institutions, markets,Hotels and Restaurants)(Present Year)	Number	
Remark			
	Remark		
2	Service Provider Details - Water Supply		
2.1	Name of Town/City		
2.2	Name of the Department/Unit		
2.3	Name of the Head of Department/Unit		
2.4	Designation of the Department Head		
2.5	Address		
2.6	Telephone Number		
2.7	Mobile Number		
2.8	Fax Number		
2.9	Email		
2.10	Website		
2.11	Name of the Contact Person		
2.12	Designation of the contact person		
2.13	Address		
2.14	Telephone Number		
2.15	Mobile Number		
2.16	Fax Number		

³ CEPT University PAS Project

https://www.pas.org.in/web/ceptpas/home?p_p_id=HomePage_WAR_Portal&p_p_lifecycle=1&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_pos=1&p_p_col_count=3&actionVal=Retrieve&SkipAccessChecking=false

2.17	Email		
2.18	Website		

3	Service Provider Details - Sewerage and Drainage		
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3.1	Name of Town/ City		
3.2	Name of the Department/Unit		
3.3	Name of the Head of Department/Unit		
3.4	Designation of the Department Head		
3.5	Address		
3.6	Telephone Number		
3.7	Mobile Number		
3.8	Fax Number		
3.9	Email		
3.10	Website		
3.11	Name of the Contact Person		
3.12	Designation of the contact person		
3.13	Address		
3.14	Telephone Number		
3.15	Mobile Number		
3.16	Fax Number		
3.17	Email ID		
3.18	Website		

4	Service Provider Details - Solid Waste Management		
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4.1	Name of Town/Utility		
4.2	Name of the Department		
4.3	Name of the Head of the Department		
4.4	Designation of the Head of the Department		
4.5	Address		
4.6	Telephone Number		
4.7	Mobile Number		
4.8	Fax Number		
4.9	Email ID		
4.10	Website		
4.11	Name of the Contact Person		
4.12	Designation of the Contact Person		
4.13	Address		
4.14	Telephone Number		
4.15	Mobile Number		
4.16	Fax Number		
4.17	Email ID		
4.18	Website		

5	Service Provider Details - Slums		
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5.1	Name of Town/Utility		
5.2	Name of the Contact Person for Information related to slums		
5.3	Designation		
5.4	Address		
5.5	Telephone Number		
5.6	Mobile Number		
5.7	Fax Number		
5.8	Email		
5.9	Website		

5.2. Performance Assessment System (PAS) Project: Water Supply

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
WATER SUPPLY			
S.No	Description of data elements	Unit	FY 2016-17
1	COVERAGE OF WATER SUPPLY CONNECTIONS	%	#DIV/0!
	<i>Water Service Coverage - Number of Connections</i>		
1.1	Domestic Connections (Metered Functional)	Number	
1.2	Domestic Connections (Metered Non-Functional)	Number	
1.3	Domestic Connections (Unmetered)	Number	
	Domestic connections (Total)	Number	0
1.4	Bulk supply Apartments (Metered Functional)	Number	
1.5	Bulk supply Apartments (Metered Non-Functional)	Number	
1.6	Bulk supply Apartments (Unmetered)	Number	
	Bulk supply Apartments (Total)	Number	0
1.7	Bulk supply Layouts/Societies (Metered Functional)	Number	
1.8	Bulk supply Layouts/Societies (Metered Non-Functional)	Number	
1.9	Bulk supply Layouts/societies (Unmetered)	Number	
	Bulk supply Layouts/Societies (Total)	Number	0
1.10	Others - Specify (Metered Funtional)	Number	
1.11	Others - Specify (Metered Non-Functional)	Number	
1.12	Others - Specify (Unmetered)	Number	
	Others - Specify (Total)	Number	0
	Total Number of Water Supply Connections - Residential	Number	0
	<i>Water Service Coverage - Households Served</i>	Unit	FY 2016-17
1.13	Households served by Domestic Connections	Number	
1.14	Households served by Bulk supply - Apartments	Number	
1.15	Households served by Bulk supply - Layouts/Societies	Number	
	Total Households served with Water Supply	Number	0
	<i>*Households served by own sources such as wells, handpumps shall not be included</i>		
2	PER CAPITA SUPPLY OF WATER	LPCD	#DIV/0!
	<i>Water Production Capacity</i>	Unit	FY 2016-17
2.1	Installed Capacity of Treatment Plants for Surface Water Sources	MLD	
2.2	Volume of water produced through Surface Water Sources	MLD	
2.3	Installed Capacity of Treatment Plants for Ground Water Sources	MLD	
2.4	Volume of water produced through Ground water (power pumps)	MLD	
2.5	Volume of water produced through any Other Sources	MLD	
	Total Installed Capacity	MLD	0
	Total Volume of water produced	MLD	0
	<i>Water Consumption</i>	Unit	FY 2016-17
2.6	Volume of water billed from Domestic Connections	MLD	
2.7	Volume of water billed from Bulk supply Apartments	MLD	
2.8	Volume of water billed from Bulk supply Layouts/Societies	MLD	
2.9	Volume of water billed from Non domestic Connections	MLD	
2.10	Volume of water billed from Public taps	MLD	
2.11	Volume of water billed from any other sources	MLD	
	Total Volume of water billed	MLD	0
2.12	Total Volume of water unbilled (free supplies to Public taps)	MLD	
2.13	Total Volume of water unbilled (free connections eg. Religious institutions etc)	MLD	

3	EXTENT OF NON REVENUE WATER (NRW)	%	#DIV/0!
3.1	Total Volume of Water Produced	MLD	0.00
3.2	Total Volume of Water Billed	MLD	0.00
4	EXTENT OF METERING OF WATER SUPPLY CONNECTIONS	%	#DIV/0!
4.1	Non domestic incl. commercial/Indus/Instl. (Metered Functional)	Number	
4.2	Non domestic incl. commercial/Indus/Instl. (Metered Non-Functional)	Number	
4.3	Non domestic incl. commercial/Indus/Instl. (Unmetered)	Number	
	Non domestic incl. commercial/Indus/Instl. (Total)	Number	0
4.4	Public taps (Metered Functional)	Number	
4.5	Public taps (Metered Non-Functional)	Number	
4.6	Public taps (Unmetered)	Number	
	Public Taps (Total)	Number	0
	Total number of metered and functional connections (domestic, bulk supply, others)	Number	0
	Total number of Water Supply Connections	Number	0
5	CONTINUITY OF WATER SUPPLY	Hours per Day	0.00
	<i>Water Supply Frequency</i>	Unit	FY 2016-17
5.1	Days of supply per month	Number	
5.2	Average duration of each supply	Hours	
6	EFFECIENCY OF REDRESSAL OF COMPLAINTS	%	#DIV/0!
	<i>Consumer Services</i>	Unit	FY 2016-17
6.1	Complaints received during the year	Number	
6.2	Complaints resolved within 24 hours during the year	Number	
7	QUALITY OF WATER SUPPLIED		#DIV/0!
	<i>Treated Water Quality Surveilance</i>	Unit	FY 2016-17
7.1	Residual Chlorine - No. of Samples taken at the source/outlet of Water Treatment Plant (in a year)	Number	
7.2	Residual Chlorine - No. of Samples taken at intermediate points (in a year)	Number	
7.3	Residual Chlorine - No. of Samples taken at consumer end (in a year)	Number	
7.4	Total Samples taken for Residual Chlorine tests (if location wise samples are not available)	Number	
	Total Samples taken for Residual Chlorine tests	Number	0
7.5	Number of Samples Passed	Number	
7.6	Physical/Chemical - No. of Samples taken at the source/outlet of Water Treatment Plant (in a year)	Number	
7.7	Physical/Chemical - No. of Samples taken at intermediate points (in a year)	Number	
7.8	Physical/Chemical - No. of Samples taken at consumer end (in a year)	Number	
7.9	Total Samples taken for Physical/Chemical tests (if location wise samples are not available)	Number	
	Total Samples taken for Physical and Chemical tests	Number	0
7.10	Number of Samples Passed	Number	
7.11	Bacteriological - No. of Samples taken at the source/outlet of Water Treatment Plant (in a year)	Number	
7.12	Bacteriological - No. of Samples taken at intermediate points (in a year)	Number	

7.13	Bacteriological - No. of Samples taken at consumer end (in a year)	Number	
7.14	Total Samples taken for Bacteriological tests (if location wise samples are not available)	Number	
	Total Samples taken for Bacteriological tests	Number	0
7.15	Number of Samples Passed	Number	
	Total Number of Samples taken for all types of tests	Number	0
	Total Tests Passed	Number	0

8	COST RECOVERY IN WATER SUPPLY SERVICES	%	#DIV/0!
	<i>Financial Information - Operating Expenses</i>	Unit	FY 2016-17
8.1	Regular Staff and administration	Rs. Lakhs	
8.2	Outsourced/Contract Staff Costs	Rs. Lakhs	
8.3	Electricity Charges/Fuel Costs	Rs. Lakhs	
8.4	Chemical Costs	Rs. Lakhs	
8.5	Repairs/Maintenance Costs	Rs. Lakhs	
8.6	Bulk (Raw/Treated) Water Charges	Rs. Lakhs	
8.7	Other Costs	Rs. Lakhs	
	Total Operating Expenditure	Rs. Lakhs	0.00
	<i>Financial Information - Operating Revenues</i>	Unit	FY 2016-17
8.8	Arrears at the beginning of previous year	Rs. Lakhs	
8.9	Revenue demand from user charges	Rs. Lakhs	
8.10	Revenue demand from tax/cess - Water Service only	Rs. Lakhs	
8.11	Revenue demand from other revenues (eg. connection costs/Donations etc)	Rs. Lakhs	
	Total Revenue Demand for previous year	Rs. Lakhs	0.00

9	COLLECTION EFFICIENCY OF WATER SUPPLY RELATED CHARGES	%	#DIV/0!
		Unit	FY 2016-17
9.1	Total Revenue Demand for previous year (from user charges, taxes etc)	Rs. Lakhs	0.00
9.2	Collection against arrears	Rs. Lakhs	
9.3	Collection against the current demand of previous year	Rs. Lakhs	

Additional Information			
10	Staff Information	Unit	FY 2016-17
10.1	Senior Management (Sanctioned)	Number	
10.2	Senior Management (Working)	Number	
10.3	Engineers (Sanctioned)	Number	
10.4	Engineers (Working)	Number	
10.5	Clerks/Accountants (Sanctioned)	Number	
10.6	Clerks/Accountants (Working)	Number	
10.7	Work Inspectors/Meter Readers (Sanctioned)	Number	
10.8	Work Inspectors/Meter Readers (Working)	Number	
10.9	Electricians/Fitters (Sanctioned)	Number	
10.10	Electricians/Fitters (Working)	Number	
10.11	Lines men/plumbers (Sanctioned)	Number	
10.12	Lines men/plumbers (Working)	Number	
10.13	Labourers (Sanctioned)	Number	
10.14	Labourers (Working)	Number	
	Total (Sanctioned)	Number	0
	Total (Working)	Number	0

	Connection Costs for Water Connections		
10.15	Residential - General	Rs	
10.16	Residential - Urban Poor	Rs	
10.17	Institutional	Rs	
10.18	Commercial	Rs	
10.19	Industrial	Rs	
	Water Tariff Structure - Flat Rate Tariff		
10.20	Residential - General	Rs./Month	
10.21	Residential - Urban Poor	Rs./Month	
10.22	Institutional	Rs./Month	
10.23	Commercial	Rs./Month	
10.24	Industrial	Rs./Month	
	Water Tariff Structure - Volumetric Tariff		
10.25	Residential - General	Rs./KL	
10.26	Residential - Urban Poor	Rs./KL	
10.27	Institutional	Rs./KL	
10.28	Commercial	Rs./KL	
10.29	Industrial	Rs./KL	

Remark			
	Remark		

S.No	WATER SUPPLY INDICATOR VALUES	Unit	FY 2016-17
1	Coverage of water supply connections	%	#DIV/0!
2	Per capita supply of water (At consumer end)	Lpcd	#DIV/0!
3	Extent of metering of water connections	%	#DIV/0!
4	Extent of Non Revenue Water	%	#DIV/0!
5	Continuity of water supply	Hours/Day	0.00
6	Efficiency in redressal of customer complaints	%	#DIV/0!
7	Quality of water supplied	%	#DIV/0!
8	Cost recovery in water supply services	%	#DIV/0!
9	Efficiency in collection of water supply related charges	%	#DIV/0!

S.No	WATER SUPPLY RELIABILITY GRADES	FY 2016-17
	Indicator	
1	Coverage of water supply connections	D
2	Per capita supply of water (At consumer end)	D
3	Extent of metering of water connections	D
4	Extent of Non Revenue Water	D
5	Continuity of water supply	D
6	Efficiency in redressal of customer complaints	D
7	Quality of water supplied	D
8	Cost recovery in water supply services	D
9	Efficiency in collection of water supply related charges	D

S.No	Local Action Indicators	Unit	FY 2016-17
1	% of population with access to improved water services	%	#DIV/0!
2	Spatial coverage of distribution network	%	0
3	Drive for identifying and regularizing illegal connections	Y/N	0
4	% illegal connections	%	#DIV/0!
5	% of identified illegal connections that are regularized	%	0
6	Regular annual assessment of available sources	Y/N	0
7	Per capita supply of water	lpcd	#DIV/0!
8	Average pressure at WDS	meters	0
9	Average pressure at consumer end	meters	0
10	Days of supply (per month)	days	0
11	% of water sample tests for bacteriological	%	#DIV/0!
12	Pumps repaired/replacement	%	#DIV/0!
13	Unit electricity cost of production of water supply	Rs/Kl	#DIV/0!
14	Recruited (working) staff to sanctioned staff in water supply	%	#DIV/0!
15	Total Staff (regular and contract) per 1000 water supply connections	No.	#DIV/0!
16	Per capita revenue expenditure (ULB)	Rs.	#DIV/0!
17	Studies/ actions on detailed energy audits	Y/N	0
18	Average revenue per water connection	Rs	#DIV/0!
19	Per capita revenue income (ULB)	Rs.	#DIV/0!
20	Studies and actions for preliminary water audit	Y/N	0
21	% water losses from source to water treatment plant (WTP)	%	#DIV/0!
22	% water losses from WTP to water distribution station (WDS)	%	#DIV/0!
23	% water losses from WDS to final consumption (includes both leakage on service connections and unauthorized consumption)	%	#DIV/0!
24	Number of pipe breaks per km length of network	No.	#DIV/0!
25	% of network refurbished	km	#DIV/0!
26	% authorized and unbilled consumption to total supply (Free supply)	%	#DIV/0!
27	Periodic monitoring and analysis of complaints	Y/N	0
28	Total complaints in water supply per 1000 connections per year	No.	#DIV/0!
29	% of meters that are functional	%	0
30	Annual cost of water losses (real and apparent)	Rs. In lakhs	#DIV/0!
31	% of connections that are metered	%	#DIV/0!
32	Presence of automated billing systems	Y/N	N
33	Billed arrears to total billed demand	%	#DIV/0!
34	Updation and linkage of connections with billing systems	Y/N	N
35	Outsourcing collection systems	Y/N	0

5.3. Performance Assessment System (PAS) Project: Sanitation and Drainage

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
SANITATION AND DRAINAGE			
S.No	Description of data elements	Unit	FY 2016-17
1	COVERAGE OF TOILETS	%	#DIV/0!
	<i>Sanitation Coverage</i>		
1.1	Total Number of Properties in the City	Number	0
1.2	Properties with toilets	Number	
1.3	Households dependent on functional community toilets	Number	
	Total Number of Properties with access to toilets	Number	0
2	COVERAGE OF SEWAGE NETWORK SERVICES	%	#DIV/0!
2.1	Total Number of Properties in the City	Number	0
2.2	Properties with sewer connections	Number	
2.3	Properties with onsite sanitary disposal	Number	
	COLLECTION EFFICIENCY OF SEWAGE NETWORK	%	#DIV/0!
	<i>Waste Water Production - Volume of Water Consumed and Waste Water Generated</i>	Unit	FY 2016-17
3.1	Volume of water consumed and billed from Domestic Connections	MLD	0.0
3.2	Volume of water consumed and billed from Bulk supply - Apartments	MLD	0.0
3.3	Volume of water consumed and billed from Bulk supply - Layouts/Societies	MLD	0.0
3.4	Volume of water consumed and billed from Non domestic Connections	MLD	0.0
3.5	Volume of water consumed (both billed and unbilled) from Public taps	MLD	0.0
3.6	Volume of water from free supplies (other connections)	MLD	0.0
3.7	Volume of water consumed and billed from any other ULB sources	MLD	0.0
3.8	Volume of water consumed from any Non ULB water sources	MLD	
3.9	Total Water Consumption (billed and unbilled) from ULB and Non ULB sources)	MLD	0.0
3.10	Volume of waste water generated from Domestic Water Consumption	MLD	0.0
3.11	Volume of waste water generated from Bulk Supply - Apartments	MLD	0.0
3.12	Volume of waste water generated from Bulk Supply - Layouts/Societies	MLD	0.0
3.13	Volume of waste water generated from Non Domestic Water Consumption	MLD	0.0
3.14	Volume of waste water generated from Public Tap Water Consumption	MLD	0.0
3.15	Volume of waste water generated from free supplies (other connections)	MLD	0.0
3.16	Volume of waste water generated from other ULB source water consumption	MLD	0.0
3.17	Volume of waste water generated from Non ULB source Water consumption	MLD	0.0
	Total Waste Water Generated	MLD	0.0
	<i>Waste Water Collection and Treatment</i>	Unit	FY 2016-17
3.18	Volume of sewage actually treated at the Primary Treatment Plant	MLD	
3.19	Volume of sewage actually treated at Secondary Treatment Plant	MLD	
	Total Volume of Waste Water collected and Treated at Sewage Treatment Plants	MLD	0
4	ADEQUACY OF SEWAGE TREATMENT CAPACITY	%	#DIV/0!
4.1	Installed Capacity of Primary Treatment Plant	MLD	
4.2	Installed Capacity of Secondary Treatment Plant	MLD	
4.3	Total Installed Capacity (Primary + Secondary Treatment)	MLD	0
4.4	Total Waste Water Generated	MLD	0.0

5	EXTENT OF REUSE AND RECYCLING OF SEWAGE	%	#DIV/0!
5.1	Volume of sewage actually treated at Secondary Treatment Plant	MLD	0
5.2	Volume of treated waste water reused after Secondary Treatment	MLD	

6	QUALITY OF SEWAGE TREATMENT	%	#DIV/0!
	<i>Discharge Compliance after Secondary Treatment of Sewage</i>	Unit	FY 2016-17
6.1	Number of Treated Effluent Samples Tested in a year	Number	
6.2	Number of Treated Effluent Samples Passed in a year	Number	

7	EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS	%	#DIV/0!
	<i>Consumer Services</i>	Unit	FY 2016-17
7.1	Sewage related Complaints received during the year	Number	
7.2	Sewage related Complaints resolved within 24 hours during the year	Number	

8	EXTENT OF COST RECOVERY IN SEWAGE MANAGEMENT	%	#DIV/0!
	<i>Financial Information - Annual Operating Expenses</i>	Unit	FY 2016-17
8.1	Regular Staff and Administration	Rs. Lakhs	
8.2	Outsourced /Contract Staff Costs	Rs. Lakhs	
8.3	Electricity Charges /Fuel Costs	Rs. Lakhs	
8.4	Chemicals Costs	Rs. Lakhs	
8.5	Repairs/Maintenance Costs	Rs. Lakhs	
8.6	Contractor Costs for O&M	Rs. Lakhs	
8.7	Others (Specify)	Rs. Lakhs	
	Total Annual Operating Expenses	Rs. Lakhs	0.00
	<i>Financial Information - Annual Operating Revenues</i>	Unit	FY 2016-17
8.8	Arrears at the beginning of previous year	Rs. Lakhs	
8.9	Revenue demand from user charges - sewerage only	Rs. Lakhs	
8.10	Revenue demand from tax/cess - sewerage only	Rs. Lakhs	
8.11	Revenue demand from other sources (eg. connection costs/donations etc.)	Rs. Lakhs	
	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	0.00

9	EFFICIENCY IN COLLECTION OF SEWAGE CHARGES	%	#DIV/0!
		Unit	FY 2016-17
9.1	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	0.00
9.2	Collection against arrears	Rs. Lakhs	
9.3	Collection against current demand	Rs. Lakhs	

Storm Water Drainage Data			
10	COVERAGE OF STORM WATER DRAINAGE NETWORK	%	#DIV/0!
		Unit	FY 2016-17
10.1	Total Length of Road Network	Kilometers	
10.2	Total Length of Pucca covered drains	Kilometers	
	INCIDENCE OF WATER LOGGING/FLOODING	Number	0
10.3	Number of Flood Prone Points in the city	Number	
10.4	Average Frequency of Flooding	Number	

Additional Information			
11	Staff Information	Unit	FY 2016-17
11.1	Senior Management (Sanctioned)	Number	
11.2	Senior Management (Working)	Number	
11.3	Engineers (Sanctioned)	Number	
11.4	Engineers (Working)	Number	
11.5	Clerks/Accountants (Sanctioned)	Number	
11.6	Clerks/Accountants (Working)	Number	
11.7	Labourers/Cleaners (Sanctioned)	Number	
11.8	Labourers/Cleaners (Working)	Number	
	Total (Sanctioned)	Number	0
	Total (Working)	Number	0
Septage Management			
11.9	Does the ULB practice septage management	Yes/No	
11.10	Septage sucking machines available within ULB	Number	
11.11	Private Septage machines licenced by ULB	Number	
Connection Costs for Sewerage Connections			
11.12	Residential - General	Rs	
11.13	Residential - Urban Poor	Rs	
11.14	Institutional	Rs	
11.15	Commercial	Rs	
11.16	Industrial	Rs	
Sewerage Tariff Structure - Flat Rate Tariff			
11.17	Residential - General	Rs./Month	
11.18	Residential - Urban Poor	Rs./Month	
11.19	Institutional	Rs./Month	
11.20	Commercial	Rs./Month	
11.21	Industrial	Rs./Month	
Sewerage Tariff Structure - Volumetric Tariff			
11.22	Residential - General	Rs./KL	
11.23	Residential - Urban Poor	Rs./KL	
11.24	Institutional	Rs./KL	
11.25	Commercial	Rs./KL	
11.26	Industrial	Rs./KL	

Remark			
	Remark		

S.No	SEWERAGE SERVICE INDICATOR VALUES	Unit	FY 2016-17
1	Coverage of Toilets	%	#DIV/0!
2	Coverage of sewage network services	%	#DIV/0!
3	Collection efficiency of sewerage networks	%	#DIV/0!
4	Adequacy of sewage treatment capacity	%	#DIV/0!
5	Extent of reuse and recycling of sewage	%	#DIV/0!
6	Quality of sewage treatment	%	#DIV/0!
7	Efficiency in redressal of customer complaints	%	#DIV/0!
8	Extent of cost recovery in sewage management	%	#DIV/0!
9	Efficiency in collection of sewage charges	%	#DIV/0!
S.No	SAN BENCHMARK* (SANITATION REVISED INDICATORS)	Unit	FY 2016-17
2	Coverage of households with adequate sanitation system	%	#DIV/0!
3	Collection efficiency of sanitation system (weighted average)	%	#DIV/0!
4	Adequacy of treatment capacity of sanitation system (weighted average)	%	#DIV/0!
5	Extent of reuse and recycling in sanitation system (weighted average)	%	#DIV/0!
6	Quality of treatment of sanitation system	%	#DIV/0!
S.No	STORM WATER DRAINAGE SERVICE INDICATOR VALUES	Unit	FY 2016-17
1	Coverage of storm water drainage network	%	#DIV/0!
2	Incidence of water logging/flooding	Number	0

S.No	SEWERAGE SERVICE RELIABILITY GRADES	FY 2016-17
S.No.	Indicator	
1	Coverage of Toilets	D
2	Coverage of sewage network services	D
3	Collection efficiency of sewerage networks	D
4	Adequacy of sewage treatment capacity	D
5	Extent of reuse and recycling of sewage	D
6	Quality of sewage treatment	D
7	Efficiency in redressal of customer complaints	D
8	Extent of cost recovery in sewage management	D
9	Efficiency in collection of sewage charges	D
S.No	STORM WATER DRAINAGE SERVICE RELIABILITY GRADES	FY 2016-17
S.No.	Indicator	
1	Coverage of Storm Water Drainage Network	C
2	Incidence of water logging/flooding	B
S.No	SAN BENCHMARK (SANITATION REVISED INDICATORS)* RELIABILITY GRADES	FY 2016-17
S.No.	Indicator	
2	Coverage of households with adequate sanitation system	D
3	Collection efficiency of sanitation system (weighted average)	D
4	Adequacy of treatment capacity of sanitation system (weighted average)	D
5	Extent of reuse and recycling in sanitation system (weighted average)	D
6	Quality of treatment of sanitation system	#DIV/0!

S.No	Local Action Indicators	Unit	FY 2016-17
1	Coverage of households with toilets (individual + community toilets)	%	#DIV/0!
2	% of functional community toilet seats	%	na
3	Coverage of sewerage network (% of area covered with sewer network)	%	#DIV/0!
4	Coverage of sullage/greywater network (open+covered)	%	#DIV/0!
5	% of HHs connected to sewer network	%	#DIV/0!
6	% of HHs connected to septic tank*	%	#DIV/0!
7	% of septic tanks as per design standards	%	na

8	% of HHs connected to twin pit / other safe system	%	#DIV/0!
9	% illegal sewer network connections	%	#DIV/0!
10	% of identified illegal sewer network connections that are regularized	%	0
11	Staff for wastewater per km length of sewer	Number	#DIV/0!
12	% of septic tanks connected to settled sewer/ drains for effluent disposal*	%	na
13	% of septic tanks connected to soak pit for effluent disposal*	%	na
14	Collection efficiency of sewer network* (based on WW generated from HHs dependent on sewerage system)	%	#DIV/0!
15	Collection efficiency of septage*	%	#DIV/0!
16	Collection efficiency of effluent (from septic tank) and grey water*	%	na
17	Adequacy of sewage treatment facility (underground sewerage system)*	%	na
18	Adequacy of septage treatment facility*	%	na
19	Adequacy of effluent (from septic tank) and grey water treatment facility*	%	na
20	Presence of master plan for sewerage system	Y/N	0
21	PSP in O & M operations for sewerage	Y/N	0
22	PSP in septic tank cleaning services*	Y/N	N
23	User charges levied per emptying of septic tank / single pit*	Rs	0
24	Presence of septage treatment facilities	Y/N	0
25	Total number of septage sucking machines available	Number	0
26	% of septic tanks cleaned annually	%	na
27	Quality of septage treatment*	%	nd
28	Quality of effluent and grey water treatment*	%	nd
29	Extent of reuse and recycling of treated septage*	%	0
30	Extent of reuse and recycling of treated effluent (from septic tank and grey water) *	%	na
31	Unit electricity cost of wastewater generated	Rs/Kl	#DIV/0!
32	% of total staff to sanctioned staff in wastewater	%	na
33	Total Staff (regular and contract) per 1000 waste water connections	Number	na
34	Average revenue per connection	Rs	na
35	Total complaints in waste water per 1000 connections	Ratio	na
36	Frequency of sewer overflows	Number	0
37	Billed arrears to total billed demand	%	na

NOTE: * These indicators were introduced in year 14-15 under the San-Benchmark framework (Citywide assessment of sanitation service delivery - Including onsite sanitation)

5.4. Performance Assessment System (PAS) Project: Equity related information

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
EQUITY RELATED INFORMATION			
S.No	Description of data elements	Unit	FY 2016-17
1	SLUMS		
	<i>General Details</i>		
1.1	Number of slum settlements	Number	0
1.2	Population in slums	Number	
1.3	Households in slums	Number	0
1.4	Household size in slums	Ratio	#DIV/0!
1.5	Total number of slums notified by state	Number	
1.6	Number of slums that have been de notified in the current year	Number	
	<i>Policy provision for slums</i>	Unit	FY 2016-17
1.7	Does the ULB have a policy to provide individual WSS services to slums?	Y/N	
1.8	Does it exclude non notified slums?	Y/N	
1.9	Are slum settlements covered under property tax assessment?	Y/N	
1.10	<i>If Yes, number of slum settlements covered under property tax assessment</i>	Number	
1.11	Does the ULB have a specific department or cell (e.g. UCD) responsible for service provisions in slums?	Y/N	
1.12	Are external agencies (like NGOs, CBOs, private agencies) involved in service provision to slums?	Y/N	
1.13	Does the ULB earmark funds for the poor in budgetary allocation?	Y/N	
1.14	% of funds allocated in the budget for pro poor activities	%	
1.15	% expenditure for service provision in slums to total ULB expenditure	%	
1.16	Do slum households have options to pay connection charges in installments?	Y/N	
1.17	Specify documents needed to obtain individual water/sewer connections in slums	(1/2/3)	
	<i>1: Property tax bill, 2: Ration card, 3: Others, specify</i>		
1.18	Have any surveys been conducted as part of programs/ schemes to enhance services in slums?	Y/N	
1.19	<i>If yes, mention program/ scheme under which the surveys have been undertaken?</i>	(1/2/3/4/5/6)	
	<i>1: Nirmal Gujarat, 2: MSNA, 3: IHSDP, 4: JnNURM, 5: MGSM 6: Others, specify</i>		
	<i>Services in slums at city level</i>	Unit	FY 2016-17
1.20	Number of settlements which have an internal water supply network	Number	
1.21	Number of individual water connections in slums	Number	
1.22	<i>Number of new connections given in slums in the current year</i>	Number	
1.23	Number of group connections in slums	Number	
1.24	Number functional stand posts in slums	Number	
1.25	<i>Number of standposts converted to group connections for slums</i>	Number	
1.26	Number of individual toilets in slums	Number	
1.27	<i>Number of individual toilets constructed in slums in current year</i>	Number	
1.28	Number of seats in pay-n-use toilets (functional toilets) in slums	Number	
1.29	Number of seats in community toilets (functional toilets) in slums	Number	
1.30	Number of settlements which have an internal sewage network	Number	
1.31	Number of sewerage connections in slums	Number	
1.32	<i>Number of community and pay-n-use toilets without access to safe disposal systems</i>	Number	
1.33	Number of slum HHs served by door to door collection of MSW	Number	

ADDITIONAL INFORMATION ON WATER SUPPLY			
2	Water supply		
	<i>Network details</i>	Unit	FY 2016-17
2.1	Length of trunk main	km	
2.2	Length of transmission mains	km	
2.3	<i>Length of trunk and/or transmission mains that have undergone renovation</i>	km	
2.4	Length of distribution network	km	
2.5	Number of pipe breaks in the current year	Number	
2.6	Total area under water distribution network	sq.km	
2.7	Length of road network	km	
	<i>Source level details</i>	Unit	FY 2016-17
2.8	Average daily quantity of water supplied from ground sources	MLD	
2.9	Average daily quantity of water supplied from own surface sources	MLD	
2.10	Average daily quantity of water supplied from bulk raw purchase	MLD	
2.11	Average daily quantity of water supplied from bulk treated water	MLD	
2.12	Average daily quantity of water supplied from other sources (desalination, rainwater harvesting, etc)	MLD	
2.13	Total daily quantity of water supplied from source	MLD	0
2.14	Average daily quantity of water supplied from WDS	MLD	
2.15	Average pressure at WDS	meters	
2.16	Average pressure at consumer end	meters	
2.17	Does the ULB conduct regular assessment of availability of sources through preparation of depletion statements, etc?	Y/N	
2.18	Capacity addition/augmentation to present supply of water commissioned over next 3 years from projects/schemes/bulk purchase	MLD	
	<i>Audits</i>	Unit	FY 2016-17
2.19	Has the ULB conducted studies for preliminary or detailed water audits?	Y/N	
2.20	Has the ULB conducted studies for energy audits?	Y/N	
2.21	Number of pumps at water source, treatment and distribution points inspected in the current year	Number	
2.22	Number of pumps replaced/repared in the current year	Number	
	<i>Metering</i>	Unit	FY 2016-17
2.23	% of consumer meters that are functional	%	
2.24	Number of consumer meters that are repaired/replaced in the current year	Number	
2.25	Metered consumption (where consumer meters are functional)	MLD	
2.26	Number of connections exempted from property tax/ water bills	Number	
	<i>Complaint redressal System</i>	Unit	FY 2016-17
2.27	Is a system to record complaints received and redressed properly maintained by the ULB?	Y/N	
2.28	Does the redressal system allow for monitoring and analysing complaints on a regular basis?	Y/N	
	<i>Unauthorised connections</i>	Unit	FY 2016-17
2.29	Does the ULB have any measures to identify and/or regularise illegal connections?	Y/N	
	For Water supply		
2.30	Estimated number of illegal connections	Number	
2.31	% of illegal connections regularised	%	
	For Wastewater		
2.32	Estimated number of illegal connections	Number	
2.33	% of illegal connections regularised	%	

ADDITIONAL INFORMATION ON SEWERAGE AND DRAINAGE			
3	Sewerage and/or sullage network		
	<i>Type of system</i>	Unit	FY 2016-17
3.1	Does the ULB have an underground piped network?	Y/N	
3.2	<i>Total length of underground piped network</i>	km	
3.3	<i>Total area covered by underground piped network</i>	sq. km	
3.4	Does the ULB have a covered drainage network?	Y/N	
3.5	<i>Length of covered drainage network</i>	km	
3.6	<i>Area covered by covered drainage network</i>	sq. km	
3.7	Does the ULB have open drainage network?	Y/N	
3.8	<i>Length of open drainage network</i>	km	
3.9	<i>Area covered by open drainage network</i>	sq. km	
	<i>Augmentation and efficiency of network</i>	Unit	FY 2016-17
3.10	Does the ULB have a plan to develop/augment its sewer network?	Y/N	
3.11	Does the ULB contract out services related to O&M operations for sewerage?	Y/N	
3.12	Number of HHs with individual toilets in the city	Number	
3.13	Number of HHs with toilets connected to sewer network in the city	Number	
3.14	Number of residential sewer connections in the city	Number	
3.15	Number of non-residential sewer connections in the city	Number	
3.16	Total no. of community toilet seats in city	Number	
3.17	Total no. of functional community toilet seats in city	Number	
3.18	Number of functional community toilet seats connected to sewer network	Number	
3.19	Number of sewer overflows reported in the current year	Number	
3.20	Does the ULB have a sewage treatment plant?	Y/N	
3.21	<i>If Yes, specify type of treatment</i>	(1/2/3/4)	
	<i>1: UASB, 2: Activated sludge, 3: Oxidation pond 4: Others</i>		
	<i>Reuse of wastewater</i>	Unit	FY 2016-17
3.22	Does the ULB charge for untreated/treated wastewater that is reused?	Y/N	
3.23	<i>If Yes, please specify the rate for untreated wastewater</i>	Rs/MLD	
3.24	<i>If Yes, please specify the rate for treated wastewater</i>	Rs/MLD	
3.25	Is the untreated waste water being reused?	Y/N	
3.26	<i>If Yes, estimated volume of untreated wastewater reused</i>	MLD	
3.27	<i>If Yes, specify the purpose</i>	(1/2/3)	
	<i>1:Agriculture,2:Sewage farms,3:Others,specify</i>		
	<i>Means of disposal of waste water</i>	Unit	FY 2016-17
3.28	Sullage	(1/2/3)	
3.29	Untreated waste water	(1/2/3)	
3.30	Treated waste water	(1/2/3)	
	<i>1: on land, 2: in water bodies, 3: Others, specify</i>		
	<i>In areas of ULB/ ULBs with no sewer/drainage network</i>	Unit	FY 2016-17
3.31	Estimated properties connected to septic tanks	Number	
3.32	Households with toilets connected to septic tanks	Number	
3.33	Households connected to septic tank as per design standards	Number	
3.34	Households with septic tank connected to drains / settled sewer	Number	
3.35	Households with toilets with septic tank connected to soak pits	Number	0
3.36	Households with toilets connected to single pit	Number	
3.37	Households with toilets connected to twin pits	Number	
3.38	Households with toilets connected to other safe system (Zero discharge - ecosan toilets, Improved / Package septic tank, Advance onsite treatment - Johkasou, etc)	Number	

3.39	Households with toilets connected to other unsafe system (Night soil disposal, etc)	Number	
3.40	Estimated number of septic tanks/pits in the ULB	Number	
3.41	Estimated number of septic tanks/pits cleaned annually (ULB and Private operators)	Number	
3.42	Total septage generated	Cu.m / Year	#DIV/0!
3.43	Average capacity of septage sucking machine/ vacuum emptier	Cu. M	
3.44	Number of trips in a year by all sucking machine/ vaccum emptier	Number	
3.45	Total volume of septage collected by septage sucking machines	Cu.m / Year	0
3.46	Total quantity of septic tank effluent collected through settled sewer / drain at the inlet of treatment plant / disposal point	MLD	0
3.47	Charge levied by agency for emptying septic tanks inside city limits	Rs/trip	
3.48	Charge levied by agency for emptying tanks outside city limits	Rs/trip	
3.49	Does the ULB have facilities to treat septage?	Y/N	
3.50	If Yes, then specify type of treatment	(1/2/3/4/5)	
	1: At existing STP , 2: Sludge drying bed 3: Mechanical dewatering 4: Anaerobic digester 5: Others then specify		
3.51	If yes, then specify installed capacity of septage treatment facility	Cu.m / Year	
3.52	If yes, then specify quantity of septage received at treatment facility	Cu.m / Year	
3.53	If yes, then specify quantum of treated septage reused after treatment	Kgs / Year	
3.54	Number of Treated Septage Samples Tested in a year	Number	
3.55	Number of Treated Septage Samples Passed in a year	Number	
3.56	Location of disposal of septic tank waste	(1/2/3)	
	1: Sewage treatment plants (inclu. Functional oxidation ponds), 2: Open		
3.57	Does ULB have treatment plant for grey water / effluent collected from settled sewers/drains?	Y/N	
3.58	If yes, specify type of treatment?	(1/2/3/4)	
	1: At existing STP , 2: Pond 3: Lagoons 4: Others		
3.59	If yes, specify installed capacity of treatment plant?	MLD	
3.60	If yes, specify quantity of effluent received at treatment plant	MLD	
3.61	If yes, specify quantity of treated effluent reused	MLD	
3.62	Number of treated effluent samples tested in a year	Number	
3.63	Number of treated effluent samples passed in a year	Number	
ADDITIONAL INFORMATION ON SOLID WASTE MANAGEMENT			
4	Solid Waste Management		
		Unit	FY 2016-17
4.1	Total number of wards in the city	Number	
	Number of wards covered by primary collection agencies for SWM		
4.2	ULB	Number	
4.3	Private	Number	
4.4	Resident Welfare Associations	Number	
4.5	NGO/CBOs	Number	
4.6	Number of sweepers deployed for road sweeping	Number	
4.7	Total length of road swept	km	
4.8	Number of secondary storage bins	Number	
4.9	Capacity of secondary storage bins	tonnes	
4.10	Frequency of secondary collection of waste in a week	days	
	Does the ULB contract out services related to		
4.11	Secondary collection?	Y/N	
4.12	Transportation?	Y/N	
4.13	Treatment?	Y/N	
4.14	Disposal?	Y/N	

ADDITIONAL INFORMATION ON FINANCE			
5	Financial Details for ULB		
	<i>Capital receipts of ULB</i>	Unit	FY 2016-17
5.1	Grants	Rs. In Lakhs	
5.2	Borrowings	Rs. In Lakhs	
5.3	Others	Rs. In Lakhs	
	Total	Rs. In Lakhs	0
	<i>Capital expenditure of ULB</i>	Unit	FY 2016-17
5.4	Water supply	Rs. In Lakhs	
5.5	Wastewater	Rs. In Lakhs	
5.6	MSWM	Rs. In Lakhs	
5.7	Others	Rs. In Lakhs	
	Total	Rs. In Lakhs	0
	<i>Revenue Receipts of ULB</i>	Unit	FY 2016-17
5.8	Own Tax Revenue Income	Rs. In Lakhs	
5.9	Non-Tax Revenue Income	Rs. In Lakhs	
5.10	Revenue Grants & Contribution	Rs. In Lakhs	
	Total	Rs. In Lakhs	0
	<i>Revenue Expenditure of ULB</i>	Unit	FY 2016-17
5.11	Establishment Expenditure	Rs. In Lakhs	
5.12	Operations and maintenance	Rs. In Lakhs	
5.13	Outsourcing / Contract	Rs. In Lakhs	
5.14	Others	Rs. In Lakhs	
	Total	Rs. In Lakhs	0
5.15	Total Extraordinary Income of ULB	Rs. In Lakhs	
5.16	Total Extraordinary Expenditure of ULB	Rs. In Lakhs	
	<i>Property tax details for ULB</i>	Unit	FY 2014-16
5.17	Arrears at the beginning of previous year	Rs. In Lakhs	
5.18	Current year billed demand	Rs. In Lakhs	
5.19	Collection against arrears	Rs. In Lakhs	
5.20	Collection against current year demand	Rs. In Lakhs	
	<i>Outstanding Payments of ULB</i>	Unit	FY 2016-17
5.21	Total payment due to the state electricity board for outstanding electricity bills and penalties	Rs. In Lakhs	
5.22	Total payments due for bulk supply (irrigation, etc.) including charges and penalties	Rs. In Lakhs	
5.23	Repayment of loans	Rs. In Lakhs	
5.24	Others	Rs. In Lakhs	
	Total	Rs. In Lakhs	0
	<i>Improving Collection efficiency</i>	Unit	FY 2016-17
	Does the ULB levy charge in the form of taxes, user fees, etc for providing services related to		
5.25	Water supply?	Y/N	
5.26	Wastewater (Sanitation and Sewerage)?	Y/N	
5.27	MSWM?	Y/N	
5.28	SWD?	Y/N	
5.29	Does the ULB facilitate payment of bills through banks?	Y/N	
5.30	Does the ULB have various mechanisms to facilitate collection of bills at ward level like e-kiosks, civic centres,etc?	Y/N	
5.31	Does the ULB outsource its bill collections to private agencies, etc?	Y/N	
5.32	What is the penalty for late payment?	%	
	Remark		
	Remark		

S.No	EQUITY RELATED INDICATORS	Unit	FY 2016-17
1	Coverage of water supply connections in slums	%	0.0
2	Coverage of individual toilets in slums	%	0.0
3	Coverage of wastewater network services in slums	%	0.0
4	Household level coverage of solid waste management services in slums	%	0.0
S.No	EQUITY RELATED RELIABILITY GRADES		FY 2016-17
1	Coverage of water supply connections in slums		D
2	Coverage of individual toilets in slums		D
3	Coverage of wastewater network services in slums		D
4	Household level coverage of solid waste management services in slums		D
S.No	Local Action Indicators	Unit	FY 2016-17
	Coverage		
1	% of slum settlements having internal water supply network	%	#DIV/0!
2	% of slum settlements having internal wastewater network	%	#DIV/0!
3	Presence of policy enabling provision for services in slums	Y/N	0.0
4	Efforts made to simplify connection procedures for slum HHs	Y/N	Y
5	% of uncovered HHs covered with water connections in slums during the year	%	0.0
6	Number of toilets constructed during the year	Number	0.0
7	% of households defecating in open in slums	%	0.0
8	% of population with access to water services in slums	%	#DIV/0!
9	% of population with access to sanitation services in slums	%	#DIV/0!
10	% budget for pro poor activities	%	0.0
11	Connection charge for urban poor to non poor HHs in water supply	%	#DIV/0!
12	Connection charge for urban poor to non poor HHs in wastewater	%	#DIV/0!
13	% of expenditure in slums to total ULB expenditure	%	0.0
	Parameters for composite score	Unit	FY 2016-17
1	Policy and strategy enabling service provision to slums		
	<i>Does the ULB have any policy that enables provision of services to slums?</i>	Y/N	0
	<i>Does the ULB have any criteria in providing individual connections to slum households?</i>	Y/N	0
	<i>Are external agencies involved in service provisions to slums?</i>	Y/N	0
2	Service provision		
	<i>Does the ULB have a specific department or cell responsible for service provision to slums?</i>	Y/N	0
	<i>Has the ULB provided individual water connections in the current year</i>	Y/N	N
	<i>Has the ULB provided individual toilets in the current year</i>	Y/N	N
	<i>Do 50% or more HHs have individual water connections?</i>	Y/N	N
	<i>Do 50 % or more HHs have individual toilets?</i>	Y/N	N
	Composite score		FY 2016-17
1	Policy and strategy enabling service provision to slums		1
	<i>Does the ULB have any policy that enables provision of services to slums?</i>		0
	<i>Does the ULB have any criteria in providing individual connections to slum households?</i>		1
	<i>Are external agencies involved in service provisions to slums?</i>		0
2	Service provision		0
	<i>Does the ULB have a specific department or cell responsible for service provision to slums?</i>		0
	<i>Has the ULB provided individual water connections in the current year</i>		0
	<i>Has the ULB provided individual toilets in the current year</i>		0
	<i>Do 50% or more HHs have individual water connections?</i>		0
	<i>Do 50 % or more HHs have individual toilets?</i>		0
	Composite score		1

5.5. Performance Assessment System (PAS) Project: Reliability Assessment

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
RELIABILITY ASSESSMENT			
			FY 2016-17
No	Reliability parameters for water supply, wastewater, SWM and SWD		Y/N
1	Coverage		
	What is the basis of estimation of		
	HHs served with individual water supply connections	1. Through household surveys (1-5 yrs)	
		2. Through property tax/billing records	
		3. Number of residential connections	
		4. Past trends/surveys	
		5. Area covered by distribution network	
		6. Road covered by network length	
	Properties served with toilets (individual + community)	1. Through household surveys (1-5 yrs)	
		2. Through property tax records	
		3. Area covered by toilet facilities	
	Properties served with sewerage connections	1. through household surveys (1-5 yrs)	
		2. Through property tax records	
		3. Number of sewer connections	
		4. Past trends/surveys	
		5. Area covered by sewer network	
		6. Road length covered by sewerage	
	Households served with septic tank connections / twin pit system	1. Through household surveys (1-5 yrs)	
		2. Through property tax records or BU permission records	
		3. Past trends/surveys	
		4. Area covered by septic tank	
	HHs and establishments served by door to door collection	1. Through household surveys (1-5 yrs)	
		2. Quantity of waste collected	
		3. No. of wards served	
	How are records of HHs served by water supply maintained?	1. Computerised	
		2. Only Manual	
	How are records of properties served maintained for		
	Toilets	1. Computerised	
		2. Only Manual	
	Sewerage	1. Computerised	
		2. Only Manual	
	Onsite sanitation system	1. Computerised	
		2. Only Manual	
	Door to door collection of MSW	1. Computerised	
		2. Only Manual	
	How are connection registers maintained for		
	Water supply	1. Computerised	
		2. Only Manual	
	Sewerage	1. Computerised	
		2. Only Manual	
	Storm Water Drains		
	What is the basis of estimation of length of pucca and covered drains?	1. Ground level surveys (1-5 yrs)	
		2. Based on road maps (<5 yrs old)	
	How are flood prone points identified in the city?	1. Flood monitoring stations	
		2. Complaints/reports from citizens	

2	Coverage in slums		
	What is the basis of estimation of population/HHs in slums?	1. Recent Survey (1-3yrs) 2. Past Survey	
	What is the basis of estimation of UWSS services provided in slums?	1. Recent Survey (1-3yrs) 2. Past Survey	
	How are records of information on slums maintained for?		
	Water supply	1. Computerised 2. Only Manual	
	Sewerage	1. Computerised 2. Only Manual	
	Onsite sanitation system	1. Computerised 2. Only Manual	
	Individual toilets	1. Computerised 2. Only Manual	
	Door to door collection of MSW	1. Computerised 2. Only Manual	
3	Water Production, treatment and consumption		
	Basis of measurement of water produced at WTP/tube wells	1. Bulk flow meters 2. Pump/level details	
	Basis of measurement of water supplied from bulk distribution points	1. Bulk flow meters 2. Pump/level details 3. Periodic sample surveys	
	How are records maintained at WTP/tube wells?	1. Computerised 2. Only Manual	
	How are records maintained at bulk distribution points like ESRs, etc?	1. Computerised 2. Only Manual	
4	Quality of Water		
	Are proper records of samples conducted and passed/failed at source, WTP/bore wells, bulk distribution points and consumer end maintained?		
	Are tests for quality conducted through	1. Own laboratory regularly 2. Accredited centres regularly 3. Third party agencies intermittently	
	How are audits to monitor water quality procedures carried out?	1. by independent agencies periodically 2. ULB itself occasionally	
	Record Keeping	1. Computerised 2. Only Manual	
5	Continuity of water supplied		
	How is the duration of water supplied for the city estimated?	1. Valve operating points across zones 2. Periodic surveys 3. Feedback from city field engineers	
	Is adequacy of pressure and hours of supply at consumer end assessed?		
	Record keeping	1. Computerised 2. Only Manual	
6	Metering of Water Connections		
	Are meters installed at consumer level?		
	Extent of metering of connections	1. At all consumer points 2. Only bulk & commercial consumers	
	How are functional meters assessed?	1. Regular reading and billing of meters 2. Spot checks	
	How is household consumption estimated?	1. Meters installed at all consumer points 2. Periodic Survey 3. Spot Survey 4. Ferrule size and hours of supply	
	Record Keeping	1. Computerised 2. Only Manual	

7	Wastewater collection and treatment	
	How is quantity of wastewater collected by network estimated?	1. Bulk flow meters at inlet of treatment plant 2. V-Notch at outlet of channel 3. Installed Plant Capacity
	How is quantity of wastewater actually treated estimated?	1. Bulk flow meters at outlet of treatment plant 2. V-Notch at outlet of channel 3. Installed Plant Capacity
	How treatment plant system capacity is assessed?	1. Through rigorous testing and commissioning procedures 2. On the basis of reliable operational data 3. No estimate of treatment capacity that is actually functional and in operation
	How is quantity of septage collected estimated?	1. Bulk meters at inlet of treatment plant 2. Register maintained for number and volume of trucks emptied at the treatment 3. Installed Plant Capacity 4. Number of septic tank cleaned annually
	How quantity of septage actually treated estimated?	1. Weighing scale at outlet of treatment plant 2. Installed Plant Capacity
	Record keeping	1. Computerised 2. Only Manual
8	Quality of Wastewater	
	Are proper records of samples conducted and passed/failed for all parameters (BOD, CO	
	Are tests for quality conducted through	1. Own laboratory regularly 2. Accredited centres regularly
	How are audits to monitor waste water quality procedures carried out?	1. by independent agencies periodically 2. ULB itself occasionally
	Record keeping	1. Computerised 2. Only Manual
9	SWM	
	How is quantity of waste generated estimated?	1. Quarterly/ sample surveys 2. Per capita waste generation
	How is quantity of waste segregated estimated?	1. Measurement at treatment/disposal site 2. HHs & establishments with two bins 3. inputs from door to door collection agencies
	Estimation of municipal waste received at	
	Treatment plant	1. Weighbridge 2. On the basis of Trips 3. Aggregate mass balance 4. Installed capacity
	Scientific landfill	1. Weighbridge 2. On the basis of Trips 3. Aggregate mass balance 4. Installed capacity
	Open dumps	1. Weighbridge 2. On the basis of Trips 3. Aggregate mass balance
	Record keeping at	
	Treatment plant	1. Computerised 2. Only Manual
	Scientific landfill	1. Computerised 2. Only Manual
	Open dumps	1. Computerised 2. Only Manual

10	Finance	
	Is regular (quarterly/annual) reporting of the financial statements conducted to state/cen	
	Are arrears segregated from current demand in financial statements/budgets?	
	Extent of segregation of budget heads for	
	Water supply	1. Fully 2. Partially
	Sewerage	1. Fully 2. Partially
	SWM	1. Fully 2. Partially
	Accounting System	1. Accrual-Double entry 2. Cash Based 3. Both systems
	Are records maintained for charges collected against the specific bill issued?	1. Water Supply 2. Sewerage 3. SWM
	Are DCB tables linked to billing and collection system?	
	Billing systems	1. Computerised 2. Only Manual
	Are billing and collection records regularly updated?	
	Record keeping	1. Computerised 2. Only Manual
11	Complaint Redressal System	
	Are records of complaints resolved maintained?	
	Water supply	
	Sewerage	
	SWM	
	System for Collating, sorting and tracking of complaints	
	Water supply	1. Computerised 2. Only Manual
	Sewerage	1. Computerised 2. Only Manual
	SWM	1. Computerised 2. Only Manual
	Are the records of types of complaints (low water pressure, no water, sewer blocks, etc) maintained?	
	Water supply	
	Sewerage	
	SWM	
	Are multiple mechanisms to register complaints (through telephone, in person, by email) available to the consumers in	
	Water supply	
	Sewerage	
	SWM	
Remark		
	Remark	

5.6. Performance Assessment System (PAS) Project: 24X7 Water Supply in Community and Public

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
24x7 WATER SUPPLY IN COMMUNITY AND PUBLIC			
S.No	Description of data elements	Unit	FY 2016-2017
	Coverage of water supply (24x7) in all public/ community toilet*	%	No CT/PT
1	COMMUNITY TOILETS		
1.1	Number of community toilet blocks in ULBs	Number	
1.2	Number of community toilet blocks assured 24x7 water supply	Number	
1.3	Number of community toilet blocks connected with municipal water supply connections	Number	
1.4	Number of community toilet blocks connected with bore well	Number	
1.5	Number of community toilet blocks connected with tanker supply	Number	
1.6	Number of community toilet blocks connected with other sources, mention source name in remark section	Number	
1.7	Number of community toilet blocks operated and maintained by ULB	Number	
1.8	Number of community toilet blocks operated and maintained by private agency	Number	
1.9	Number of community toilet blocks operated and maintained by community	Number	
2	PUBLIC TOILETS		
1.10	Number of public toilet blocks in ULBs (including public toilets at bus stations, railway stations, markets, etc.)	Number	
1.11	Number of public toilet blocks assured 24x7 water supply	Number	
1.12	Number of public toilet blocks connected with municipal water supply connections	Number	
1.13	Number of public toilet blocks connected with bore well	Number	
1.14	Number of public toilet blocks connected with tanker supply	Number	
1.15	Number of public toilet blocks connected with other sources, mention source name in remark section	Number	
1.16	Number of public toilet blocks operated and maintained by ULB	Number	
1.17	Number of public toilet blocks operated and maintained by private agency	Number	
1.18	Number of public toilet blocks operated and maintained by other agency	Number	
	*No CT/PT indicates there is no community or public toilet in the ULB		
	<i>Remark</i>		
	Remark		

