Improvement and Efficient Delivery of Services

Service Level Benchmarks for Water and Sanitation

Capacity Building Workshop under

Gujarat Urban Development Institute

Presented by:
Center for Water and Sanitation (CWAS), CRDF, CEPT University

June 10, 2025

Venue:
Gujarat Institute of Disaster Management

C-WAS CENTER FOR WATER AND SANITATION | CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION | CEPT UNIVERSITY

Background for Service Level Benchmarking

- ULBs are responsible to **provide basic services to the citizens as per 74th Constitutional Amendment**, however it has **become challenging** due to rapid growth rate in urban population.

- **Investments** have been made by the Governments **through urban reforms** agenda under various centrally or state sponsored scheme (JNNURM, UIDSSMT, AMRUT, SBM, MPLAD etc.).

- It envisages a shift on focus **from infrastructure creation to outcomes of service delivery**.

- Benchmarking mechanism is a tool to **establish accountability in service delivery** by measuring and **monitoring the performance of ULBs** in providing services.

Status of Water & Sanitation - Before PAS Implementation

Major urban projects focused mainly on infrastructure creation …
and not on service delivery !!!

Little was known about impact on improvements in service levels, quality, financial sustainability

Data available with ULBs …but it is paper based and fragmented, not collated, analyzed or reported…

You cannot improve what you cannot measure!

Why Service Level Benchmarks?

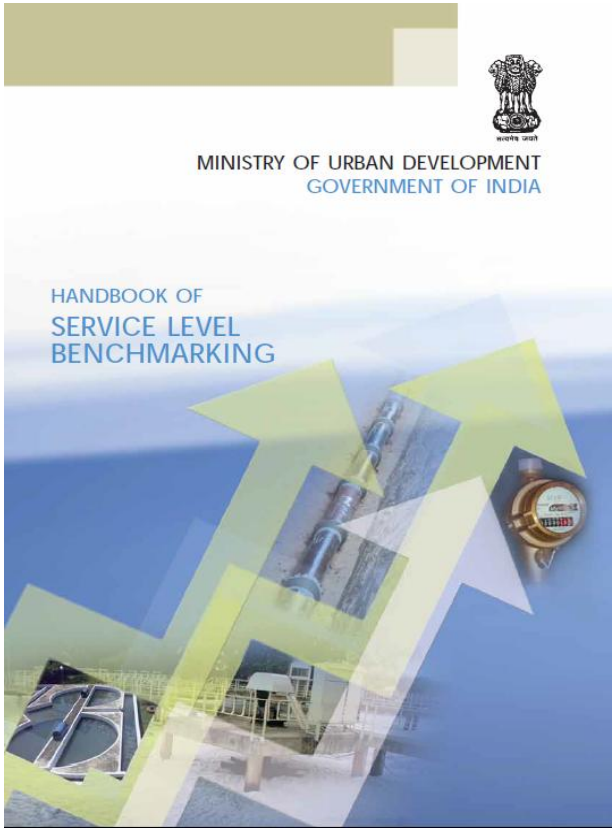
- **Different performance indicators** under different initiatives
- Varying definition or the assessment method
- One-time efforts and **not institutionalized**
- Lack of WASH information **leads to misallocation of resources** and it's difficult to assess impact of past investments
- Need to **move from measurement to performance improvement** and management

What are Service Level Benchmarks (SLB)?

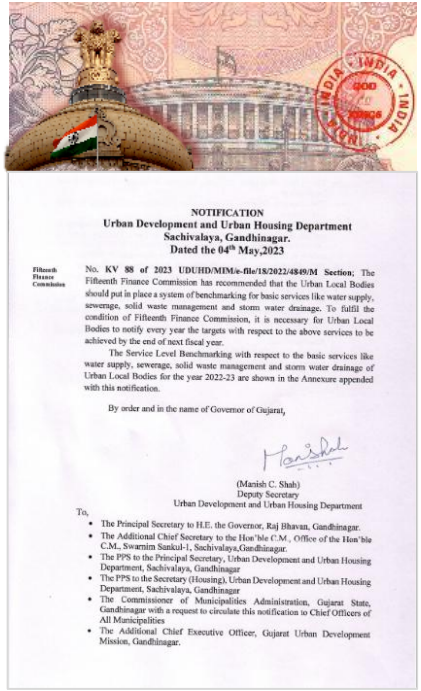
- Initiative of the Ministry of Housing and Urban Affairs (erstwhile Ministry of Urban Development) launched in 2009

- 28 standard performance indicators for Urban Water Supply and Sanitation (UWSS):
  - Water supply - 9
  - Sewage - 9
  - Solid Waste Management - 8
  - Storm Water Drainage - 2

- A common monitoring performance framework to strengthen focus on improving service delivery



Financial incentives - Institutionalized through intergovernmental fund transfers



NOTIFICATION
Urban Development and Urban Housing Department
Sachivalaya, Gandhinagar.
Dated the 04th May,2023

Fifteenth Finance Commission

No. KV 88 of 2023 UDUHD/MIM/e-file/18/2022/4849/M Section: The Fifteenth Finance Commission has recommended that the Urban Local Bodies should put in place a system of benchmarking for basic services like water supply, sewerage, solid waste management and storm water drainage. To fulfil the condition of Fifteenth Finance Commission, it is necessary for Urban Local Bodies to notify every year the targets with respect to the above services to be achieved by the end of next fiscal year.

The Service Level Benchmarking with respect to the basic services like water supply, sewerage, solid waste management and storm water drainage of Urban Local Bodies for the year 2022-23 are shown in the Annexure appended with this notification.

By order and in the name of Governor of Gujarat,

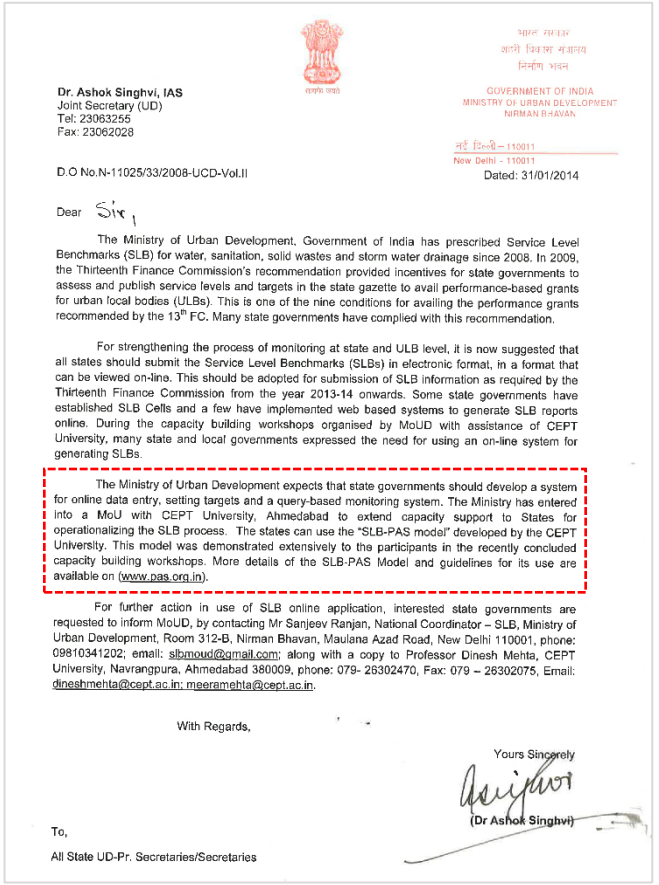
(Manish C. Shah)
Deputy Secretary
Urban Development and Urban Housing Department

To,

- The Principal Secretary to H.E. the Governor, Raj Bhavan, Gandhinagar.
- The Additional Chief Secretary to the Hon'ble C.M., Office of the Hon'ble C.M., Swarnim Sankul-1, Sachivalaya,Gandhinagar.
- The PPS to the Principal Secretary, Urban Development and Urban Housing Department, Sachivalaya, Gandhinagar
- The PPS to the Secretary (Housing), Urban Development and Urban Housing Department, Sachivalaya, Gandhinagar
- The Commissioner of Municipalities Administration, Gujarat State, Gandhinagar with a request to circulate this notification to Chief Officers of All Municipalities
- The Additional Chief Executive Officer, Gujarat Urban Development Mission, Gandhinagar.

- **The 13th, 14th and 15th Finance Commission endorsed operationalizing of SLB Process. It introduced a performance-based grant**
- State Government must notify or cause all ULBs to notify by the end of a fiscal year the service standards and targets
- A notification must be published in the state gazette to ensure compliance

13th FC:	14th FC:	15th FC:
Rs. 27,945 crore	**Rs. 87,144 crore**	**Rs. 1.21 lakh crore**
35% performance grant	**20% performance grant**	**performance linked grants**



भारत सरकार
आवास और शहरी कार्य मंत्रालय
निर्माण भवन

GOVERNMENT OF INDIA
MINISTRY OF URBAN DEVELOPMENT
NIRMAN BHAVAN

Dr. Ashok Singhvi, IAS
Joint Secretary (UD)
Tel: 23063255
Fax: 23062028

नई दिल्ली – 110011
New Delhi - 110011

D.O No.N-11025/33/2008-UCD-Vol.II

Dated: 31/01/2014

Dear Sir,

The Ministry of Urban Development, Government of India has prescribed Service Level Benchmarks (SLB) for water, sanitation, solid wastes and storm water drainage since 2008. In 2009, the Thirteenth Finance Commission's recommendation provided incentives for state governments to assess and publish service levels and targets in the state gazette to avail performance-based grants for urban local bodies (ULBs). This is one of the nine conditions for availing the performance grants recommended by the 13th FC. Many state governments have complied with this recommendation.

For strengthening the process of monitoring at state and ULB level, it is now suggested that all states should submit the Service Level Benchmarks (SLBs) in electronic format, in a format that can be viewed on-line. This should be adopted for submission of SLB information as required by the Thirteenth Finance Commission from the year 2013-14 onwards. Some state governments have established SLB Cells and a few have implemented web based systems to generate SLB reports online. During the capacity building workshops organised by MoUD with assistance of CEPT University, many state and local governments expressed the need for using an on-line system for generating SLBs.

The Ministry of Urban Development expects that state governments should develop a system for online data entry, setting targets and a query-based monitoring system. The Ministry has entered into a MoU with CEPT University, Ahmedabad to extend capacity support to States for operationalizing the SLB process. The states can use the "SLB-PAS model" developed by the CEPT University. This model was demonstrated extensively to the participants in the recently concluded capacity building workshops. More details of the SLB-PAS Model and guidelines for its use are available on (www.pas.org.in).

For further action in use of SLB online application, interested state governments are requested to inform MoUD, by contacting Mr Sanjeev Ranjan, National Coordinator – SLB, Ministry of Urban Development, Room 312-B, Nirman Bhavan, Maulana Azad Road, New Delhi 110001, phone: 09810341202; email: slbmoud@gmail.com; along with a copy to Professor Dinesh Mehta, CEPT University, Navrangpura, Ahmedabad 380009, phone: 079- 26302470, Fax: 079 – 26302075, Email: dineshmehta@cept.ac.in; meeramehta@cept.ac.in.

With Regards,

Yours Sincerely

(Dr Ashok Singhvi)

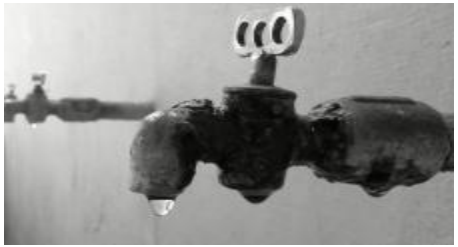
To,

All State UD-Pr. Secretaries/Secretaries

SLB indicators – Water Supply

9

Indicators



Indicators for Water supply services	Benchmark
Coverage of water supply connections	100%
Per capita supply of water	135 lpcd
Extent of metering of water connections	100%
Extent of Non- Revenue Water (NRW)	20%
Continuity of water supply	24 hours
Quality of water supplied	100%
Efficiency in redressal of customer complains	80%
Cost recovery in water supply services	100%
Efficiency in collection of water supply related charges	90%

SLB indicators – Wastewater

9

Indicators

Indicators for Wastewater services	Benchmark
Coverage of toilets	100%
Coverage of sewage network services	100%
Collection efficiency of the sewage network	100%
Adequacy of sewage treatment capacity	100%
Quality of sewage treatment	100%
Extent of reuse and recycling of sewage	20%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in sewage management	100%
Efficiency in collection of sewage charges	90%

SLB indicators – Solid Waste

8

Indicators

Indicators for SWM services	Benchmark
Household level coverage of solid waste management services	100%
Efficiency of collection of municipal solid waste	100%
Extent of segregation of municipal solid waste	100%
Extent of municipal solid waste recovered	80%
Extent of scientific disposal of municipal solid waste	100%
Efficiency in redressal of customer complaints	80%
Extent of cost recovery in SWM services	100%
Efficiency in collection of SWM charges	90%

Publication of Gazette to avail FC grant

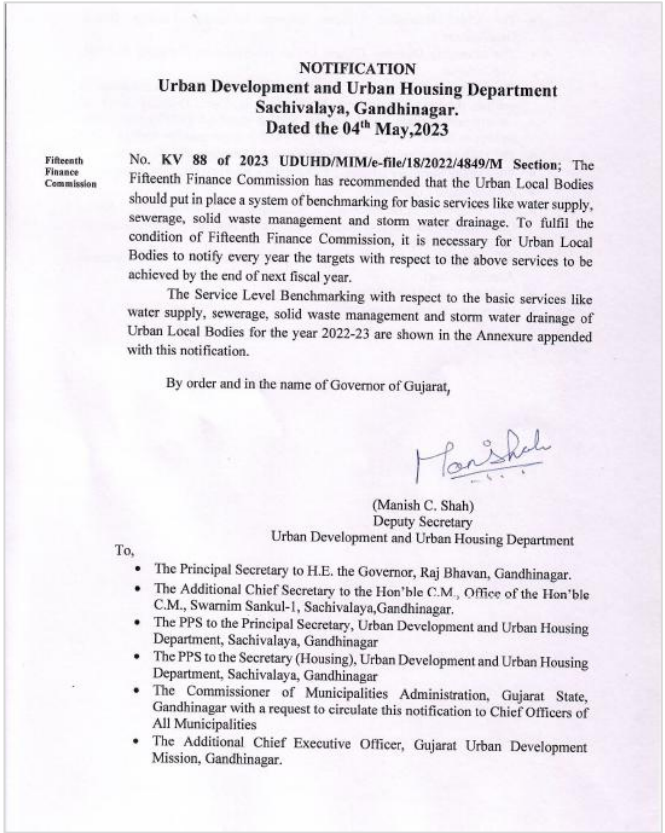
15th Finance Commission, Government of India

SERVICE LEVEL BENCHMARK AT A GLANCE (SLB)

Sr.No	Proposed Indicator	Benchmark	Present Status 2022-23	Target in Year 2023-24
1	**WATER SUPPLY SERVICES** **પાણી પુરવઠો**			
1.1	Coverage of water supply connections પાણી પુરવઠા ના જોડાણો દ્વારા આવરી લેવાયેલ વિસ્તાર (ટકા)	100.0%	60	70
1.2	Per capita supply of water માથા દીઠ પાણી પુરવઠો (લીટર)	135 lpcd	94	100
1.3	Extent of metering of water connections પાણી જોડાણ (કનેક્શન) ની મીટરની વ્યવસ્થા (ટકા)	100.0%	NA	NA
1.4	Extent of non revenue water (NRW) બિન ઉપજાવ પાણી પ્રમાણ (ટકા)	20.0%	18	16
1.5	Continuity of water supply પાણી પુરવઠાની નિરંતર સમય-મર્યાદા (કલાકમાં)	24 hours	2.5	3.0
1.6	Efficiency in redressal of customer complaints ગ્રાહક ફરીયાદ નિવારણની કાર્યક્ષમતા (ટકા)	80.0%	64	100
1.7	Quality of water supplied પાણી પુરવઠાની ગુણવત્તા (ટકા)	100.0%	100	100
1.8	Cost recovery in water supply services પાણી પુરવઠા પાછળ થયેલ ખર્ચ સામે ખર્ચની વસુલાત(ટકા)	100.0%	41	60
1.9	Efficiency in collection of water supply - related charges પાણી પુરવઠાના ચાર્જ વસુલ કરવાની ક્ષમતા (ટકા)	90.0%	70	83
2	**WASTE WATER MANAGEMENT (SEWERAGE AND SANITATION)** **ગંદા પાણીની વ્યવસ્થા (ગટર અને શૌચાલય)**			
2.1	Coverage of toilets જાજરૂ (શૌચાલય) નો વ્યાપ (ટકા)	100.0%	100	100
2.2	Coverage of sewage network services ગંદાપાણીનાં નિકાલ વ્યવસ્થાનાં નેટવર્કની સેવા (ટકા)	100.0%	54	65
2.3	Collection efficiency of sewage network ગંદાપાણીનો સંગ્રહ કરવા માટેની કાર્યક્ષમતા (ટકા)	100.0%	82	82
2.4	Adequacy of sewage treatment capacity ગંદાપાણીના શુદ્ધીકરણનું પુરતાપણું (ટકા)	100.0%	260	300
2.5	Quality of sewage treatment ગંદાપાણી શુદ્ધીકરણની ગુણવત્તા (ટકા)	100.0%	100	100
2.6	Extent of reuse and recycling of sewage શુદ્ધીકરણ થયેલ પાણીનો પુનઃઉપયોગ અને પુનઃપ્રક્રિયાનો વિસ્તાર (ટકા)	20.0%	0	5
2.7	Extent of cost recovery in sewage management ગટર વ્યવસ્થાના ખર્ચ વસુલાતની આંશિક ક્ષમતા (ટકા)	100.0%	27	37
2.8	Efficiency in redressal of customer complaints ગંદાપાણીને લગતી ફરીયાદ નિવારણ (ટકા)	80.0%	100	100
2.9	Efficiency in collection of sewage charges ગટરના ચાર્જ વસુલ કરવાની ક્ષમતા (ટકા)	90.0%	72	75
3	**SOLID WASTE MANAGEMENT** **ઘન કચરા વ્યવસ્થા**			
3.1	Household level coverage of solid waste management services ઘરદીઠ ઘન કચરા વ્યવસ્થાપન સેવાનો વ્યાપ (ટકા)	100.0%	99	100
3.2	Efficiency of collection of municipal solid waste ઘન કચરા એકત્રીકરણ કરવાની કાર્યક્ષમતા (ટકા)	100.0%	100	100
3.3	Extent of segregation of municipal solid waste ઘન કચરો છૂટો પાડવા (પૃથ્થકરણ) ની માત્રા (ટકા)	100.0%	100	100
3.4	Extent of municipal solid waste recovered ઘન કચરામાંથી પુનઃઉપયોગ માટેનો વિસ્તાર (ટકા)	80.0%	NA	NA
3.5	Extent of scientific disposal of municipal solid waste ઘન કચરાનો વૈજ્ઞાનિક રીતે નિકાલ કરવાનો વ્યાપ (ટકા)	100.0%	NA	NA
3.6	Extent of cost recovery in SWM services ઘન કચરાના સેવા સંચાલન પાછળ થયેલ ખર્ચની વસુલાત (ટકા)	100.0%	8	20
3.7	Efficiency in redressal of customer complaints જન ફરીયાદ નિવારણની કાર્યક્ષમતા (ટકા)	80.0%	100	100
3.8	Efficiency in collection of SWM charges ઘન કચરાના ચાર્જ વસુલ કરવાની કાર્યક્ષમતા (ટકા)	90.0%	71	83
4	**STORM WATER DRAINAGE** **વરસાદી પાણીનો નિકાલ**			
4.1	Coverage of storm water drainage network વરસાદી પાણીના નિકાલ માટે આવરી લેવાયેલ વિસ્તાર (ટકા)	100.0%	63	65
4.2	Incidence of water logging/flooding પાણી ભરાવા/પૂર બનાવોની સંખ્યા (સંખ્યા)	0.0%	1	0

Importance of Service Level Benchmarks

- The 13th, 14th and 15th **FC endorsed** operationalizing of SLB Process
- It introduced a **performance-based grant**
- State governments must put in place standards for delivery of essential services provided by the ULBs for four services
- **State Government** must notify or cause all ULBs to **notify** by the end of a fiscal year **the service standards and targets**
- A notification must be **published in the state gazette** to ensure compliance



NOTIFICATION
Urban Development and Urban Housing Department
Sachivalaya, Gandhinagar.
Dated the 04th May,2023

Fifteenth Finance Commission

No. **KV 88 of 2023 UDUHD/MIM/e-file/18/2022/4849/M Section**; The Fifteenth Finance Commission has recommended that the Urban Local Bodies should put in place a system of benchmarking for basic services like water supply, sewerage, solid waste management and storm water drainage. To fulfil the condition of Fifteenth Finance Commission, it is necessary for Urban Local Bodies to notify every year the targets with respect to the above services to be achieved by the end of next fiscal year.

The Service Level Benchmarking with respect to the basic services like water supply, sewerage, solid waste management and storm water drainage of Urban Local Bodies for the year 2022-23 are shown in the Annexure appended with this notification.

By order and in the name of Governor of Gujarat,

(Manish C. Shah)
Deputy Secretary
Urban Development and Urban Housing Department

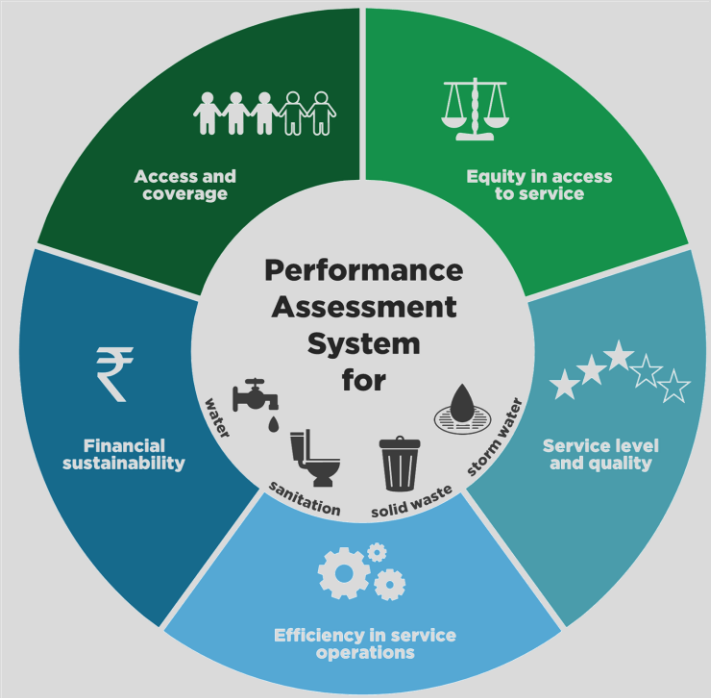
To,

- The Principal Secretary to H.E. the Governor, Raj Bhavan, Gandhinagar.
- The Additional Chief Secretary to the Hon'ble C.M., Office of the Hon'ble C.M., Swarnim Sankul-1, Sachivalaya,Gandhinagar.
- The PPS to the Principal Secretary, Urban Development and Urban Housing Department, Sachivalaya, Gandhinagar
- The PPS to the Secretary (Housing), Urban Development and Urban Housing Department, Sachivalaya, Gandhinagar
- The Commissioner of Municipalities Administration, Gujarat State, Gandhinagar with a request to circulate this notification to Chief Officers of All Municipalities
- The Additional Chief Executive Officer, Gujarat Urban Development Mission, Gandhinagar.

Performance Assessment System (PAS)

For

Operationalizing SLB



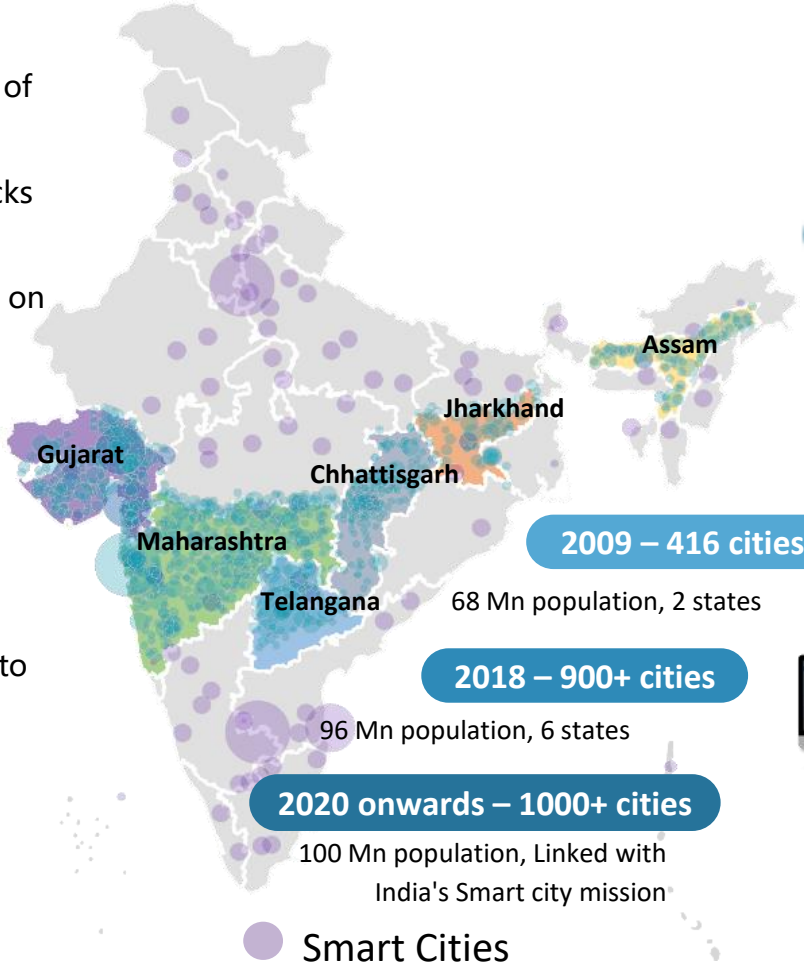
PAS – Performance Assessment System for UWSS in India

ABOUT PAS

- **Digital platform** for **tracking SLB** progress of the cities.
- **Self assessment** with inbuilt validation checks to measure the service delivery
- **Framework suited to local context** - Focus on efficiency, equity and on-site sanitation
- **No Pilots…..operate at Scale** to make an impact

NATIONALLY OWNED AND AT SCALE

- **Not a 'project' but a 'programme'** to mainstream it in governments
- **Work with all three tiers of Governments** to influence policies and implementation
- **Started with 400+ cities** in 2008-09 , **now scaled up to 1000+ cities** across India
- One of the **largest open access time series database** for urban water and sanitation

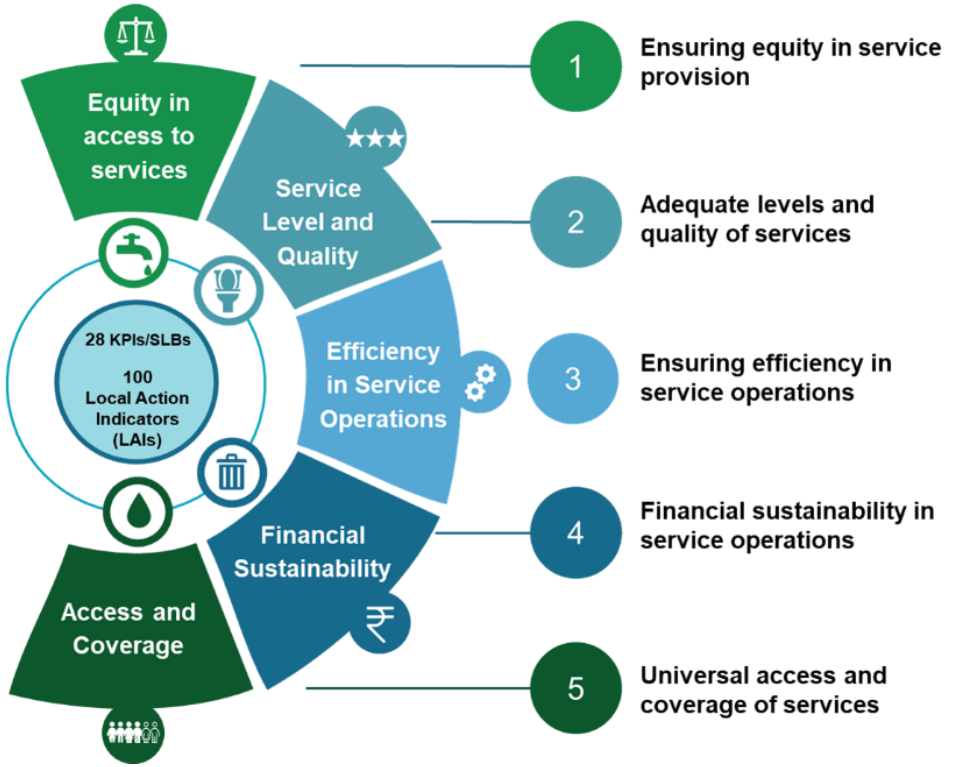


C-WAS CRDF CEPT UNIVERSITY

Service level benchmarks: PAS - SLB+ Framework

Ministry of Urban Development
Government of India

IBNET
The International Benchmarking Network



Nationally aligned

With national SLB initiative

Framework suited to local context

Added lens of equity, slums and on-site sanitation

Annual city level monitoring

Online module – self reporting by city governments

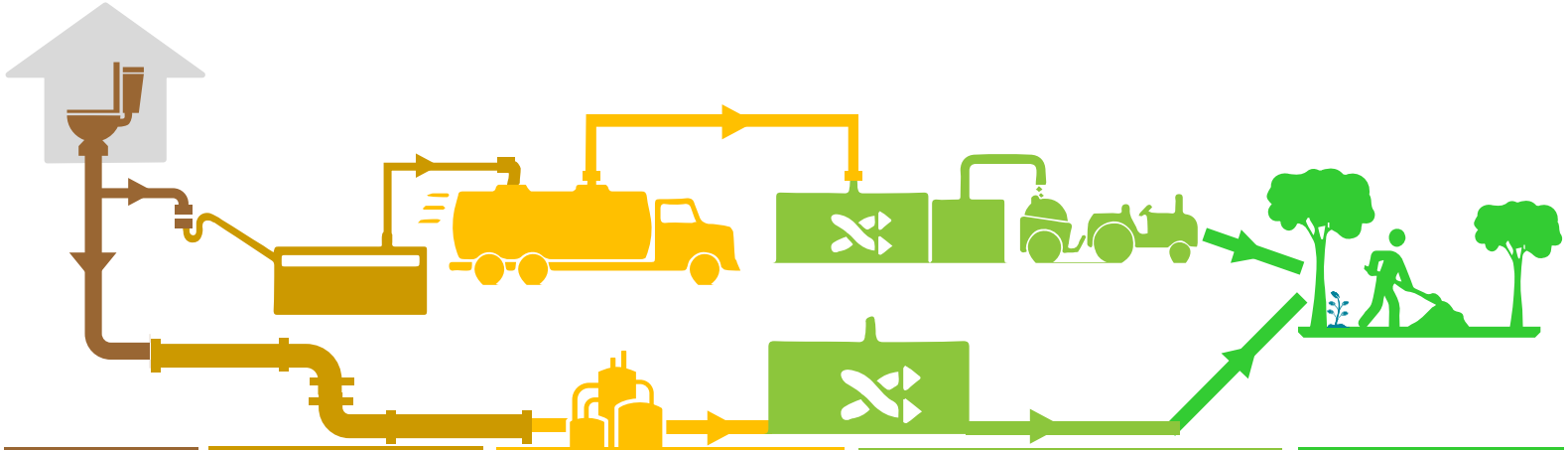
SLB data from 2009-present

Time series data of 1000+ cities of six states and smart cities of India

Sectors	Water supply	Waste water	Solid waste	Storm water
SLBs/KPIs	9	9	8	2
LAIs	35	32	12	
SAN Benchmarks		6		
Key Indicators on Slum services	1	2	1	

C-WAS CRDF CEPT UNIVERSITY

Adapting SLB Framework for the Indian context



Indicators for onsite sanitation systems	1. Coverage of toilets	2. Coverage of adequate sanitation systems (Septic tanks + sewer connections)	3. Collection efficiency of sanitation system (Desludging+ sewerage + grey water)	4. Adequacy of treatment capacity of sanitation system (FSTP + STP) 5. Quality of treatment of sanitation system (FSTP+STP)	6. Extent of reuse and recycling in sanitation system (FSTP + STP)
Indicators to track equity in service delivery	Coverage of toilets, water supply connections, door to door solid waste collection in slums		Coverage of sewerage connections in slums		

Government ownership and commitment

Working with all levels of government:

a) the **central government** which funds various programmes, suggested key service outcomes,

b) **state governments** regulate urban local bodies, and they both fund, and monitor services,

c) **city level** where the urban local governments have the responsibility to both build infrastructure and deliver services as well as collect taxes and charges related to water and sanitation.

PAS was aligned to national service level benchmark initiative

- MoU with the Government of India for Regional Workshops for training across India
- MoUs with State governments for support to state and city governments for assembling and publishing their data through the PAS module
- Results published in State Gazette
- Support to various users and regulatory agencies of the government

Online data entry for SLB on PAS-SLB web portal www.pas.org.in

Unique access for each city

You are signed in as Arang ULB.

| Sign Out |

Home | Performance Assessment | Performance Improvement | Urban Sanitation | Resources | About Us

Data Entry

Checklist

The SLB-PAS checklist has been developed to assess Service Level Benchmarks for the indicators as recommended by the **14th Finance Commission**.

This checklist is composed of 6 worksheets, with an additional sheet on list of documents/formats to be compiled. The 6 worksheets ask for information about the water supply, wastewater (sanitation and sewerage), solid waste management, and slum unit's performance data and operating environment. These are:

1. General Information
2. Water Supply
3. Sewerage and Drainage
4. Solid Waste Management
5. Additional Information
6. Reliability

Cells highlighted WHITE is for data entry inputs. Cells highlighted YELLOW is disabled as data is already filled. Please save (click 'Save') after entering data for each sub section. Upon completion of data entry for a particular sheet (e.g. General Information), click SUBMIT button given at the top of the page to ensure the data is stored in the database. Please note that once the data is submitted, the data can be edited only upon approval by Administrator.

Please note that the data for the previous year is displayed along with the current year to facilitate data entry.

Once the data is submitted, the approval of the checklist will be done by the Commissioner/Chief Officer, and state department. Once the Commissioner/ Chief Officer and state department approves the data, the various reports for the city would be generated.

Select Financial Year

FY 2017-2018

View FY 2017-2018 Checklist

View FY 2017-2018 Indicator Report

Approval Status

Select Language to Download Checklist

---Select---

Download FY 2017-2018 Checklist

Download FY 2017-2018 Target Setting Model

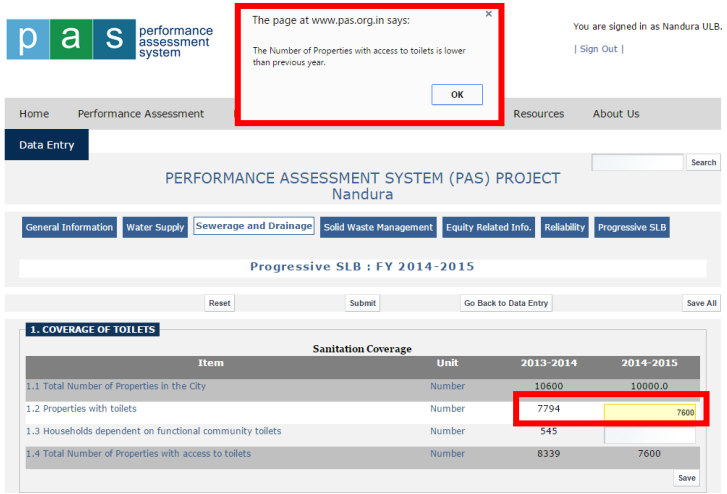
Designation	Role
State SLB Cell	Reviews Cities Pending the Checklist Submission
District Collector	Approval Required After Approval by City

C-WAS

Key features of online SLB-PAS module

- **300 inbuilt data validation checks** for correctness, logic and inter-relation of input data into the online system. Two types of checks are inbuilt :
  - Pop up message to recheck entered values; for example, decrease in water supply connections
  - User can not submit data if entered unacceptable values; for example, HHs with toilet value is more than total HHs in the ULBs
- Online system is also available in the **local languages**: Hindi, Gujarati and Marathi
- Used by **6 state** governments + SMART cities and **1000+ cities** in India with diverse geography and varied levels of development.

Data validation – Inbuilt in Online module



Tutorial videos for PAS portal data submission

PAS Portal Tutorial Videos

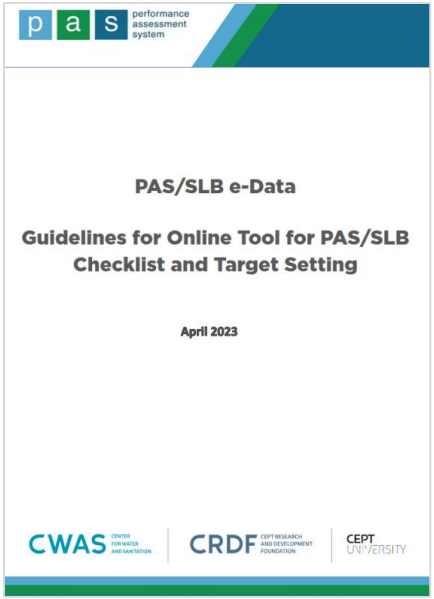
Link:
https://www.youtube.com/playlist?list=PLslvqc6RUWFJEDMXVe9BeF8ZWPt-Jcz__

Hindi

Link:
https://www.youtube.com/playlist?list=PLslvqc6RUWFKm4GbuNlWTkJxYQaphoXNR

English

Guidelines for online tool for PAS/ SLB – Checklist and Target Setting Link:
https://cwas.org.in/resources/file_manager/Online%20data%20entry%20and%20checklist%20guidelines%20and%20validation_27%20april%202023.pdf



C-WAS CRDF CEPT UNIVERSITY

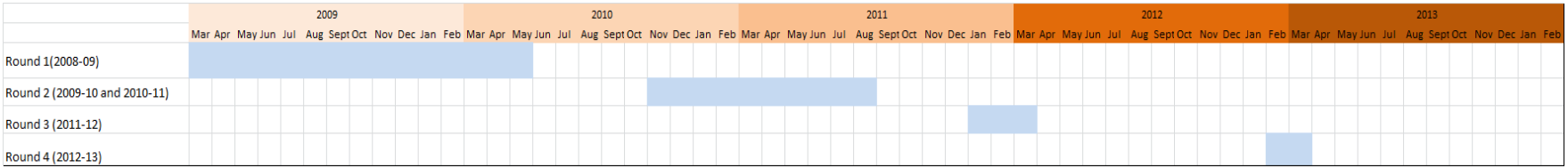
Gradually built ULB capacity
Reduced time for annual assessments

with partners: Urban management Centre and All Indi Institute of Local Self-governments

City visits and workshops in years 1,2,3 → Self assessment on online modules by year 5

- ✓ State Govt. support
- ✓ Trainings and capacity building workshops
- ✓ Hand holding support
- ✓ Translation in local languages

2008-09 2009-10 2010-11 2011-12 2012-13



Process of data collection and validation

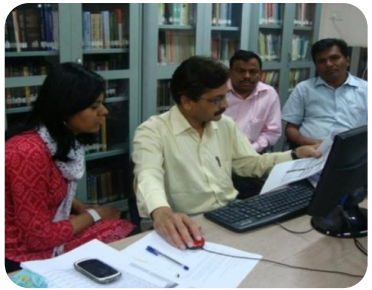
Training
- State govt. appoint agency for data collection and validation
- Organized and conduct training for city officials

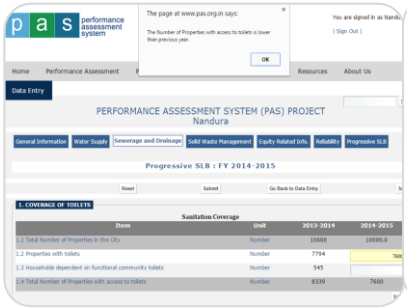
Data collection
- State govt. instruct cities to enter data online
- City officials enter data from their offices
- Agency : Follow up with cities

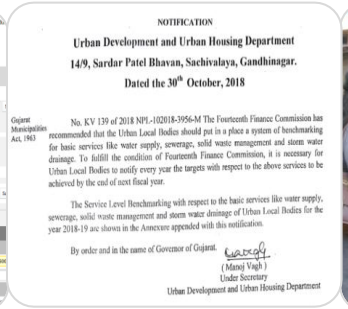
Data validation
- Inbuilt validation rules during data entry and at submission time
- After submission, 'sector experts' appointed by state government will do desk validation

Results publication
- SLB Gazette publication by state
- Analysis results published on website

Data verification
- Field Verification in selected cities
- Prepare data improvement plan / strategies






NOTIFICATION

Urban Development and Urban Housing Department

14/9, Sardar Patel Bhavan, Sachivalaya, Gandhinagar.

Dated the 30th October, 2018

Gujarat Municipalities Act, 1963

No. KV 139 of 2018 NPL-102018-3956-M The Fourteenth Finance Commission has recommended that the Urban Local Bodies should put in a place a system of benchmarking for basic services like water supply, sewerage, solid waste management and storm water drainage. To fulfill the condition of Fourteenth Finance Commission, it is necessary for Urban Local Bodies to notify every year the targets with respect to the above services to be achieved by the end of next fiscal year.

The Service Level Benchmarking with respect to the basic services like water supply, sewerage, solid waste management and storm water drainage of Urban Local Bodies for the year 2018-19 are shown in the Annexure appended with this notification.

By order and in the name of Governor of Gujarat.

(Manoj Vagh)
Under Secretary
Urban Development and Urban Housing Department

Use of SLBs

Service level improvement planning and monitoring using performance assessment information

Use of SLB-PAS Data

Routine Monitoring

- Time series information on PAS Dashboard
- Performance Measurement
- Investment progress
- Identifying area of focus

Service Improvement Plans

States and City referes PAS data for –

- DPRs
- City Water balance plans (AMRUT)
- Action plans for SWM
- Slum Assessment (PMAY)
- Jal Jeevan Mission (Water Quality)

Research & Advocasy

- Academicians and students of planning or technology colleges have used this information for research purpose.
- Consulting firms/Consultants
  - Vision Document
  - City development plans
  - City sanitation plans
  - Compendium

Decision Making

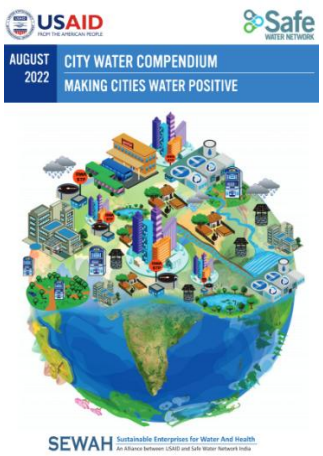
- Financial decision related to WASH budget allocation and utilization of funds.
- Infrastructure planning and analyze the outcomes of investments

Compliance

- Government Regulations for making cities ODF, ODF+ and now ODF++ and Water++ cities
- Performance audits – for selected ULBs in Maharashtra and assess their regulatory compliance (CAG)

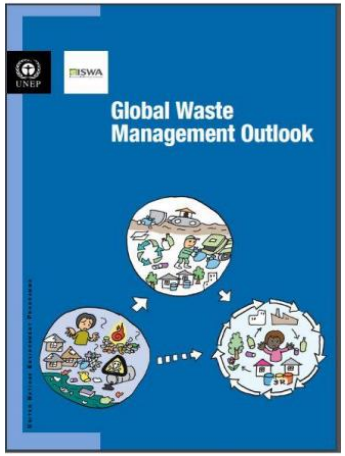
Use of SLB-PAS Data

International reports



City water compendium, Making cities water positive, 2022

Continuity of water, City Benchmarking



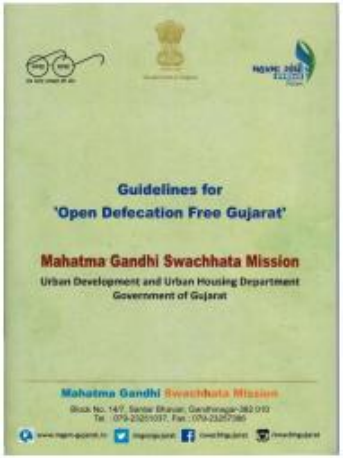
Global water management Outlook, 2015

Solid waste management, city Benchmarking

Government reports

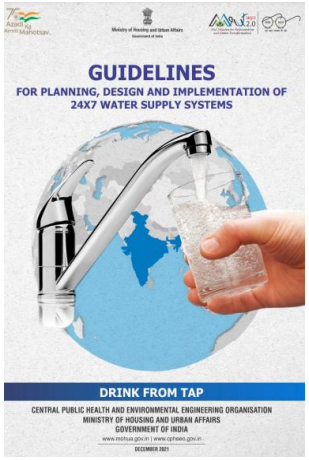
State Environnent report, 2022

Demography, Water Supply, Sanitation and Waste management



Guidelines for open defecation free, Gujarat, 2015

Septage Management, Faecal Sludge Management



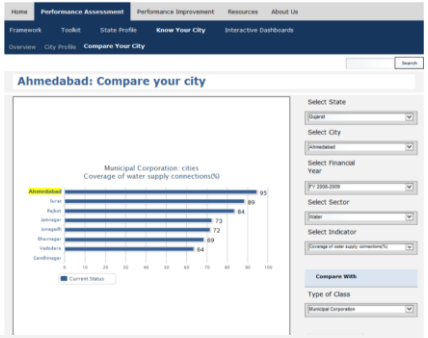
Guidelines for planning, design and implementation of 24*7 water supply systems

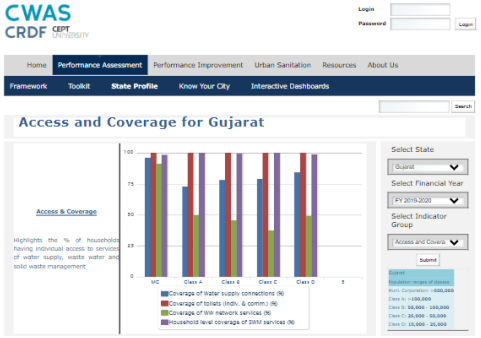
Status of water supply and sanitation situation in India using PAS SLB

Dashboards available on PAS-SLB portal

SLB dashboard:

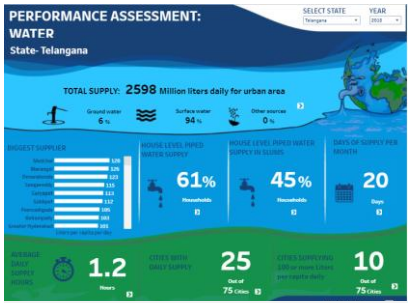
- Track performance over time and Compare performance with peers
- Review the year wise improvement of the ULB using know your city tab – that gives an **Overview** of the city, **City Profile**, and **Comparison** of the city.
- State can assess thematic performance on state profile tab.
- Identify areas for improvement- using interactive dashboards



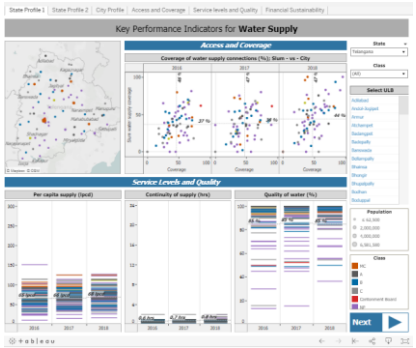


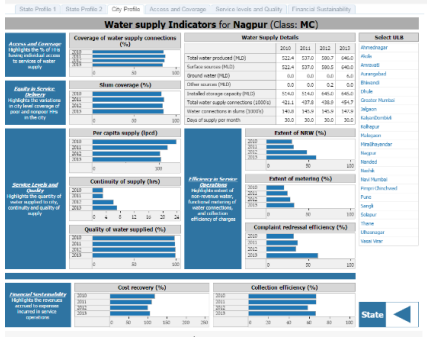
Know your ULB and Compare Your ULB helps each ULB to understand the basic details and SLB indicators and allows to compare itself with another ULB based on its respective class or state.

State can assess thematic performance of Access, Financial sustainability,equity,efficiency and quality of service delivery at state level



Customized dashboard to view state and ULB level analysis

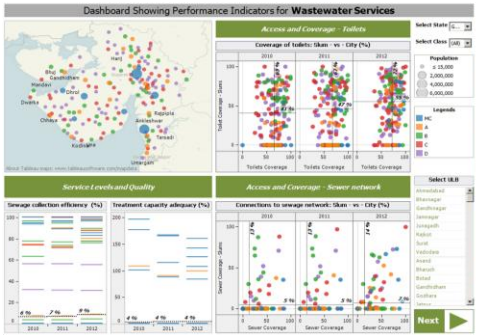


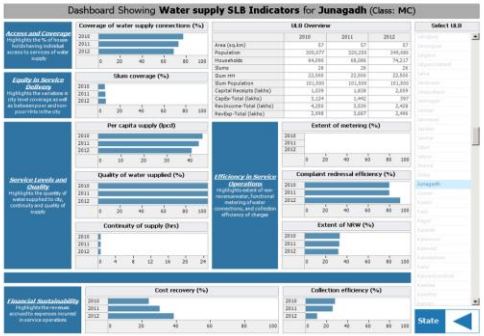


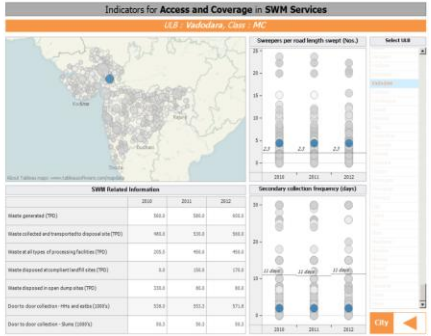
Interactive dashboard

Performance Monitoring through Various Dashboards

1 State Profile | **2 City Profile** | **3 Thematic Dashboards**







Steps to interact with data at city level

Option to view **year wise** information

Overview of the city provides general information across all the sectors

Compare Your City helps each city compare itself with another city based on its respective class or state.

State Profile

- Performance analysis
- Relationship between indicators
- Compare Sector performance
- Data report

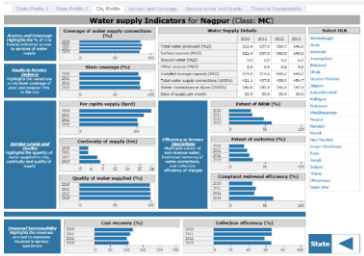
City Profile

- Performance monitoring
- Trends of performance
- Identify performance gaps
- Decision making

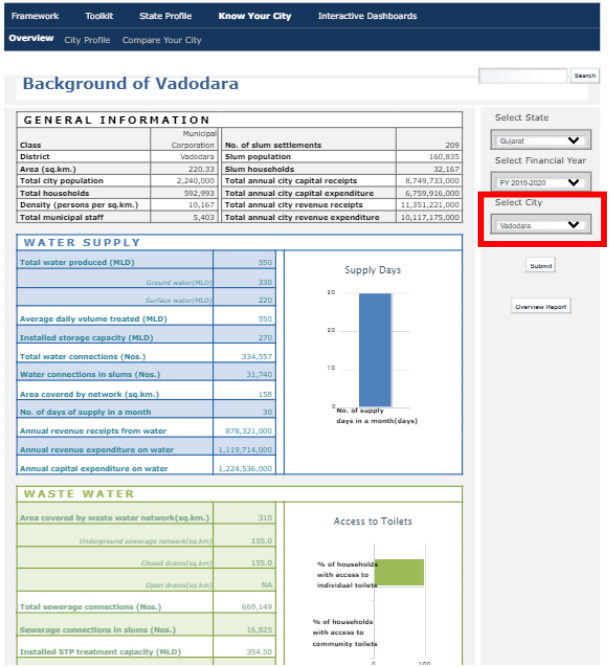
Thematic Dashboards

- Improvement of service delivery
- Pin-pointing problematic areas
- Financial sustainability
- Compare city with peer group

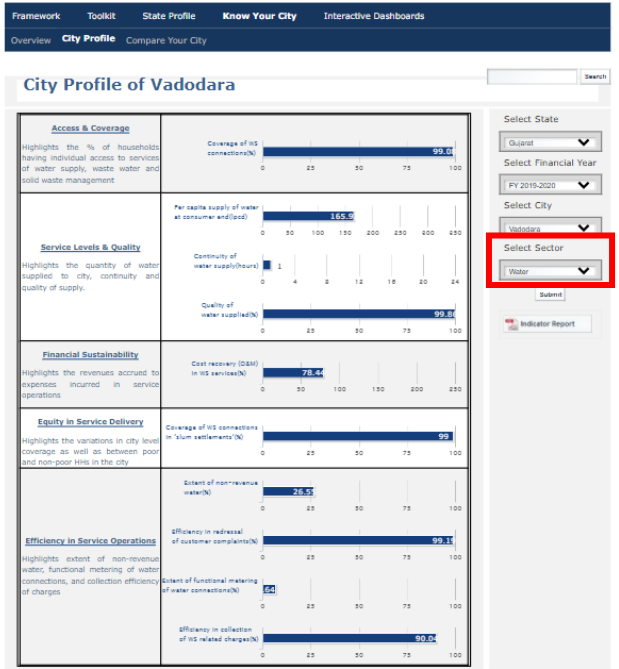
4 Interactive dashboards



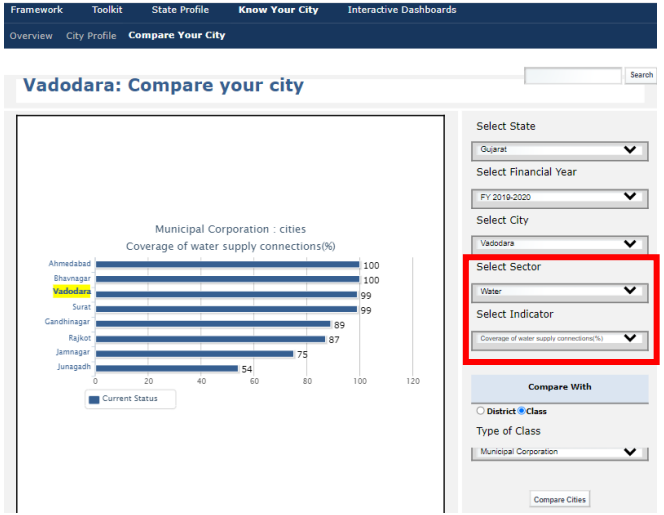
Know your city



An Overview of the city is given across all the sectors for all indicator groups.



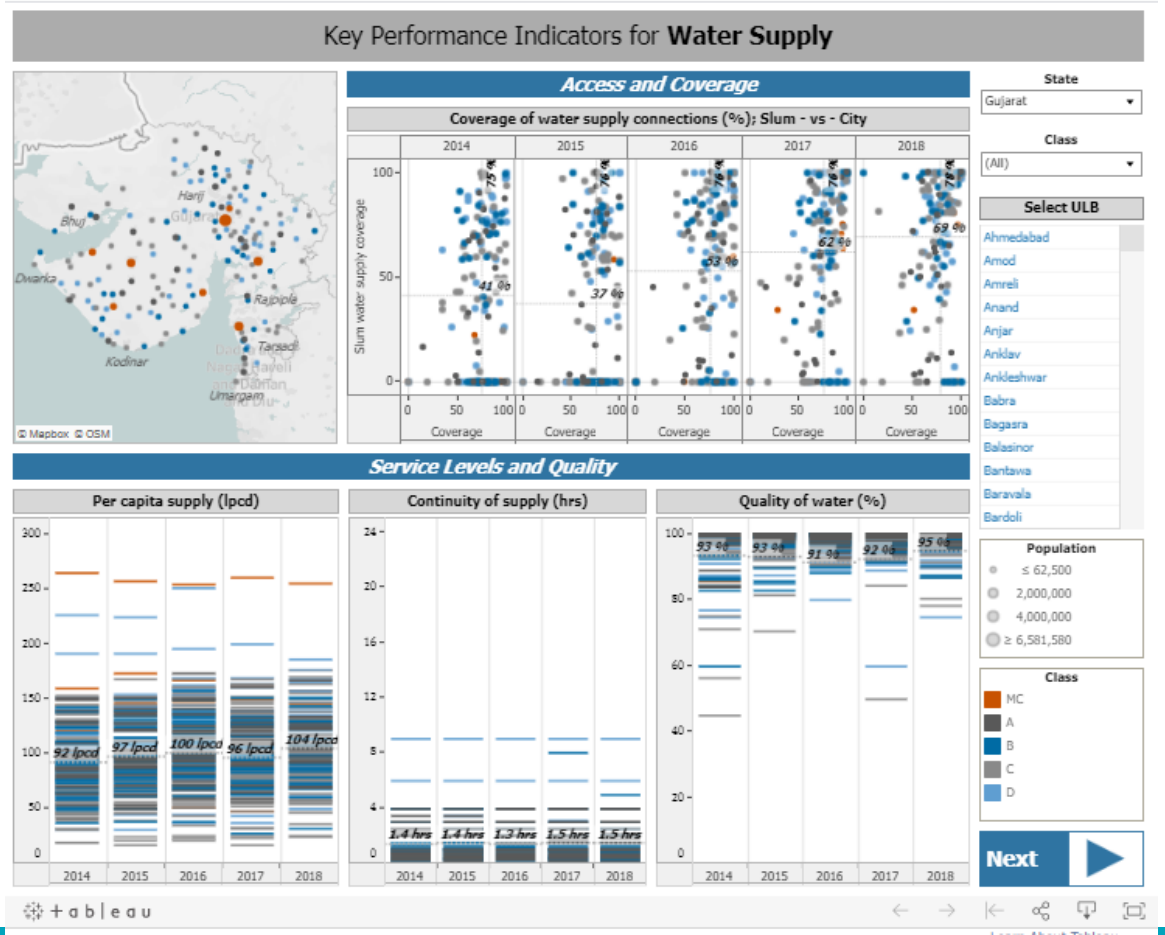
The City Profile is generated for each city and sector based on key indicators as mentioned in Framework.

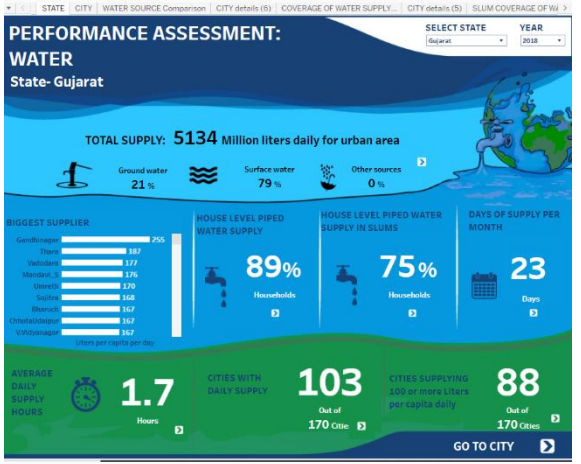


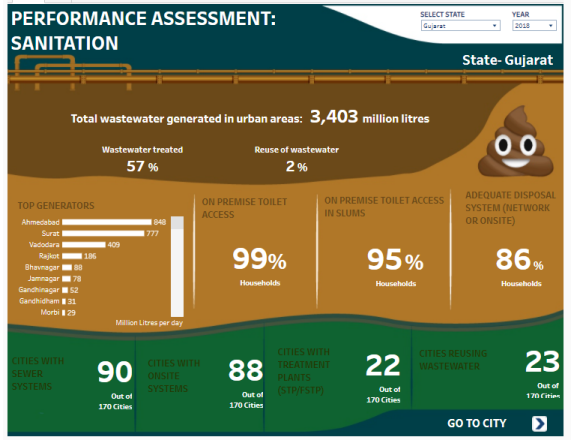
Compare Your City helps each city compare itself with another city based on its respective class or state.

All the sectorial indicators can be compared

State Urban Water and Sanitation Profile

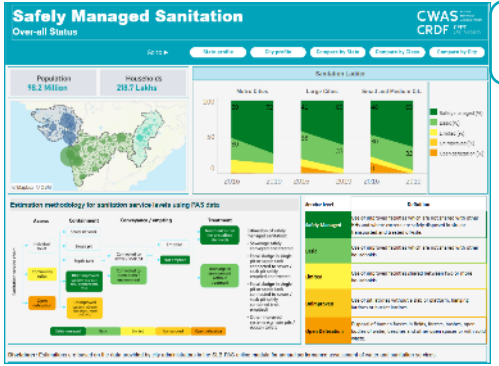




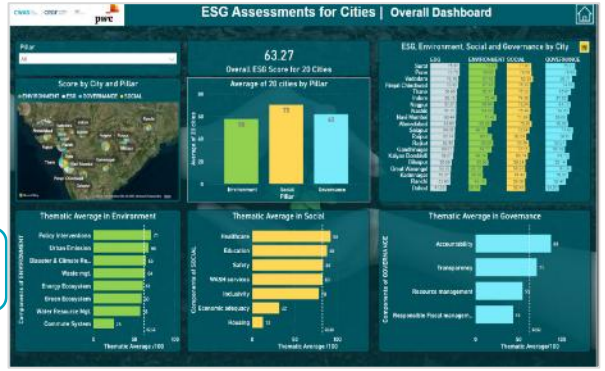


New Areas

SLB data can used for a variety of city level assessments

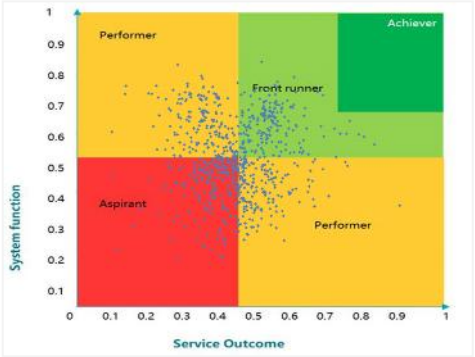


Monitoring safely managed services (SDG 6.2)



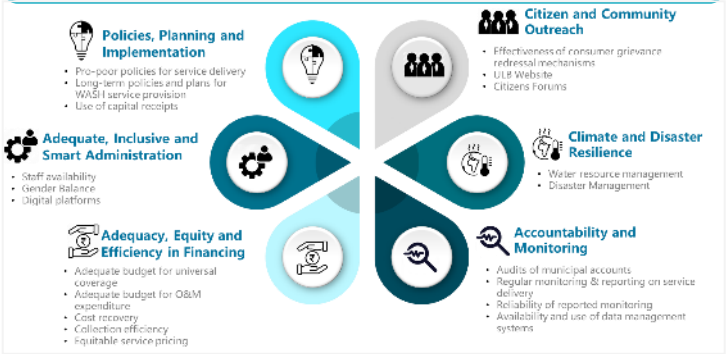
ESG assessment for cities

PAS-CWIS performance ladder



Credit worthiness of cities

Assessment of water governance



C-WAS CRDF CEPT UNIVERSITY

PAS framework capturing key CWIS elements

Citywide access and coverage

Equity in access to services in slums

San-benchmarks

Mandate for equitable access to services and achieving quality service delivery for all

Financial sustainability
Cost recovery for services

Safely managed sanitation services across service chain

Use of PAS information for city level plans (CSAP, CWBP, SaniPlan)

Sustaining service levels and meeting quality norms

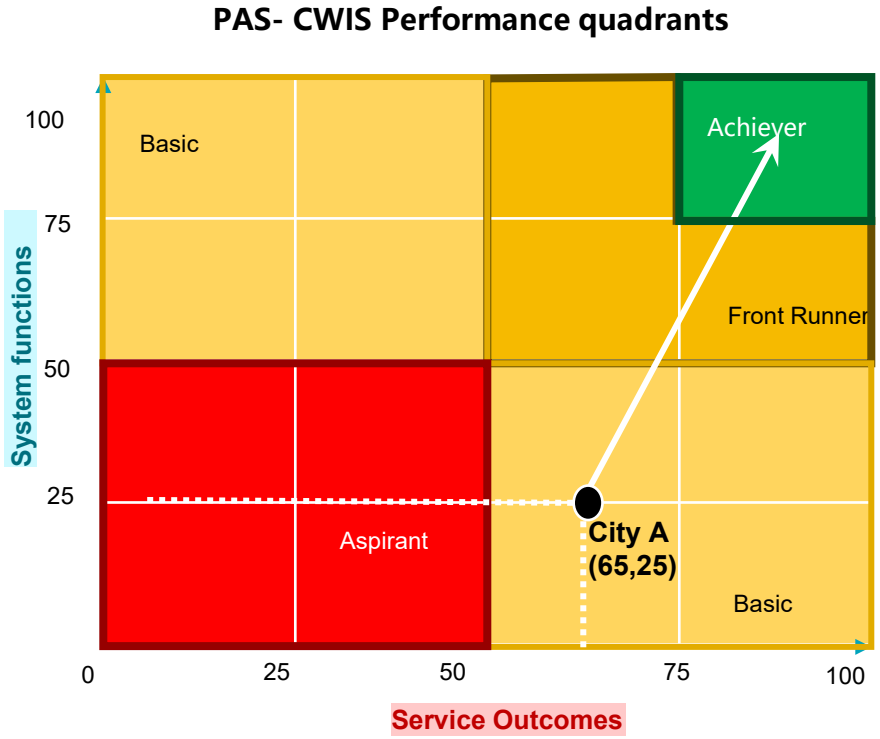
Efficiency in service operations

Reliable and quality service delivery

PAS framework capturing key CWIS elements

Monitoring CWIS at scale

Tracking performance on service outcomes v/s system functions using PAS information



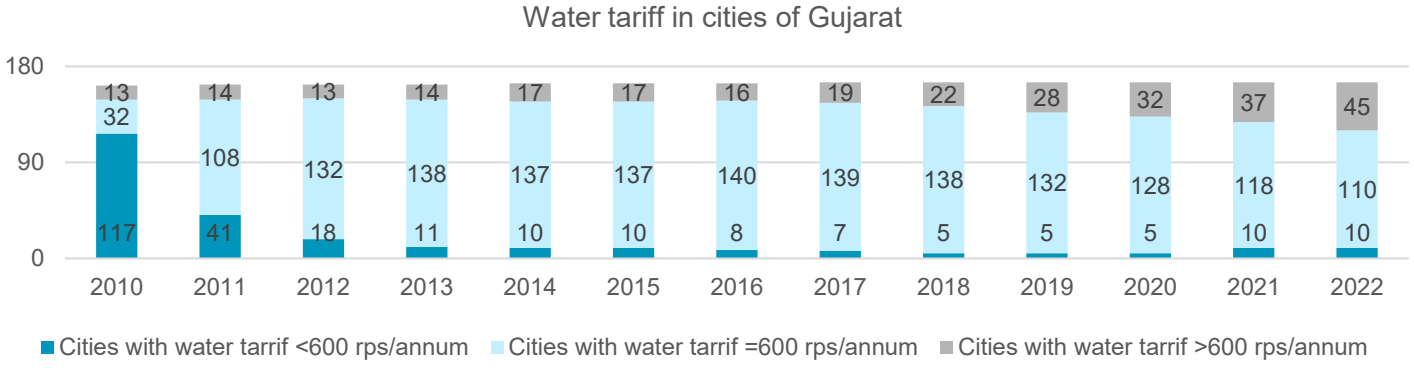
Performance quadrant assessment as an advocacy tool to support decision making for achieving CWIS goals

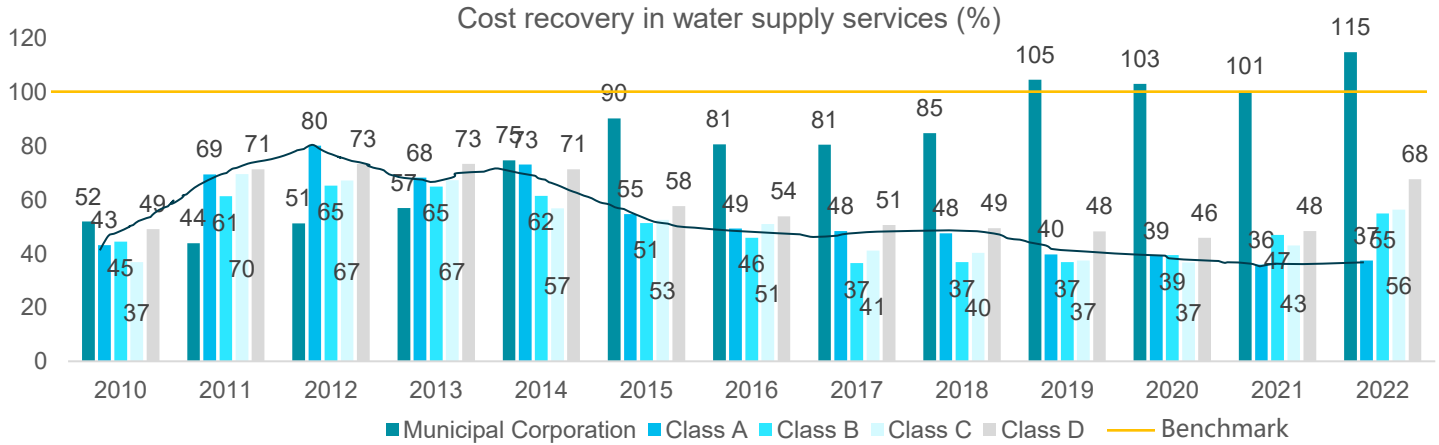
- Developing city/state level sector reform plans
- Developing sectoral investment plan – resource planning and mobilization
- Thematic service level improvement plan based on the quadrant scores

	Performance	System Function	Service Outcome
Q1	Achiever	>75%	>75%
Q2	Front Runner	< or =75% and >50%	<or =75% and >50%
Q3	Basic	<Or = 50%	<Or = 50%
Q4	Aspirant	<50%	<50%

C-WAS CRDF CEPT UNIVERSITY

For Policy Level Decision Making

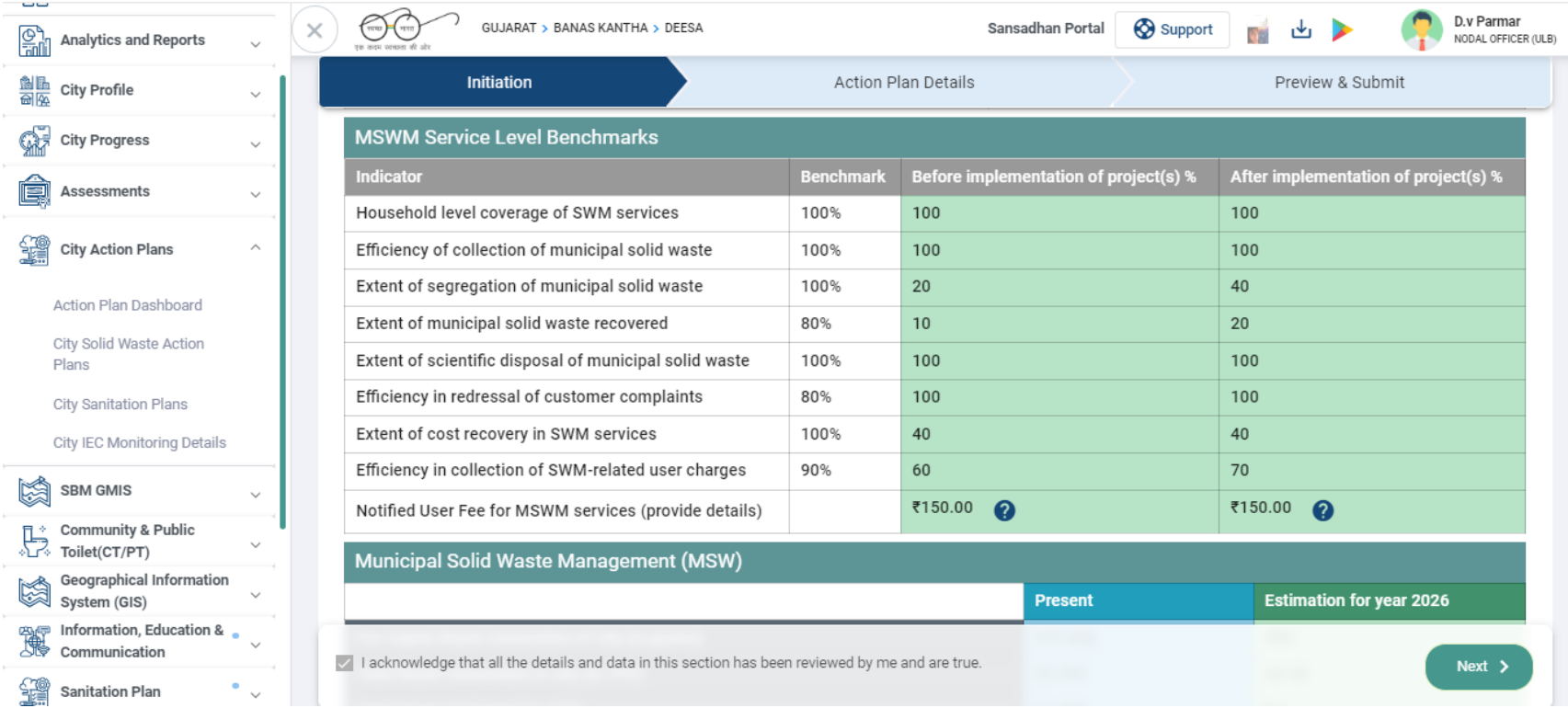




- Govt. of Gujarat released the GR in 2010 to collect water tariff as min. Rs. 600 per annum.
- Cost recovery jumped in the initial years after 2010 but gradually going down with years

C-WAS CRDF CEPT UNIVERSITY

SLB data on Swachhatam Portal – City Solid Waste Action Plan



Mandatory to provide SLB data for submitting CSWAP

SLB data on Swachhatam Portal

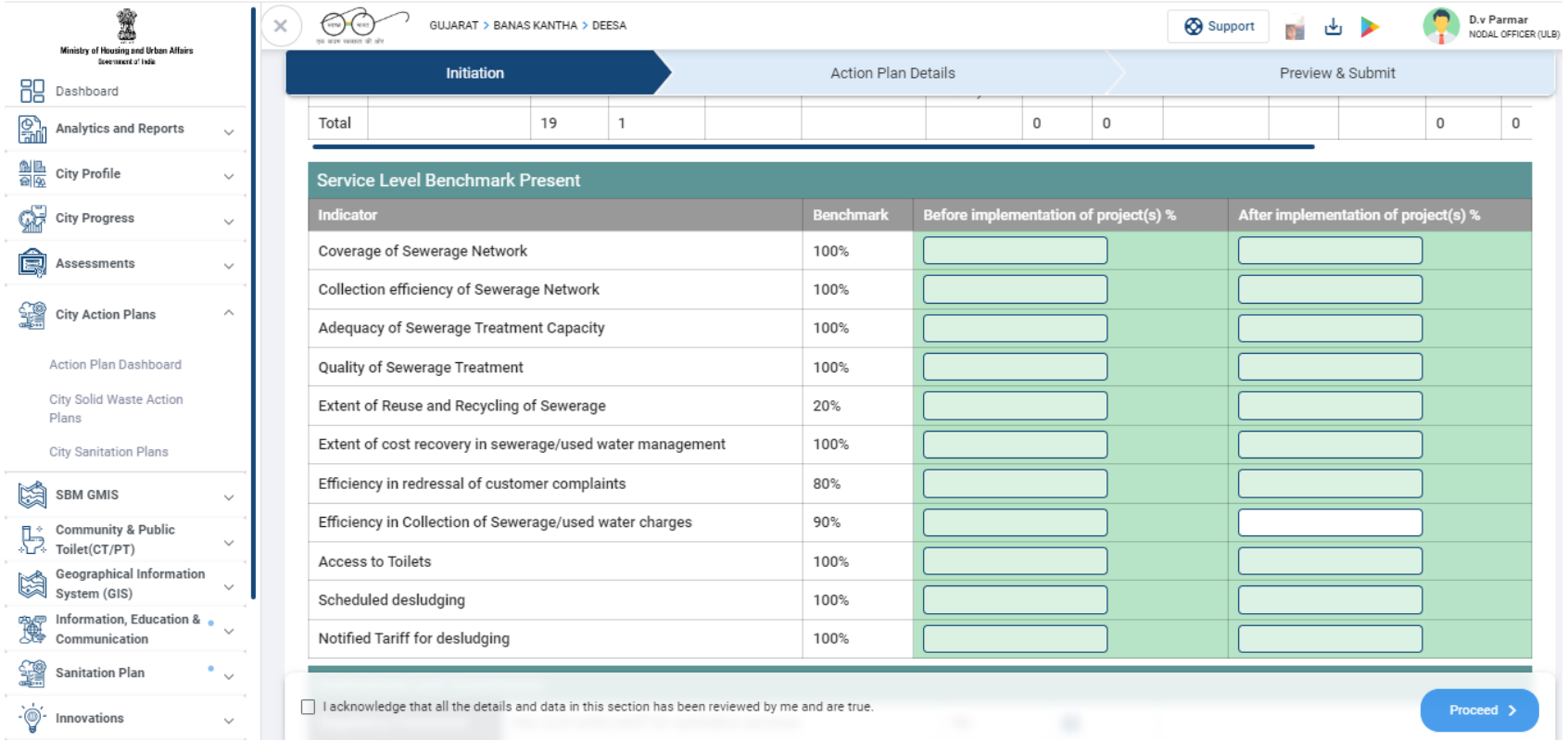
15th Finance Commission, Government of India

SERVICE LEVEL BENCHMARK AT A GLANCE (SLB)

Name of Municipality :-Deesa **District :Banaskantha** **Class A**

Sr.No	Proposed Indicator	Benchmark	Present Status 2022-23	Target in Year 2023-24
3	**SOLID WASTE MANAGEMENT** ઘન કચરા વ્યવસ્થા			
3.1	Household level coverage of solid waste management services ઘરદીઠ ઘન કચરા વ્યવસ્થાપન સેવાનો વ્યાપ (ટકા)	100.0%	100	100
3.2	Efficiency of collection of municipal solid waste ઘન કચરા એકત્રીકરણ કરવાની કાર્યક્ષમતા (ટકા)	100.0%	100	100
3.3	Extent of segregation of municipal solid waste ઘન કચરો છુટો પાડવા (પુથ્થકરણ) ની માત્રા (ટકા)	100.0%	0	50
3.4	Extent of municipal solid waste recovered ઘન કચરામાંથી પુન:ઉપયોગ માટેનો વિસ્તાર (ટકા)	80.0%	NA	50
3.5	Extent of scientific disposal of municipal solid waste ઘન કચરાનો વૈજ્ઞાનિક રીતે નિકાલ કરવાનો વ્યાપ (ટકા)	100.0%	NA	60
3.6	Extent of cost recovery in SWM services ઘન કચરાના સેવા સંચાલન પાછળ થયેલ ખર્ચની વસુલાત (ટકા)	100.0%	23	50
3.7	Efficiency in redressal of customer complaints જન ફરીયાદ નિવારણની કાર્યક્ષમતા (ટકા)	80.0%	100	100
3.8	Efficiency in collection of SWM charges ઘન કચરાના ચાર્જ વસુલ કરવાની કાર્યક્ષમતા (ટકા)	90.0%	71	95

SLB data on Swachhatam Portal – City Sanitation Action Plan



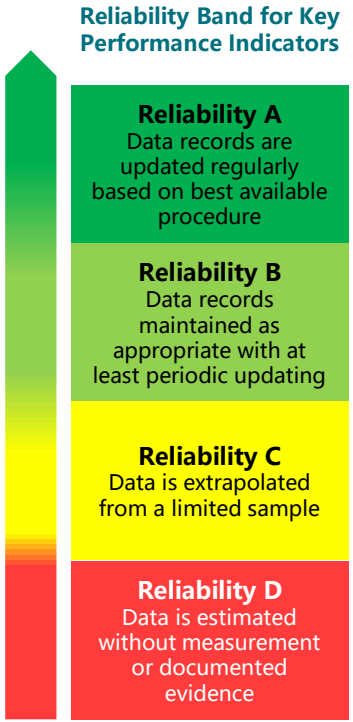
Mandatory to provide SLB data for submitting CSAP

C-WAS CRDF CEPT UNIVERSITY

Improving reliability of data

Reliability of data – Focusing on data quality

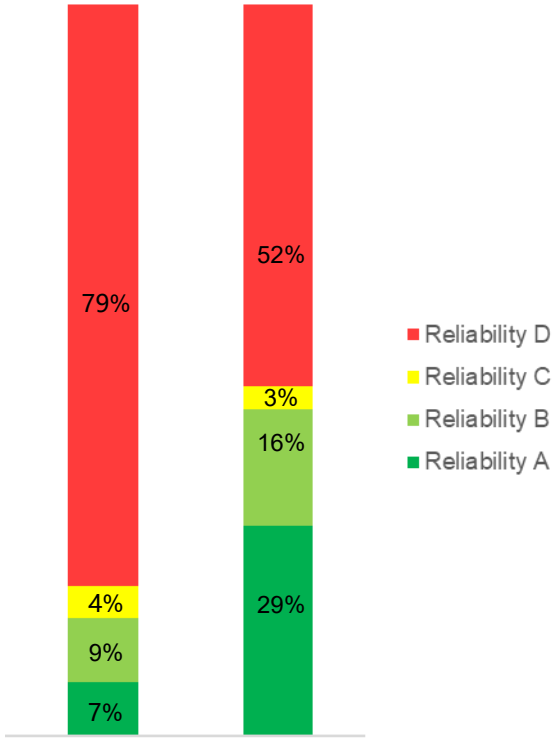
Systematic Approach for Data Reliability Assessment



- Automatically calculates the reliability for an indicator with a set of questions that address the conditions in each reliability band as listed in the SLB Handbook.
- Ensures a transparent and consistent comparison across all cities.
- It also informs cities about the quality of their existing data systems, and encourages cities/state to focus on data system strengthening.
- Ideally, water and sanitation information should linked to municipal operations and property tax database

Over the decade the indicator with higher reliable data has NOT increased

Reliability analysis of WASH data systems based on SLB KPI's



- **117 (71%)** cities of Gujarat have very poor reliable data systems reflecting in more than 50% KPI's

Reasons behind non improvement of the data reliability

1. **Calculation of Reliability assessment**
2. **Guess based data reporting**
3. **Discrepancy in data uploaded on PAS**
4. **Data entered without any supporting documents**
5. **New staff - Lack of understanding for data recording and updating on PAS**

C-WAS CRDF CEPT UNIVERSITY

1. Wrong Inputs in Reliability assessment

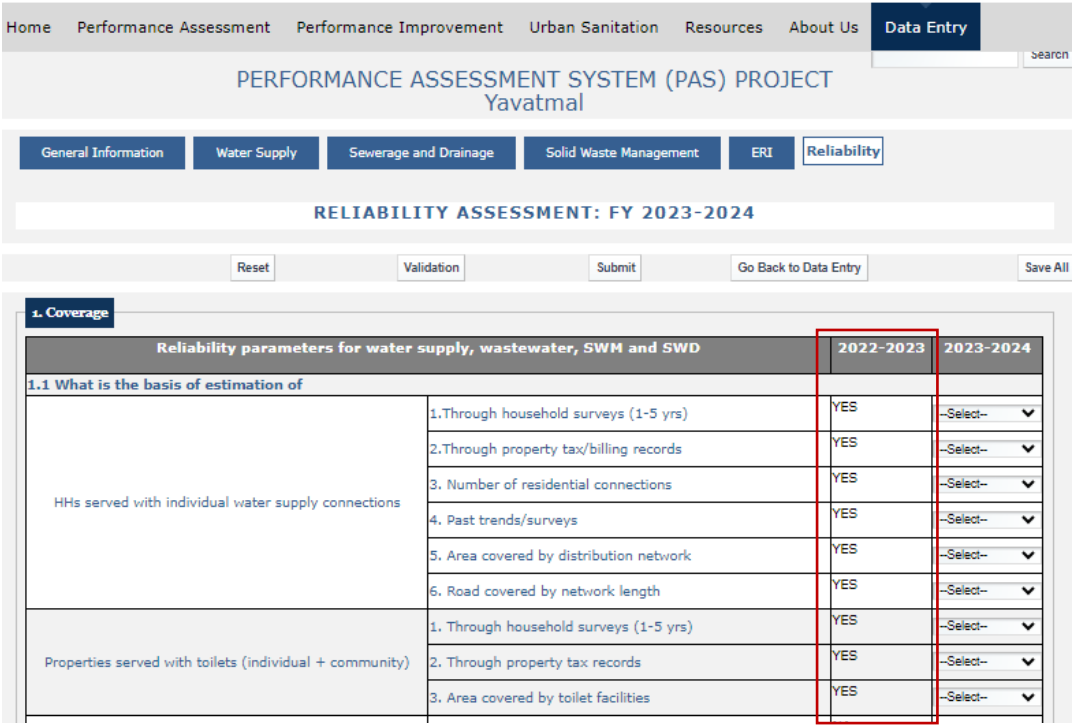
Issue/ Challenge

- Wrong inputs in reliability sheet
- Copy and paste previous year data

Solutions:

- Do not select multiple options
- Read the options carefully and then select
- Read MoHUA guideline for better understanding

Reliability of Measurement	
Reliability scale	Description of method
Lowest level of reliability (D)	Estimation of households covered on the basis of geographical area of the city covered with the pipeline network, as a surrogate indicator for water supply coverage.
Intermediate level (C)	Estimation of households covered on the basis of road length in the city covered by the pipeline network, as a surrogate indicator for water supply coverage.
Intermediate level (B)	Estimation of households covered computed as the total number of connections (for which data are maintained) as a percentage of the estimated number of households on the basis of population (total population divided by average household size).
Highest/preferred level of reliability (A)	Calculation based on the actual number of households with direct service connections (for which data are maintained); and the total number of households as revealed in ground level surveys. Data are periodically updated on the basis of building units approved, and new household level water connections provided.



Source: PAS-SLB Maharashtra state, 2022

SLB handbook explains the frequency of data capturing

Highest/Preferred level of **Reliability (A)** for all the **28** indicators is based on either of the below measurement type:

- HHs survey
- Operational Record/Log keeping
- Multiple options of data recording
- Digitized data

Frequency of Measurement
A Annual
D Dail y

Water Supply Indicators

A Coverage of Water Network	D Per Capita Water Supply	D Continuity of Service	D Extent of NRW
A Extent of Metering	D Quality of Service	D Complaint Redressal	A Collection of Charges
			A Cost Recovery

Sewage Management Indicators

A Coverage of Toilets	A Coverage of Sewerage network	A Collection Efficiency of Sewerage Network	A Adequacy of Treatment Plants
D Extent of Recycle & Reuse	D Quality of Service	D Complaint Redressal	A Collection of Charges
			A Cost Recovery

Solid waste Management Indicators

D Coverage of D2D service	D Collection of MSW	D Extent of Segregation	D Extent of Scientific Disposal
D Extent of Reuse & Recovery	D Complaint Redressal	A Cost Recovery	A Collection of Charges

Adopt a digital systems for improving data reliability

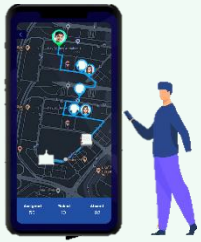
1 Real time Approach

Automized data capturing and monitoring through IOT

Automation at service points

Applications and Dashboards

Smart monitoring and decision making



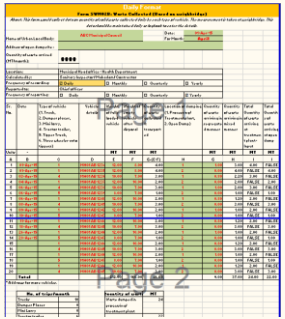
- Less human interventions.
- Smooth communication and analysis of data.

2 Hybrid Approach

Digitized + Manual data capturing and monitoring

Mechanized devices

Digitized record keeping



Standardized data formats

- Budget friendly and sustainable.

3 Manual Approach

Data capturing and monitoring through standard manual methods

Household survey / capturing service-related data

Hands on field assessment

Manual data formats and recording

- Highly human intensive.
- Difficult to manage data records.

C-WAS CRDF CEPT UNIVERSITY

2. Data Systems Strengthening – Guess-based data uploading

Issue/ Challenge

- Guess based data uploading on the portal

Solution

- Use formats shared to capture the data on regular basis- **on a frequency suggested by MoHUA**

KPI	Main Form	Supporting Form	Frequency of data calculation	Auto calculated/ Enter data
Coverage of water supply service & Extent of metering	Form WS01: Coverage of water supply service		Yearly Format	Auto calculated
		Form WS01A: Population Forecast	Yearly Format	Enter data
		Form WS01B: Number of households with water supply connection	Yearly Format	Enter data
Per capita water supplied	Form WS02: Per capita water supplied		Monthly Format	Auto calculated
		Form WS02A: Quantum of treated water supply-Method 1 (with meter)	Daily Format	Enter data
		Form WS02B: Quantum of treated water supply-Method 2 (without	Monthly Format	Auto calculated
		Form WS02C: Pumping details	Daily Format	Enter data
Extent of Non-revenue water	Form WS04: Extent of Non-revenue water		Monthly Format	Auto calculated
		Form WS04A: Total Quantum of water Billed	Monthly Format	Auto calculated
		Form WS04B: Quantum of water received by Valve operation and	Monthly Format	Auto calculated
Continuity of water supply	Form WS05: Continuity of water supply		Monthly Format	Auto calculated
		Form WS05A: Duration of water supply by valve operations	Daily Format	Enter data
		Form WS05B: Consumer end survey	Quarterly Format	Enter data
Quality of water supplied	Form WS06: Quality of water supplied		Monthly Format	Auto calculated
		Form WS06A: Water quality monthly report	Daily Format	Enter data
		Form WS06B: Frequency of required water quality tests	Sample form	
Efficiency of consumer complaint redressal	Form WS07: Efficiency of consumer complaint		Monthly Format	Enter data
Cost recovery in water supply services	Form WS08: Cost recovery in water supply services		Yearly Format	Enter data
Efficiency in collection of water supply related charges	Form WS09: Efficiency in collection of water supply related charges		Monthly Format	Enter data
Coverage of water supply connections in slum	Form WS10: Coverage of water supply connections		Yearly Format	Auto calculated
		Form SLUM01: Services in slums (Slum level information)	Sample form	Enter data
		Form SLUM02: Slum Household Survey Form	Sample form	

Download Excel based formats from here:
https://drive.google.com/drive/u/0/folders/1QEDRfMkC0ySimxSy-duRErhaMJdA-ate

C-WAS CRDF

Use simple formats shared to capture accurate data

Use simple formats shared to capture accurate data of all 28 KPIs- enter data

- Chief officers and City engineers – To train your staff on how to capture data
- **State can conduct workshop on this**

Formats for all types of cities

1. Metered and Non-metered cities
2. Sewered and Non-sewered cities

- Digital formats that can be embedded in IOT – to generated App
- Printed version can also be used to enter data manually

Monthly Format Form WS05: Continuity of water supply				
About: This form would collect data of water supply duration with appropriate pressure and water quantity delivered to generate continuity of water. Source of this information will be Form WS05A.				
Name of Urban Local Body:	ABC Municipal Council		Date:	
			For Year:	
Location:	Municipal Head office			
Calculated by:	Municipal Engineer / City Engineer			
Frequency of recording:	□ Daily	þ Monthly	□ Quarterly	□ Yearly
Reported to:	Chief officer			
Frequency of reporting:	□ Daily	□ Monthly	□ Quarterly	þ Yearly
	Month	Water supply duration	Total days in the month	Average water supply duration per day
Column	A	B	C	D
Unit	-	Hours	days	Hours/day
Source	-	Form WS05A	-	(B/C)
1	April	15.67	30	0.52
2	May	20.67	31	0.67
3	June	20.00	30	0.67
4	July	20.67	31	0.67
5	August	20.67	31	0.67
6	September	20.00	30	0.67
7	October	20.67	31	0.67
8	November	20.00	30	0.67
9	December	20.68	31	0.67
10	January	20.67	31	0.67
11	February	19.33	29	0.67
12	March	20.67	31	0.67
Average				0.65
				Minutes/day
				39.28

C-WAS CRDF CEPT UNIVERSITY

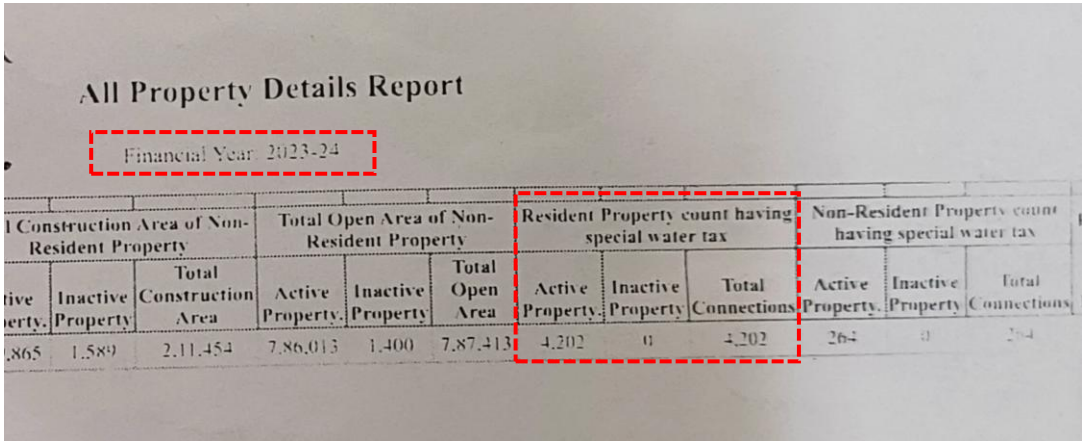
3. Discrepancy in data

Issue/ Challenge

- Discrepancy in data uploaded on PAS

Solution

- Data should be checked by city engineers
- It should be in alignment with data uploaded on other mission dashboards like SBM, AMRUT, E-Nagar etc.



cityfinance.in

Swachhatam
Swachhata Management Platform

AMRUT 2.0
Making Cities Water Secure

eNagar
Gujarat

C-WAS CRDF CEPT UNIVERSITY

4. Data entered without supporting documents

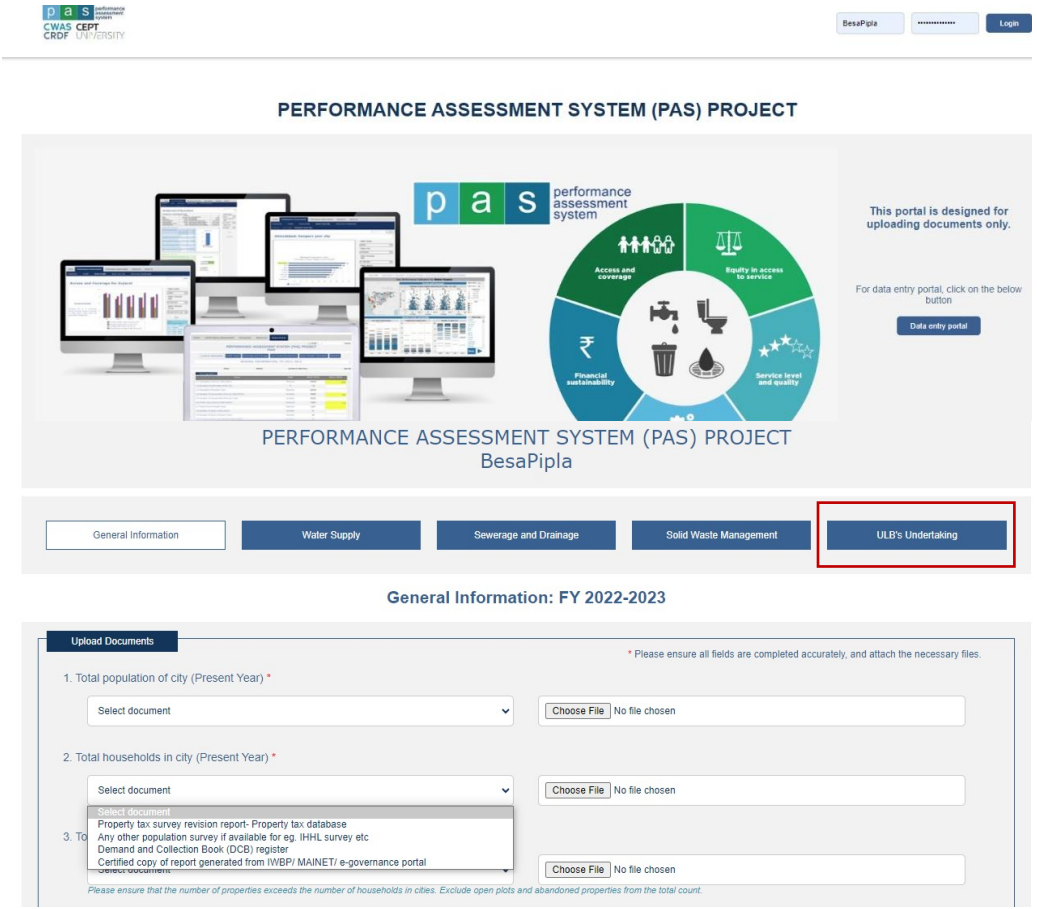
Issue/ Challenge

- Data entered without any supporting documents

Solution

- Provision in the PAS portal for uploading supporting data
- All the supporting documents should be uploaded after taking approval from chief officer

https://documents.pas.org.in/



Contact us for any support:

Mr. Jay Shah – (M) 7600008838

Ms. Dhwani Sheth – (M) 9537059889

Mr. Dhruv Bhavsar – (M) 9227230713

Email us to at: cwas@cept.ac.in

Thank you

C-WAS CENTER FOR WATER AND SANITATION
CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION
CEPT UNIVERSITY

https://cwas.org.in

cwas@cept.ac.in

About us

The Center for Water and Sanitation (C-WAS) at CEPT University carries out various activities – action research, training, advocacy to enable state and local governments to improve delivery of services.

pas.org.in
cwas.org.in

pas@cept.ac.in

pas_project

pas.cept

pas.org.in/web/ceptpas/pas e-news
Sign up: tiny.cc/pasenews