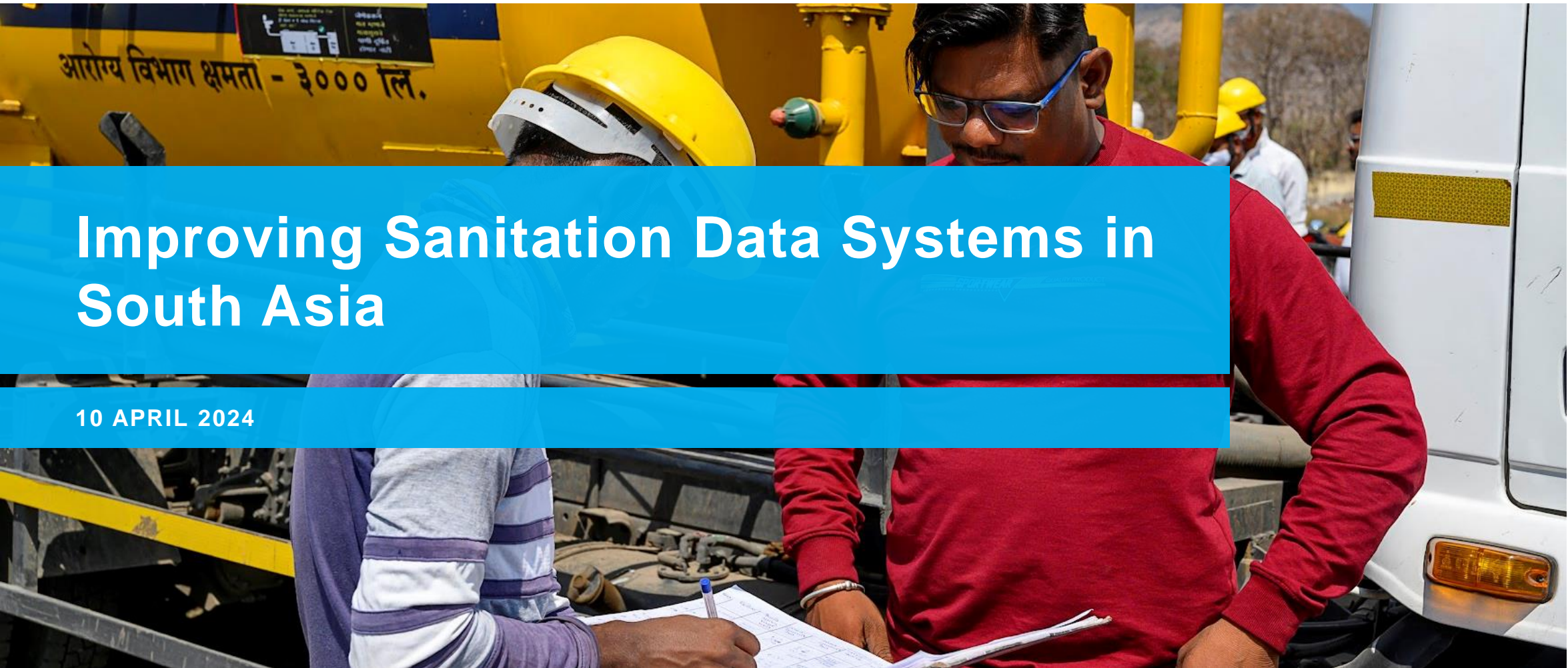




World Health
Organization



Improving Sanitation Data Systems in South Asia

10 APRIL 2024

inspiring change

WEBINAR INFORMATION



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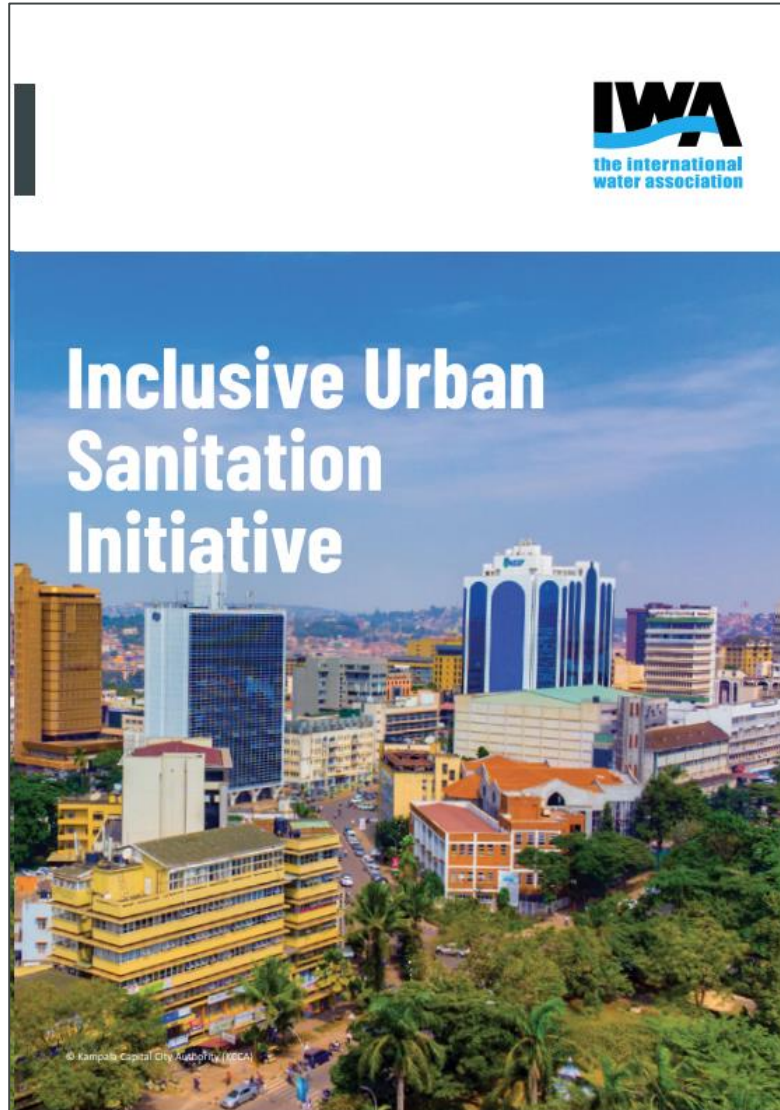
WEBINAR INFORMATION



- **‘Chat’ box:** please use this for general requests and for interactive activities.
- **‘Q&A’ box:** please use this to send questions to the panelists. (We will answer these during the discussions)

Please Note: Attendees’ microphones are muted. We cannot respond to ‘Raise Hand’.

IUS INITIATIVE



- Reshape the global urban sanitation agenda by focusing on inclusive sanitation service goals – and the service systems required to achieve them – beyond infrastructure and technology.
- Engage the public, private, and academic sectors to share their experiences and define global goals and fundamentals of a **public sector** approach to **service outcomes**.
- The initiative is being progressed through the **SanitAction** campaign – IWA’s global call to action on inclusive urban sanitation.

PREVIOUS WEBINAR



 07 SEPTEMBER 2023
10.00-11.30 BST

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Key messages

- The achievement of meaningful Inclusive Urban Sanitation at country level is impossible without robust data systems for informed decision-making.
- Effective national data systems necessitate a single custodian responsible for data management, analysis, and guiding policy interventions in the field of sanitation.
- Strengthening public data systems should prioritise addressing gaps in national monitoring and ensuring accountability for the safe management of on-site sanitation.
- <https://thesourcemagazine.org/measure-measure-measure-the-data-key-to-sanitation-success/>

MODERATOR & SPEAKERS



Meera Mehta
CWAS CEPT
India
(Moderator)



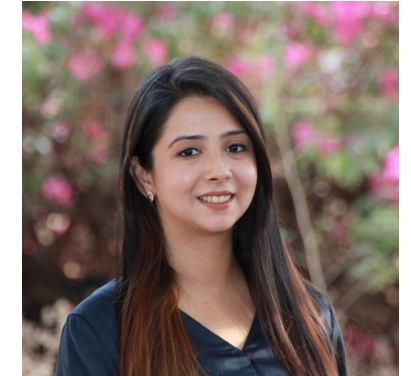
Rick Johnston
WHO/JMP
Switzerland



Shishir Kumar Biswas
DPHE
Bangladesh



Rajit Ojha
DWSSM
Nepal



Aditi Dwivedi
CWAS CEPT
India

AGENDA

- Welcome, housekeeping rules, introduction (5 mins)
Meera Mehta, CWAS CEPT
- Global efforts and monitoring sanitation for SDGs (15 mins)
Rick Johnston, WHO/JMP
- Data Systems Strengthening for Sanitation in Bangladesh (15 mins)
Shishir Kumar Biswas, DPHE
- NWASH-MIS: Digitized Tool For Monitoring and Planning of WASH(15 mins)
Rajit Ojha, DWSSM
- Strengthening the local data systems at a scale – case studies from India (15 mins)
Aditi Dwivedi, CWAS CEPT
- Q&A & Discussion (20 mins)
All speakers and moderator
- Key messages and Close (5 mins)
Meera Mehta, CWAS CEPT



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CWAS CENTER
FOR WATER
AND SANITATION
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IWA
the international
water association

Global efforts and monitoring sanitation for SDGs

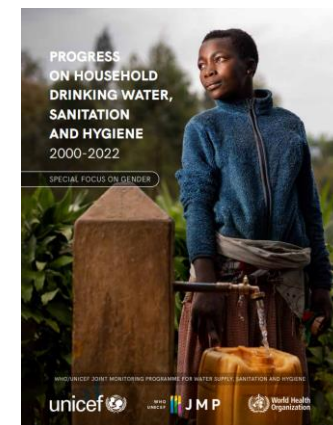
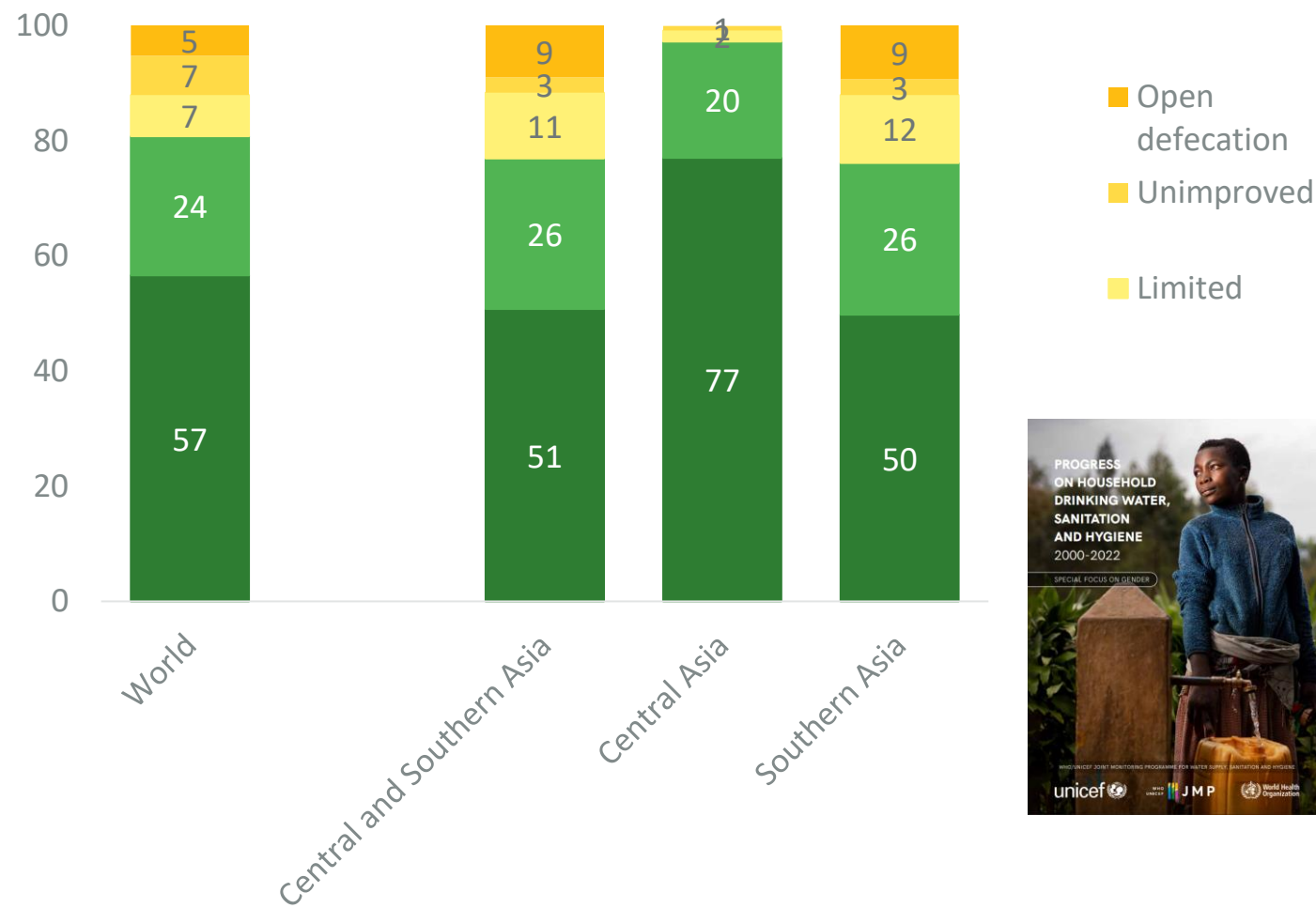
RICK JOHNSTON, WHO/JMP



inspiring change

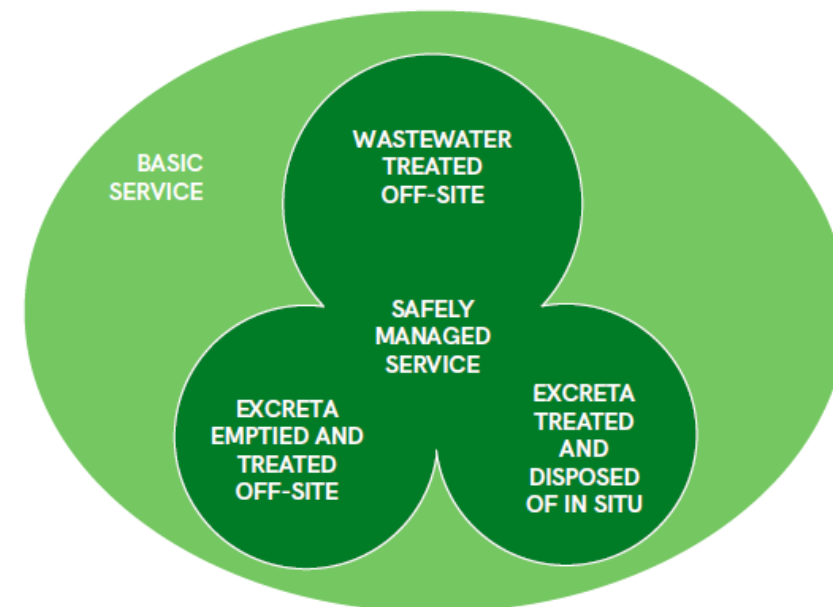
SANITATION IN THE 2023 JMP PROGRESS REPORT

- In 2022, 57% of the global population used safely managed sanitation services, 46% rural and 65% urban
- 3.5 billion people lacked safely managed sanitation, including 1.9 with basic services, 570 million with limited services, 545 million with unimproved services and 419 million practising open defecation
- Estimates for safely managed services were available for 135 countries and seven out of eight SDG regions, representing 86% of the global population
- Achieving universal access to safely managed services by 2030 will require a fivefold increase in current rates of progress



INDICATOR DEFINITIONS

SERVICE LEVEL	DEFINITION
SAFELY MANAGED	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or transported and treated offsite
BASIC	Use of improved facilities that are not shared with other households
LIMITED	Use of improved facilities that are not shared with other households
UNIMPROVED	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
OPEN DEFECACTION	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open spaces, or with solid waste
<p>Note: improved facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs.</p>	



- Improved, not shared (basic), AND...
- Wastewater treated offsite OR
- Contained and emptied and treated offsite OR
- Contained and treated and disposed of in situ

IWA SOUTH ASIA REGION



- SMS available for:
- Bangladesh
 - India
 - Nepal
 - Pakistan (rural)

IMPROVED SANITATION FACILITY COVERAGE



the international water association



Sewer coverage:

- Bangladesh
 - 27% urban
 - 11% total
 - 1% rural
- India
 - 32% urban
 - 12% total
 - 1% rural
- Nepal
 - 16% urban
 - 5% total
 - 2% rural
- Pakistan
 - 62% urban
 - 29% total
 - 8% rural

DATA COVERAGE, DATA GAPS

Indicator	Bangladesh	India	Nepal	Afghanistan	Pakistan	Sri Lanka
Improved sanitation	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural
Shared sanitation	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural
Wastewater treatment	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural
Contained and emptied and removed offsite	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural
Contained and safely treated in situ	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural
Safely managed	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural	Total Urban Rural

TOOLS TO IMPROVE ONSITE SANITATION MONITORING/1

■ MICS7 – questions on containment

WS11B. Does your (<i>answer from WS11</i>) have an outlet pipe for liquid waste? <i>If there is infiltration underground from the base or sides of the tank or pit, select "No"</i> <i>If the tank or pit containing wastes has a pipe which discharges liquid wastes, select "Yes"</i>	YES..... 1	2 ⇒ WS11D
	NO 2	
	DK 8	
WS11C. Where does this pipe go?	TO A LEACH FIELD, SOAK PIT 11	
	TO A SEWER / CLOSED DRAIN THAT LEADS TO	
	A WASTEWATER TREATMENT PLANT (WWTP) 21	
	A WATERBODY (NOT CONNECTED TO WWTP) 22	
	DON'T KNOW WHERE 23	
	TO AN OPEN DRAIN 31	
	TO A WATERBODY/SURFACE 32	
	OTHER (<i>specify</i>) 96	
DON'T KNOW 98		

WS11D. In the last year, have excreta from your (<i>answer from WS11</i>) been released to the surface and surroundings due to any of the following events? [A] Overflowed? [B] Flooded? [C] Containment collapsed? [D] Other event releasing excreta to the surface and surroundings? [D1] <i>Specify the other event mentioned</i>		YES	NO	DK
	OVERFLOWED.....	1	2	8
	FLOODED	1	2	8
	CONTAINMENT COLLAPSED	1	2	8
	OTHER EVENT.....	1	2	8
			WS12	WS12
	(<i>specify</i>)			

TOOLS TO IMPROVE ONSITE SANITATION MONITORING/2

- MICS7 – questions on emptying practices

WS12. Has your (<i>answer from WS11</i>) ever been emptied?	YES, EMPTIED 1	
	NO, NEVER EMPTIED 4	4 ⇒ WS14
	NO, NOT EMPTIED BUT COVERED AND LEFT UNDISTURBED WHEN FULL 5	5 ⇒ WS14
	DK 8	8 ⇒ WS14
WS12A. The last time it was emptied, who emptied the (<i>answer from WS11</i>)?	SERVICE PROVIDER	
	PUBLIC/MUNICIPALITY/GOVERNMENT 11	
	PRIVATE COMPANY/NGO 12	
	INFORMAL EMPTIER (E.G., UNLICENSED) 13	
	NOT SERVICE PROVIDER	
	SELF EMPTIED 21	
	NEIGHBOUR, FAMILY MEMBER, FRIEND 22	
OTHER (<i>specify</i>) 96		
DK 98		

WS13. The last time it was emptied, where were the contents emptied to?	REMOVED OFF-SITE (TO TREATMENT / UNKNOWN) 1	
	REMOVED TO A WATERBODY, OPEN GROUND, FIELD OR ELSEWHERE 2	
<i>Probe:</i>		
Was it removed by a service provider?	BURIED IN A COVERED PIT AT OR NEAR HOUSEHOLD (IN-SITU) 3	
	BURIED IN A COVERED PIT/TRENCH ELSEWHERE (OFF-SITE) 4	
	EMPTIED INTO AN UNCOVERED PIT 5	
	OTHER (<i>specify</i>) 6	
	DK 8	

SAFELY MANAGED ON SITE SANITATION (SMOSS) PROJECT

Phase 1 pilots (2020-22):

- Bangladesh
- Ecuador
- Indonesia
- Kenya
- Serbia
- Zambia



Phase 2 guidance (2022+):

- Malawi
- Republic of Moldova
- Oman
- Nepal



- Annex A (indicators)
- Annex B (household questionnaire)
- Annex C (sanitation inspection)
- Annex D (service authority)

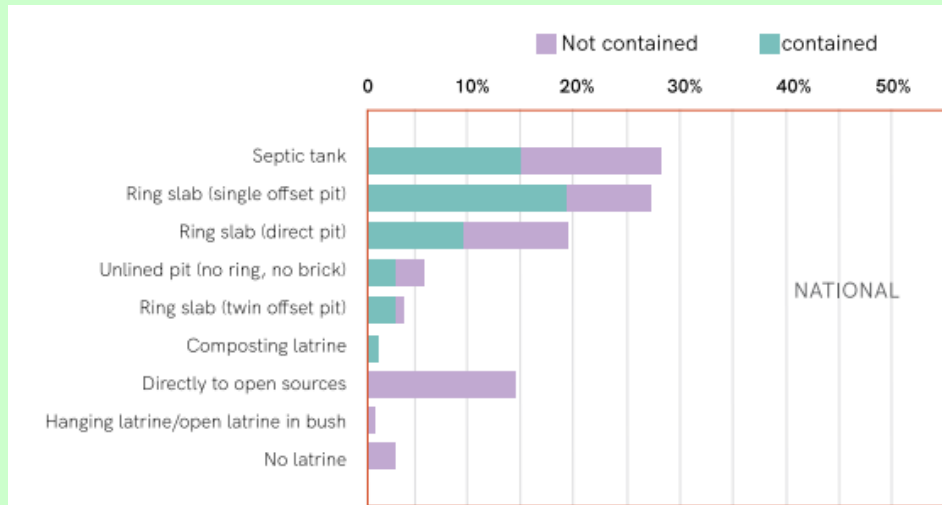
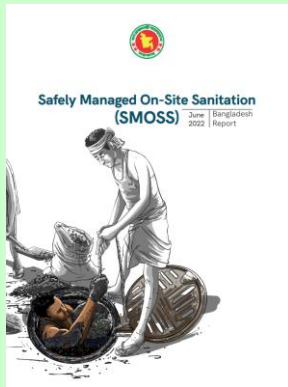
<https://washdata.org/monitoring/sanitation/safely-managed-on-site-sanitation>

SAFELY MANAGED ON SITE SANITATION (SMOSS) PROJECT/SOME RESULTS

- Key message

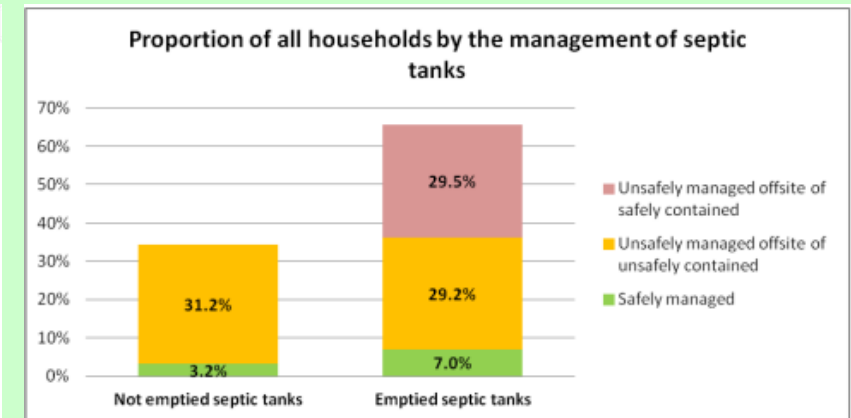
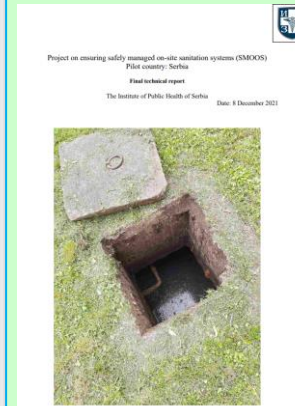
FSM programming focuses a lot on what happens once faecal sludge is pumped out of a tank, but by that time there has already been widespread faecal contamination through poor (or inexistent) containment

Bangladesh



New: SVRS 2023 survey contains multiple questions to measure of leakage, poor containment

Serbia



UNDERSTANDING GLOBAL VS NATIONAL INDICATORS

	Global indicators	Examples of optional local indicators for national monitoring
Containment	Containment is not overflowing or discharging waste directly to the surface environment	<ul style="list-style-type: none"> - Design standards: sealed cover, wall and base material or permeability, chambers, dimensions, outlet type - Functionality: damage, blockage, leaks, sludge depth - Groundwater risk: proximity to wells, depth of groundwater, soil characteristics density (volume/area requirements for infiltration)
Disposed in-situ	Contained, not emptied	<ul style="list-style-type: none"> - Function: Years operation, size, sludge depth, - Risks: Groundwater risk, flood risk
	Contained, emptied, buried in-situ	<ul style="list-style-type: none"> - Location: on/off premises, distance from house - Safety: covered, how buried, buried in rainy season, groundwater risk, proximity to waterways / residents - Reuse: contents used after less than 2 years storage
Emptying	If containment ever emptied	<ul style="list-style-type: none"> - Emptying frequency: years, regular or scheduled - Method: manual, mechanical (type of equipment) - Safety to workers: PPE/protection, not entering pit - Safety to user/public: no spillage, flushed to drain - Accessibility: location of containment, presence of lid/manhole, street access
Transport	Excreta delivered to off-site treatment facility	<ul style="list-style-type: none"> - Method of transport: manual (cart), motorized, - Safety to workers: PPE/protection during transport - Safety to user/public: no spillage, covered transport, vehicles not used for water supply
Treatment	Designed to provide treatment for both solid and liquid phase	<ul style="list-style-type: none"> - Design standards: meets national standards for faecal sludge treatment facilities; treatment adequately level for the risk of exposure to the effluent - Function: Systems function, not overloaded/ reasonable capacity, not damaged, leaking, overflowing or bypassed.

DRAWING ON MULTIPLE SOURCES OF DATA

Service chain Data collection method	Facility type	Containment	Emptying	Transport	Treatment
Household questionnaire				In-situ only	
Household sanitary inspection					
Data from local government (e.g. Administrative data)					
Data from service providers (e.g. via regulators)					
Spot checks / inspections of service chain					

Levels of reliability and use of source

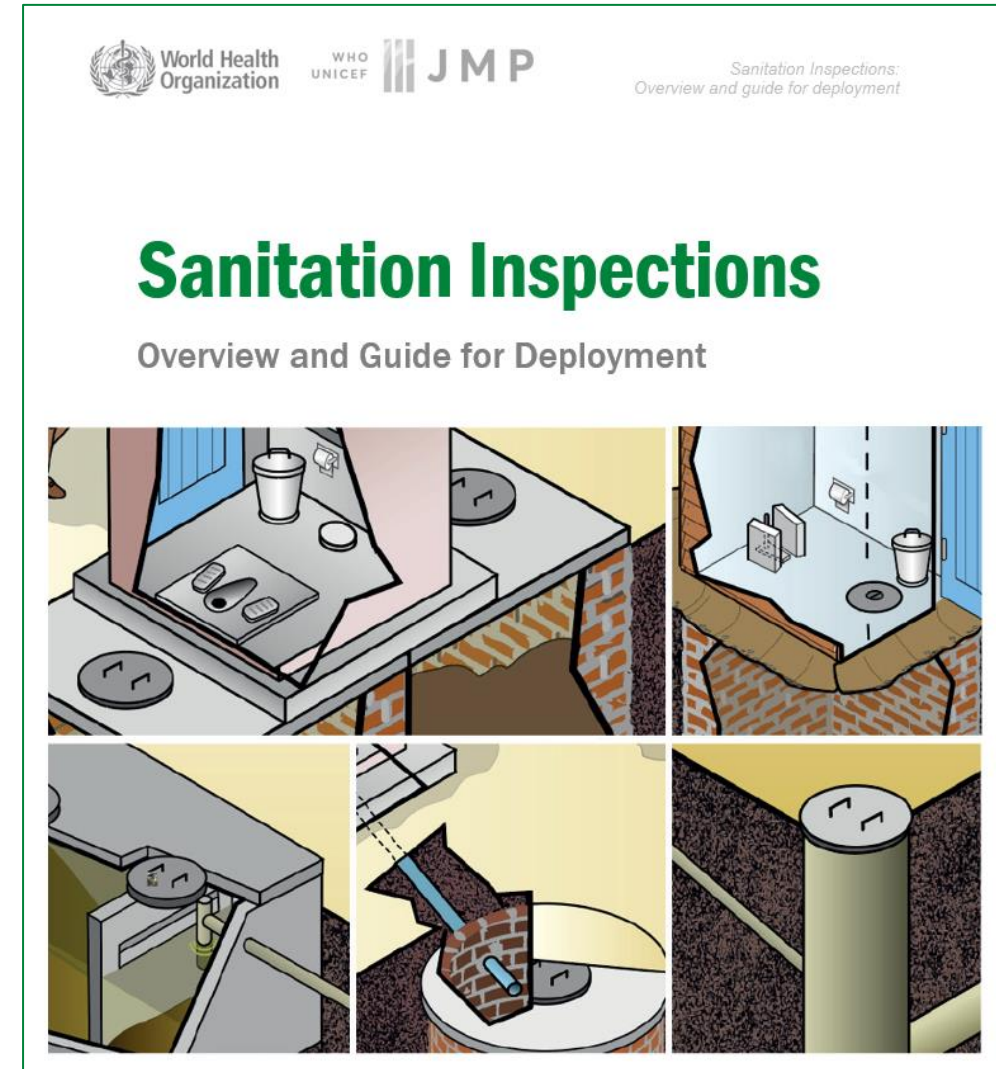
Low



High

HOUSEHOLD SANITATION INSPECTIONS

- Simplified risk identification for onsite sanitation facilities, including corrective actions
- Supported by sanitation system fact sheets (applicability, design, O&M, measures to protect public health)
- Different uses :
 - Monitor compliance with regulatory requirements
 - Risk assessment to inform investments and policies
 - Project monitoring and evaluation
- Key tool for local system strengthening and upgrading sanitation facilities to a minimum standard post-ODF



DATA FROM REGULATORY AUTHORITIES

- Regulatory / oversight authorities have a core mandate to advise on the status of the sector
- Many regulatory authorities e.g. in Africa and Latin America are expanding their mandates to include non-sewered sanitation
- Establishing robust data systems for sanitation services is a critical part of this effort
- JMP working with regional regulators' association in Africa (ESAWAS) to strengthen regulatory monitoring indicators for sanitation

Roadmap for advancing
sanitation regulation

Join pre-launch webinar
29 May 2024

Thank you!



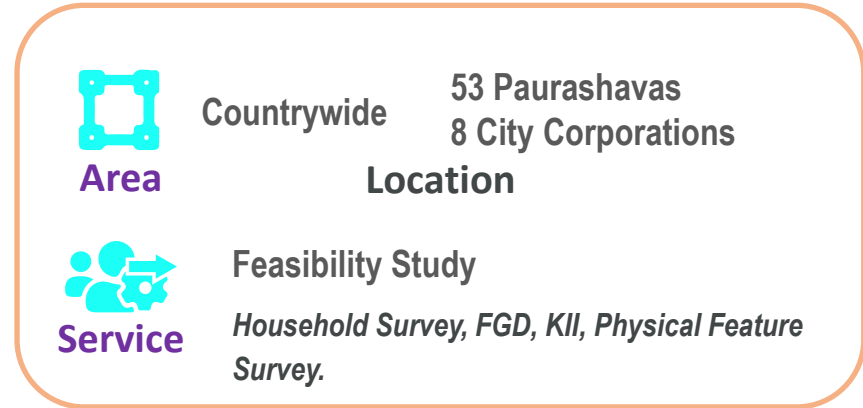
Data Systems Strengthening for Sanitation in Bangladesh

SHISHIR KUMAR BISWAS, DPHE



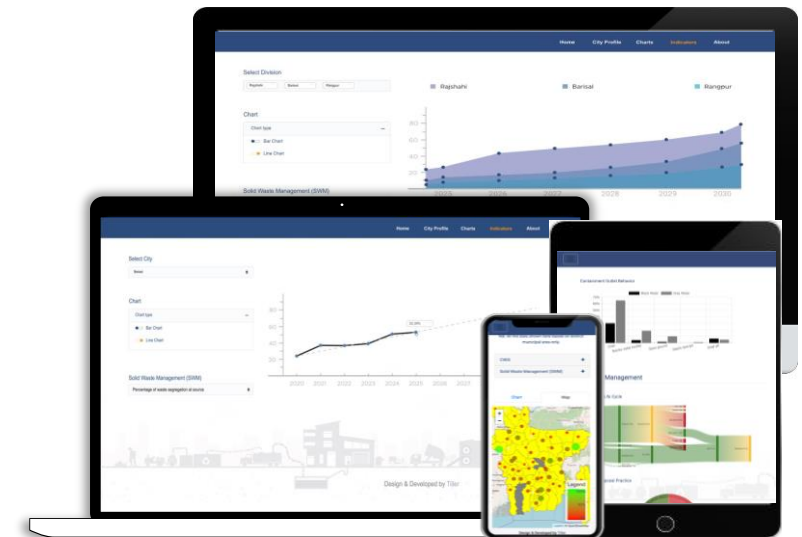
BACKGROUND

The Government of Bangladesh has been actively pursuing national development goals through the Smart Bangladesh 2041 agenda, emphasizing inclusive development. As the country aims to achieve the SDG 6.2- 2030 agenda for safely managed sanitation, the importance of public data systems has grown. The National Sanitation Dashboard (NSD) and Integrated Municipality/City Information Systems (IMIS/ICIS) were established in 2019-2020 enhancing functions such as investment shaping, planning, sustainable management, and monitoring of sanitation systems. Despite these efforts, challenges like data fragmentation and lack of standardization persist, leading to a digital divide and hindering access for the wide range of users.



Area Countrywide
53 Paurashavas
8 City Corporations

Service Feasibility Study
Household Survey, FGD, KII, Physical Feature Survey.





TARGETS FOR SDG 6



6.1 BY 2030, ACHIEVE UNIVERSAL AND EQUITABLE ACCESS TO SAFE AND AFFORDABLE DRINKING WATER FOR ALL

6.2 BY 2030, ACHIEVE ACCESS TO ADEQUATE AND EQUITABLE SANITATION AND HYGIENE FOR ALL AND END OPEN DEFECATION, PAYING SPECIAL ATTENTION TO THE NEEDS OF WOMEN AND GIRLS AND THOSE IN VULNERABLE SITUATIONS

NATIONAL STATISTICS: WATER SUPPLY

Indicators	2023	2022	2021	2020	2019
Access to Drinking Water by service level (percent)					
– Safely Managed*	71.22	70.43	68.51	-	-
– Basic	14.63	15.08	15.79	-	-
– Limited	83.70	83.09	82.45	-	-
– Unimproved	0.18	0.35	0.35	0.45	0.46
– Surface water	1.49	1.48	1.40	1.18	1.40

NATIONAL STATISTICS: SANITATION

Indicators	2023	2022	2021	2020	2019
Access to Sanitation Facility by service level (percent)					
– Basic	69.68	68.29	67.58	-	-
– Limited	23.95	24.22	22.04	-	-
– Unimproved	5.43	6.33	5.18	13.37	14.47
Improved toilet facilities (percent)	93.63	92.51	89.54	85.38	84.13
Toilet Sharing with another Household	25.9	26.6	25.0	-	-

SDG Indicators	Baseline Status	Current Status SVRS 2023	Target by 2030
6.1.1 : Proportion of population using safely managed drinking water services	47.9% (MICS, 2019)	71.22%	100%
6.2.1 : Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water	a) 60% b) 74.8% (MICS, 2019)	a) 69.68% (basic services) b) 65.2%	a) 80% b) 100%

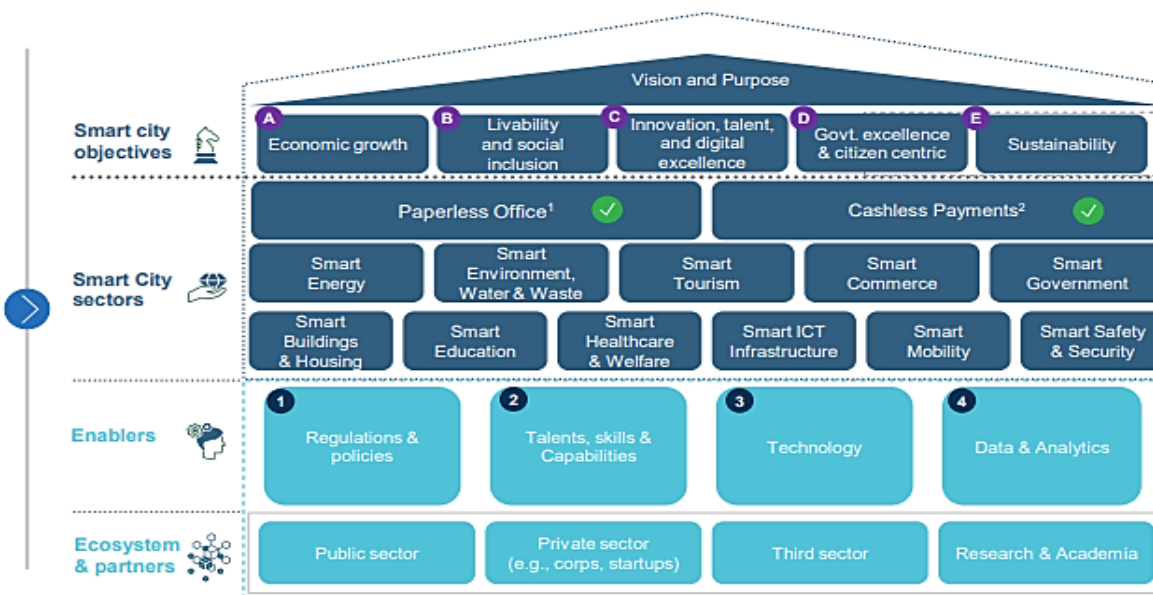
SMART BANGLADESH CONCEPT

Government's decision to build a 'Smart Bangladesh'.
 'A Smart Bangladesh will be affordable, sustainable, inclusive, knowledge-based, intellectual, and innovative, anchored on four pillars : Smart Citizen, Smart Economy, Smart Government and Smart Society.

Implementation Framework | Bangladesh's Smart City vision will be anchored around 5 key objectives

What should be the SC strategy?
 Vision, objectives, digital services, and impact

How will it be activated?
 Enablers and strategy activation roadmap



✓ Covered as part of other program initiatives



Source: BCG analysis
 * 1 - Covered under 'Smart Public Services & Paperless Administration' program; 2 - Covered under 'Inclusive Financial Ecosystem' program

BANGLADESH GOVERNMENT PLEDGES (2024-2028)



- Efforts will be intensified to enhance the safe water supply and sewage system, with plans to make the water supply system environmentally friendly by 2028.
- Waste management will be established up to district, upazila and union level.
- A comprehensive action plan has been initiated to establish safe water sources, install water treatment plants, implement waste management, and ensure hygienic sanitation systems for every household in rural areas.
- Decentralization of powers will be prioritized to enhance the capacity and autonomy of municipalities and city corporations, including Union, Upazila, and Zilla Parishads.

BBS-DATA GOVERNANCE FRAMEWORK



the international water association

Statistics Act, 2013

(s) to establish a National Data Bank with alternative storage system, and to preserve it in archives following modern approach;

The Bangladesh Bureau of Statistics (BBS) under the Ministry of Planning, Statistics and Informatics Division is the only national statistical office (NSO) in the country.

Principles, Codes and Normative Framework for NSS of Bangladesh

United Nations
Fundamental
Principles of
Official Statistics

Fundamental Principles of Official Statistics (FPOS)

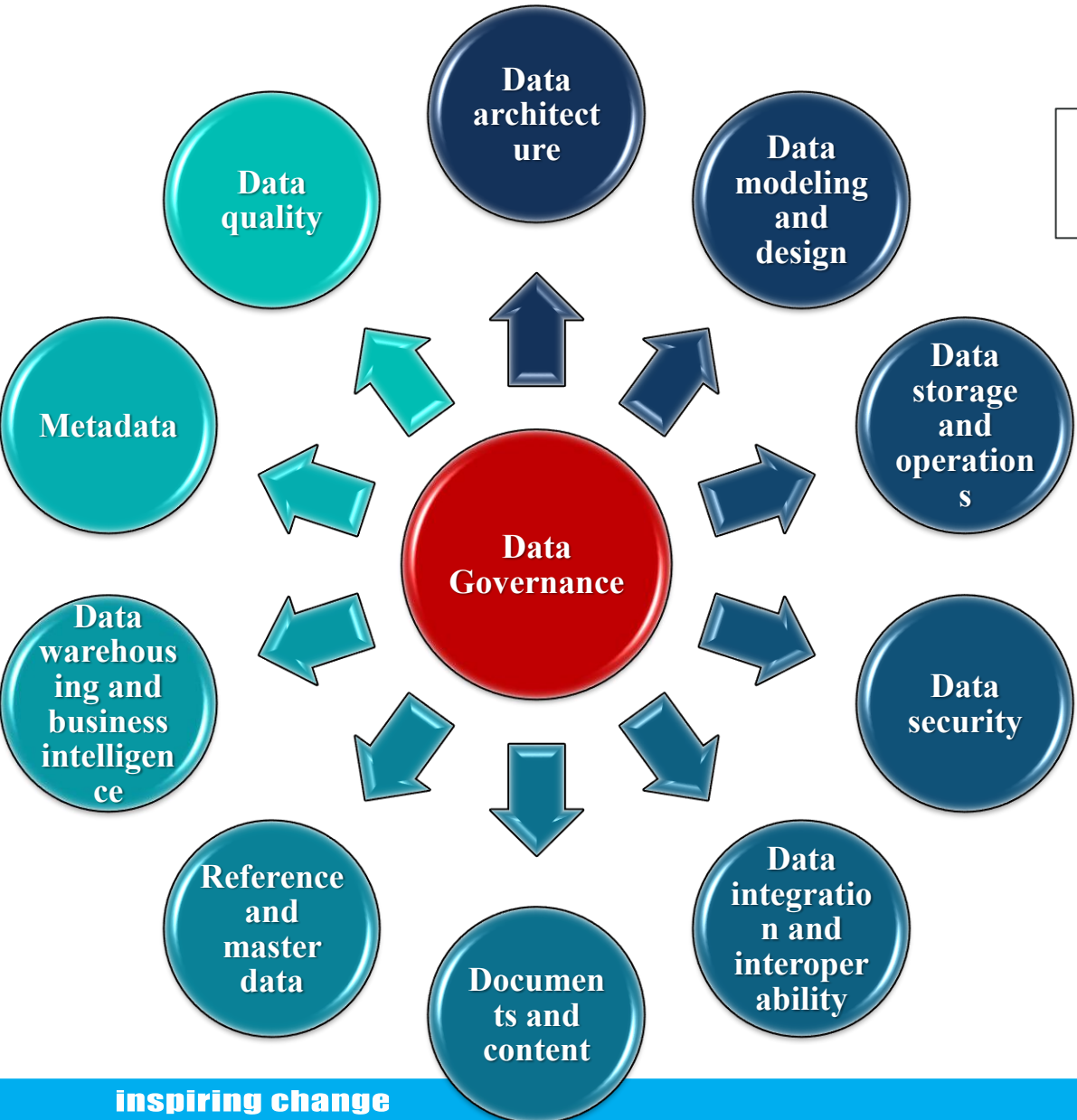
National Quality Assurance Framework
Bangladesh

National Quality Assurance Framework of Bangladesh (NQAF)

বাংলাদেশ পরিসংখ্যান বিভাগ

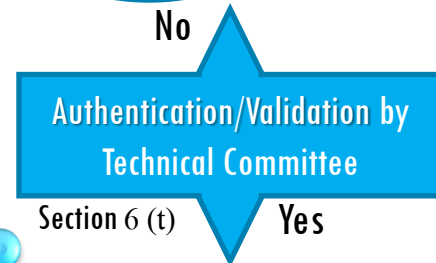
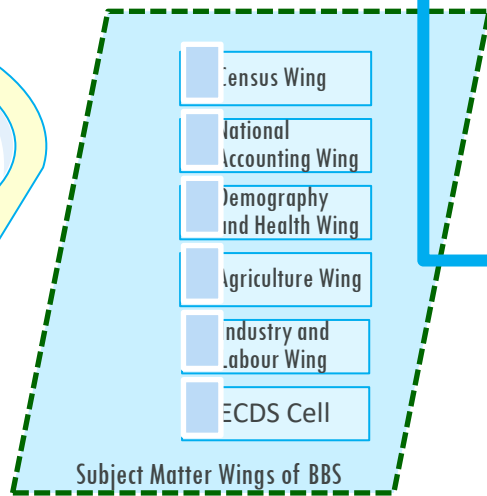
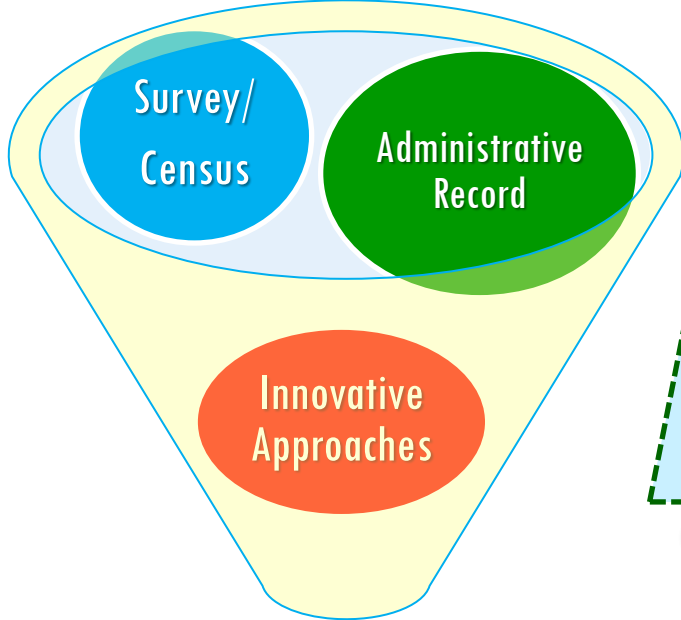
Statistics Act, 2013

International Guidelines, Methodology and Nomenclatures



SDG Data Authentication Process Flow Chart

Data Providers in NSS



Online Platform

Custodian Agencies

Integrated Activity with SID and BBS: Six-year Rolling Implementation Plan

Local Government, Rural Development and Cooperatives

Department of Public Health Engineering.

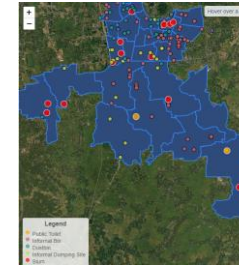


Strategic Goals	Activities with Priority (M/P1/P2/P3)	Output	Timeline Start- End	Relevance with Policies, SDG, FYP etc.	Define Your Role as Ministry/Division/ Department/Organization
1	2	3	4	5	6
Sector 6: Water, Sanitation and Hygiene (WASH)					
6.1 Ensure Quality and Timely data for Safely Managed Water, Sanitation and Hygiene	6.1.1 To conduct the National Hygiene Survey (P1)	Produce Hygiene related Statistics	2028-2029	SDG-6, 8th Five Year Plan	<ul style="list-style-type: none"> Supervision of works and align similar works of DPHE; Supplement the Survey works where necessary; Enhance the survey Questionnaire and validate if necessary; Data supporting, supplementing, managing and reporting.
	6.1.2 National WASH Accounts (P1)	Prepare National WASH Accounts	2026-2028	SDG-6, 8th Five Year Plan	<ul style="list-style-type: none"> Assist for updating the WASH Accounts; Implement the recommendations in the programs and projects; Data supporting, supplementing, managing and reporting.
	6.1.3 WASH Monitoring System Survey	Estimates of different variable to produce National WASH Accounts	2025-2025 2029-2030	SDG-6, 8th Five Year Plan	<ul style="list-style-type: none"> Supervision of works and align similar works of DPHE; Supplement the Survey works where necessary; Enhance the survey Questionnaire and validate if necessary; Data supporting, supplementing, managing and reporting.
Sector 23: Environment Statistics					
23.1 Environment, Climate Change and Disaster Risk Statistics	23.1.3 Household Survey of Health and Sanitation in disaster prone areas of Bangladesh P1	Report on Household Survey of Health and Sanitation in disaster prone areas of Bangladesh	2025-2030	SDG 6.2.1, 6. a.1	<ul style="list-style-type: none"> Supervision of works and align similar works of DPHE; Supplement the Survey works where necessary; Enhance the survey Questionnaire and validate if necessary; Data supporting, supplementing, managing and reporting.
	23.1.4 Municipal (City corporations and Paurashavas) Waste Management Statistics/Accounts M	Report on Municipal Waste Management Statistics/ Accounts	2025-2030	SDG 11.6.1, 12.4.2, 12.5.1	<ul style="list-style-type: none"> Supervision of works and align similar works of DPHE; Supplement the Survey works where necessary; Enhance the survey Questionnaire and validate if necessary; Data supporting, supplementing, managing and reporting.

Sanitation Data Governance: Present Context

CWIS SERVICE FRAMEWORK			
CORE CWIS OUTCOMES	EQUITY	SAFETY	SUSTAINABILITY
	Services reflect fairness in distribution and prioritization of service quality, prices, and deployment of public finance/subsidies.	Services safeguard customers, workers, and communities from safety and health risks by reaching <i>everyone</i> with safe sanitation.	Services are reliably and continually delivered based on effective management of human, financial and natural resources.
CORE CWIS FUNCTIONS	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING AND MANAGEMENT
	National / State Level Design		
	Service authorities have a clear public mandate to ensure safe, equitable, and sustainable sanitation for all.	Service authorities' performance against their mandate is monitored and managed with data, transparency and incentives.	Resources—human, financial, natural, assets—are effectively managed at the national/ state level to support execution of mandate across time/space.
	City Level Implementation		
Service authorities are delivering safe, equitable, and sustainable sanitation services as per their mandate.	Service authorities regularly collect and report data for performance monitoring.	Resources are effectively managed at the city level to deliver safe, equitable, and sustainable sanitation for all.	

City Wide Inclusive Sanitation (CWIS) Framework



NATIONAL SANITATION DASHBOARD

Projects



Urban Sanitation

- City Corporation
- Municipality



Rural Sanitation (under preparation)

- Upazila Level
- Union Level



BBS – SVRS, MCS, Hygiene Survey



Joint Monitoring Programme (JMP)

Sanitation Data Command Center

Data Management Framework & Data Governance Framework

BANBES, Health-MS, Railway, BWTA, Rajuk, Development Authority

SDG Tracker



ONGOING EFFORTS TOWARDS DATA SYSTEMS STRENGTHENING

- GoB’s flagship programme Strengthening of the Public Data System for Sanitation in Bangladesh (SPDSSB)
 - To build a robust and reliable nationally owned integrated public data systems for Sanitation to support GoB in planning, resource mobilization, budgeting, service delivery, monitoring & evaluation and reporting.

Programme Activities	
<ul style="list-style-type: none"> ■ Twinning programs for GoB officials from regional champions to learn from and scale the best practices 	<ul style="list-style-type: none"> • Process documentation of Sub-national data system developed
<ul style="list-style-type: none"> ■ Localization of Indicators 	<ul style="list-style-type: none"> ■ Explore feasibility for integration of Sub-national Data systems
<ul style="list-style-type: none"> ■ NSD [requirements for Planning, Policy, Regulations, Resource Mobilization] 	<ul style="list-style-type: none"> ■ Data Management Framework and system integration architecture finalized with reference
<ul style="list-style-type: none"> ■ Identify towns with entire/partial sanitation value chain (125 towns) 	<ul style="list-style-type: none"> ■ Data Governance Framework finalized
<ul style="list-style-type: none"> ■ Establish criteria for the most appropriate systems 	<ul style="list-style-type: none"> ■ Setup of National Sanitation Data Command Center

THE SANITATION DATA COMMAND CENTER



- One-stop platform for accessing, storing, analyzing and visualizing sanitation data from various sources and levels
- Expand the scope and coverage of the existing urban sanitation dashboard to include additional information on rest of the cities and eventually data from rural areas.
- Support data-based decision making, resource planning and management, policy formulation and implementation, and progress tracking and reporting for the sanitation sector.
- It will also foster transparency, accountability and participation of different actors and beneficiaries in the sector. Moreover, it will contribute to achieving other SDGs that are interlinked with water and sanitation, such as health, education, gender equality, poverty reduction, etc.
- Noteworthy example of Bangladesh's vision of Smart Bangladesh and significant step towards ensuring adequate and equitable sanitation and hygiene for all by 2030.

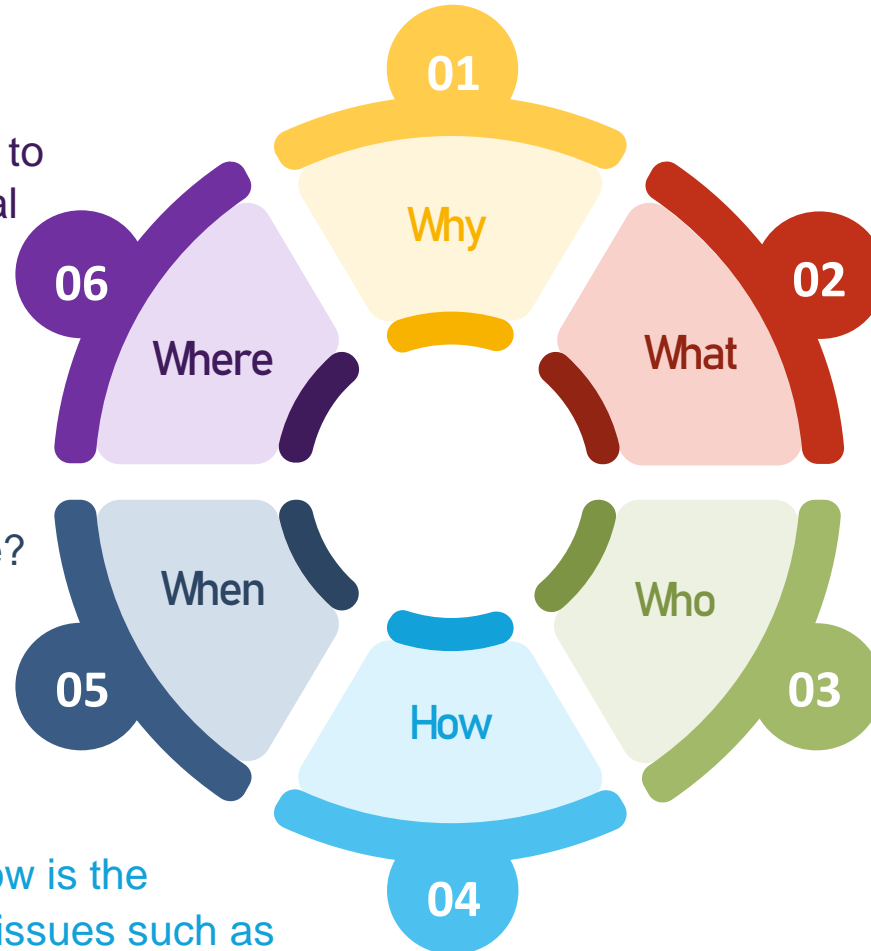
A2I'S SCOPES OF COLLABORATION FOR STRENGTHENING PUBLIC DATA SYSTEM



- Develop a robust Data governance framework
- Create a Data stewardship role among stakeholder organizations
- Develop Processes and Guidelines for Data Sharing
- Smart solutions (AI, IOT-based/Digital solution) for creating new data points
- Data privacy and Data security according to Bangladesh National Digital Architecture (BNDA) compliance
- National Dashboard Framework in alignment with SMART Bangladesh

Purpose of the Data Governance

- Scopes and Limitations of the Collaboration
- Define the value proposition (Incentive for the stakeholders, what operational values might yield)



Where is data being shared to and from? Are there jurisdictional issues to consider? Are there any international laws that apply?

When will data actions take place? At what point does the agreement start and end?

How is data being shared? How is the relationship managed? How will issues such as security, privacy, and risk be handled?

What kinds of data are being shared? What are the sources, formats, and other technical requirements?

Who is party to the agreement? Who will be providing and using data resources? Are there any other 'third parties' that are also involved? Who has certain rights and duties?

- Parties (Providers and users); Standards and technical requirements
- Rights, responsibilities, custodial duties and access criteria

POTENTIAL DATA PROVIDING AND SHARING AGENCIES

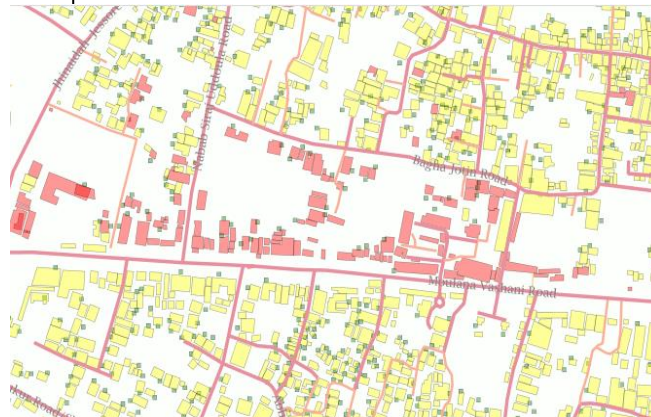


33 Digital Data formats (MIS, Local server, Mobile App) identified

1. Directorate of Primary Education
2. Road Transport and Highways Division
3. Bangladesh Bureau of Statistics
4. Public Works Department
5. Bangladesh Inland Water Transport Authority
6. Department of Shipping
7. Bangladesh Railway
7. Department of Public Health Engineering
8. Palli Karma-Sahayak Foundation
9. Rajdhani Unnayan Kartipakkha
10. Local Government Engineering Department
11. Development Authorities (KDA, CDA)
12. WASAs
13. LGIs (City Corporations, Municipalities, Zila, Upazilas)
14. Bangladesh Economic Zones Authority

PLAN FOR URBAN DATA INTEGRATION & ENHANCEMENT OF DASHBOARD

- Use of IMIS for enabling information-based decision making and providing municipal WASH services.
- Reporting using a powerful Dashboard for real-time status of services
- Digitalised Service Delivery process of WASH service
- For accurate (spatial) info to better plan services and Infrastructure development

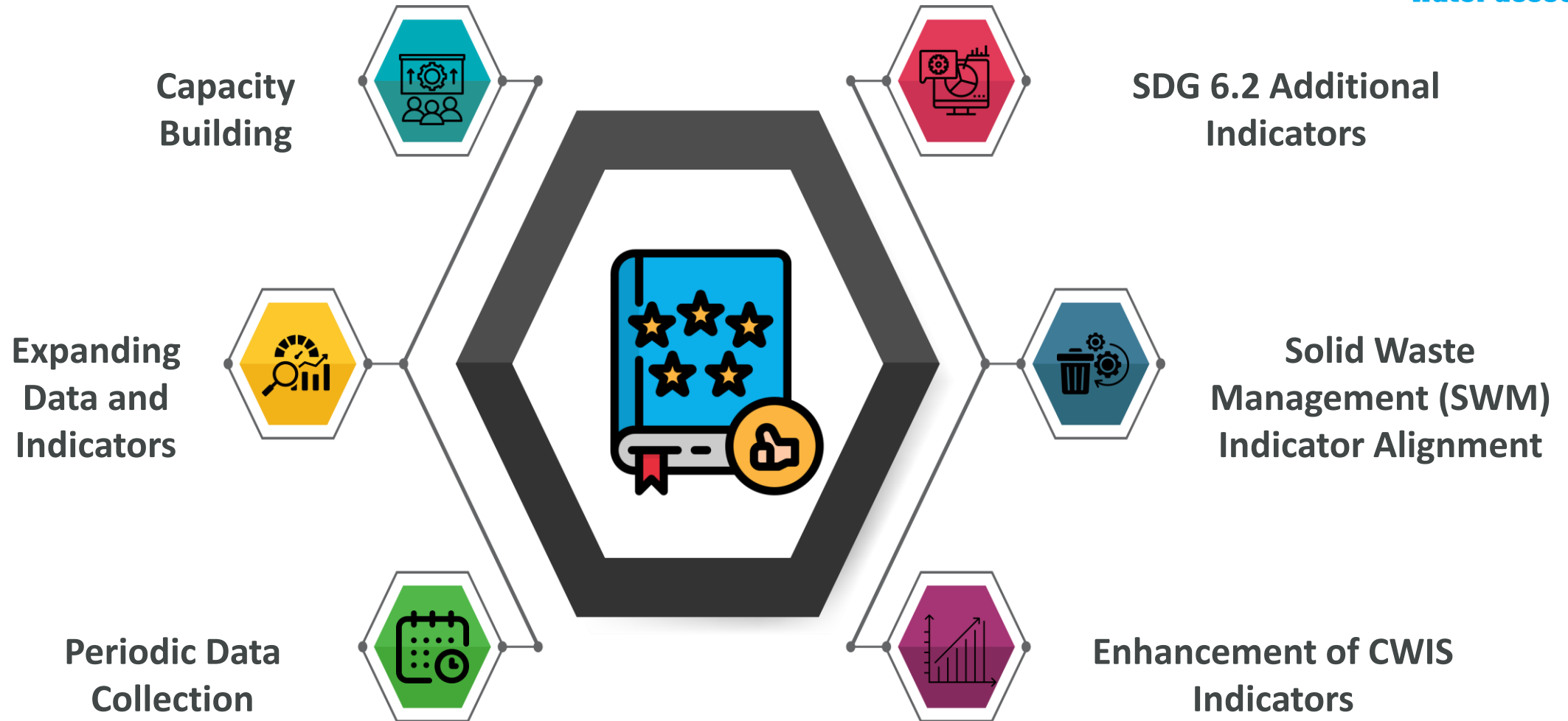


Water Supply connection status

PLANNED TASKS



PLANNED TASKS



Towards
Better WASH



Thank You



World Health
Organization

CWAS CENTER
FOR WATER
AND SANITATION
CRDF CEPT
UNIVERSITY

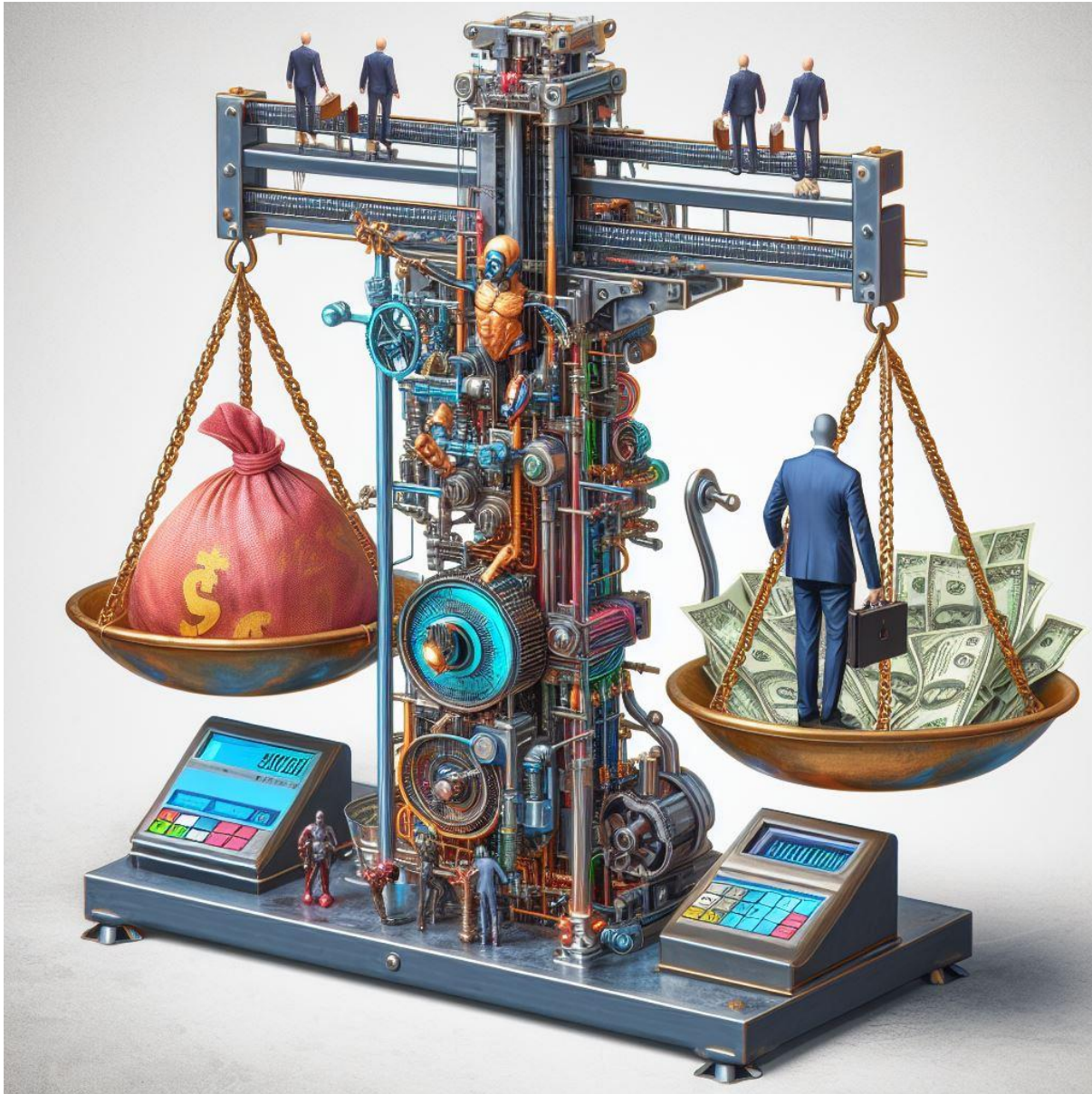
IWA
the international
water association

NWASH-MIS: Digitized Tool for Monitoring and Planning of WASH

RAJIT OJHA, PHD, NWASH-MIS

inspiring change





Status

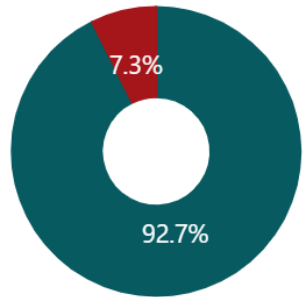
Goal

Investment Required

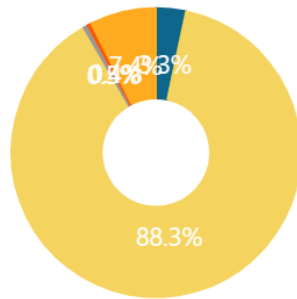
Financing Options



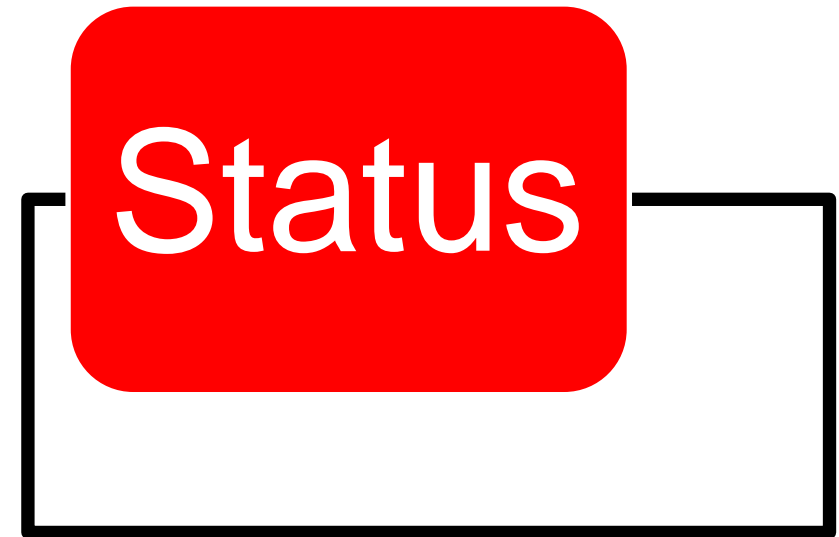
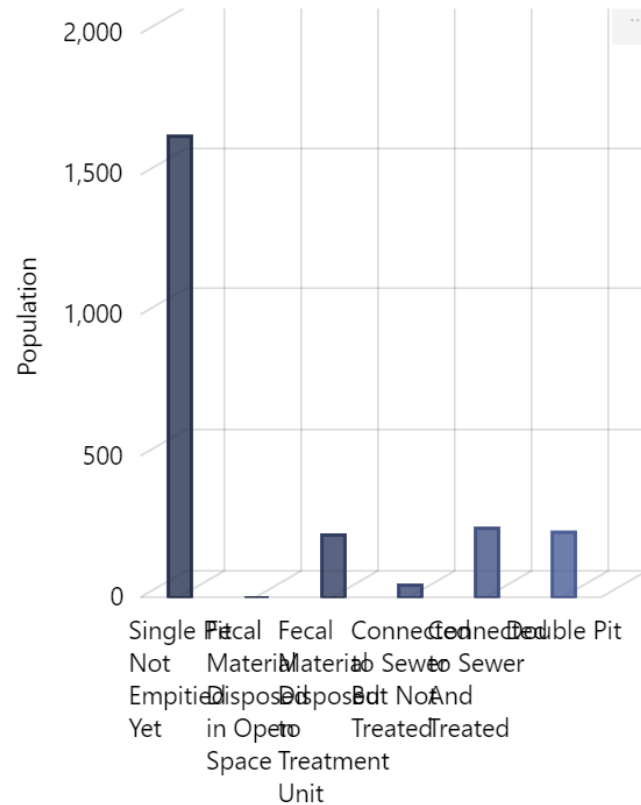
Wash Plan Dashboard



Available 92.7%
Unavailable 7.3%



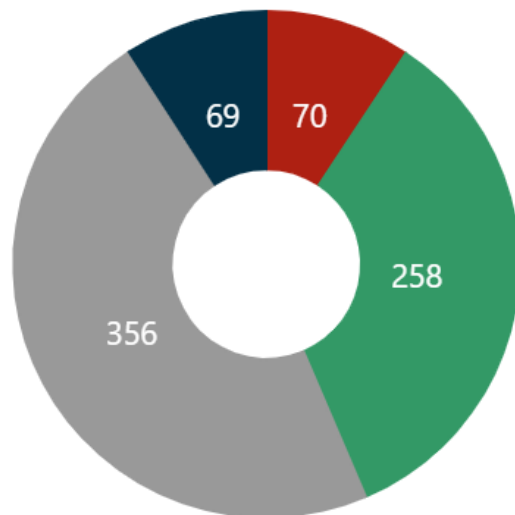
Safely Managed 3.3%
Basic 88.3%
Limited 0.5%
Unimproved 0.4%
No Service 7.4%



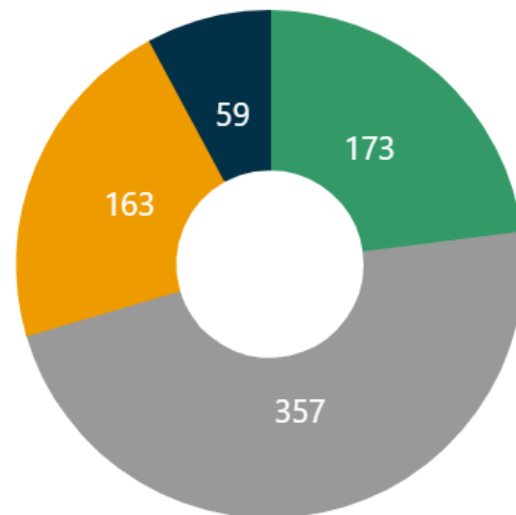
Example: Karjanha Municipality,
Siraha, Sanitation Status

Municipality Level Progress Status

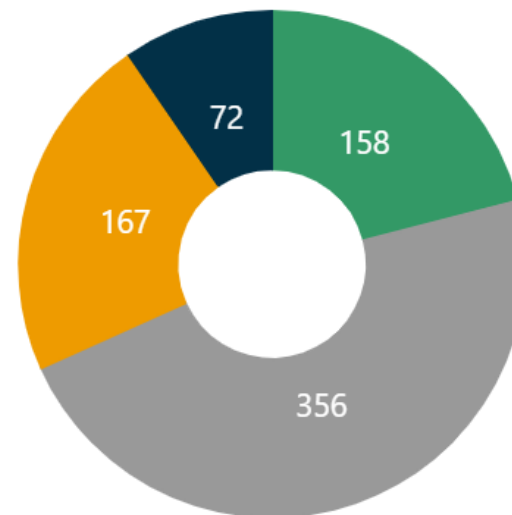
Data Collection

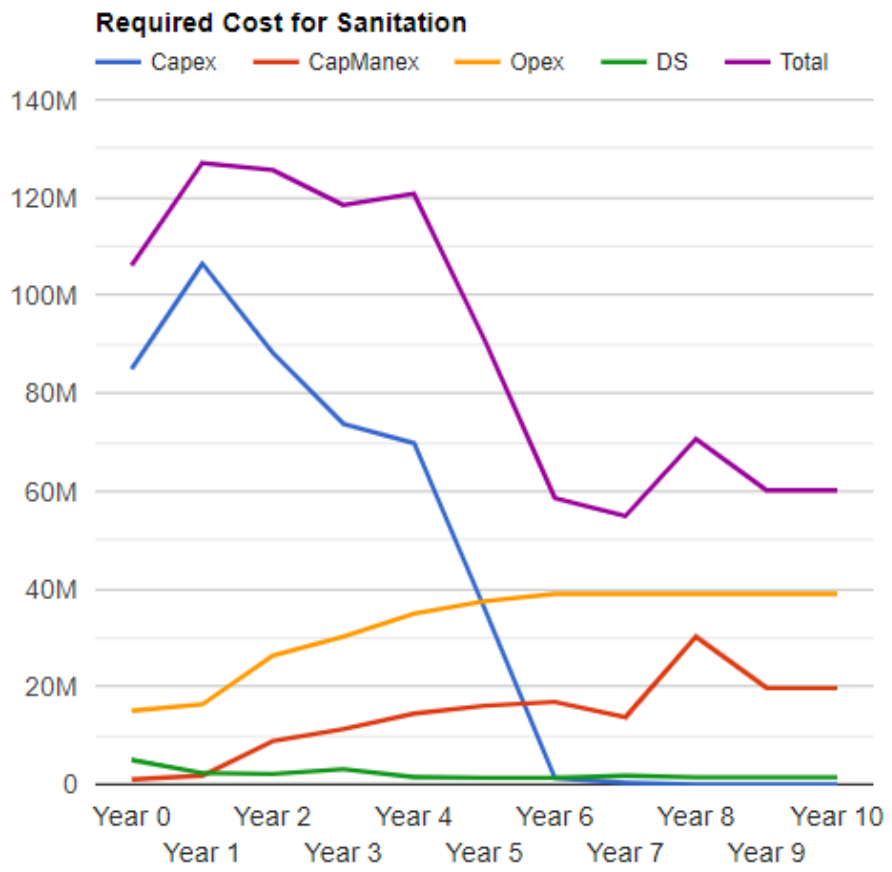


Prioritization



Wash Plan





Example: Gaur Municipality (retrieved from NWASH 1/14/2023)



Investment Required

To support the output process should be checked, governance pillars should be assessed and is assessed in NWASH

Are the local governments updating the data base?

WASH योजना कार्यान्वयन

1. NWASH MIS मार्फत खासस्व योजना (WASH Plan) तर्जुमा गरियो ? !
2. यस पालिकामा खासस्व योजना लागू भएको छ ? !
3. यो वर्ष NWASH MIS अद्यावधिक गरियो ? !
4. के NWASH MIS मा भएका तथ्यांक, WASH क्षेत्रमा नीति तथा योजना निर्णयका लागि प्रयोग गरिन्छ ? !

Service Outcomes	EQUITY	SAFETY	SUSTAINABILITY
System Functions	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING & MANAGEMENT



To support the output process should be checked, governance pillars should be assessed and is assessed in NAWASH

योजना, नीति र रणनीति	Service Outcomes	EQUITY	SAFETY	SUSTAINABILITY
5. एकीकृत ▼ 6. खानेपानी ▼ 7. सरसफाई र स्वच्छता ▲	System Functions	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING & MANAGEMENT
Local Sanitation Master Plan	File Description for Local Sanitation Master Plan	Choose File	No file chosen	
ODF Sustainability Guidelines	File Description for ODF Sustainability Guidelines	Choose File	No file chosen	
Regulation, Standard, or Guidelines for Toilet construction	File Description for Regulation, Standard, or Guidelir	Choose File	No file chosen	
Citywide Inclusive Sanitation (CWIS) guidelines	File Description for Citywide Inclusive Sanitation (CV	Choose File	No file chosen	
Standard Operating Procedure (SOP)	File Description for Standard Operating Procedure (S	Choose File	No file chosen	
Others	File Description for Others	Choose File	No file chosen	

To support the output process should be checked, governance pillars should be assessed and is assessed in NWASH

संस्थागत विकास र क्षमता अभिवृद्धि

12. M-WASH-CC गठन भएको छ ?

13. यस पालिकामा WASH इकाई / शाखा स्थापना भएको छ ?

14. यस पालिकामा WASH फोकल पर्सन छ ?

15. यस पालिकामा WASH परियोजनाहरू, गतिविधिहरू र सेवाहरू संचालनका लागि उपलब्ध जनशक्ति पर्याप्त छ ?

16. यस पालिकामा NWASH MIS को लागि फोकल पर्सन छ ?

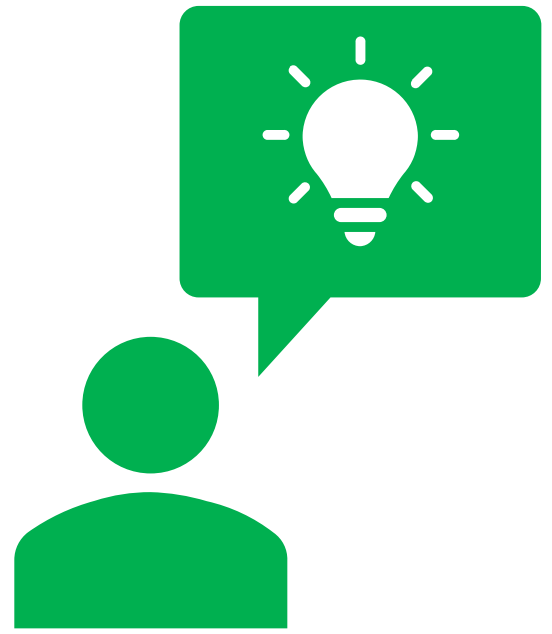
17. यस पालिकामा पानीको गुणस्तर परीक्षण गर्ने सुविधा छ ?

18. यस पालिकामा फोहरपानीको गुणस्तर परीक्षण गर्ने सुविधा छ ?

19. यस पालिकामा WASH सम्बन्धि Capacity Strengthening Master Plan छ कि छैन ?

20. यस वर्ष WASH सम्बन्धी के कस्ता गतिविधिहरू, कार्यशालाहरू र कार्यक्रमहरू आयोजना गरियो ?





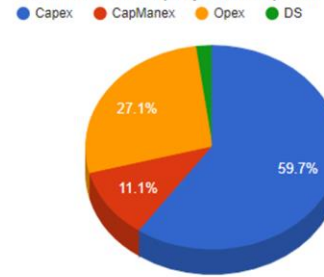
Financing Options

Categorization of Water Supply Service Providers(2078/79)

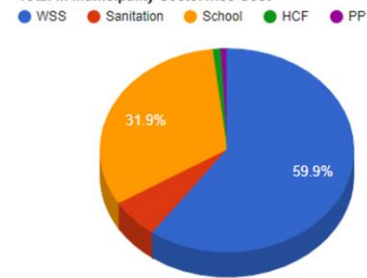


EXPENDITURE TRACKING

Total WASH in Municipality Cost Component



Total in Municipality Sectorwise Cost



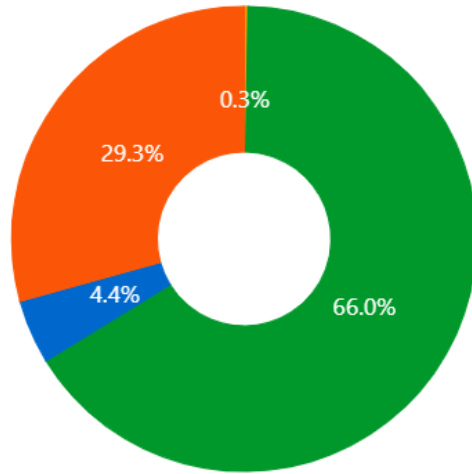
Did we spend as per planned?

Did the support come as expected?

What can we do to improve investments?

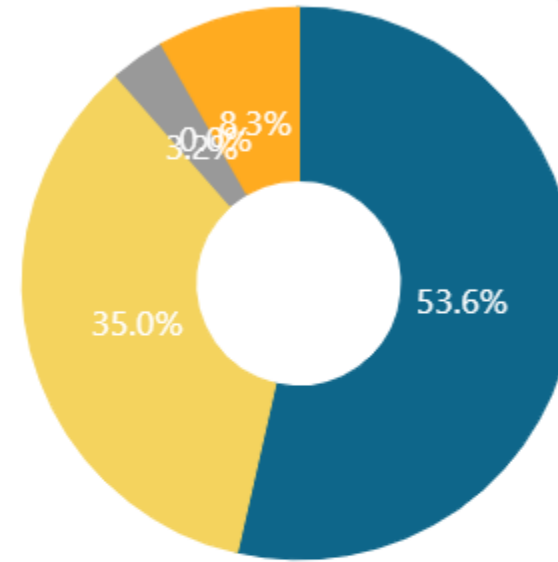
Piped System Service Level

● Safely Managed	0.3%
● Basic	66.0%
● Unimproved & Limited	4.4%
● Unserved	29.3%



Household Sanitation

● Safely Managed	53.6%
● Basic	35.0%
● Limited	3.2%
● Unimproved	0.0%
● No Toilet	8.3%



Till now only Household Sanitation's service level is measured

Very few service providers, Mostly On-site sanitation Practices

Few Fecal Sludge Management Units

Kathmandu valley has wastewater treatment unit in operation

WASTE-WATER EFFLUENT STANDARDS



Effluent Characteristics	Unit	Limit	Analysing Methods
Biochemical Oxygen Demand (BOD ₅)	mg/L	50	5210 B, APHA 22 nd edition
Total Suspended Solids (TSS)	mg/L	60	2540 D, APHA 22 nd edition
pH	units	6.0-9.0	4500-HB, APHA* 22 nd edition
<i>E. coli</i>	CFU/100 mL	1000	9222, APHA 22 nd edition
Chemical Oxygen Demand(COD)	mg/L	Monitor and report only	5220, APHA 22 nd edition

* APHA: American Public Health Association

REGULATION PROVISION: KEY PERFORMANCE INDICATORS TO BE REGULATED (DRAFTED)



Level and quality of sanitation services



Service coverage



Service level



Accessibility

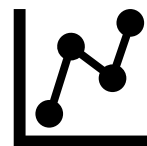


Reliability



Operation and management Process related indicators such as : Technical Operation/Financial management/Commercial Operation/Consumer Satisfaction & Organizational Management

WAY FORWARD



Use of **secondary data** for
identifying LIC



Census survey/Livelihood survey

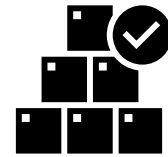


Categorization of LIC



Integration into NWASH-MIS

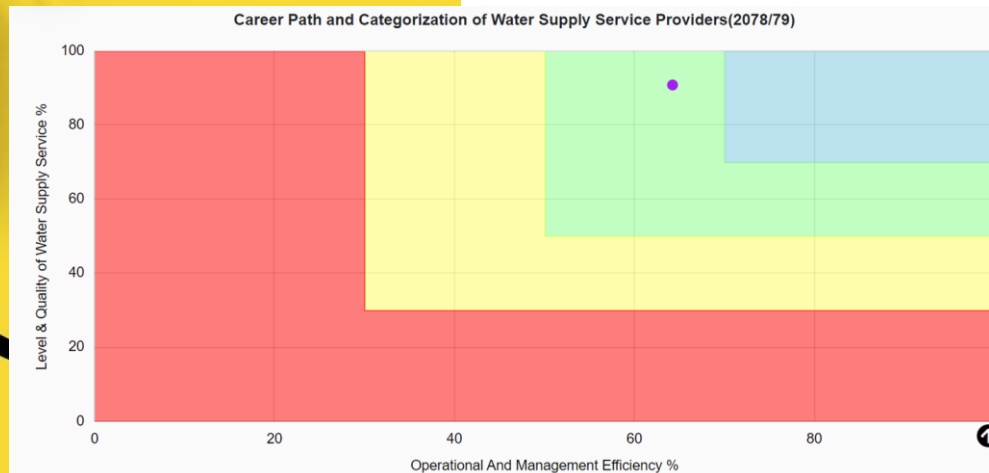
WAY FORWARD



Suitability Analysis of the technologies for planning purpose



Integration into NwASH-MIS



Utility Career Path
Development /KPI tracking
business plan development
support /tariff calculators

THANK YOU



Performance Assessment System for Water and Sanitation services in India

ADITI DWIVEDI, CWAS-CRDF-CEPT UNIVERSITY

inspiring change

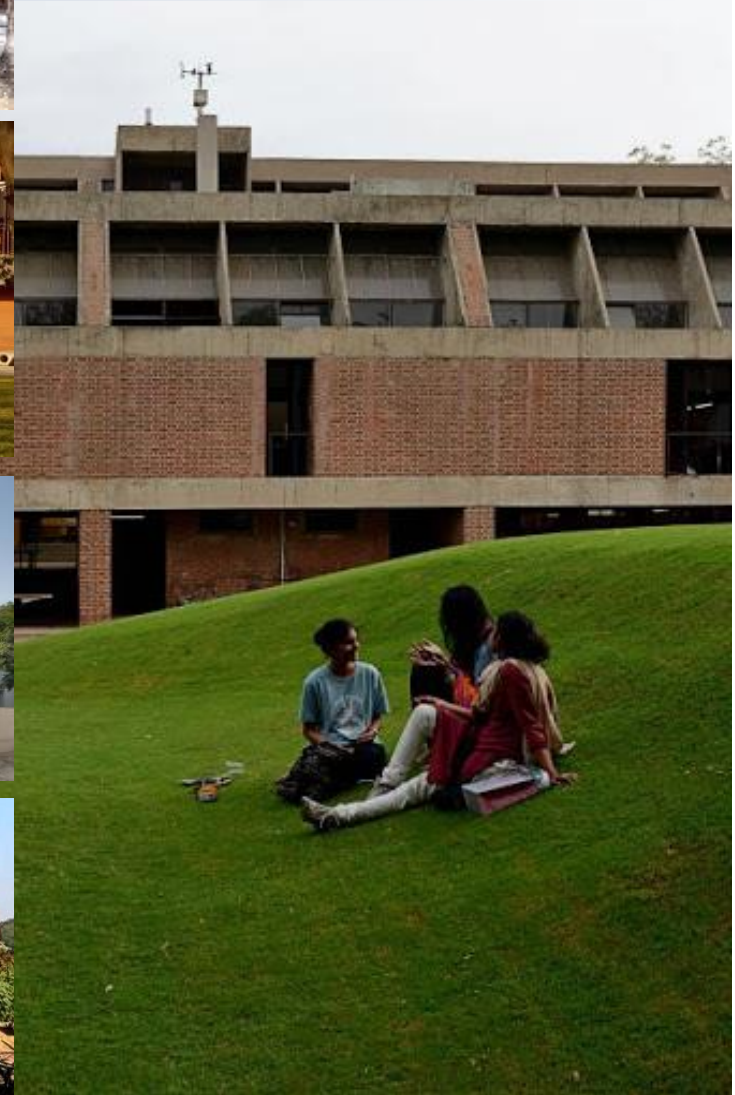


About CWAS

CEPT University's core focus is human habitat. Through its education, research and advisory activities, it strives to improve the impact of habitat professions in enriching the lives of people in India's villages, towns and cities.

CEPT Research and Development Foundation (CRDF) has been established by the University to manage their research and capacity building activities. There are nine domain-focused centers in the CRDF. The Center for Water and Sanitation (CWAS) is among the first center to be established.

CWAS began its work in 2009 with focus on improving water and sanitation services in India. It carries out activities related to action research and capacity building – working closely with city and state governments, enabling them to improve delivery of services. CWAS is closely engaged with Faculty of Planning at CEPT University. CWAS team teach and guide students of Faculty of Planning.



Need for a Performance Assessment System (PAS) in India

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...



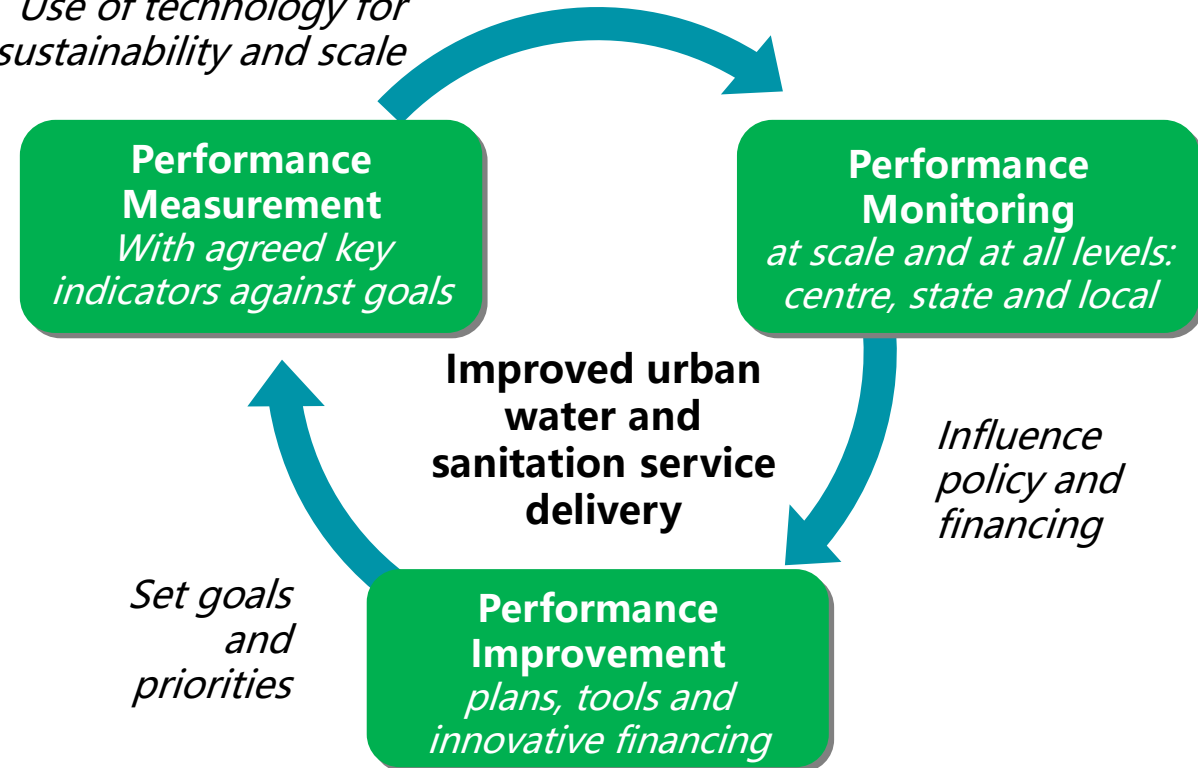
You cannot improve what you cannot measure!

PAS approach – moving to a virtuous cycle



Measure and monitor performance to reward and learn from success and demonstrate results

Use of technology for sustainability and scale



PAS-SLB+ Framework

NATIONALLY OWNED

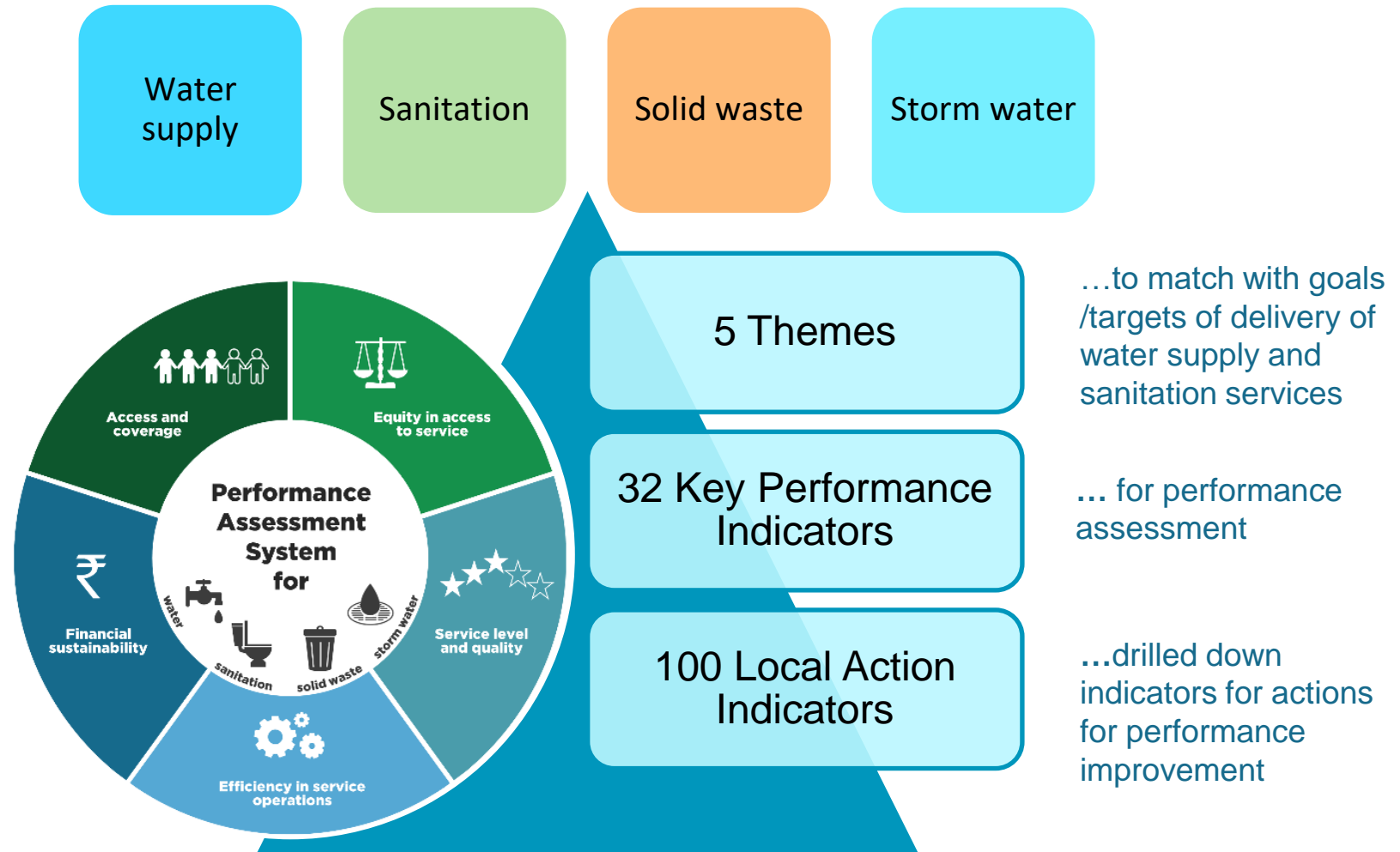
National Technical Partner for SLB
Roll out with State Governments

TECHNICALLY SOUND

Review of International and Indian efforts,
Stakeholder consultations, Pilot studies

FRAMEWORK SUITED TO OUR CONTEXT

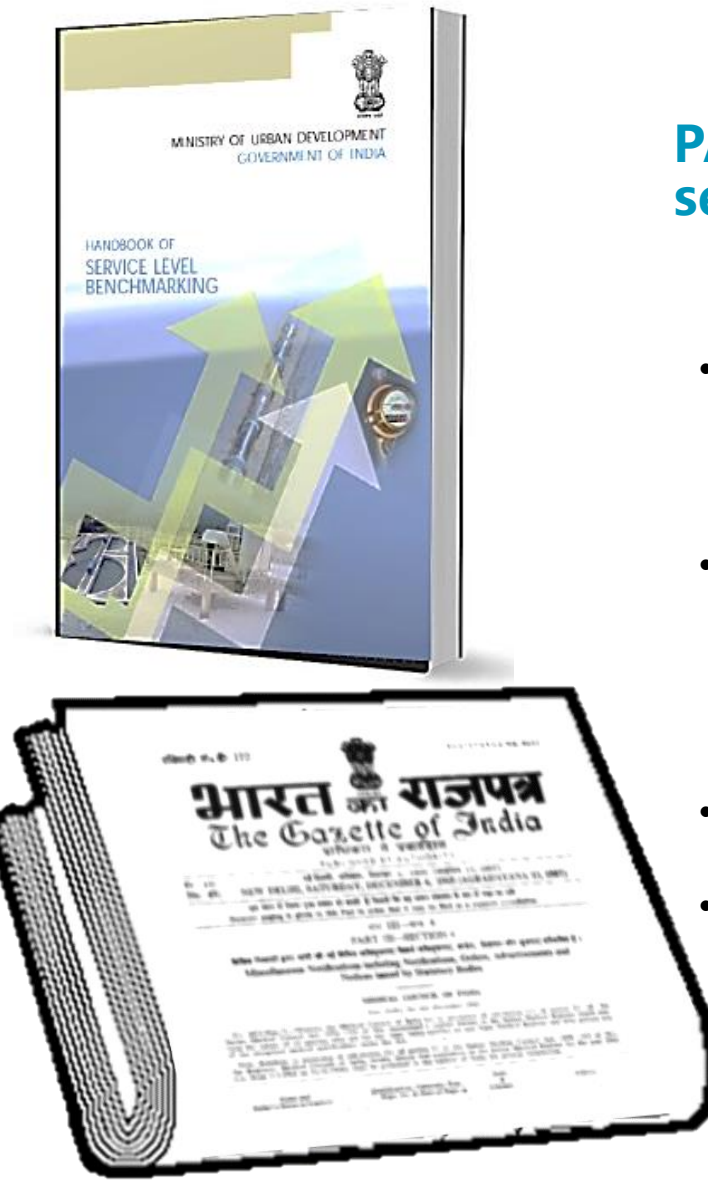
Focus on efficiency and service quality
like international frameworks but also
added the lens of equity, slums and later
OSS



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.



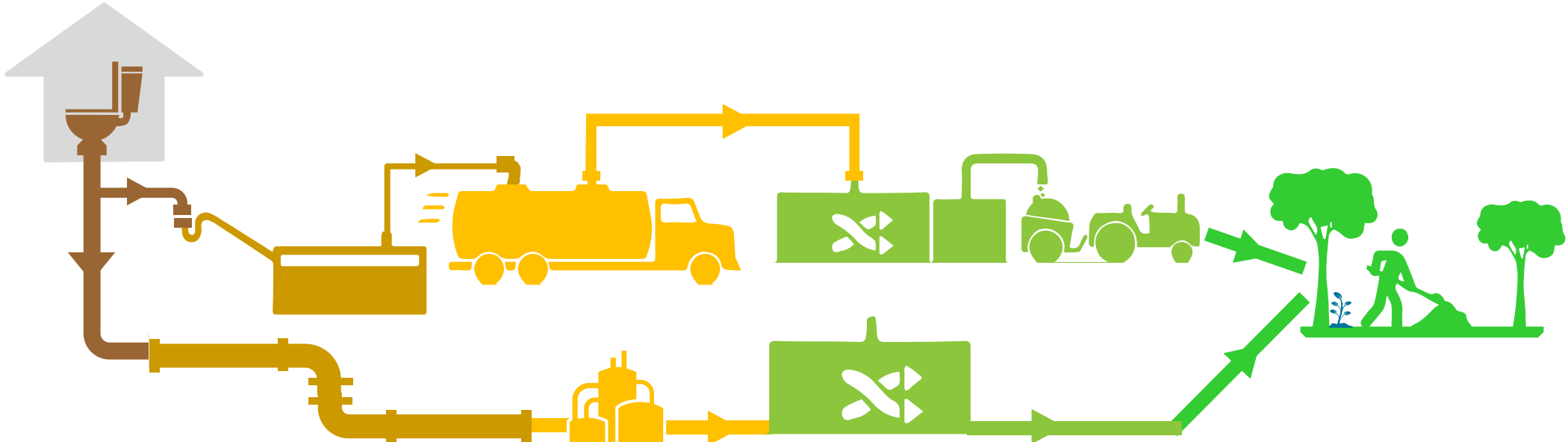
PAS was aligned to national service level benchmark initiative

- 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

Performance level indicators

Themes	Water supply services	Wastewater and storm water drainage	Solid waste management
Access and coverage	<ul style="list-style-type: none"> ▪ Coverage of water supply connections (100%) 	<ul style="list-style-type: none"> ▪ Coverage of toilets (100%) ▪ Coverage of sewage network services (100%) ▪ Coverage of adequate sanitation* ▪ Coverage of storm water drainage network (100%) 	<ul style="list-style-type: none"> ▪ Household level coverage of solid waste management services (100%)
Equity	<ul style="list-style-type: none"> ▪ Coverage of WS connections in slums 	<ul style="list-style-type: none"> ▪ Coverage of individual toilets in slums ▪ Coverage of sewerage connections in slums 	<ul style="list-style-type: none"> ▪ Coverage of D to D collection in slums
Service levels and quality	<ul style="list-style-type: none"> ▪ Per capita supply of water (135) ▪ Continuity of water supply (24 hrs) ▪ Quality of water supplied (100%) 	<ul style="list-style-type: none"> ▪ Collection efficiency of the sewage network (100%) ▪ Adequacy of sewage treatment capacity (100%) ▪ Collection efficiency of sanitation system* ▪ Adequacy of sanitation treatment capacity* ▪ Incidence of water logging/ flooding (zero) 	<ul style="list-style-type: none"> ▪ Efficiency of collection of municipal solid waste (100%) ▪ Extent of segregation (100%) ▪ Extent of municipal solid waste recovered (80%)
Efficiency in service operation	<ul style="list-style-type: none"> ▪ Extent of Non- Revenue Water (NRW) (20%) ▪ Extent of metering (100%) ▪ Efficiency in redressal of customer complains (80%) 	<ul style="list-style-type: none"> ▪ Quality of sewage treatment (100%) ▪ Extent of reuse and recycling of sewage (20%) ▪ Quality of treatment of sanitation system* ▪ Extent of reuse and recycling in sanitation* ▪ Efficiency in redressal of customer complains (80%) 	<ul style="list-style-type: none"> ▪ Extent of scientific disposal of municipal solid waste (100%) ▪ Efficiency in redressal of customer complains (80%)
Financial sustainability	<ul style="list-style-type: none"> ▪ Cost recovery in water supply (100%) ▪ Efficiency in collection of water supply related charges (90%) 	<ul style="list-style-type: none"> ▪ Extent of cost recovery in sewage management (100%) ▪ Efficiency in collection of sewage charges (90%) 	<ul style="list-style-type: none"> ▪ Extent of cost recovery in SWM (100%) ▪ Efficiency in collection of SWM charges (90%)

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

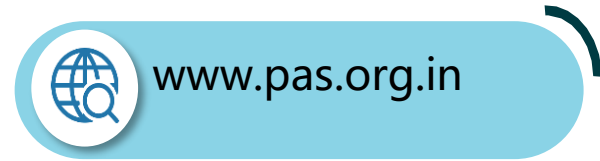
Coverage of toilets, water supply connections, door to door solid waste collection in slums

Coverage of sewerage connections in slums

Digital systems are needed for achieving scale

Information exists with cities...

Journey from a paper based to online system



Industry-academic partnership



...but paper based and fragmented – not collated, analyzed or reported

Digital platform working at scale

- Online module for self reporting
- Inbuilt validation checks – 300 checks
- Scientific system for calculating indicators
- Comparative dashboards
- Local language supported

Maintained in isolation and usually not shared



Process of data collection and validation

Training

- State govt. appoint agency for data collection and validation
- Organised 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

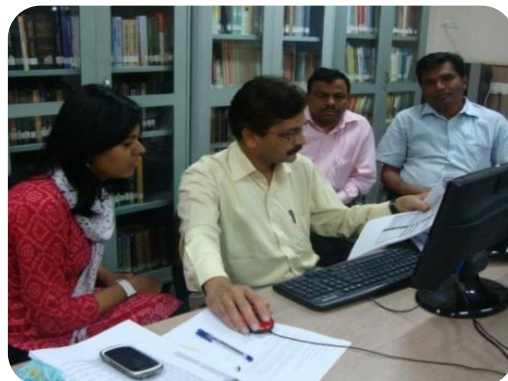
- Inbuilt validation rules during data entry and at submission time
- After submission, sector experts appointed by state government will do desk validation

Results publication

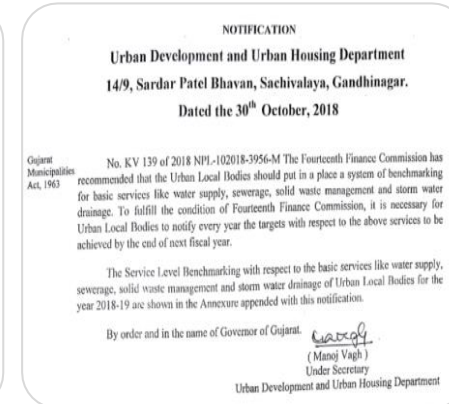
- SLB Gazette publication by state
- Analysis results published on website

Data verification

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



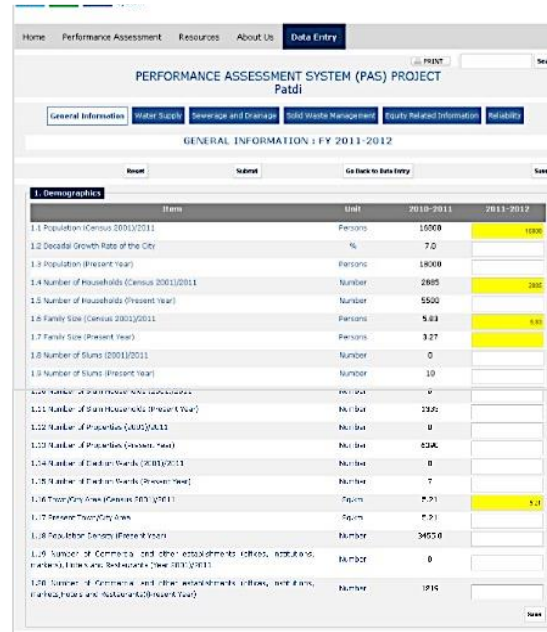
Sanitation Coverage		2013-2014	2014-2015
1.1 Total Number of Properties in the City	Number	10600	10000.0
1.2 Properties with toilets	Number	7794	7000
1.3 Households dependent on functional community toilets	Number	545	
1.4 Total Number of Properties with access to toilets	Number	8339	7600



Develop an E-platform that enables analysis

Raw Data

Information: Performance Measurement with indicators on PAS portal

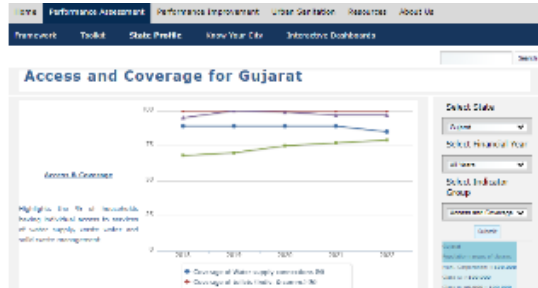


Knowledge: City and State UWSS profiles



Dashboards for different user groups, and enable time series comparisons across cities

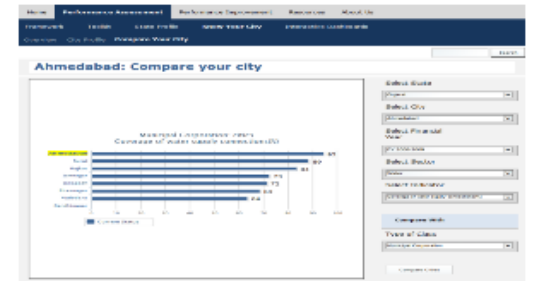
- Time series comparisons across
- Review the year wise improvement of the ULB using [know your city](#) tab
- State can assess thematic performance on [state profile](#) tab.
- Identify areas for improvement- using [interactive dashboards](#)



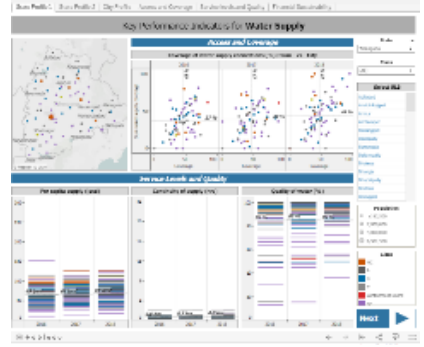
State profile: State can assess thematic performance at state and city level



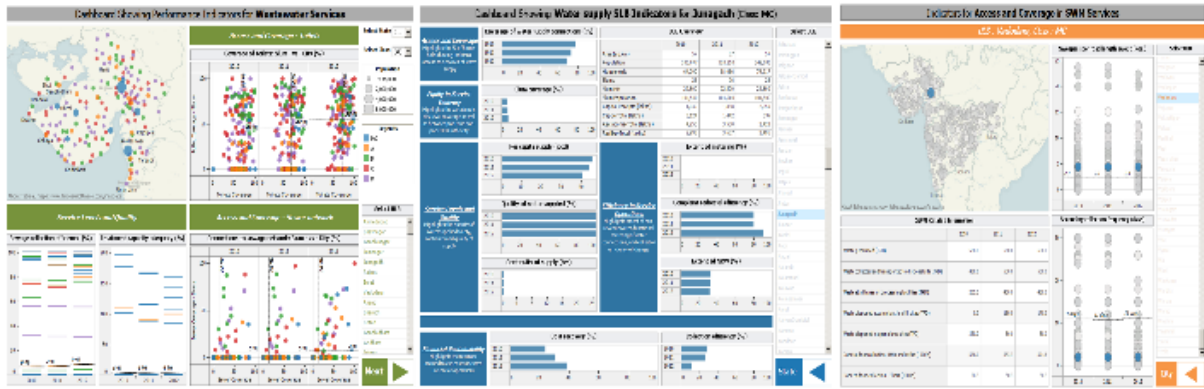
Customized dashboard



Know your city and Compare Your city : city can compare itself with another city based on its respective class or district



Interactive dashboard



Steps to interact with data at city level



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

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

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

Wide range of users – Towards data driven governance



GOVERNMENT AGENCIES

City/State governments, SFCs for policy making, assessments for improvement plans, reporting



FINANCIAL INSTITUTIONS

ADB, World Bank - information for project identification, selection and formulation



REGULATORS

CAG, State Technical Boards - To assess regulatory compliance



RESEARCHERS

Academicians, students of planning or technology colleges



CONSULTANTS

For consulting assignments in preparation of Vision documents, City Development Plans, City Sanitation Plans

Research papers journals



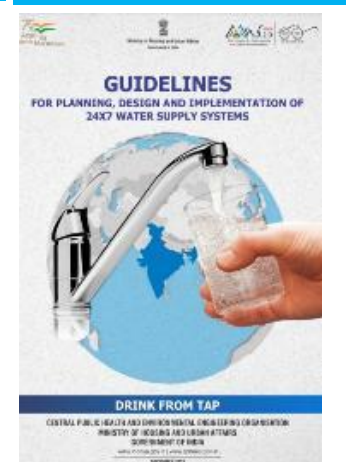
Various publications on Journey of PAS

International reports



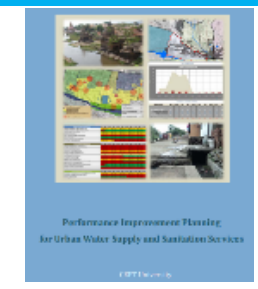
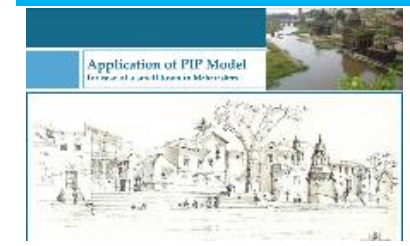
City water compendium, Making cities water positive, 2022

Government reports

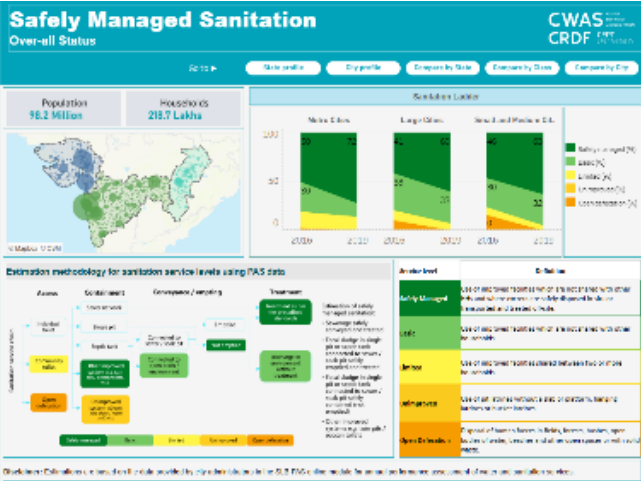


Guidelines for planning, design and implementation of 24x7 water supply systems

Performance improvement plans and decision making tools



Enable information to be used for a variety of city level assessments

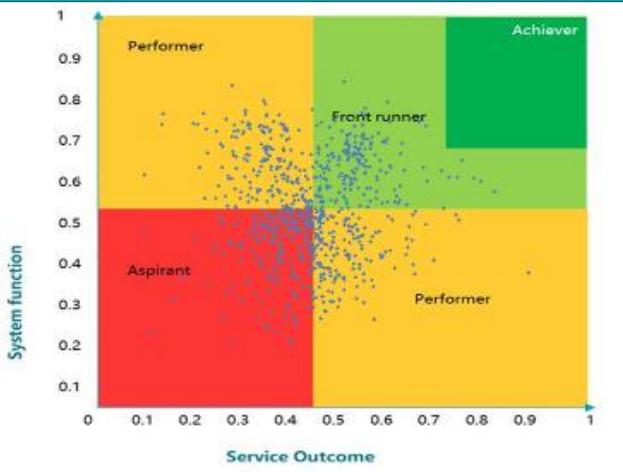


Monitoring safely managed services (SDG 6.2)

ESG assessment for cities



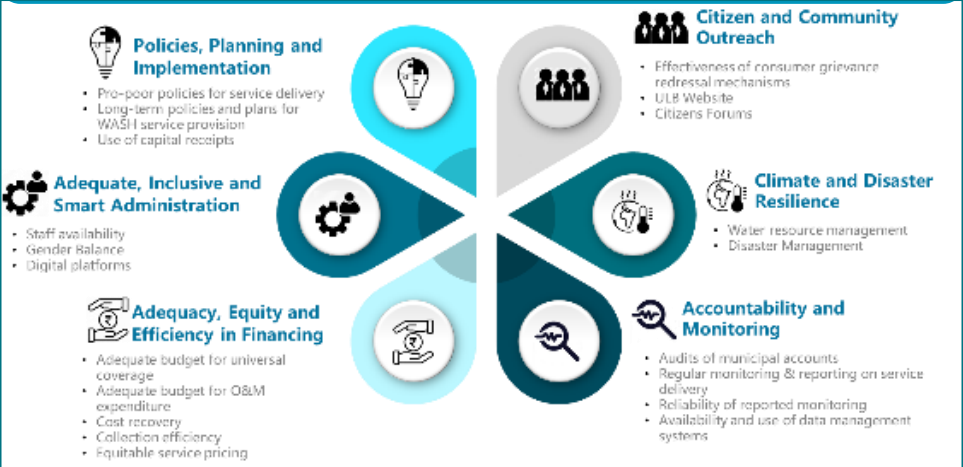
PAS-CWIS performance ladder



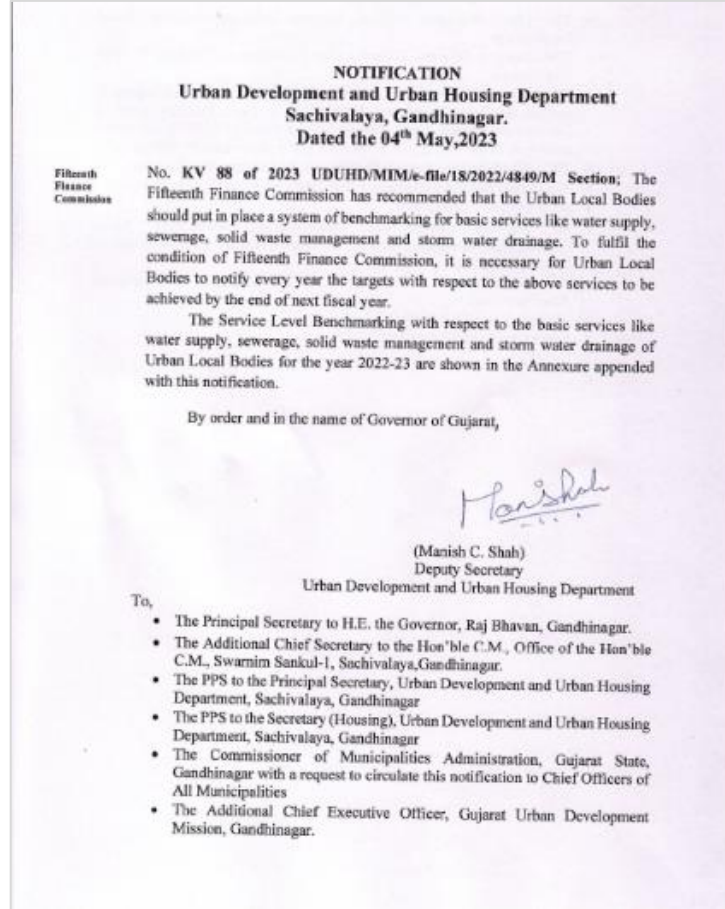
Credit worthiness of cities



Assessment of water governance



Financial incentives for sustaining PAS - Institutionalized through intergovernmental fund transfers



- The 13th, 14th and 15th Finance Commission of the national government endorsed operationalizing of SLB Process. It linked national government grants to cities to service level benchmarks
- State Governments notify by the end of a fiscal year the service level benchmarks and targets and inform the Ministry of Housing and Urban Affairs

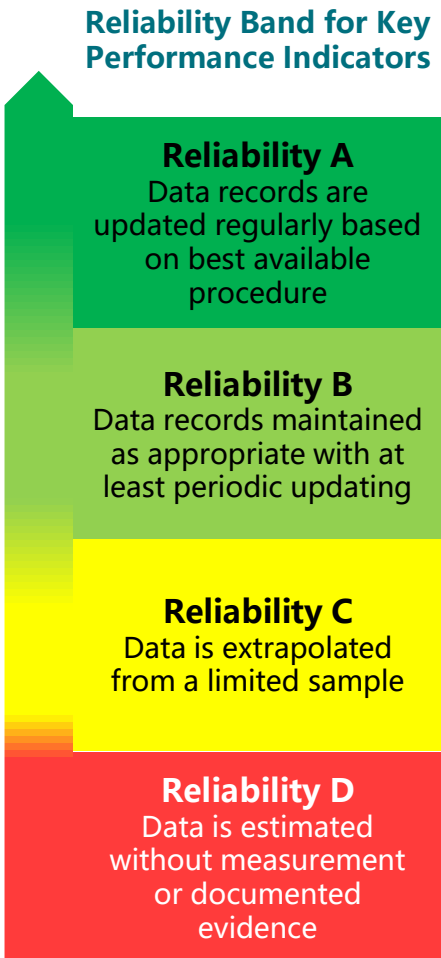
13th FC:
(FY 2010-15)
USD 2.8
Billion

14th FC:
(FY 2015- 20)
USD 10.9
Billion

15th FC:
(FY 2021-26)
USD 15.1
Billion

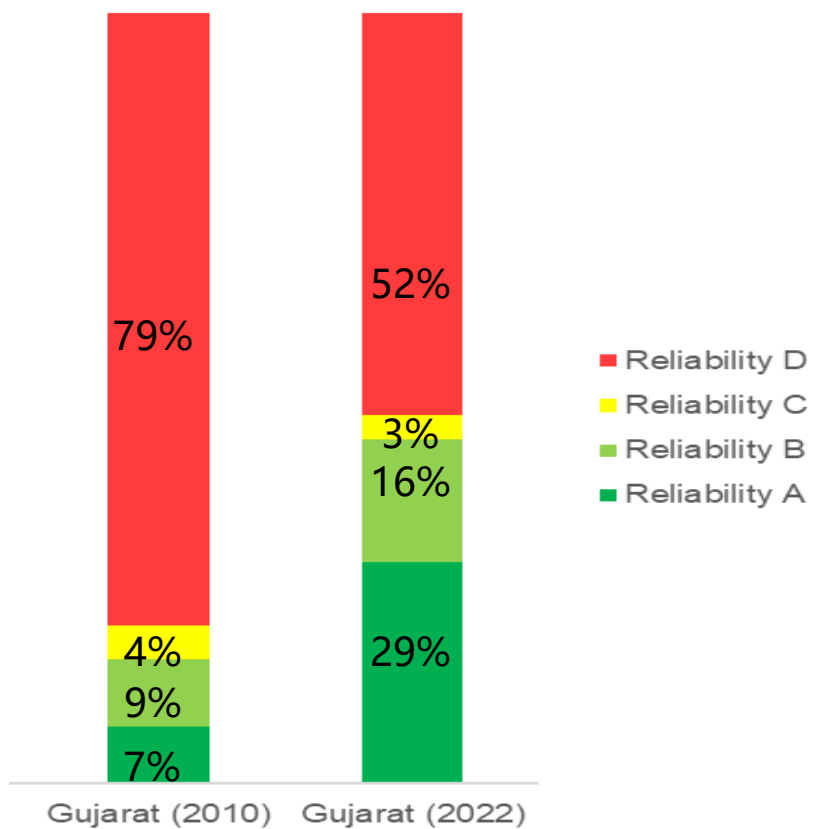
Gradual but consistent strengthening of data quality

Systematic Approach for Data Reliability Assessment

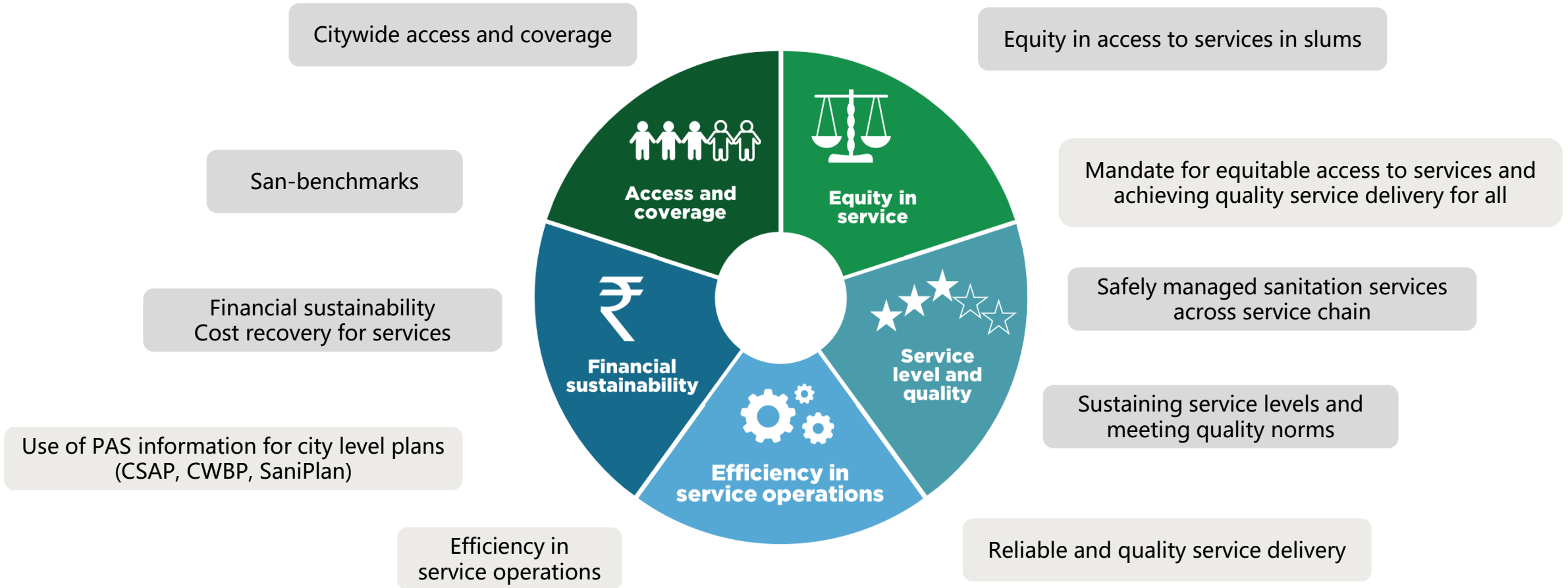


- Automatically calculates the reliability for an indicator with a set of questions that address the conditions in each reliability band as listed in the SLB Handbook.
- Ensures a transparent and consistent comparison across all cities.
- It also informs cities about the quality of their existing data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

Over the past decade reliability of data is seen to be increasing



PAS framework capturing key CWIS elements



PAS framework capturing key CWIS elements



Monitoring needs at local level for sanitation – CWIS perspective



1

Access to toilet facilities

Ensure desludging at regular intervals

2

Safe withdrawal of sludge by following necessary protocol

3

Safe conveyance to designated treatment site

Volume of waste received at treatment facility

4

Indicators for making decisions on “performance linked payments”

5

Collect data on onsite systems

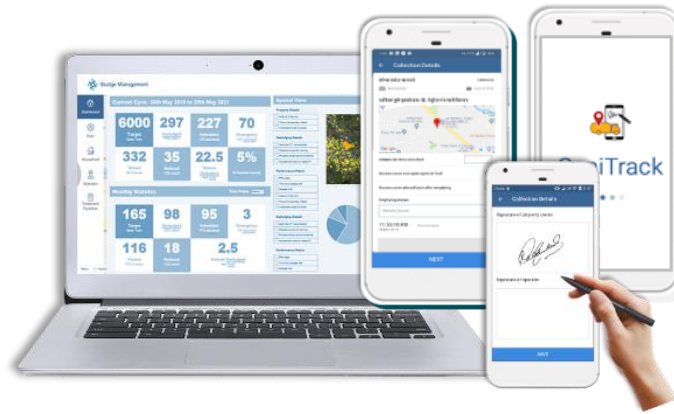
Digital monitoring systems for Sanitation Service Delivery at local level . . .

SaniTab



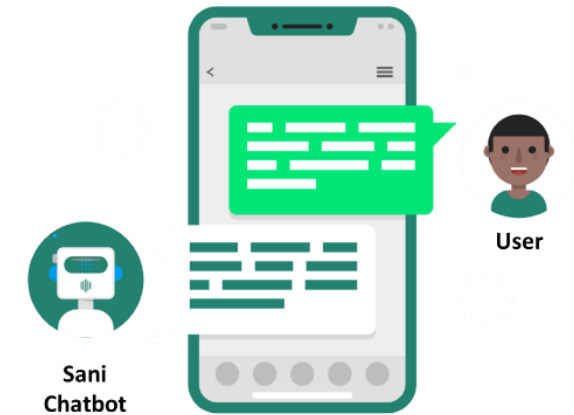
- App for collecting data and provides quick analyses
- Custom survey forms
- Web dashboards reflecting real time progress

SaniTrack



- End to end monitoring for desludging
- Role based modules – scheduler, truck operators, ULB official/administrators
- Signature based acknowledgements and reports
- Spatial dashboards

SaniChatBot



- SaniChatbot - automated software application designed to interact with users on the WhatsApp platform.
- Capture details of septic tanks emptied, septage received at FSTP and reasons for not receiving septage at FSTP

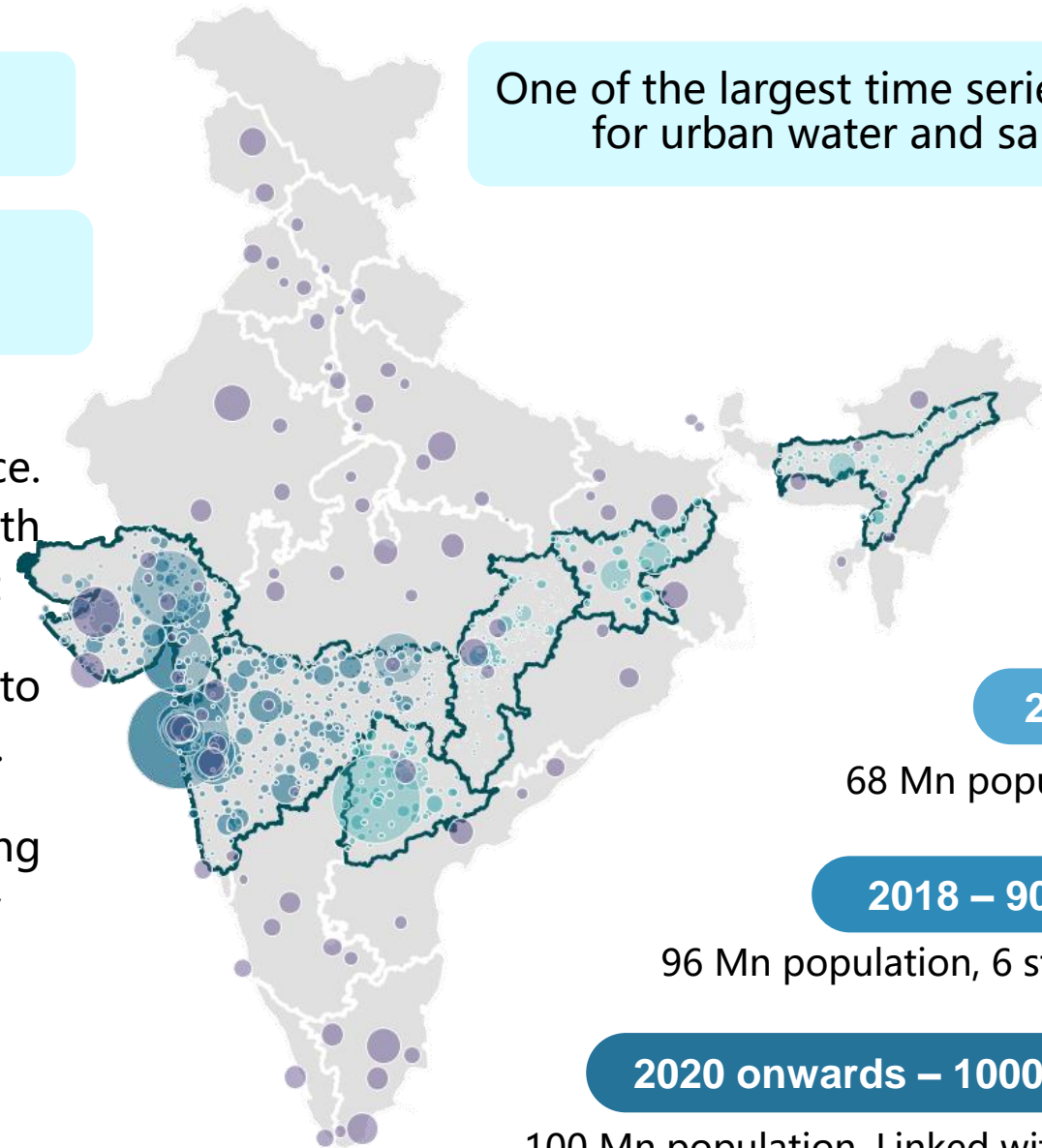
Achieving scale in India for Sanitation Monitoring – Since 2009, sustained and growing

No Pilots or projects... operate at Scale

Mainstreamed by working with all three tiers of Governments

- Scaling up benchmarking activities require patience. It takes time for consultative process with utilities/service providers for them to see value in it
- In a developing country context, it is necessary to have adequate funding for benchmarking activities.
- Government ownership is crucial. Linking benchmarking with financial incentives is necessary
- Need to have a versatile approach for varied uses

One of the largest time series databases for urban water and sanitation



2009 – 416 cities

68 Mn population, 2 states

2018 – 900+ cities

96 Mn population, 6 states

2020 onwards – 1000+ cities

100 Mn population, Linked with India's Smart city mission

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Thank you

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AND DEVELOPMENT
FOUNDATION

CEPT
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About us

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



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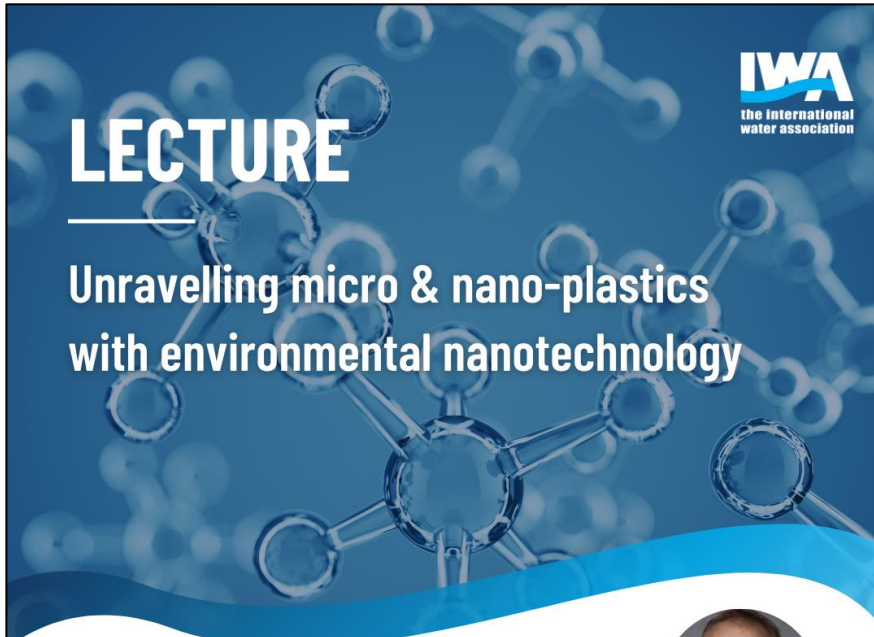
Q&A Discussion

MODERATOR: MEERA MEHTA

Final remarks & Conclusion

MODERATOR: MEERA MEHTA

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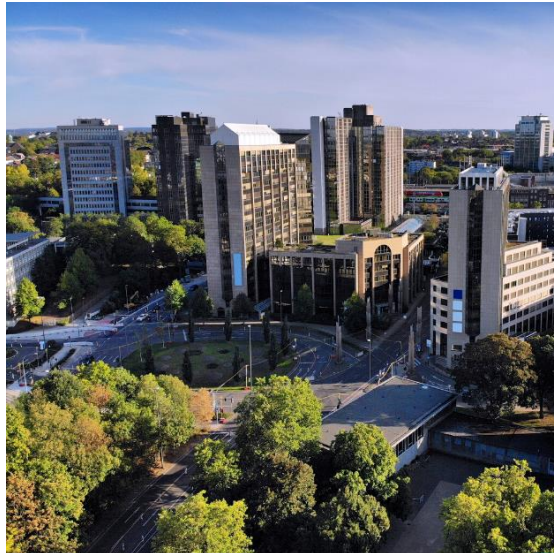
24 April 2024
09:00-10:00 GMT+1

Speakers
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