Improving Sanitation Data Systems in South Asia

10 APRIL 2024

inspiring change
WEBINAR INFORMATION

- This webinar will be recorded and made available “on-demand” on the IWA Connect Plus platform and IWA Network website with presentation slides, and other information.

- The speakers are responsible for securing copyright permissions for any work that they will present of which they are not the legal copyright holder.

- The opinions, hypothesis, conclusions or recommendations contained in the presentations and other materials are the sole responsibility of the speaker(s) and do not necessarily reflect IWA opinion.
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’.
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.
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.

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
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*
Global efforts and monitoring sanitation for SDGs

RICK JOHNSTON, WHO/JMP
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

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFELY MANAGED</td>
<td>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</td>
</tr>
<tr>
<td>BASIC</td>
<td>Use of improved facilities that are not shared with other households</td>
</tr>
<tr>
<td>LIMITED</td>
<td>Use of improved facilities that are not shared with other households</td>
</tr>
<tr>
<td>UNIMPROVED</td>
<td>Use of pit latrines without a slab or platform, hanging latrines or bucket latrines</td>
</tr>
<tr>
<td>OPEN DEFECATION</td>
<td>Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open spaces, or with solid waste</td>
</tr>
</tbody>
</table>

**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.

- 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

Safely managed sanitation services in IWA’s South Asia region, 2022

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

https://washdata.org/data/household#!/dashboard/5876
### Improved Sanitation Facility Coverage

#### 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

![Graph showing improved sanitation facility types in South Asia](https://washdata.org/data/household#!/dashboard/5877)
### DATA COVERAGE, DATA GAPS

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Bangladesh</th>
<th>India</th>
<th>Nepal</th>
<th>Afghanistan</th>
<th>Pakistan</th>
<th>Sri Lanka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved sanitation</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
<tr>
<td>Shared sanitation</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
<tr>
<td>Wastewater treatment</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
<tr>
<td>Contained and emptied and removed offsite</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
<tr>
<td>Contained and safely treated in situ</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
<tr>
<td>Safely managed</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
<td>Total Urban Rural</td>
</tr>
</tbody>
</table>
### MICS7 – questions on containment

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your (answer from WS11) have an outlet pipe for liquid waste?</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>If there is infiltration underground from the base or sides of the tank or pit, select “No”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The tank or pit containing waste has a pipe which discharges liquid waste, select “Yes”</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Where does this pipe go?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To a leach field, soak pit</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To a sewer / closed drain that leads to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A wastewater treatment plant (WWTP)</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A waterbody (not connected to WWTP)</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know where</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To an open drain</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To a waterbody: surface</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify)</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t know</td>
<td>98</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WS11D. In the last year, have excreta from your (answer from WS11) been released to the surface and surroundings due to any of the following events?

<table>
<thead>
<tr>
<th>Event</th>
<th>Yes</th>
<th>No</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overflowed</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Flooded</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Containment collapsed</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Other event releasing excreta to the surface and surroundings</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

[D1]: Specify the other event mentioned
### TOOLS TO IMPROVE ONSITE SANITATION MONITORING/2

- **MICS7 – questions on emptying practices**

<table>
<thead>
<tr>
<th>WS12</th>
<th>Has your (answer from WS11) ever been emptied?</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES,emptied</td>
<td>1</td>
</tr>
<tr>
<td>NO, NEVER EMPTIED</td>
<td>4  – WS14</td>
</tr>
<tr>
<td>NO, NOT EMPTIED BUT COVERED AND LEFT</td>
<td>4  – WS14</td>
</tr>
<tr>
<td>UNDISTURBED WHEN FULL</td>
<td>5  – WS14</td>
</tr>
<tr>
<td>DK</td>
<td>8  – WS14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WS12A</th>
<th>The last time it was emptied, who emptied the (answer from WS11)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE PROVIDER</td>
<td></td>
</tr>
<tr>
<td>PUBLIC/MUNICIPALITY/GOVERNMENT</td>
<td>11</td>
</tr>
<tr>
<td>PRIVATE COMPANY/NGO</td>
<td>12</td>
</tr>
<tr>
<td>INFORMAL EMPTIER (E.G., UNLICENSED)</td>
<td>13</td>
</tr>
<tr>
<td>NOT SERVICE PROVIDER</td>
<td></td>
</tr>
<tr>
<td>SELF EMPTIED</td>
<td>21</td>
</tr>
<tr>
<td>NEIGHBOUR, FAMILY MEMBER, FRIEND</td>
<td>22</td>
</tr>
<tr>
<td>OTHER (specify)</td>
<td>96</td>
</tr>
<tr>
<td>DK</td>
<td>98</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WS13</th>
<th>The last time it was emptied, where were the contents emptied to?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removed off-site (to treatment / unknown)</td>
<td>1  – WS14</td>
</tr>
<tr>
<td>Removed to a waterbody, open ground, field or elsewhere</td>
<td>2  – WS14</td>
</tr>
<tr>
<td>Buried in a covered pit at or near household (in-situ)</td>
<td>3  – WS14</td>
</tr>
<tr>
<td>Buried in a covered pit/ trench elsewhere (off site)</td>
<td>4  – WS14</td>
</tr>
<tr>
<td>Emptied into an uncovered pit</td>
<td>5  – WS14</td>
</tr>
<tr>
<td>OTHER (specify)</td>
<td>6</td>
</tr>
<tr>
<td>DK</td>
<td>8  – WS14</td>
</tr>
</tbody>
</table>
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.

New: SVRS 2023 survey contains multiple questions to measure of leakage, poor containment.
UNDERSTANDING GLOBAL VS NATIONAL INDICATORS

<table>
<thead>
<tr>
<th>Global indicators</th>
<th>Examples of optional local indicators for national monitoring</th>
</tr>
</thead>
</table>
| Containment        | - **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   | - **Function**: Years operation, size, sludge depth,  
                    |     - **Risks**: Groundwater risk, flood risk |
| Contained, emptied, buried in-situ | - **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           | - **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          | - **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          | - **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

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

Levels of reliability and use of source

- Low
- Medium
- 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.
### NATIONAL STATISTICS: WATER SUPPLY

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2023</th>
<th>2022</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to Drinking Water by service level (percent)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safely Managed</td>
<td>71.22</td>
<td>70.43</td>
<td>68.51</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Basic</td>
<td>14.63</td>
<td>15.08</td>
<td>15.79</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Limited</td>
<td>83.70</td>
<td>83.09</td>
<td>82.45</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unimproved</td>
<td>0.18</td>
<td>0.35</td>
<td>0.35</td>
<td>0.45</td>
<td>0.46</td>
</tr>
<tr>
<td>Surface water</td>
<td>1.49</td>
<td>1.48</td>
<td>1.40</td>
<td>1.18</td>
<td>1.40</td>
</tr>
</tbody>
</table>
## NATIONAL STATISTICS: SANITATION

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

### SDG Indicators

<table>
<thead>
<tr>
<th>SDG Indicators</th>
<th>Baseline Status</th>
<th>Current Status SVRS 2023</th>
<th>Target by 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1.1: Proportion of population using safely managed drinking water services</td>
<td>47.9% (MICS, 2019)</td>
<td>71.22%</td>
<td>100%</td>
</tr>
</tbody>
</table>
| 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% |
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.

SMART BANGLADESH CONCEPT

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

- Fundamental Principles of Official Statistics (FPOS)
- National Quality Assurance Framework of Bangladesh (NQAF)
- International Guidelines, Methodology and Nomenclatures
**SDG Data Authentication Process Flow Chart**

**Data Providers in NSS**
- Survey/Census
- Administrative Record
- Innovative Approaches

**SDG Tracker Database**

**Subject Matter Wings of BBS**
- Census Wing
- National Accounting Wing
- Demography and Health Wing
- Agriculture Wing
- Industry and Labour Wing
- ECDS Cell

**Custodian Agencies**

**SDG Technical Working Committee at BBS**

**Subject Matter Expert Committee**

**National Data Coordination Committee (NDCC) [Chaired by Secretary, SID]**

- Authentication/Validation by Technical Committee
- Section 6 (t)
- Yes
- No

**Online Platform**
- www.sdg.gov.bd

**Innovative Approaches**

**Survey/Census**

**Administrative Record**

**Online Platform**
- www.sdg.gov.bd
- SDG Tracker
- Bangladesh’s Development Mirror

**Innovative Approaches**

**Survey/Census**

**Administrative Record**

**Online Platform**
- www.sdg.gov.bd
- SDG Tracker
- Bangladesh’s Development Mirror
## Integrated Activity with SID and BBS: Six-year Rolling Implementation Plan

**Local Government, Rural Development and Cooperatives Department of Public Health Engineering.**

### Sector 6: Water, Sanitation and Hygiene (WASH)

<table>
<thead>
<tr>
<th>Strategic Goals</th>
<th>Activities with Priority (M/P1/P2/P3)</th>
<th>Output</th>
<th>Timeline Start-End</th>
<th>Relevance with Policies, SDG, FYP etc.</th>
<th>Define Your Role as Ministry/Division/Department/Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector 6:</td>
<td>Water, Sanitation and Hygiene (WASH)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1 Ensure Quality and Timely data for Safely Managed Water, Sanitation and Hygiene</td>
<td>6.1.1 To conduct the National Hygiene Survey (P1)</td>
<td>Produce Hygiene related Statistics</td>
<td>2028-2029</td>
<td>SDG-6, 8th Five Year Plan</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>6.1.2 National WASH Accounts (P1)</td>
<td>Prepare National WASH Accounts</td>
<td>2026-2028</td>
<td>SDG-6, 8th Five Year Plan</td>
<td>Assist for updating the WASH Accounts; Implement the recommendations in the programs and projects; Data supporting, supplementing, managing and reporting.</td>
</tr>
<tr>
<td></td>
<td>6.1.3 WASH Monitoring System Survey</td>
<td>Estimates of different variable to produce National WASH Accounts</td>
<td>2025-2025, 2029-2030</td>
<td>SDG-6, 8th Five Year Plan</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Sector 23: Environment Statistics

<table>
<thead>
<tr>
<th>Strategic Goals</th>
<th>Activities with Priority (M/P1/P2/P3)</th>
<th>Output</th>
<th>Timeline Start-End</th>
<th>Relevance with Policies, SDG, FYP etc.</th>
<th>Define Your Role as Ministry/Division/Department/Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector 23:</td>
<td>Environment Statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.1 Environment, Climate Change and Disaster Risk Statistics</td>
<td>23.1.3 Household Survey of Health and Sanitation in disaster prone areas of Bangladesh P1</td>
<td>Report on Household Survey of Health and Sanitation in disaster prone areas of Bangladesh</td>
<td>2025-2030</td>
<td>SDG 6.2.1, 6. a.1</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>23.1.4 Municipal (City corporations and Paurashavas) Waste Management Statistics/Accounts M</td>
<td>Report on Municipal Waste Management Statistics/Accounts M</td>
<td>2025-2030</td>
<td>SDG 11.6.1, 12.4.2, 12.5.1</td>
<td>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.</td>
</tr>
</tbody>
</table>
Sanitation Data Governance: Present Context

City Wide Inclusive Sanitation (CWIS) Framework

Projects

NATIONAL SANITATION DASHBOARD

Sanitation Data Command Center

Data Management Framework & Data Governance Framework

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

Urban Sanitation
- City Corporation
- Municipality

Rural Sanitation (under preparation)
- Upazila Level
- Union Level

BBS – SVRS, MICS, Hygiene Survey

Joint Monitoring Programme (JMP)
GOING 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.

<table>
<thead>
<tr>
<th>Programme Activities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Twinning programs for GoB officials from regional champions to learn from and scale the best practices</td>
<td></td>
</tr>
<tr>
<td>Localization of Indicators</td>
<td></td>
</tr>
<tr>
<td>NSD [requirements for Planning, Policy, Regulations, Resource Mobilization]</td>
<td></td>
</tr>
<tr>
<td>Identify towns with entire/partial sanitation value chain (125 towns)</td>
<td></td>
</tr>
<tr>
<td>Establish criteria for the most appropriate systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process documentation of Sub-national data system developed</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explore feasibility for integration of Sub-national Data systems</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Management Framework and system integration architecture finalized with reference</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Governance Framework finalized</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Setup of National Sanitation Data Command Center</td>
</tr>
</tbody>
</table>
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
DATA GOVERNANCE

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?

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

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?
### POTENTIAL DATA PROVIDING AND SHARING AGENCIES

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  
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  

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

Inter-Ministerial Coordination

Data Updating Mechanism

Data Sharing Agreements

Enhancing Coverage of NSD

Expanding Data Collection Infrastructure

Standardizing Data Collection Protocols
PLANNED TASKS

- Capacity Building
- Expanding Data and Indicators
- Periodic Data Collection
- SDG 6.2 Additional Indicators
- Solid Waste Management (SWM) Indicator Alignment
- Enhancement of CWIS Indicators
Towards Better WASH

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

RAJIT OJHA, PHD, NWASH-MIS
Example: Karjanha Municipality, Siraha, Sanitation Status

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

1. NWASH MIS मार्फत खासत्व योजना (WASH Plan) तर्कमा गरियो?
2. यस पातिकामा खासत्व योजना तापु भएको छ?
3. यो वर्ष NWASH MIS अद्यावधिक गरियो?
4. के NWASH MIS मा भएका तथाक, WASH क्षेत्रमा नीति तथा योजना निर्माणका लागि प्रयोग परिन्न?
To support the output process should be checked, governance pillars should be assessed and is assessed in NWASH.
To support the output process should be checked, governance pillars should be assessed and is assessed in NWASH.
Categorization of Water Supply Service Providers (2078/79)

- Poorly Functioning total
- Fairly Functioning total
- Just Improved total
- Improved total

Operational And Management Efficiency %

Level & Quality of Water Supply Service %

Year Wise Scores
EXPENDITURE TRACKING

Did we spend as per planned?

Did the support come as expected?

What can we do to improve investments?
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

<table>
<thead>
<tr>
<th>Effluent Characteristics</th>
<th>Unit</th>
<th>Limit</th>
<th>Analysing Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical Oxygen Demand (BOD₂)</td>
<td>mg/L</td>
<td>50</td>
<td>5210 B, APHA 22nd edition</td>
</tr>
<tr>
<td>Total Suspended Solids (TSS)</td>
<td>mg/L</td>
<td>60</td>
<td>2540 D, APHA 22nd edition</td>
</tr>
<tr>
<td>pH</td>
<td>units</td>
<td>6.0-9.0</td>
<td>4500-HB, APHA* 22nd edition</td>
</tr>
<tr>
<td>E. coli</td>
<td>CFU/100 mL</td>
<td>1000</td>
<td>9222, APHA 22nd edition</td>
</tr>
<tr>
<td>Chemical Oxygen Demand (COD)</td>
<td>mg/L</td>
<td>Monitor and report only</td>
<td>5220, APHA 22nd edition</td>
</tr>
</tbody>
</table>

* APHA: American Public Health Association
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
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

Complete lack of performance Measurement — Service performance deteriorates over time — Worsening urban water and sanitation service delivery — No monitoring by state and local governments — Improved urban water and sanitation service delivery

Set goals and priorities — Performance Improvement plans, tools and innovative financing — Performance Monitoring at scale and at all levels: centre, state and local

Use of technology for sustainability and scale — Influence policy and financing

No monitoring by state and local governments — Complete lack of performance Measurement
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

PAS-SLB+ Framework

Water supply
Sanitation
Solid waste
Storm water

5 Themes
32 Key Performance Indicators
100 Local Action Indicators

...to match with goals/targets of delivery of water supply and sanitation services
... for performance assessment
...drilled down indicators for actions for performance improvement
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

<table>
<thead>
<tr>
<th>Themes</th>
<th>Water supply services</th>
<th>Wastewater and storm water drainage</th>
<th>Solid waste management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access and coverage</td>
<td>▪ Coverage of water supply connections (100%)</td>
<td>▪ Coverage of toilets (100%)</td>
<td>▪ Household level coverage of solid waste management services (100%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Coverage of sewage network services (100%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Coverage of adequate sanitation*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Coverage of storm water drainage network (100%)</td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td>▪ Coverage of WS connections in slums</td>
<td>▪ Coverage of individual toilets in slums</td>
<td>▪ Coverage of D to D collection in slums</td>
</tr>
<tr>
<td>Service levels and quality</td>
<td>▪ Per capita supply of water (135)</td>
<td>▪ Collection efficiency of the sewage network (100%)</td>
<td>▪ Efficiency of collection of municipal solid waste (100%)</td>
</tr>
<tr>
<td></td>
<td>▪ Continuity of water supply (24 hrs)</td>
<td>▪ Adequacy of sewage treatment capacity (100%)</td>
<td>▪ Extent of segregation (100%)</td>
</tr>
<tr>
<td></td>
<td>▪ Quality of water supplied (100%)</td>
<td>▪ Collection efficiency of sanitation system*</td>
<td>▪ Extent of municipal solid waste recovered (80%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Adequacy of sanitation treatment capacity*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Incidence of water logging/ flooding (zero)</td>
<td></td>
</tr>
<tr>
<td>Efficiency in service operation</td>
<td>▪ Extent of Non-Revenue Water (NRW) (20%)</td>
<td>▪ Quality of sewage treatment (100%)</td>
<td>▪ Extent of scientific disposal of municipal solid waste (100%)</td>
</tr>
<tr>
<td></td>
<td>▪ Extent of metering (100%)</td>
<td>▪ Extent of reuse and recycling of sewage (20%)</td>
<td>▪ Efficiency in redressal of customer complains (80%)</td>
</tr>
<tr>
<td></td>
<td>▪ Efficiency in redressal of customer complains (80%)</td>
<td>▪ Quality of treatment of sanitation system*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Extent of reuse and recycling in sanitation*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Efficiency in redressal of customer complains (80%)</td>
<td></td>
</tr>
<tr>
<td>Financial sustainability</td>
<td>▪ Cost recovery in water supply (100%)</td>
<td>▪ Extent of cost recovery in sewage management (100%)</td>
<td>▪ Extent of cost recovery in SWM (100%)</td>
</tr>
<tr>
<td></td>
<td>▪ Efficiency in collection of water supply related charges (90%)</td>
<td>▪ Efficiency in collection of sewage charges (90%)</td>
<td>▪ Efficiency in collection of SWM charges (90%)</td>
</tr>
</tbody>
</table>

*SAN Benchmarks - Revised SLB indicators that captures performance of onsite sanitation along with conventional sewerage system*
Adapting SLB Framework for the Indian context

Indicators for onsite sanitation systems
1. Coverage of toilets
2. Coverage of adequate sanitation systems (Septic tanks + sewe 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...

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

Maintained in isolation and usually not shared

Journey from a paper based to online system

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

Industry-academic partnership

www.pas.org.in
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
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

<table>
<thead>
<tr>
<th>Year</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1 (2008-09)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Round 2 (2009-10 and 2010-11)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Round 3 (2011-12)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Round 4 (2012-13)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
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**

1. **State Profile**
   - Performance analysis
   - Relationship between indicators
   - Compare Sector performance
   - Data report

2. **City Profile**
   - Performance monitoring
   - Trends of performance
   - Identify performance gaps
   - Decision making

3. **Thematic Dashboards**
   - 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**

**International reports**

**Government reports**

**Performance improvement plans and décision making tools**

**Variants publications on Journey of PAS**

**City water compendium, Making cities water positive, 2022**

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

- Policies, Planning and Implementation
  - Provision of water and sanitation services
  - Financing of water and sanitation infrastructure
  - Use of technology
- Adequate, Inclusive and Smart Administration
  - Performance
  - Governance
  - Digitalization
- Adequacy, Equity and Efficiency in Financing
  - Financial sustainability
  - Technical viability
  - Cost recovery
  - Financial sustainability
- Citizen and Community Outreach
  - Awareness of water and sanitation services
  - Participation in decision-making
  - Citizen satisfaction
- Climate and Disaster Resilience
  - Water resources management
  - Disaster management
- Accountability and Monitoring
  - Analysis of water and sanitation services
  - Regular monitoring and reporting on water and sanitation services
  - Availability and use of data management systems
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 linked to municipal operations and property tax database.
PAS framework capturing key CWIS elements

- Access and coverage
- Equity in service
- Financial sustainability
- Efficiency in service operations
- Service level and quality
- Reliable and quality service delivery
- Safely managed sanitation services across service chain
- Sustaining service levels and meeting quality norms
- Mandate for equitable access to services and achieving quality service delivery for all
- Equity in access to services in slums
- Citywide access and coverage
- San-benchmarks
- Financial sustainability
  - Cost recovery for services
- Use of PAS information for city level plans (CSAP, CWBP, SaniPlan)
- Efficiency in service operations
PAS framework capturing key CWIS elements

**Equity**
- Citywide access and coverage
- Equity in access to services in slums

**Safety**
- San-benchmarks
- Safely managed sanitation services across service chain

**Sustainability**
- Financial sustainability
- Cost recovery for services
- Sustaining service levels and meeting quality norms

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

**Accountability**
- Reliable and quality service delivery
- Efficiency in service operations

**Resource Planning & Management**
- Use of PAS information for city level plans (CSAP, CWBP, SaniPlan)
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
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.

dhruv.bhavsar@cept.ac.in
Q&A Discussion

MODERATOR: MEERA MEHTA
Final remarks & Conclusion

MODERATOR: MEERA MEHTA
UPCOMING IWA WEBINARS & EVENTS

LECTURE
Unravelling micro & nano-plastics with environmental nanotechnology

16 April 2024
16:00-18:00 GMT+1

REGISTER NOW
www.iwa-network.org/webinars

Prof Mark Wiesner
Duke University, USA

WEBINAR
Managing Disinfection and By-products for Safe Water

24 April 2024
08:00-10:00 GMT+1

REGISTER NOW
www.iwa-network.org/webinars

Speakers
Mengling Yang, Shenzhen University, China
Xin Yang, Sun Yat-Sen University, China

Learn more about future online events at http://www.iwa-network.org/iwa-learn/
UPCOMING IWA WEBINARS & EVENTS

Learn more at https://worldwatercongress.org/
JOIN OUR NETWORK OF WATER PROFESSIONALS!

IWA brings professionals from many disciplines together to accelerate the science, innovation and practice that can make a difference in addressing water challenges.

Use code **IWAWEBINARS24** for a **20% discount** off new membership.

Join before **31 December 2024** at: [www.iwa-connect.org](http://www.iwa-connect.org)
Learn more at
http://www.iwa-network.org/iwa-learn/