Steps towards safely managed sanitation webinar series: Guided clinics for practical progress

Webinar #3. Strengthening data systems for safely managed sanitation

Tuesday 15 April 2025

16.00-17.00 CEST

World Health Organization

unicef for every child

WaterAid

Housekeeping

Please **turn off your microphones** (except for the final discussion/Q&A).

In case of **technical problems**, feel free to **ask for assistance in the chat**.

Please **use the chat** for questions and comments – which will be address at the end of the webinar, or later by email.

Webinar will be recorded – recording and slides will be shared with attendees.

Please keep your **questions relevant to the topic of the webinar**.

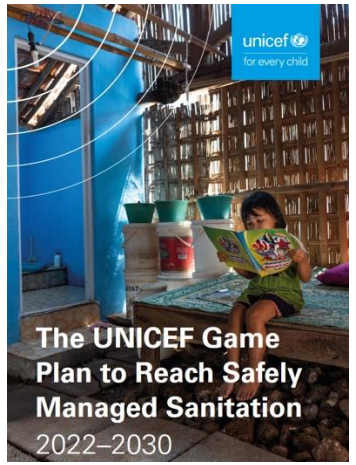
You can switch to the Spanish interpretation channel by clicking the interpretation icon at the bottom of your Zoom window and selecting “Spanish"

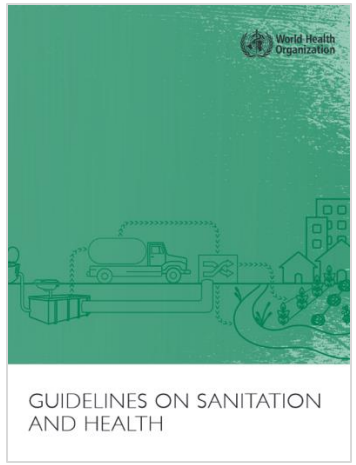
Background

Opening remarks	Cecilia Scharp Director Water Sanitation and Hygiene UNICEF HQ
Introduction to the webinar series	Sophie Boisson World Health Organization
Thematic overview	Freya Mills WHO/UNICEF JMP

A common framework for implementation

- Only 5 years before reaching the end of SDG period
- SDG 6 GAF and UN System-wide strategy on water and sanitation as a basis - sector alignment and coordination needed
- Major gaps in understanding what SMS and climate resilient sanitation (CRS) means
- WHO/UNICEF aligned in the sanitation approaches via the Game plan and the Guidelines - motived to work jointly with sector partners to support shift towards SMS





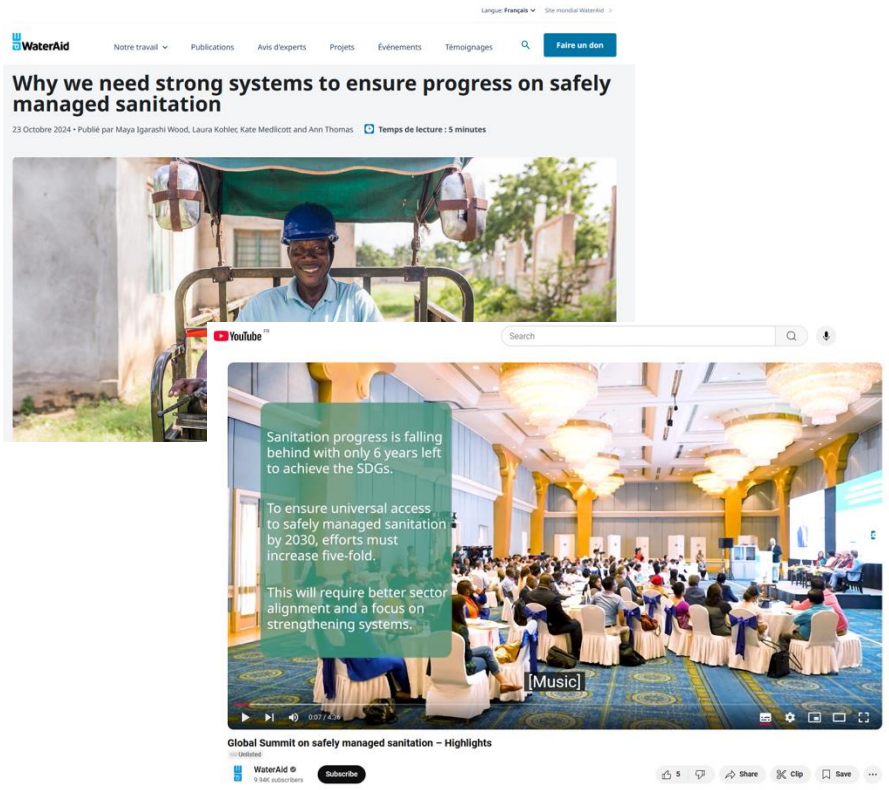
8 practical steps

- **Builds on SMS workshop experience –** request to simplify implementation
- **Steps –** flexible/not linear, includes checklist and key actions that can be taken to progressively move towards SMS
- **Assist country teams** to work together at national and subnational levels, and **ensure activities are complementary** between the two organizations and with other sector stakeholders.

Webinar series and related resources

Sanitation Summit, Nepal, June 2024

Watch Summary and Thematic videos



Webinar series: 6 thematic areas

Webinar #1	Strengthening governance, policies and regulations	**25 February**
Webinar #2	Financing safely managed sanitation	**25 March**
Webinar #3	Strengthening data systems for decision making	**15 April**
Webinar #4	Scaling up service delivery in rural settings	**13 May *(date tbc)***
Webinar #5	Scaling up service delivery in urban settings	**27 May *(date tbc)***
Webinar #6	Human resource capacity for safely managed sanitation	**17 June *(date tbc)***

Register here:

Background

Strengthening data systems for safely managed sanitation

Freya Mills
WHO/UNICEF JMP

Overview

- **Importance of data** to advance safely managed sanitation address inequalities
- **Harmonized definitions and indicators** for consistent and comparable monitoring
- **Standardized tools and methodologies** enable routine data across the service chain
- **Developing sustainable data systems** to collect, share and use data
- **Localize indicators and targets** for different scales and users
- **Future monitoring**: Strength of WASH systems and climate resilience

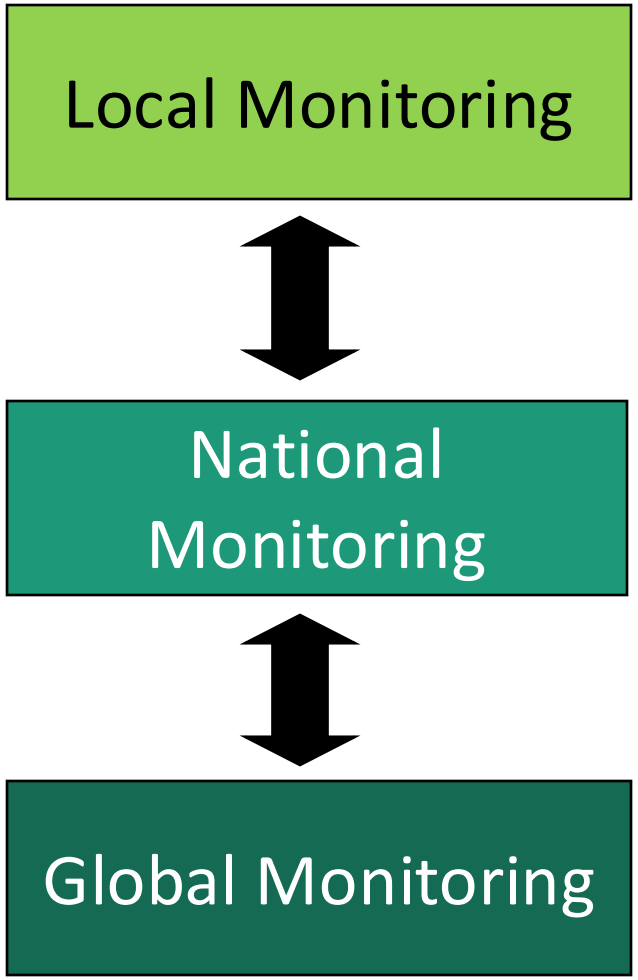
Importance of strong monitoring systems

SDG Acceleration Framework

High quality data enable:

- Response to health risks with targeted interventions
- Identify inequalities to ensure no one is left behind
- Effective governance, policymaking and accountability
- Inform decisions and facilitate resource allocation
- Track progress towards global goals and national targets

Data needs vary for different users and uses



DATA USES

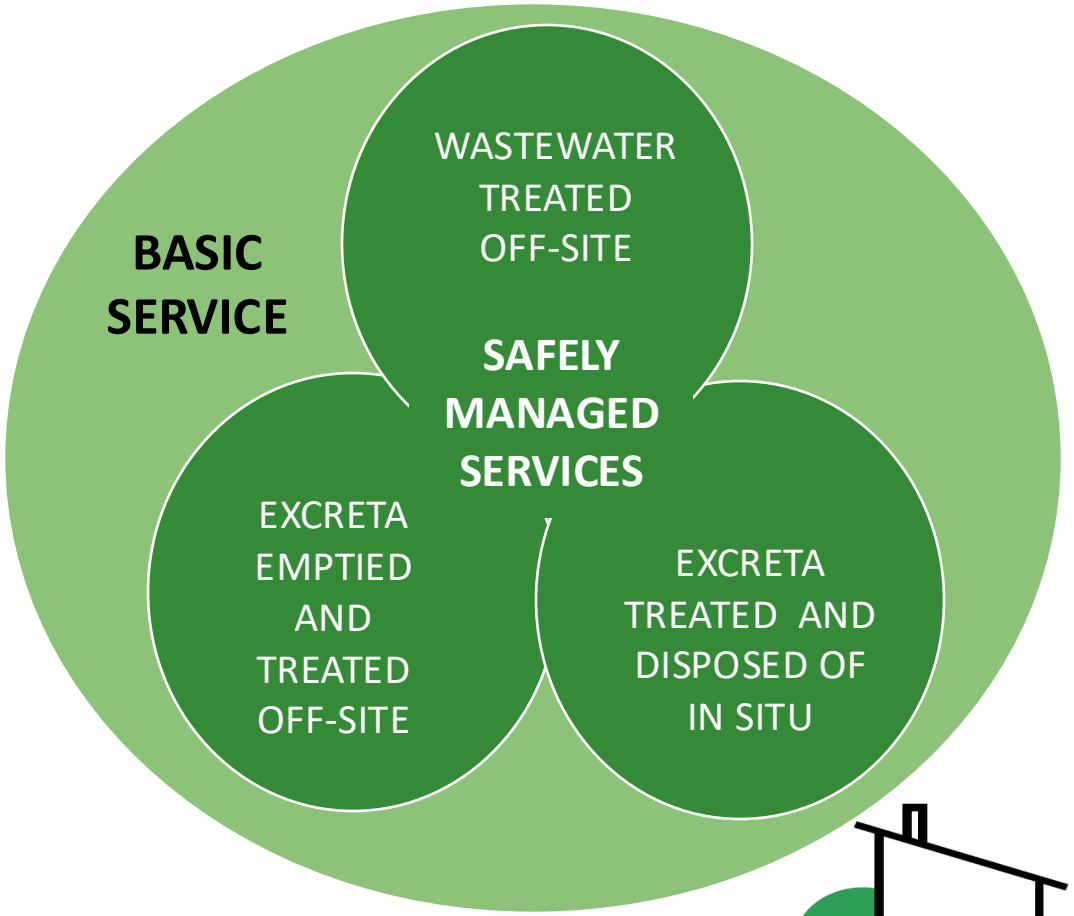
- Service access and performance
- Demand creation/ behavior change
- Risk assessment and remediation
- Market assessment
- Regulation
- Financial flows
- Strengthen enabling environment
- Identify inequalities
- Progress against global targets

Harmonized definitions for standardized data

Global service ladder for SDG 6.2.1a

	SERVICE LEVEL	DEFINITION
IMPROVED	SAFELY MANAGED	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or removed and treated off-site
IMPROVED	BASIC	Use of improved facilities that are not shared with other households
IMPROVED	LIMITED	Use of improved facilities that are shared with other households
	UNIMPROVED	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
	OPEN DEFECATION	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open places, or with solid waste

What is ’safely managed sanitation’?

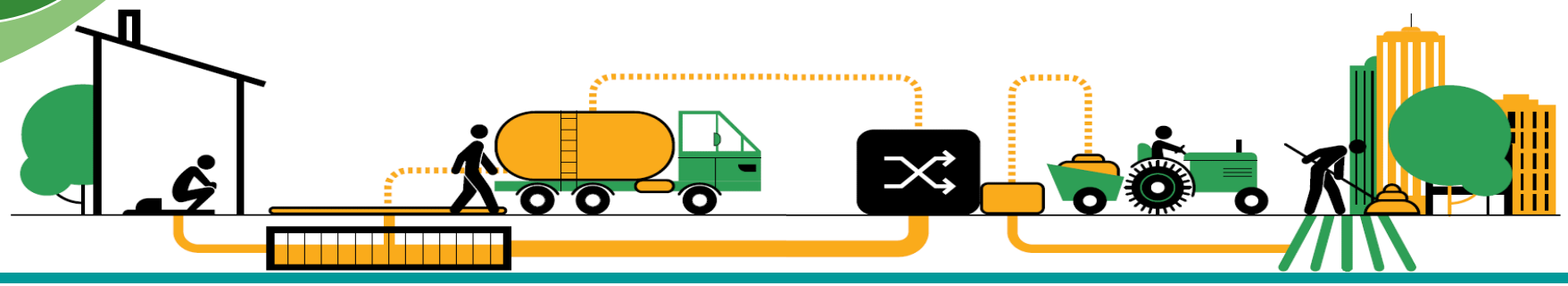


Safely managed services

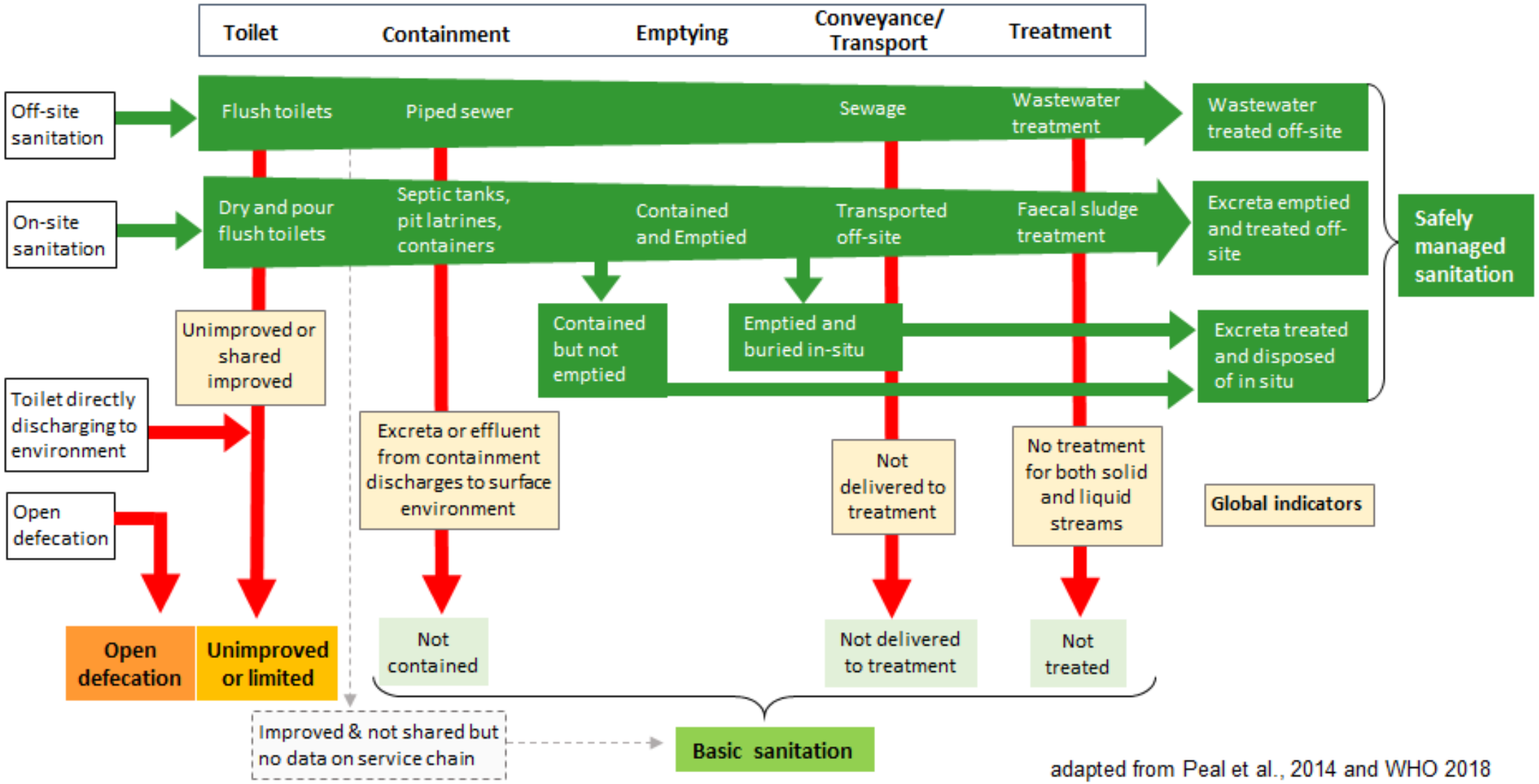
At least basic sanitation (improved, not shared)

AND

i. **On-site sanitation treated and disposed in-situ** (safe disposal in-situ), or
ii. **On-site sanitation emptied and treated off-site** (faecal sludge emptying and treatment), or
iii. **Sewer to wastewater treatment**



Data required across service chain



adapted from Peal et al., 2014 and WHO 2018

Large data gaps for on-site sanitation

Global data availability for safely managed sanitation

% of population (# countries, areas and territories) in 2022	SANITATION			
	Safely managed	Safely disposed of in situ	Emptied and treated	Wastewater treated
World (235)	86% (135)	85% (137)	1% (5)	59% (111)
Rural	80% (90)	84% (90)	0% (1)	9% (4)
Urban	81% (117)	83% (119)	24% (2)	44% (24)

Range of data sources needed

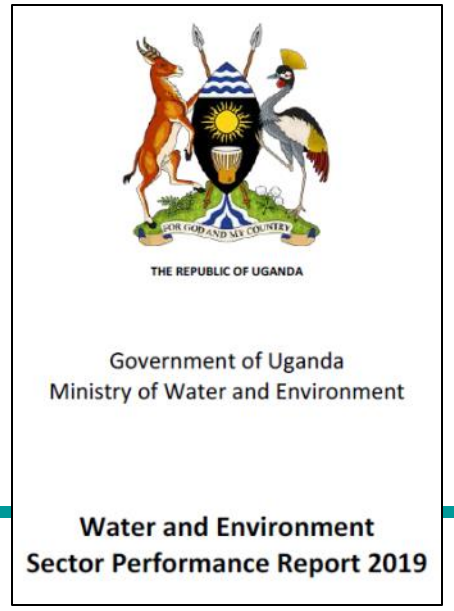
Service chain / Data collection method	Facility type	Containment	Emptying	Transport	Treatment
Household questionnaire				In-situ only	
Household sanitary inspection					
Administrative and regulatory data					
Service provider and local government surveys					
Service chain spot checks / inspections					

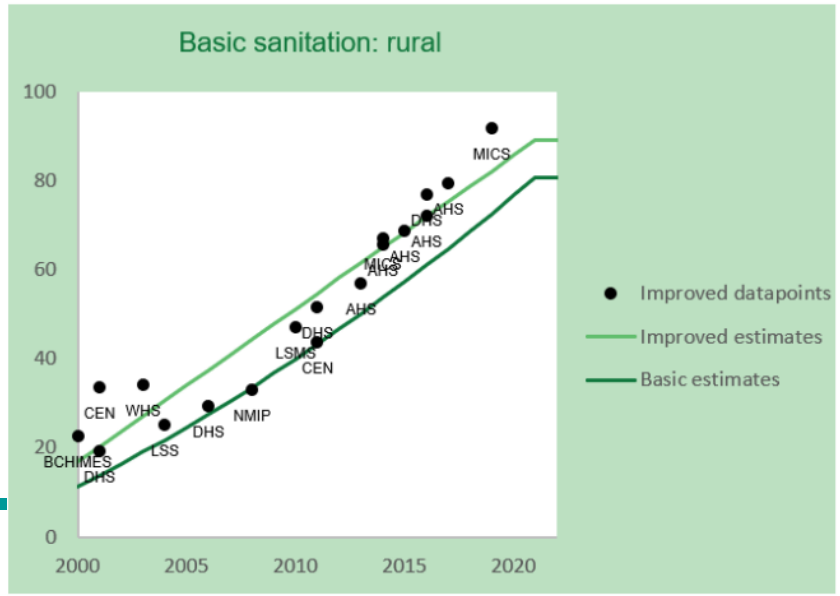
Levels of reliability and use of source — Low — High

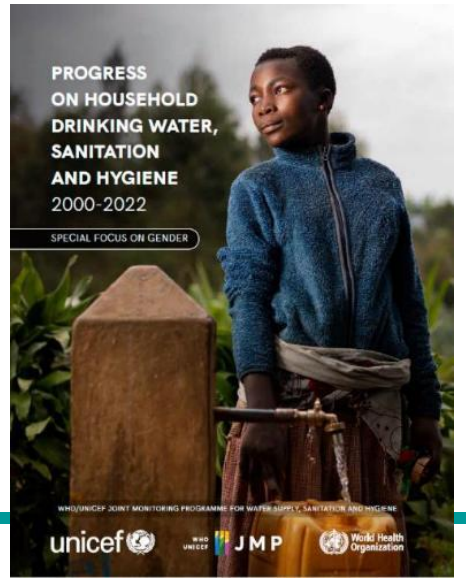
RESOURCES: https://washdata.org/monitoring/sanitation

JMP report cycle (every 2 years)

Continuous	August – October	November – January	February-March	April-June
Identify national data sources	Prepare draft estimates	Country consultation	Finalize estimates	Write and publish report







Align to accelerate (A2A): Core indicators to monitor strength of WASH systems

Multi-stakeholder initiative

- What factors lead some countries to make rapid progress towards increasing access to WASH services and others not?
- Convergence on WASH systems strengthening but varied descriptions and the monitoring piece is missing
- A common monitoring and review framework with a core set of indicators is needed
- Enable decision-makers to accurately monitor progress, evaluate impact, and ensure accountability at country, regional and global level
- For more information, see [A2A webpage]

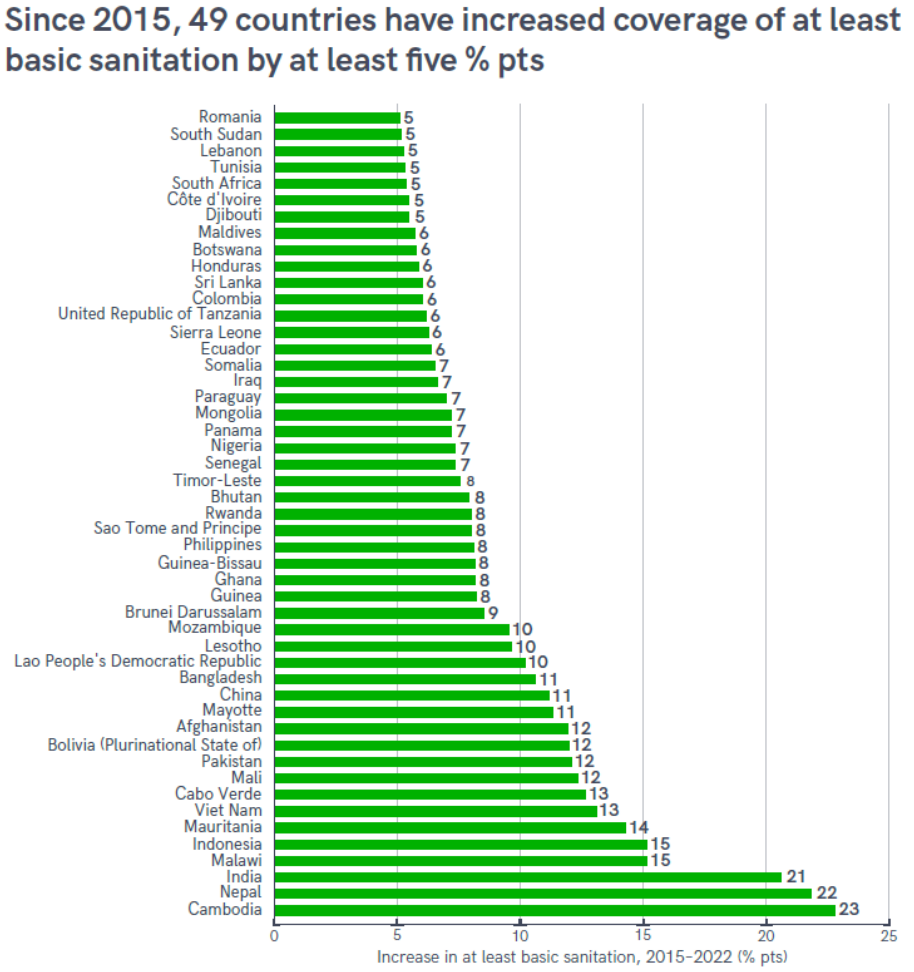


FIGURE 52 Change in the proportion of population using at least basic sanitation services, among countries with at least a five % pt change,

World Health Organization

unicef

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A2A Discussion Paper – *for review/comments by 30 April*

The *A2A Discussion Paper* proposes a technical approach for the selection of a slim set of core indicators:

- **Proposal 1. Indicator domain families.** Eight groupings of WASH system-related topics and two priority cross-cutting areas for which core indicators will be defined.
- **Proposal 2. Core indicator selection criteria.** Ten criteria are proposed to evaluate and rank potential candidate core indicators.
- **Proposal 3. Process to select and prioritize A2A core indicators.** A multi-step process is proposed to engage and consult a diverse set of stakeholders and subject matter experts.

The *A2A Background Paper* provides additional information, examples and analysis.

For more information, join the webinar co-organized with Agenda for Change on 17 April at 13h CEST (interpretation in FR/ES)

Zoom registration link:

Review process: monitoring climate resilience and WASH

- GLAAS and JMP are conducting a review of monitoring climate resilience and WASH:
  - Identifying frameworks, indicators, data collection opportunities, and data describing links between climate resilience and WASH.
  - A consortium of academic institutions (Leeds, Bristol, Oxford, UTS) were selected in March 2024 to support the work.
  - A Technical Working Group provides inputs and reviews outputs.
  - Outputs will identify areas where GLAAS and JMP could focus future monitoring efforts.
- Engaging with multiple stakeholders
  - Public webinars: July 2024, February 2025, April 2025
  - Outreach about the initiative has been started and will continue during global events, conferences, trainings and webinars
- Results to feed into work on Global Goal on Adaptation
  - Identification of indicators for GGA Water target 9a

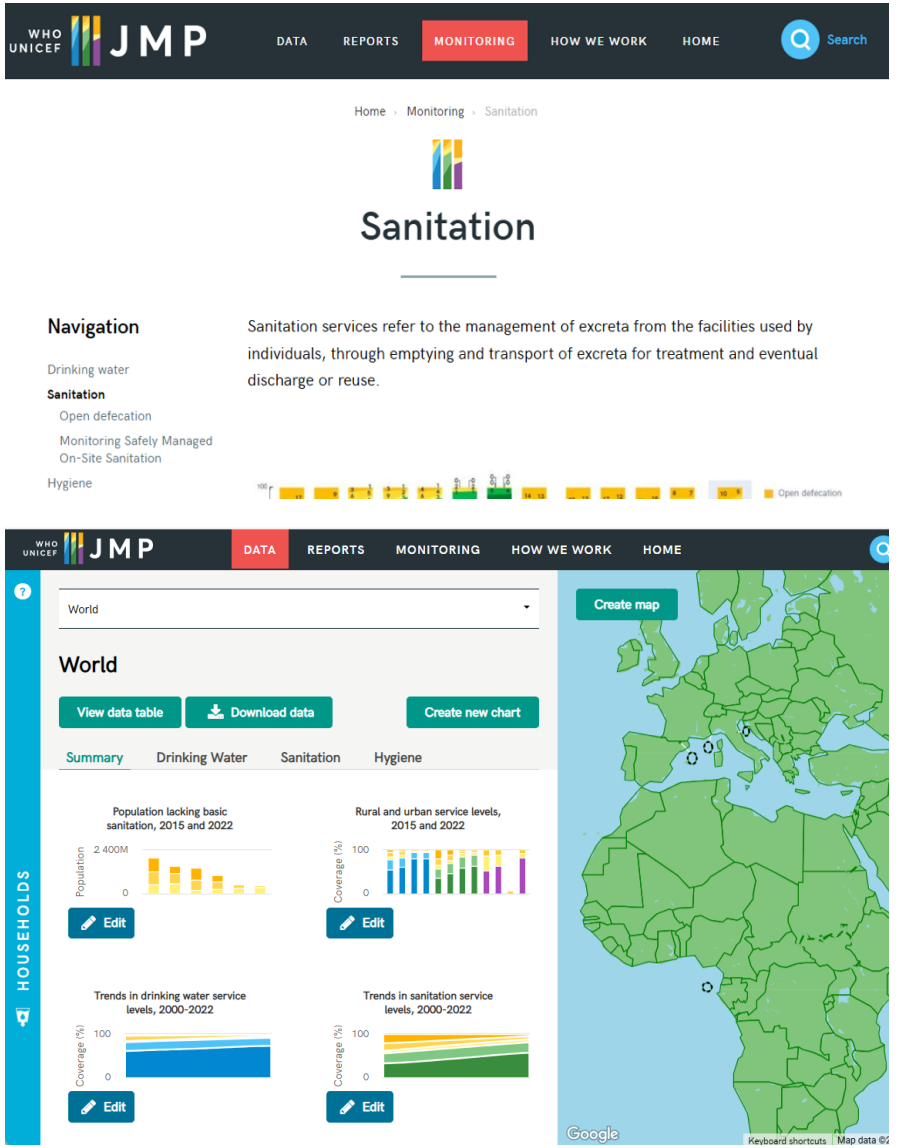
For more information, join the webinar 23 April at 9am and 4pm CET (interpretation in FR/ES)

unicef | WHO UNICEF JMP | World Health Organization | glaas UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water

For more information

https://washdata.org/monitoring/sanitation

- Guidance, indicators, draft tools, key lessons and examples from Phase 1 pilots
- Upcoming: Monitoring SMOSS online and offline training, data collection and analysis tools
- Country files and tools to explore the global data



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Country examples

Monitoring safely managed on-site sanitation in Kenya

Festus Mutuku

Ministry of Water, Sanitation and Irrigation, Kenya

Non-sewered sanitation data systems in Sub-Saharan Africa: status, challenges, and recommendations

Shuko Musemangezhi

Dev-Afrique, Zambia

Monitoring Safely Managed On-site Sanitation in Kenya

Eng. Festus Mutuku
Principal Superintendent Water Engineering
Ministry of Water, Sanitation and Irrigation

1. SANITATION IN KENYA

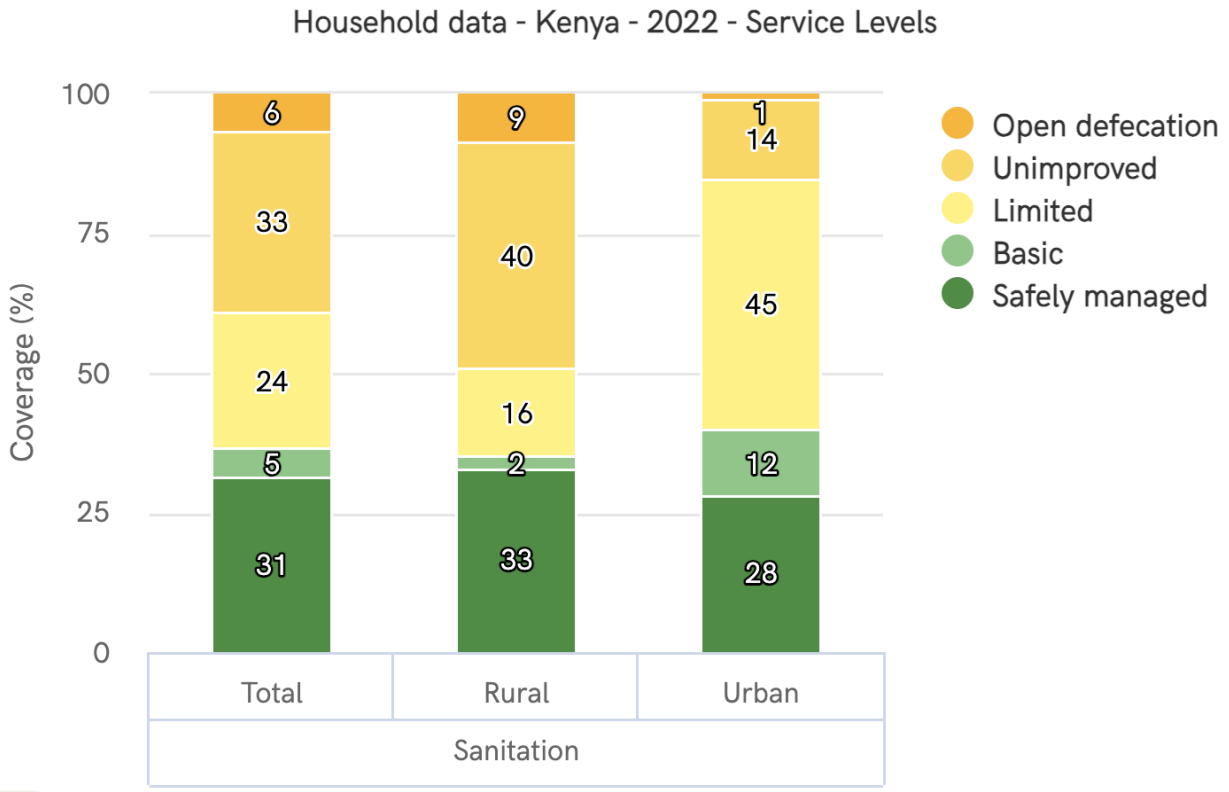
Approximately 6% of the population practices open defecation with 31% accessing safely managed sanitation services (28 % Urban, 33% rural) (JMP 2022).

Rapid urbanization (incl. emergence of informal settlements) demonstrates the need for safely-managed on-site sanitation.

The National Water and Sanitation Investment Plan has set a target of 40 percent sewer coverage by 2030, calling for the safe management of Non-Sewered Sanitation.

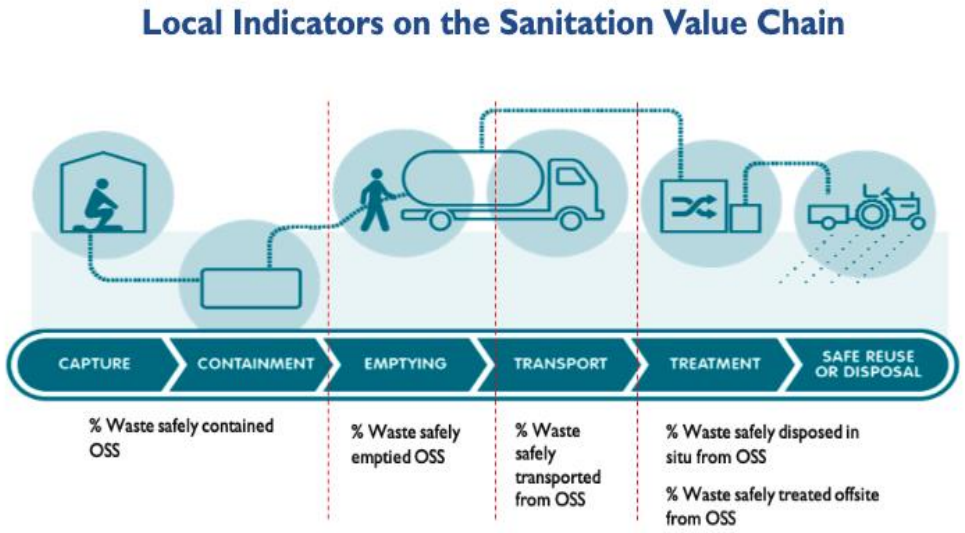
There is a lack of national data, monitoring systems, and frameworks covering the entire sanitation service chain—particularly emptying and transport—remaining a significant bottleneck in estimating SMS coverage.

MoWSI, with UNICEF's support, initiated an initiative to create a set of harmonized indicators and methods to assess the safe management of on-site sanitation systems (SMOSS).

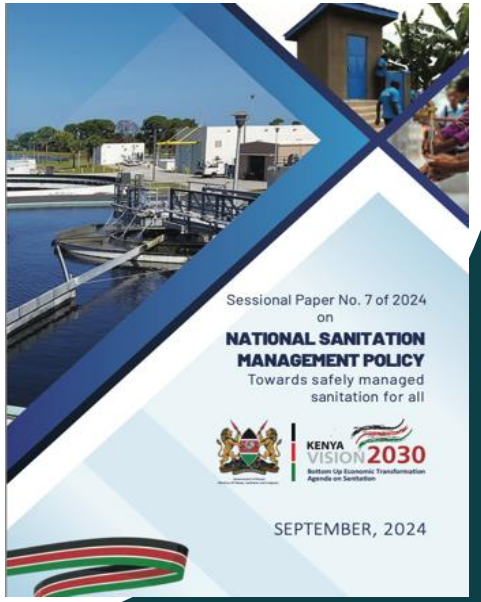


2. SCALE UP OF SMOSS IN KENYA

- **A pilot of SMOSS indicators and tools** was conducted in 3 counties from April 2021 – July 2022, covering the entire sanitation value chain.
- Recommendations from the pilot study:
    1. Coordinate with key institutions to standardize sanitation monitoring and integrate the SMOSS tools and indicators into national systems.
    2. Improve data on emptying and transport, which is not well-captured by existing data sources, to estimate SMS coverage.
    3. Incorporate locally relevant solutions and technologies.
    4. Expand pilot activities to facilitate SMOSS data collection and analysis at national scale.
- A subsequent study was conducted from January to July 2024 to assess the enabling environment and develop an **effective strategy for scaling up SMOSS** in Kenya.
- The Draft Sessional Paper No. 7 of 2024 on the **National Sanitation Management Policy** is key to providing a framework for monitoring SMOSS indicators in Kenya.



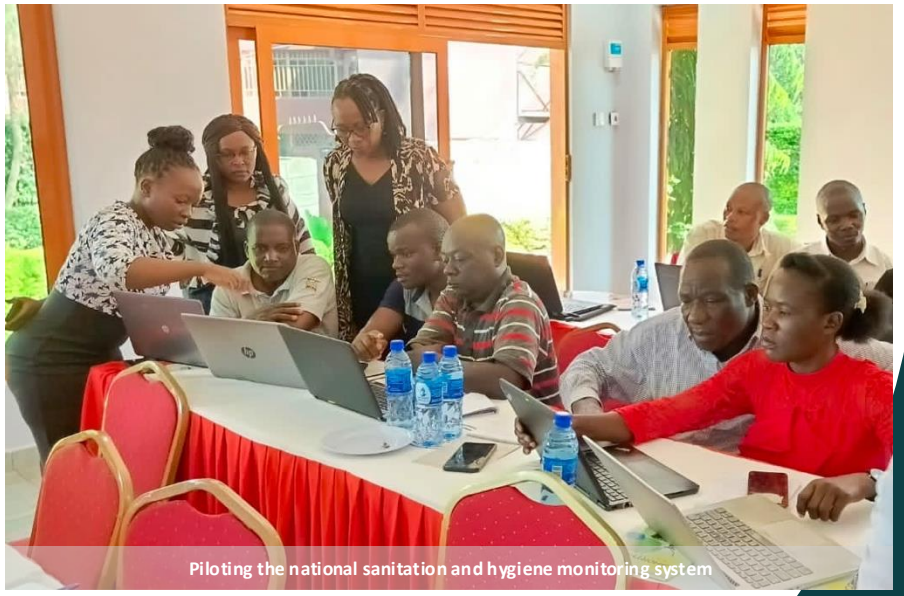
These indicators are applicable to Kenya in specific, and other countries with similar characteristics.



The Water Services Regulatory Board (WASREB) monitors performance of Water Service Providers (WSPs) through the WARIS platform. KPIs for SMOSS were validated in 2024 and are being finalized to enhance sanitation performance monitoring.

The Real-time Information Monitoring system (RTMIS) launched in 2024, incorporating the SMOSS indicators as part of the urban sanitation household data. As the RTMIS is rolled out nationally, this provides an opportunity for integration with WARIS.

#	Indicator	Definition
1	Overall % safely managed onsite sanitation	% of waste that is safely managed throughout the entire sanitation value chain (containment, emptied, transported, treated)
2	% Waste safely contained	% of waste that has a low risk to the environment in its containment stage. Calculated as % fully lined pit latrines, septic tanks or unlined pit latrines and septic tanks where the risk of groundwater contamination is low. Includes composting toilets and container-based sanitation (CBS).
3	% Waste safely emptied	% of waste that is low risk to the environment during emptying. Calculated as % of waste emptied by authorized personnel using manual, semi-mechanized or mechanized equipment, with PPE and does not pose a risk to the surrounding environment during emptying
4	% Waste safely transported	% of waste that is low risk to the environment during transport. Calculated as waste transported using sewers, barrels, buckets, tanks or vacuum trucks that DO NOT leak during transportation.
5	% Waste safely treated	% of waste that is properly treated before being released into the environment. Calculated as a percent of the difference between the actual capacity (m^3/day) of the treatment plant and the treated flow (m^3 of wastewater and fecal sludge / day)



Piloting the national sanitation and hygiene monitoring system

3. CONCLUSION

The establishment of a robust regulatory framework comprising of clear guidelines and standards, monitoring systems coupled with capacity building, is essential for scaling up SMOSS in Kenya. This framework can help ensure that sanitation services are not only safely managed but also sustainable in the long term.

THANK YOU

WSH Data Labs
DATA SYSTEMS FOR SANITATION SERVICE DELIVERY

AN INITIATIVE BY
Dev-Afrique

Non-Sewered Sanitation Data Systems in Sub-Saharan Africa: Status, Challenges, and Recommendations

Bridging Gaps, Unlocking Opportunities, and Driving Impact

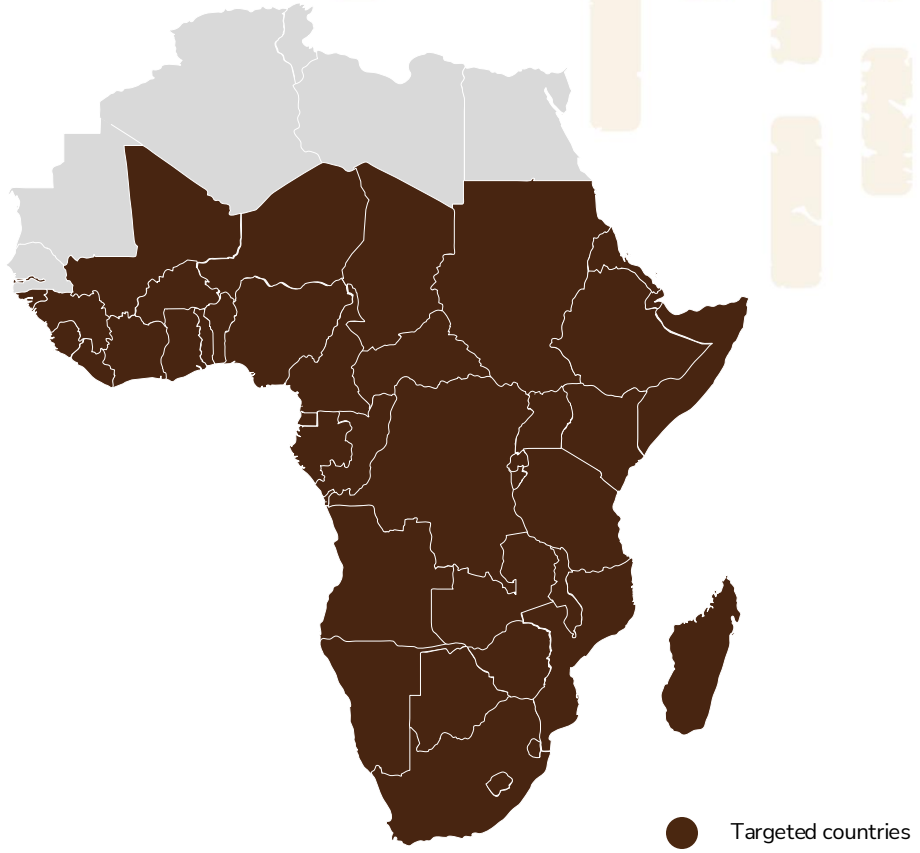
Shuko Musemangezhi | 15/04/2025

Dev-Afrique is implementing a Sanitation Data Systems Strengthening project in sub-Saharan Africa with support from the Gates Foundation

Project goal: To improve public data systems for effective decision-making and performance management for sanitation service delivery at municipal and utility levels

Dev-Afrique contributions:

- **Improve understanding of data systems strengthening best practices from non-WSH data systems** like Health. Dev-Afrique will landscape transferable best practices from health sector data systems to facilitate learning within WSH
- **Improve understanding of the current state of non-sewered sanitation data systems** at municipals and utilities in sub-Saharan Africa.
- **Support developing and piloting the WSH data systems maturity index** developed by ESAWAS and Athena.
- **Landscape and develop an inventory of successful WSH tools** in South Asia and sub-Saharan Africa. The tools resulting tools map will facilitate lesson learning and potential replication in municipals and utilities with existing gaps.
- **Provide technical support and facilitate cross-learning and insights sharing** on data systems best practices.



Why NSS Data Systems Matter

Robust Data Systems

Inform Policy & Planning: Enable evidence-based decision-making for sanitation investments.

Improve Service Delivery: Enhance monitoring of access, safety, and inclusivity.

Support Climate Resilience: Track the impact of climate change on sanitation systems.

Drive Accountability: Strengthen regulatory frameworks and performance monitoring

Global Reporting

SDG	Linkage with sanitation
Clean Water & Sanitation	Tracks access to safely managed sanitation, faecal sludge management, and hygiene
Good Health & Well-being	Links sanitation data to disease surveillance, antimicrobial resistance, and public health
Sustainable Cities	Supports urban sanitation planning, informal settlement upgrades, and waste management
Climate Action	Monitors resilience of sanitation services to climate shocks and extreme weather
Gender Equality	Captures gender-disaggregated sanitation access data for policy action

Regulatory Demands

Utility Goals

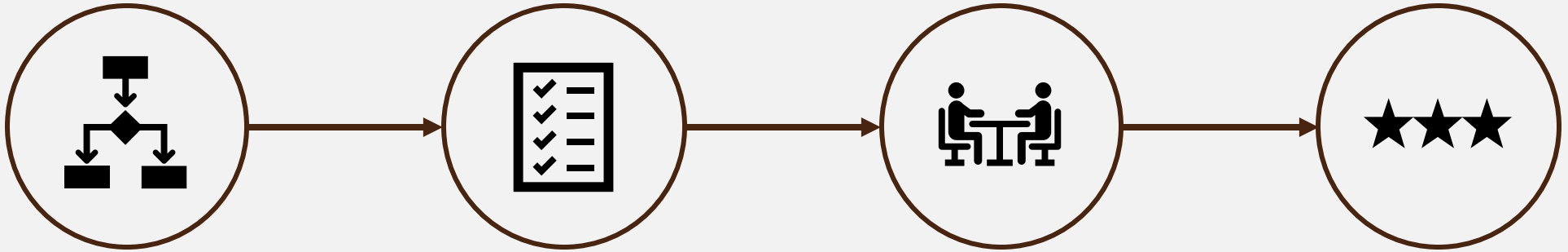
Why NSS Data Systems Matter

NSS data scarcity across SSA has led to a **lack of requisite data** needed **to improve service delivery**, **track performance**, **increase operational efficiency**, and build an **investment case for resource allocation**

Dev-Afrique, supported by the Gates Foundation, conducted a **landscape assessment of NSS data systems across utilities and municipalities** in 10 SSA countries **to illuminate existing challenges and enable the identification of best practices** that can guide interventions aimed at strengthening NSS data systems.

Assessment Scope and Methodology

Qualitative case study using a participatory approach



Adaptation of assessment framework

Dev-Afrique's 2022 Geospatial Value pipeline framework was adapted to map critical elements of a data system.

Desk based review

A review of online articles, conference proceedings, previous reports, and key stakeholder reports and websites.

Stakeholder interviews & analysis

Dev-Afrique interviewed 28 stakeholders including governments, regulators, utilities, and municipalities from 10 countries.

Multi-layer review

The draft report underwent multiple layers of peer review to validate the findings.

Assessment Scope and Methodology

1 **To ensure the data value chain is most effective, first define the data's intended use**—*i.e, What decisions do you want to make using data?*

Main pillars

Subpillars

2 Generation	3 Analysis	4 Operationalization
Data form *What form of data is being collected?*	**Data validation** *How is data validated?*	**Performance & accountability reporting** *How is data used for internal & external accountability?*
Data source *Where is data collected?*	**Data cleaning** *What is the data-cleaning process?*	**Planning & performance management** *How is data used for planning & performance management?*
Tools *What tools are used for data generation?*	**Analytics** *How is data analyzed?*	**Use cases** *What are other data use cases?*
Data collection *What is the data collection process?*	**Visualization** *How is data visualized?*	
Data storage *Where and how is data stored?*		

2 3 4

Data system principles

- Data governance
- Data quality
- Data integration & interoperability
- Data transparency
- Data access & sharing
- Data usability at utility
- Human resource
- Coordination
- Financing

Assessment Scope and Methodology

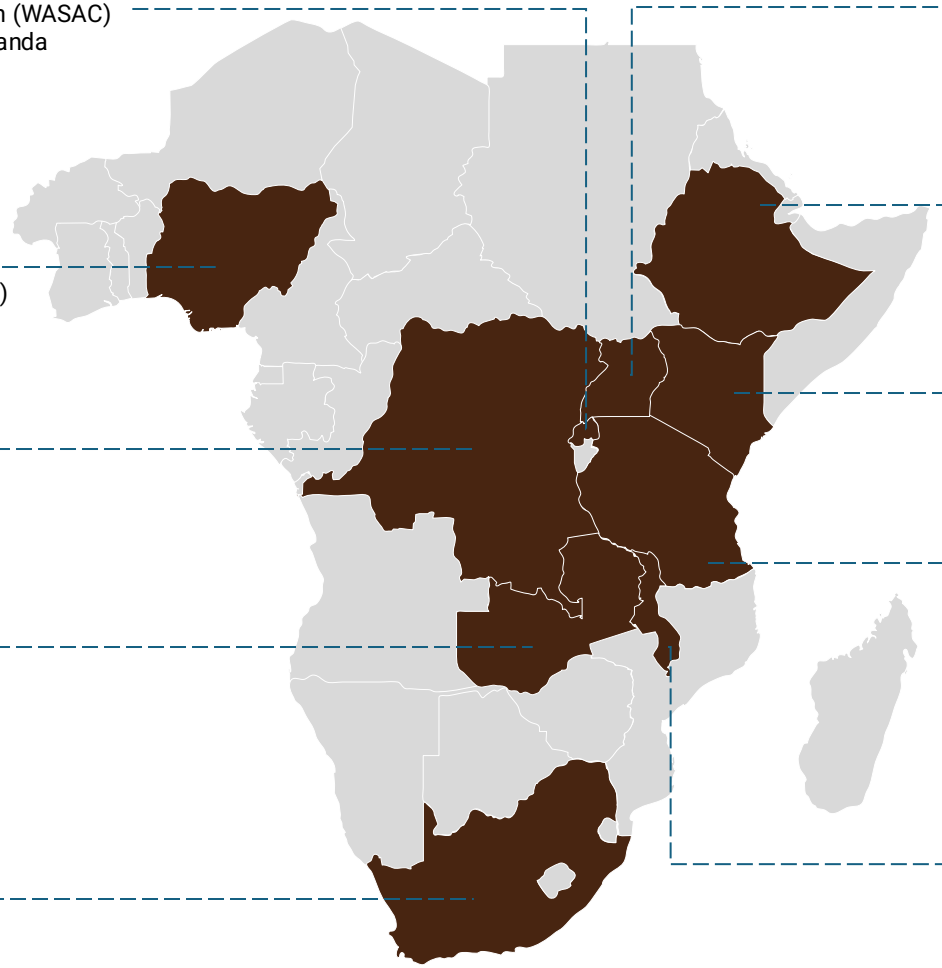
Rwanda
Rwanda Utilities Regulatory Agency (RURA)
Water & Sanitation Corporation (WASAC)
Association of Emptiers in Rwanda

Nigeria
Office of Drainage Services
Lagos State Ministry of the Environment & Water Resources (MoE Lagos)
Lagos State Water Regulatory Commission (LASWARCO)
Lagos State Wastewater Management Office (LSWMO)
Environmental Health Council of Nigeria

DRC
US. Agency for International Development

Zambia
Southern Water & Sanitation Company (SWSC)
Lusaka Water Supply & Sanitation Company (LWSC)
Western Water Supply & Sanitation Company (WWSC)
Ministry of Health (MoH)

South Africa
Department of Water & Sanitation (DWS)



Uganda
Water Utility Regulation Department (WURD)
Kampala Capital City Authority (KCCA)
National Water & Sewerage Corporation (NWSC)
Ministry of Health

Ethiopia
Ministry of Water & Energy

Kenya
Ministry of Water, Sanitation, & Irrigation (MoWSI)
Water Services Regulatory Board (WASREB)
Water & Sanitation Providers Association (WASPA)
Kisumu Water & Sanitation Company (KIWASCO)
Malindi Water & Sewerage Company (MAWASCO)
Nakuru Water & Sanitation Company (NAWASSCO)

Tanzania
Energy & Water Utilities Regulatory Authority (EWURA)

Malawi
Lilongwe City Council (LCC)
Lilongwe Water Board (LWB)

Landscape Status

Most utilities have not conducted baseline mapping

Most utilities use basic analytics approaches and excel for analysis.

NSS data is not fully mainstreamed into utility decision-making process

No existing standard operating procedures to guide data system principles

Non-sewered sanitation data systems in sub-Saharan Africa are weak and fragmented

Data Generation | Data Analysis | Data Operationalization

1. Infancy of NSS data collection methodologies
2. Lack of baseline NSS data
3. Inadequate political will and investments
4. Weak data capacities
5. Fragmentation of NSS data collection
6. Fragmented NSS data storage systems
7. Limited of regulation and clear reporting frameworks
8. Poor data quality
9. Inadequate compliance monitoring

Non-sewered sanitation data systems in sub-Saharan Africa are weak and fragmented

Data Generation | **Data Analysis** | Data Operationalization

1. Lack of automated data validation tools
2. Project driven analysis
3. Insufficient skilled personnel
4. Absence of interoperable data systems
5. Under-utilization of GIS capabilities
6. Inaccurate GIS mapping
7. Financial constraints
8. Absence of NSS data systems guiding principles

Non-sewered sanitation data systems in sub-Saharan Africa are weak and fragmented

Data Generation

Data Analysis

Data Operationalization

1. Fragmentation of NSS data
2. Limited funding
3. Political interference
4. Limited operationalization of NSS data
5. Inconsistent data quality
6. Limited MEL frameworks and dedicated units

Significant opportunities exist to drive impact for NSS data systems

1. **Standardization of Data Protocols (KPIs, guidelines, policies, regulation)**: Establishing uniform data collection and reporting standards can enhance the reliability and comparability of sanitation data.

2. **Investment in Digital Infrastructure**: Allocating resources towards digital tools and platforms can streamline data management processes.

3. **Capacity Building**: Training personnel in data management and analysis is crucial for the effective utilization of data systems.

4. **Integrated Monitoring Systems**: Developing centralized platforms that aggregate data from various sources can provide a comprehensive overview of sanitation services and inform policy decisions.

5. **Building a strong investment cases** for NSS data systems

AN INITIATIVE BY

Dev-Afrique

DESCRIPTION

This report examines non-sewered sanitation (NSS) systems across Sub-Saharan Africa, highlighting key gaps, challenges, and practical solutions for utilities, municipalities, and regulators to strengthen data-driven service delivery, strengthen accountability, and attract investment.

DOWNLOAD THE REPORT

Thank You

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DATA SYSTEMS FOR SANITATION SERVICE DELIVERY

AN INITIATIVE BY
Dev-Afrique

Questions & Answers

Summary and close

Ann Thomas
Senior WASH Advisor
UNICEF HQ

Upcoming webinars

World Health Organization unicef WaterAid

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Register here:

Webinar 4: Scaling up service delivery in rural settings – 13 May

Webinar 5: Scaling up service delivery in urban settings – 27 May (TBC)

Webinar 6: Human resource capacity for safely managed sanitation – 17 June (TBC)