

Topic Concept Note Template

Thematic Process, 11th World Water Forum

This template should be completed through collaborative discussions among Topic Coordination Group Members under the leadership of each Topic Coordinator, and submitted to Theme Coordinators by January 30th, 2026, after which it will undergo final review by the Co-Chairs of the 11th Forum Thematic Process.

- **Theme Number: 3**
- **Theme Title: *Water for Humans and Nature***
- **Topic Number: 3B**
- **Topic Title: *Developing Access to Sanitation Services and Improve Wastewater Collection and Treatment: Ensuring full sanitation access and manage the entire wastewater chain from generation (containment) to reuse and safe discharge.***
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I. Topic Overview

Rationale and Context

Sanitation and wastewater management are central to achieving human well-being, public health, environmental protection, climate resilience and sustainable development. Within Theme 3, Water for Humans and Nature, Topic 3B is particularly important because inadequate sanitation and untreated wastewater directly affect both people and ecosystems. Unsafe sanitation increases public health risks, limits educational and economic opportunities, especially for women and girls, and contributes to the pollution of rivers, aquifers, lakes, coastal areas and biodiversity-rich ecosystems.

Global data from the WHO/UNICEF JMP shows that in 2024, nearly 3.4 billion people worldwide still lack access to safely managed sanitation (43% of the global population) and nearly 1.5 billion people to basic sanitation (18%). This means that, globally, we are not on track to achieve SDG target 6.2 by 2030.

These global figures mask significant disparities between the world's major regions and between urban and rural areas. Although significant progress has been made in most regions, access to sanitation services remains very low and is progressing slowly in sub-Saharan Africa and Oceania. In sub-Saharan Africa, three-quarters of the population do not have access to safely managed sanitation and two-thirds do not even have basic sanitation.

At the same time, although access to sanitation is recognized as a human right, it remains a major challenge for most countries. This challenge extends beyond access to sanitation facilities and

includes wastewater collection, treatment and reuse, as a large proportion of wastewater and faecal sludge continues to be discharged without adequate treatment, even though comprehensive data remains limited in many contexts. These gaps threaten water security, public health and ecosystem integrity, and are closely linked to current water pressures, including climate change, urbanization, demographic growth, water scarcity, pollution, and the increasing demand for resilient and circular water management systems.

In Latin America and the Caribbean, including Mexico, important progress has been made in expanding water and sanitation infrastructure. However, major gaps persist in wastewater treatment, faecal sludge management, service quality, rural and peri-urban access, and the operation and maintenance of existing systems. These challenges are especially visible in small and medium-sized municipalities, informal settlements, indigenous and rural communities, schools, health care facilities, and areas exposed to droughts, floods and hurricanes. In this context, sanitation is not only an infrastructure issue, but also a matter of governance, financing, technical capacity, social inclusion and long-term service sustainability.

At the local level, municipalities and water and sanitation operators often face limited resources to expand services, rehabilitate infrastructure, operate treatment plants, regulate non-sewered sanitation systems and promote safe reuse. In countries such as Mexico, the diversity of territories, from large metropolitan areas to rural and dispersed communities, highlights the need for context-specific solutions that combine sewerage systems, on-site sanitation, decentralized treatment, wastewater reuse, nature-based solutions, stronger local capacities and community participation.

Access to sanitation and hygiene is essential for human well-being, health, the environment and social & economic development but the challenge of achieving the sanitation SDG targets (6.2 & 6.3) is significant and the current trajectory for achieving them by 2030 is seriously off-track. Considerable efforts are needed and must be multiplied by at least six, and even more in some regions, if we want to achieve the 6.2 SDG target.

Furthermore, although sufficient data is not currently available in many contexts, it is estimated that a large proportion of wastewater is not treated and is still discharged without adequate treatment. Wastewater collection, treatment, safe reuse and resource recovery therefore remain major global challenges, even where emerging markets exist for sanitation by-products within circular economy approaches. These gaps threaten water security, public health and ecosystem integrity, while also limiting opportunities for climate resilience, water reuse, energy recovery and nutrient valorization..

This topic is directly aligned with SDG 6, particularly targets 6.2 on sanitation and hygiene and 6.3 on water quality, wastewater treatment and safe reuse. It also contributes to SDG 2 by enabling the safe reuse of treated wastewater and nutrients in agriculture; SDG 3 by reducing disease risks and improving public health; SDG 4 through safe sanitation in schools; SDG 5 by addressing the needs, safety and dignity of women and girls; SDG 11 by supporting inclusive, resilient and sustainable cities and communities; SDG 13 through climate-resilient sanitation systems; SDG 14 and SDG 15 by reducing pollution of aquatic and terrestrial ecosystems; and SDG 17 by promoting partnerships, financing and knowledge exchange.

The topic also integrates key cross-cutting dimensions. Climate resilience will be addressed through the adaptation of sanitation infrastructure and services to droughts, floods, extreme rainfall, hurricanes and other climate-related risks. Gender and youth inclusion will be promoted by ensuring that women, girls, young people and other vulnerable or marginalized groups are represented in planning, decision-making and service design. Digital innovation can support monitoring, geospatial planning, service performance, early warning, asset management and transparency. Partnerships among governments, utilities, communities, academia, development banks, civil society and the private sector will be essential to scale up solutions. Sustainable financing will also be a core dimension, particularly for operation and maintenance, fecal sludge management, wastewater treatment, reuse and circular economy initiatives.

Building on the outcomes of the 10th World Water Forum in Bali, Topic 3B aims to continue to work on political will, policy implementation, strengthening local capacities, enabling supportive regulatory frameworks, and promoting innovative technical, organisational and governance approach to reach SDG 6.2 and 6.3 target and contribute to other SDGs.

Through this integrated approach, Topic 3B seeks to advance sanitation as a human right, a public health priority, a climate adaptation measure and a pathway to protect nature while generating social, environmental and economic value.

Objectives of the Topic

The main objective of Topic 3B is to promote action-oriented and initiative-driven discussions to accelerate progress toward safely managed, inclusive, resilient and circular sanitation services, while improving wastewater collection, treatment, reuse and safe discharge.

A central objective of the topic is to consider the entire sanitation value chain, from access to toilets to the organization of wastewater disposal, treatment and resource recovery/reuse, considering both for on-site and off-site sanitation (sewerage) systems, in urban and rural areas -> link to CWIS approach (City wide inclusive sanitation approach). This approach will consider both on-site and off-site sanitation systems, including sewerage systems, and will address the specific needs of urban, peri-urban and rural areas. It will also be linked to the principles of Citywide Inclusive Sanitation, recognizing that sanitation services must be planned and managed in an inclusive, context-specific and service-oriented manner.

More specifically, Topic 3B aims to:

Technical objectives

- Strengthen practical approaches for managing the full sanitation and wastewater service chain, including sewerage and non-sewerage systems, faecal sludge management, wastewater treatment, safe discharge, reuse and resource recovery.
- Promote context-specific and climate-resilient technical solutions for urban, peri-urban and rural areas, including decentralized, hybrid and nature-based systems, supported by digital tools and performance monitoring.

Policy and institutional objectives

- Strengthen policy, regulatory and institutional frameworks that enable universal and equitable access to safely managed sanitation, improved wastewater management and circular economy approaches.
- Promote governance and financing mechanisms that clarify responsibilities, improve coordination among actors, and support investment, operation, maintenance, rehabilitation and service expansion.

Capacity building and knowledge objective

- Strengthen the technical, managerial and institutional capacities of local governments, utilities, service providers and community-based actors involved in sanitation and wastewater management.
- Facilitate knowledge exchange, case studies and post-Forum partnerships among regions, including Latin America and the Caribbean, to translate Forum discussions into concrete actions, pilots and scalable initiatives.

II. Key Issues, Opportunities, and Scope

Key Challenges

Persistent inequalities in access to sanitation at household level, but also in various places, particularly in schools and healthcare facilities, rural areas, informal settlements and vulnerable or marginalized communities. These gaps particularly affect women and girls, children, people with disabilities, indigenous peoples and low-income populations.

Weaknesses across the sanitation service chain, particularly in the evacuation, emptying, transport and treatment segment. This is specially relevant for on-site sanitation systems, where fecal sludge management needs to be improved, regulated and professionalized.

Insufficient wastewater treatment plants and fecal sludge treatment plants. In many contexts, treatment capacity remains limited or does not operate effectively, contributing to untreated discharges into water bodies and ecosystems.

High capital and operational costs of wastewater and sanitation infrastructure, particularly under rising energy prices, combined with insufficient financing models for operation, maintenance, rehabilitation and service expansion.

Financing models need to be improved for the operation and maintenance of the service

There is a need to strengthen the capacities of each stakeholder involved in the implementation of sanitation services

The implementation of resource recovery and reuse in the sanitation chain is limited due to regulatory, financial, technical and social barriers.

Institutional, regulatory and governance challenges, including Lack of political will and policies, fragmented governance and insufficient coordination between sectors and administrative levels, and limited enforcement of sanitation and wastewater regulations.

Increasing vulnerability of sanitation infrastructure to climate-related extremes such as droughts and floods

Opportunities and Strategic Importance

Build on regional platforms for technical and political dialogue with governments and stakeholders such as AFRICASAN, EASAN, SACOSAN, LATINOSAN to mobilise high level political commitments and dialogue between the stakeholders.

Build on lessons learned from approaches implemented by many countries/partners for sanitation development, for example those in line with the CWIS (City wide inclusive sanitation) approach.

Sanitation and wastewater management offer substantial opportunities to support climate adaptation and circular economy objectives. Treated wastewater reuse for agriculture, industry, and environmental flows, combined with sludge valorization and nature-based solutions, can reduce pressure on freshwater resources and enhance ecosystem resilience, and generate social, environmental and economic value.

Decentralized and hybrid treatment systems, supported by digital monitoring and data- driven decision-making, provide scalable solutions for small and medium-sized municipalities, rural communities and peri-urban areas. These innovations can improve planning, operation and maintenance, transparency and service accountability, especially when combined with capacity building, sustainable financing and partnerships among governments, utilities, communities, academia, development partners and the private sector.

Strengthen policy advancement and investment frameworks by identifying regulatory, institutional and financial conditions that enable sanitation services to move from isolated infrastructure projects toward sustainable service delivery. This includes improving financing for operation and maintenance, supporting local governments and operators, and creating enabling conditions for wastewater treatment, safe reuse and resource recovery.

Proposed Priorities of the Topic / Guiding Questions

In accordance with the human right to sanitation, how can we rapidly move towards access to sanitation for all, both at the household level and in schools and health centres, while paying special attention to the needs of women and girls and people in vulnerable or marginalized situations?

Ensure strong political will at the highest national and local levels to meet the considerable challenge of improving sanitation

How can sanitation services be planned and implemented in a way that considers the entire sanitation chain, including safe access, containment, collection, emptying, transport, treatment, safe disposal, resource recovery and reuse?

Ensure that development of sanitation services that take into account the entire sanitation chain: safe access, containment, collection, treatment, disposal or resource recovery.

To consider both off-site and on-site sanitation and make the most appropriate choice according to the local context

How can all relevant stakeholders be effectively mobilized at local, national, regional and global levels, including governments, utilities, regulators, communities, civil society, academia, development partners, the private sector, women, youth and vulnerable groups?

Appropriated financing mechanisms, particularly for the development of on-site sanitation, including faecal sludge treatment plants in small towns

How can sanitation systems be transformed into climate-resilient and circular service chains that contribute to water security, ecosystem protection and sustainable development?

Which policy and financing frameworks best enable wastewater reuse and sludge valorization at local level?

How can nature-based and hybrid sanitation solutions be scaled up while ensuring public health protection, environmental safeguards, affordability and long-term operational sustainability?

Proposed Sessions of the Topic

1. Access to sanitation and wastewater management for all at household level, in schools and in healthcare facilities with a specific attention to the vulnerable population
2. Resource recovery, reuse and circular economy of faecal sludge and wastewater
3. Enabling environment for the development of the sanitation services and wastewater management taking into account the value chain approach, with a specific attention to the evacuation segment and considering both for on-site and off-site sanitation (sewerage) systems, in urban and rural areas

III. Expected Outcomes and Deliverables

Policy and Strategic Outcomes

- The basic principles are defined and adopted with respect to the institutional and organizational framework and the mechanisms for operationalizing strategies to be developed for access to sanitation services and the collection and treatment of wastewater
- Development of strategic recommendations to operationalize sanitation policies and programs, considering the entire sanitation value chain and the diversity of service models, including on-site and off-site sanitation systems.
- Identification of policy and regulatory conditions needed to support inclusive, climate-resilient and circular sanitation services, with particular attention to vulnerable and marginalized populations, small municipalities, rural communities and peri-urban areas.

Technical and Knowledge Deliverables

- The technical sanitation systems applied and the selection criteria are amended to lead to recommendations for better management of the value chain and proposals for specific provisions are made for the best use of sanitation-derived products;
- The case study of the Project of depollution of Dakar North City, which aims to reuse waste water treated for agriculture, civil works and to produce biogas for electricity effectiveness of the Sewer Treatment Plant (STP) in Senegal, is shared
- Identification of knowledge gaps, data needs and monitoring tools to support better planning, decision-making and service accountability.

Partnerships and Financing Outcomes

In Senegal we have a case study which shows how the country successfully leveraged, \$293.6 million in financing between 2020 and 2025, from \$13.3 million Gates Foundation funding grant for Senegal's Faecal Sludge Market Structuring Program (PSMBV). The original funds supported training, studies and omni processors (sewage treatment plants developed by Janicki Industries and funded by the Gates Foundation that convert human waste into valuable resources such as distilled water, electricity, and fertilizer). Other investments included a \$50 million in the framework of the Inclusive Sanitation Project reaching eight cities, co-funded by the IsDB, amounting to a 35% grant and a 65% loan throughout the Lives and Livelihoods Funds financial mechanism, and a pilot project to renew 40 emptiers' trucks, where from \$2 million of grant-backed collateral we leverage \$4 million in bank commercial bank loan.

We can describe these projects as blending finance approaches that combine public, private and philanthropic funds.

Identification of opportunities to adapt similar financing approaches to other regions, including Latin America and the Caribbean, where municipalities and utilities often face limited resources for operation, maintenance, rehabilitation and expansion of sanitation services.

Recognition of the role of national and regional utility associations and platforms, as key actors for mobilizing water and sanitation operators, facilitating technical cooperation, strengthening local capacities, promoting peer learning, and connecting policy discussions with the practical needs of service providers. These platforms can help identify investment needs, support project preparation, disseminate good practices, and foster partnerships with development banks, government institutions, academia, the private sector and international cooperation agencies.

Actions and Initiatives for Implementation

1. The pilot project to renew the 40 emptier's trucks is implemented within a framework of a MoU between USAID WashFin (technical assistance), General Delegation for Rapid Entrepreneurship for Women and Youth (Government office) and Gates Foundation (for collateral guaranteed cash), National Economic Development Commercial Bank (for loan),

- Senegal Association of Sanitation Actors (for equity)) and National Office of Sanitation of Senegal (ONAS for institutional assistance). This is an innovative financing mechanism for sanitation.
2. The Project of depollution of Dakar North City which the financing consists of a contribution from the Islamic Development Bank (IsDB) of approximately €58.88 million, through a combination of a loan of €8.45 million and Istisna'a islamic financing of approximately €50.43 million (90% of the financing). The Government of Senegal is contributing €5.14 million to the financing (10% of the financing).

Communication and Visibility

Key messages positioning sanitation as a human right, a public health priority, a climate adaptation measure and a pathway to protect ecosystems.

Visibility of case studies from different regions, to show practical solutions and opportunities for scale-up.

IV. Monitoring and Post-Forum Action

- Follow-up initiatives toward the **12th World Water Forum**

Post-Forum action could include the preparation of a short synthesis report or action roadmap with key messages, case studies, priority actions and partnership opportunities. This roadmap could support follow-up toward the 12th World Water Forum and help maintain momentum on inclusive, safely managed, climate-resilient and circular sanitation services.

- Continued partnerships, knowledge-sharing, and monitoring mechanisms

Continued partnerships and knowledge-sharing could be supported through regional platforms such as AFRICASAN, EASAN, SACOSAN and LATINOSAN, as well as national and regional utility associations. Follow-up mechanisms may include periodic exchanges, documentation of progress, case study updates, peer learning and monitoring of initiatives related to sanitation access, wastewater treatment, faecal sludge management, reuse, financing and inclusion.

V. Proposed Cross-Process Dialogue Areas

With 3A (Enhancing Access to Safe Drinking Water Services for All) and 4E (Engaging Unheard and Vulnerable Voices): **Human right and social inclusion for access to safe drinking water services and sanitation services for All**

Joint dialogue on ensuring access to safe drinking water and sanitation for all, with specific attention to vulnerable and marginalized populations, including women, girls, indigenous peoples, people with disabilities, rural communities and informal settlements.

With 2C (Funding for Water Resilience and Climate Adaptation): **Sanitation and climate change**

With 2D (Funding and Loans for Multiscale Projects) and 2E (Enabling Conditions for Scaling up Strategic and Inclusive Water Financing): **Financing sanitation service chain**

Joint dialogue on financing mechanisms for sanitation infrastructure, operation and maintenance, faecal sludge management, wastewater treatment, reuse and circular economy approaches, particularly for small and medium-sized municipalities (2C, 2D, 2E)

With 4A (Adopting Policy, Regulatory Frameworks, and Institutional Mechanisms): **National sanitation policies regularly updated with the involvement of the various stakeholders**

With 4B (Strengthening Political Will and Coordination): **Political will for sanitation sector must be expressed at the highest level in each country**

With 6B (Advancing efficiency in water management in different sectors): **Wastewater and faecal sludge, a resource of energy, nutrients and water (circular economy)**

Joint dialogue on strengthening national sanitation policies, regulatory frameworks, political commitment and institutional coordination, while promoting wastewater and faecal sludge as resources for water reuse, energy, nutrients and circular economy (4A, 4B, 6B).

Dialogue on the role of municipalities, utilities and basin organizations in sanitation service delivery, wastewater treatment, pollution control, ecosystem protection and climate resilience.

Latin America and the Caribbean, including Mexico, Central America, the Caribbean and rapidly urbanizing peri-urban areas, where wastewater treatment, faecal sludge management, rural sanitation and service sustainability remain key challenges.