Joint UN-Water Submission prepared by SWA and UNICEF

Water and Sanitation Submission to the 2026 UNFCCC Standing Committee on Finance: Forum on Financing Climate Action in Water Systems and the Ocean

30 January 2026

This UN-Water joint-submission has been prepared on its behalf by the Sanitation and Water for All (SWA) Partnership in coordination with UNICEF and is in response to the call for inputs as stated in the October 7th Report of the thirty-eighth meeting of the Standing Committee on Finance (SCF): "The SCF agreed on the intersessional activities, including: (a) A call for inputs on information and case studies relating to the topic and possible sub-themes of the 2026 SCF Forum by 31 January 2026".

UN-Water is the coordination mechanism on water and sanitation, within the UN system, bringing together the knowledge and experience of over 35 UN entities and over 40 partners.

SWA is a global multi-stakeholder partnership hosted by **UNICEF** that mobilizes political leadership and strengthens country-led systems to accelerate progress on the human rights to safe drinking water and sanitation, with a focus on reaching those most left behind.

The submission incorporates inputs from the **SWA Climate Task Team, co-chaired by UNICEF and IVL Swedish environmental research institute; SWA Systems and Financing Working Group, chaired by Water for People; and the UN-Water Expert Group on Climate Change and Water, chaired by the United Nations Economic Commission for Europe (UNECE), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organization (WMO)**. The contributors to this submission recognize the importance and timeliness of the SCF Forum and intend to carry forward its key messages and practical recommendations to the 2026 UN-Water Conference (United Arab Emirates, 2-4 December 2026), helping to strengthen shared narratives and actionable guidance on enabling conditions, inclusive finance, and instruments that can accelerate climate-resilient water security and sanitation systems at scale.

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Executive summary

This submission aims to support the UNFCCC Standing Committee on Finance (SCF) and the 2026 SCF Forum by providing practical, real-world examples that illustrate how climate change is affecting water systems and sanitation across the full "source-to-sea" continuum. It highlights (i) the growing impacts of sea level rise, droughts, floods and extreme events on water resources, ecosystems, and essential infrastructure; (ii) what climate-resilient water and sanitation systems look like in practice across diverse contexts, including SIDS, fragile settings and transboundary basins; and (iii) what financing approaches can translate adaptation ambitions into scalable investments that protect people, ecosystems, and sustainable livelihoods, especially for the most vulnerable.

The cases presented demonstrate actionable pathways to strengthen climate-resilient water security and sanitation while also reducing pollution risks, protecting coastal and freshwater ecosystems, and reinforcing enabling conditions for broader climate action. They offer the SCF a set of finance-relevant lessons to help align instruments, programmes and accountability frameworks with what is needed to manage climate risks across water systems, communities and the ocean.

Based on the evidence and country experience presented, the following areas may merit particular attention in the SCF Forum programme and discussions:

- Increase the visibility of water and sanitation within climate finance as foundational adaptation and resilience investments, strengthening their integration into NAPs, NDC implementation pipelines and climate investment plans.
- Prioritize multi-year and country-led programming that bundles climate-risk screening, infrastructure resilience, ecosystem protection, systems strengthening, and operations and maintenance.
- Address the sanitation financing gap by explicitly supporting the full sanitation chain, including wastewater treatment and pollution reduction in flood-prone, coastal and "source-to-sea" contexts.
- Apply instrument packages that reflect sector realities, blending grants, concessional finance, results-based approaches and de-risking tools to reach underserved populations and strengthen weaker institutions and service providers.
- Make equity operational in finance decisions through affordability protections, gender-responsive design (including menstrual hygiene needs in climate emergencies), inclusive participation, and targeted investments for informal settlements, rural communities and high-risk groups.

Strengthen accountability through outcome-focused monitoring, including transparent reporting and accessible grievance mechanisms, ensuring that finance delivers safe, affordable and resilient outcomes for people, ecosystems and critical public institutions under climate stress.

1. Introduction to the submission and context

Building on the indicative scope contained in Annex I of the Report of the thirty-eighth meeting of the Standing Committee on Finance[1], which identifies 29 possible sub-themes across six thematic clusters, this submission provides a general review first of the state of finance in the water and sanitation sector, and concentrates then on four priority sub-themes where the water and sanitation community can provide the most relevant evidence and practical experience. Two of these priority areas bring together closely related elements from the Annex to reflect the integrated nature of climate impacts on water systems and communities:

1. **Sea level rise, including for SIDS and low-lying coastal areas (B1);**
2. **Droughts and water scarcity in arid regions, including socioeconomic impacts such as displacement and food insecurity (B3 + B6);**
3. **Storm surges, floods and other extreme weather events, including preparedness and response (B4 + B7);**
4. **Synergies between the three Rio Conventions (C4).**

These sub-themes were selected to reflect the realities faced by countries in translating climate ambition into resilient water supply and sanitation services, healthy freshwater and coastal ecosystems, including transboundary, and sustainable livelihoods. They also capture the full "source-to-sea" perspective promoted in the SCF scope and the interdependence between water systems, the ocean, and human development.

While the sub-themes are presented separately for analytical clarity, in practice climate risks to water supply and sanitation often manifest simultaneously and in localized or cross-border ways within countries and regions. Integrated, context-specific approaches are therefore essential, recognizing that multiple hazards may converge in the same setting

For each of the four priority sub-themes, the submission integrates three complementary dimensions:

- **Relevant elements from other SCF preselected sub-themes**, notably: nature-based solutions; blue/green bonds and blended finance; private-sector engagement and de-risking; climate insurance and risk-linked finance; regional cooperation models; adaptation finance for infrastructure and services; technology access and transfer; and early-warning systems.
- **The eleven guiding considerations contained in the SCF call for inputs**, including key enablers for mitigation and adaptation finance, the role of different finance actors, integration into NDCs and NAPs, inclusive and country-driven approaches, policy coherence, simplified access to finance, innovative instruments, international cooperation, and capacity-building.

[1] SCF38_meeting report.pdf

- **Illustrative case studies** demonstrating how countries and partners are already financing climate-resilient water and sanitation systems, protecting coastal and freshwater ecosystems, and reducing climate-related risks for vulnerable populations.

Each priority sub-theme is presented following a common narrative structure:

1. Overview of climate–water challenges and implications for water supply, sanitation, ecosystems and disaster risk reduction;
2. Key enablers and opportunities for financing mitigation, adaptation and resilience;
3. Roles of public, private and community finance actors, including relevant instruments (blue/green bonds, blended finance, insurance, de-risking);
4. Integration into national policies, NDCs, NAPs and investment plans;
5. Inclusive and gender-responsive approaches;
6. Country-driven experiences and regional cooperation;
7. Science, data, innovation and early-warning systems;
8. Fiscal instruments, policy coherence and simplified access to finance;
9. Capacity-building and technology transfer;
10. Case studies and lessons learned.

Through this approach, the submission aims to contribute concrete, implementation-oriented insights to the 2026 SCF Forum and to strengthen the visibility of water and sanitation within global climate-finance deliberations.

1.1. The state of finance in the water and sanitation sector

The current financing picture is characterized by a large investment gap and heavy reliance on public resources. The World Bank estimates that achieving SDG 6.1 and 6.2 alone requires closing an annual spending gap on the order of $131.4 to $140.8 billion (2017 prices). It also finds that total water sector spending is overwhelmingly public, with about 91.4 percent coming from governments and state-owned enterprises, while private investment remains a small share of overall spending. (World Bank 2024). Meeting existing commitments on public climate finance under the UNFCCC is therefore critical to closing the water and sanitation investment gap and achieving SDG 6. In particular, grant-based and highly concessional finance remains essential for least developed countries and other vulnerable contexts, where affordability constraints and limited fiscal space make it difficult to fund climate-resilient water and sanitation systems through domestic resources or cost recovery alone. This is consistent with the outcomes of COP30, which call for efforts to at least triple adaptation finance by 2035 and urge developed country Parties to increase the trajectory of their collective provision of climate finance for adaptation to developing country Parties.

Given the growing frequency of climate-related shocks, water and sanitation investments are also highly relevant for emerging Loss and Damage financing discussions, and climate funds could consider dedicated windows or allocations to support rapid response and resilient recovery of these essential systems.

Equally important, mobilizing more finance must be paired with improving execution and efficiency. The World Bank reports an average budget execution of about 72 percent in the sector, implying that a significant share of allocated resources is not translated into delivered investments and services. Recent global evidence from the UN-Water GLAAS 2025 report reinforces these absorption constraints, noting that 60 per cent of countries reported utilizing less than 75 per cent of domestic capital commitments for urban and rural drinking-water supply and sanitation, highlighting persistent institutional and implementation bottlenecks. The Multilateral Development Banks (MDBs) Water Security Financing Report similarly points to the role of institutional and governance factors in execution performance, emphasizing that effective governance, policy coherence, and credible regulatory environments are associated with better conversion of allocations into results. MDBs also report substantial financing volumes, including $19.6 billion in approved water sector investments in 2024, but emphasize that scaling impact requires both finance and stronger enabling conditions, including technically and financially efficient service providers and sound governance arrangements. (Multilateral Development Banks Water Sector Coordination Group 2025).

In many regions, these enabling conditions must also extend beyond national boundaries, as approximately 60% of global freshwater resources are transboundary, requiring cooperative governance and joint investment approaches to strengthen climate resilience.

Country-led coordination mechanisms, including emerging approaches such as country platforms, have also been highlighted as a promising way to strengthen alignment between national investment priorities, development partners and climate finance providers, and thereby help mobilize increased and more effective finance for water supply and sanitation. Recent principles for “Just Water Partnerships”, developed by WaterAid, IWMI and CGIAR, emphasize inclusive, accountable and equity-focused partnership models that can support countries in accelerating progress towards SDG 6 while ensuring that climate finance reaches the most vulnerable communities.

1.2. Synthesis on finance approaches being applied to finance climate action

Across SWA finance casework and UN-Water SDG 6 country acceleration experience, a consistent theme is that progress accelerates when countries link climate action to strengthened systems, credible plans, and accountable financing pathways. Country examples illustrate approaches that combine political prioritization with costed roadmaps, stronger monitoring, and alignment of investments to sector strategies. Pakistan’s SDG 6 acceleration case highlights promotion of hygiene “at every level: political, strategic, institutional, and financial,” supported by a national roadmap and costed implementation plans, and strengthened monitoring and evaluation. It also notes how political leadership helped signal commitment and contributed to increased international development assistance over time (UN-Water 2022-2025). Meanwhile, in South Sudan, the President signed a Compact on water and sanitation in June 2024, which includes commitments to increase budget allocations, explore innovative financing, and

expand infrastructure. As a result, funding for the Ministry of Water Resources and Irrigation in South Sudan surged from 2.1 billion South Sudanese Pounds (approximately $919 thousand USD at 2024 prices) to over 28 billion South Sudanese Pounds (approximately $12.3 million USD at 2024 prices)—a remarkable 13-fold increase. (UNICEF 2024)

Several SWA and UN-Water SDG 6 Accelerator case studies emphasize diversifying financing sources while protecting equity and strengthening public systems. Bhutan's experience points to mobilizing household investment for sanitation while maintaining a no-subsidy approach, illustrating how household finance can be part of the financing mix when supported by coherent policy and behaviour change efforts. Rwanda's case points to increased government budget allocations for water and sanitation, alongside efforts to develop public-private partnerships and consider innovative mechanisms such as payments for ecosystem services, while also emphasizing data improvements and disaster risk management to address climate and land-use changes.

A second cluster of approaches centres on improving financial governance, transparency, and decision-use data to direct climate and development finance toward the highest-impact priorities. The WHO's supported work on WASH Accounts and TrackFin[2] demonstrates how repeated sector financing analyses can reveal funding gaps and inequities, clarify the roles of tariffs and user contributions, strengthen accountability, and inform higher-quality budgeting and investment decisions. These tools help quantify who pays, how much is spent, and on what, and can strengthen the credibility of climate and development financing proposals by grounding them in verified sector financing baselines and trends. (WHO n.d.)

Finally, global synthesis work emphasizes that financing climate action in water and sanitation is increasingly combining public financial management and execution reforms; improvements in utility performance and efficiency; policy and regulatory tools; and structured approaches to the "three Ts" of tariffs, taxes, and transfers, alongside concessional finance and risk-sharing where appropriate. The MDB Water Sector Coordination Group report and the UN Water GlAAS analysis both conclude that in order to scale up finance there is a need to first strengthen budget execution, governance, and the enabling environment to unlock and better use finance, including in the context of climate shocks and rising costs. (SWA 2025)

[2] **WASH Accounts** are a standardized set of tables that summarize a country's sanitation, hygiene, and drinking-water expenditures for a given year, showing how funds are produced, financed, and used across the sector. They are typically produced using the **TrackFin** methodology (Tracking Financing to sanitation, hygiene and drinking-water), developed under the UN-Water GLAAS initiative and led by WHO, which maps and classifies financial flows into and through the sector in a comprehensive and comparable way to support evidence-based planning, budgeting, and accountability. See: WHO, "WASH accounts" and TrackFin resources: https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/monitoring-and-evidence/wash-systems-monitoring/un-water-global-analysis-and-assessment-of-sanitation-and-drinking-water/wash-accounts and https://www.who.int/publications/i/item/WHO-FWC-WSH-15.23.

2. SUB-THEME B1: Sea level rise, including for SIDS and low-lying coastal areas

Sea level rise is one of the most certain and irreversible consequences of climate change, already reshaping coastlines, deltas, and small island environments. More than 900 million people live in low-elevation coastal zones and a large share of critical water supply and sanitation infrastructure (e.g. treatment plants, sewers, desalination facilities, and drainage networks) is located within a few meters of current sea level (IPCC 2022). (IPCC 2022) For Small Island Developing States (SIDS) and densely populated deltas, even moderate increases in mean sea level translate into saline intrusion into aquifers, failure of onsite sanitation systems, contamination of drinking-water sources, and chronic flooding of wastewater networks. These impacts threaten public health gains, undermine tourism and other coastal livelihoods and local economies, and increase disaster-related displacement. (Chang 2011)

Healthy coastal ecosystems are a first line of defence. Mangroves, wetlands, coral reefs, and seagrasses attenuate wave energy, stabilize sediments, and protect water quality, while providing co-benefits for fisheries and carbon sequestration. Integrated water management from "source to sea," including transboundary basin cooperation, is therefore essential to climate resilience. However, current investment in adaptation for water supply and sanitation in coastal areas remains far below needs, and access to climate finance is often complex for local utilities and municipalities. A dedicated financing approach that links ocean, coastal protection, and water services is urgently required. (IPCC 2022)

Wastewater pollution is a climate risk multiplier in coastal zones (World Bank 2025)

- ~80% of wastewater discharged untreated globally
- ~55–58% of coral reefs exposed
- ~88% of seagrass ecosystems exposed
- Wastewater contributes nitrogen loads comparable to ~40% of agriculture inputs

Globally, a large share of wastewater continues to be discharged untreated, generating substantial nutrient and pathogen flows into rivers and coastal waters. Recent global mapping suggests that human sewage contributes significant nitrogen inputs into coastal ecosystems and that more than half of coral reefs and seagrass ecosystems worldwide are exposed to wastewater pollution pressures. Such contamination can undermine ecosystem recovery after climate shocks such as marine heatwaves, intensify coastal vulnerability, and weaken nature-based adaptation potential in low-lying and SIDS contexts.

2.1 Key enablers and opportunities for financing

Strengthening capacity and institutions. Strengthened institutions and skilled workforces are essential to turn coastal risk assessments and plans into implementable, finance-ready investments. This includes building utility and municipal capacity for climate risk screening, resilient asset management and procurement, operation and maintenance under saline and flood-prone conditions, and transparent performance reporting, alongside

coordination mechanisms that align water, sanitation, coastal protection, and disaster risk management mandates.

Enabling policy frameworks. Clear coastal adaptation strategies, integrated shoreline management, and climate-resilient water and sanitation plans are prerequisites for investment. Embedding sea-level scenarios into service standards, asset planning, and tariff regulation allows utilities to prepare bankable projects such as construction or improvement of treatment plants, flood-proof pumping stations, or conversion from flood-prone on-site sanitation (e.g. septic tanks) to climate-resilient off-site systems (e.g. sewerage networks).

Nature-based solutions (NbS). Conservation, restoration, or sustainable management of blue carbon ecosystems like mangroves, tidal wetlands and salt marshes, and seagrass are among the most cost-effective measures for reducing storm surge and protecting sanitation assets. Blended projects that combine grey infrastructure (elevated pipes, protective embankments) with NbS attract a wider range of financiers and generate measurable adaptation and biodiversity outcomes.

Data and early warning. Investments in coastal monitoring, salinity mapping, and early warning systems for SIDS reduce uncertainty and improve creditworthiness of projects. Linking these systems to utility operations lowers operational risk and insurance premiums.

2.2 Role of finance actors to enhance scale and impact

Addressing current bottlenecks requires clearer role differentiation across finance actors. National governments and public utilities play a central role in strengthening project pipelines, governance, and execution capacity. Multilateral climate funds and development banks can support by scaling grant-based and concessional instruments, blending finance to reduce risk, and providing technical assistance for climate-resilient water and sanitation planning. Private and domestic financial institutions can contribute where appropriate through adapted credit products and performance-based models, particularly when supported by public guarantees. Stronger coordination across these actors is essential to translate finance volumes into resilient service delivery at scale.

Additional examples finance mechanisms and pathways through which financial institutions engage with the water security and sanitation sector include, but are not limited to, the following: **Blue/Green bonds and blended finance.** Sovereign and municipal blue bonds can channel long-term capital to coastal water and sanitation upgrades when supported by concessional tranches from multilateral development banks (MDBs). Results-based payments for ecosystem services, such as mangrove conservation that protects sewer networks, can be securitized within these instruments.

Outcome-based financing (including impact bonds). Impact bonds and other pay-for-success structures can accelerate delivery by linking payments to independently verified outcomes (for example, reduced service interruptions during storm surges, reduced salinity exposure in priority zones, or increased continuity of safely managed sanitation under flood conditions). These approaches strengthen accountability for results and can shift performance risk to the actors best placed to manage it, while enabling public and philanthropic capital to pay for what works.

Private sector engagement and de-risking. Public–private partnerships for desalination, wastewater reuse, or resilient drainage require guarantees against climate-related revenue losses. Credit enhancement[3], currency hedging, and viability-gap funding are particularly important for SIDS with limited fiscal space.

Climate insurance linked to risk reduction. Parametric insurance for utilities and municipalities can provide rapid liquidity after storm surges, while premium reductions can be tied to preventive investments such as elevating pump stations or restoring reefs.

Regional cooperation models. Shared aquifers and coastal ecosystems demand cross-border or regional financing platforms. For example, regional resilience funds for Caribbean or Pacific islands that pool procurement, insurance, and technical services.

Adaptation finance for infrastructure and services. Dedicated windows under the Green Climate Fund and Adaptation Fund could prioritize water and sanitation assets exposed to sea level rise, including managed retreat and circular water reuse in coastal cities.

Insurance and contingent finance can complement investment by enabling rapid liquidity following storm surges and coastal flooding, while structuring incentives so that premiums and access conditions reward preventive action (for example, elevated critical assets, redundancy, and improved monitoring).

2.3 Integrating financing into national policies and plans

Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) often recognize coastal risks but rarely translate them into investment pipelines for water supply and sanitation. As relevant and appropriate stakeholders working with development or revision of such climate policy instruments could:

- Include salinity control, resilient sanitation, and wastewater management as priority adaptation actions in NDCs/NAPs;
- Mandate climate-risk screening for all coastal water investments;
- Align coastal zone legislation with utility regulation and tariff policies;
- Integrate ocean and watershed planning to strengthen upstream adaptation and resilience.

2.4 Inclusive and equitable financing

Sea level rise disproportionately affects people living in informal settlements, women and girls (through increased care burdens and risks to menstrual hygiene and safety), and Indigenous and traditional coastal communities whose livelihoods depend on coastal ecosystems. Inclusive finance approaches should

[3] **Credit enhancement** refers to financial or contractual measures that improve a project's or borrower's credit profile so it can access private financing on better terms (for example, lower interest rates, longer repayment periods, or larger volumes). In practice, this can include partial credit or risk guarantees, first-loss or subordinated capital, debt service reserve accounts, political risk insurance, or other mechanisms that reduce lenders' expected losses and increase confidence in repayment, particularly where climate shocks or utility credit constraints elevate risk.

protect the human rights to safe drinking water and sanitation[4] by ensuring that resilience investments do not lead to loss of tenure without safeguards, and that affordability is protected through lifeline tariffs, targeted subsidies, and transparent service standards. Participatory planning, grievance redress, and public access to service and risk information strengthen accountability and help ensure that adaptation measures benefit those most exposed. In coastal and SIDS settings, gender-responsive investments should also consider safe sanitation access and hygiene needs during flooding and displacement, particularly for women and girls.

Climate finance should apply human rights principles as operational criteria, including participation, non-discrimination, transparency, and accountability, supported by accessible community feedback and grievance mechanisms.

Inclusive financing should also recognize the distinct needs of coastal urban centres and dispersed rural and island communities, ensuring that remote SIDS and low-lying settlements, where service delivery is costly and not commercially viable, are not excluded from climate-resilient water supply and sanitation investments.

2.5 Country-driven approaches and lessons

Diversified water supply portfolios and integrated stormwater management can reduce vulnerability where sea level rise threatens freshwater availability. Singapore's approach combines stormwater capture (enabling a large share of land area to function as catchment), high-grade reclaimed water (NEWater), and desalination as part of a diversified supply strategy, underpinned by integrated drainage and water management.

Ecosystem protection financing can be operationalized through tariff and program design. Costa Rica's water resource protection tariff provides a practical example of how service providers can mobilize additional resources from users to finance ecosystem protection and aquifer-related investments, including hydrological and socioeconomic studies, land purchase for recharge protection, restoration, sustainable agriculture practices near sources, and community education.

Blended NbS funding mechanisms are expanding. Water funds, including at basin level, and payments for environmental services demonstrate how cities and partners can pool contributions from public sources and private users to protect catchments, reduce flood damages, and sustain service reliability.

2.6 Science, data, innovation and early warning

Investment decisions must rely on probabilistic sea-level projections, groundwater salinity models, and asset-level exposure mapping. Digital twins for sewer networks, low-cost salinity sensors, and satellite-

[4] Investments in water supply and sanitation for climate-resilient services should be grounded in the human rights to safe drinking water and sanitation, as recognized by UN General Assembly Resolution 64/292 and Human Rights Council Resolution 15/9, ensuring that climate finance delivers equitable, rights-based outcomes for the most vulnerable communities.

based shoreline monitoring enable adaptive management. Early warning systems for SIDS, integrated with cyclone forecasting and evacuation planning, protect both populations and critical water facilities.

Improving the evidence base on sanitation–climate–ocean linkages is also critical. Emerging analytical approaches are enabling the integration of sanitation service chain data with spatial monitoring of coastal ecosystem impacts, supporting more targeted adaptation planning in vulnerable coastal zones. Strengthening national and regional capacities for monitoring wastewater pollution pathways, ecosystem exposure, and related climate risks can help unlock more strategic investments that deliver both adaptation and marine resilience benefits.

2.7 Fiscal instruments and policy coherence

Domestic fiscal instruments can strengthen resilience while supporting equity if designed transparently. Options include stormwater and drainage fees dedicated to maintenance, pollution charges for coastal wastewater discharges that protect water quality, and risk-informed property taxation that discourages expansion in high-risk zones. Policy coherence is essential across ministries of finance, environment, water, housing, and tourism so that revenue tools and incentives do not inadvertently increase exposure or reduce affordability.

2.8 Simplifying access to finance

Local utilities and municipalities often face high transaction costs in preparing climate-resilient water and sanitation projects. Standardized project templates, pre-approved safeguard approaches for NbS, and programmatic financing windows can reduce these costs. Vanuatu's experience illustrates both the value of strong national programming to define a pipeline and the time and institutional coordination required to secure climate finance, including accredited entity arrangements and project preparation support.

2.9 Innovative financial instruments

While a range of innovative instruments, such as green bonds, blended finance approaches and climate risk insurance, have been piloted in the water and sanitation sector, many remain small-scale due to institutional complexity, limited capacity, and insufficient evidence on effectiveness. Strengthening learning, evaluation, and knowledge-sharing on such instruments will be important to enable replication and scaling in countries with high resilience investment needs.

In the context of the theme of sea level rise, a financing toolkit can include resilience or blue bonds (especially when anchored by concessional tranches), debt-for-nature or debt-for-climate transactions that channel savings into watershed and coastal protection, and outcome-based contracts that pay for verified reductions in salinity risk, service interruptions, or flood damages. The expanding use of debt conversion for conservation highlights the potential scale of these approaches when paired with strong governance and credible investment plans.

In coastal and SIDS settings, such instruments may also include emerging blue economy financing approaches, where sanitation and wastewater improvements are co-financed alongside coral reef protection, mangrove restoration, and other ecosystem-based adaptation priorities.

2.10 International cooperation and partnerships

Sea level rise often affects shared coastal ecosystems and transboundary basins that influence sediment flows, water quality, and coastal risk. International cooperation can support shared monitoring systems, regional project preparation facilities for SIDS, pooled procurement for resilience technologies, and regional risk-financing and insurance platforms. Partnerships that connect the UNFCCC process with ocean and water initiatives can accelerate integrated programming across climate adaptation, ecosystem protection, and water and sanitation services. Tools developed under the global Convention on the Protection and Use of transboundary watercourses and international lakes (Water Convention), hosted by UNECE, support transboundary cooperation and source to sea management, such as the practical guide on source to sea management in transboundary basins. (UNECE 2025)

2.11 Capacity-building and technology transfer

Priorities include utility capacity for climate-risk screening, coastal asset management, and resilient operations; technical support for modular and water-efficient systems (including safe reuse and energy-efficient desalination where appropriate); and strengthened community capacity for preparedness and local stewardship of coastal and watershed ecosystems. Singapore's experience also reinforces the role of long-term planning and sustained institutional capacity in maintaining service performance under scarcity and climate risk.

2.12 Illustrative case studies

The following case studies illustrate how diverse coastal and island contexts are already translating sea level rise and coastal climate risks into practical, finance-relevant approaches for climate-resilient water supply and sanitation. Together, Singapore, Miami-Dade, Costa Rica, and Vanuatu demonstrate integrated strategies that combine infrastructure adaptation, wastewater pollution reduction, ecosystem protection, and strengthened governance to safeguard both essential services and coastal resilience. They highlight complementary pathways, including long-term public investment and planning, regulatory and fiscal instruments to fund ecosystem-based adaptation, targeted sanitation system upgrading in high-risk zones, and the role of international climate finance in enabling SIDS to build resilient service delivery systems.

Case Study 1: Singapore - Integrated water resources management and coastal flood resilience (UN-Water 2022-2025)

Context and risk profile. Singapore is a densely populated small island city-state with a long-term, whole-of-government approach to water management led by its national water agency. Sea level rise is treated as a major national risk, alongside the compounding effects of storm surge and high tides. This framing is especially relevant for other small islands and low-lying coastal settings where exposure is high, land is constrained, and critical assets are concentrated near the coast.

Integrated "coast-to-catchment" approach. Singapore's water security model combines diversified water supply with large-scale investments in stormwater management, drainage, and flood risk reduction. A key feature is integrating land use and water planning so that a large share of the country functions as water catchment, strengthening both water availability and resilience to heavy rainfall. The approach also recognizes the role of urban green-blue infrastructure and ecosystem assets in complementing engineered flood management.

Financing and governance features relevant to coastal adaptation. The case illustrates sustained public investment in public-good functions such as drainage and flood protection, combined with water pricing designed to reflect scarcity and support cost recovery for service provision. Measures to protect affordability are included through targeted support for lower-income households, demonstrating how resilience investments can be paired with equity safeguards.

Operational lessons for coastal and SIDS contexts. Even with strong systems, Singapore's experience with flooding underscores the importance of investing ahead of impacts and continuously upgrading standards and infrastructure as climate risks evolve. The case also highlights a commitment to build expertise for coastal protection and flood management, while advancing efficiency and lower-carbon water operations, showing how adaptation and mitigation objectives can be pursued together.

Why this is useful for the SCF Forum discussion. Singapore's experience offers a practical illustration of how coastal adaptation can be financed and sustained through predictable public funding for protective infrastructure, tariff policies that enable long-term asset management, and integrated planning that connects coastal defences, stormwater and flood management, and diversified water supply. For SIDS and low-lying coastal areas, the transferable insight is the value of combining "hard" protection with system-level governance, financing discipline, and affordability measures that keep services safe, resilient, and inclusive.

Case Study 2: Miami-Dade County (United States) – Sanitation adaptation under sea level rise (World Bank 2025)

In low-lying coastal regions, sea level rise can directly compromise sanitation infrastructure and increase pollution risks for surrounding marine and freshwater ecosystems. In Miami-Dade County, rising groundwater tables and saltwater intrusion have reduced the effectiveness of septic systems and increased the likelihood of wastewater leakage into surface waters and the Biscayne Aquifer, a critical source of drinking water. Climate-driven flooding and storm surge events further amplify these risks, with direct implications for public health and coastal ecosystem resilience.

In response, Miami-Dade has initiated major investments to transition from vulnerable septic systems to centralized sewer connections through programmes such as *Connect to Protect*. These efforts are supported by regulatory action and dedicated public financing, including county-level capital investment plans and resilience-focused funding mechanisms to accelerate septic-to-sewer conversions in high-risk zones. This case illustrates how adaptation planning in coastal areas requires integrated approaches that link sanitation system upgrading with broader climate resilience strategies, including the protection of aquifers, coastal waters, and marine ecosystems that provide natural buffers against climate impacts.

Case Study 3: Costa Rica - Integrating water resource management with ecosystem protection (UN-Water 2022-2025)

Context and risk profile. Costa Rica is a coastal country with significant maritime territory and climate vulnerability expressed through water, including pressures on water resources from land use change, pollution, and climate variability. While access to drinking water is relatively strong, the case study highlights that the country's core SDG 6 challenge is sustaining water resources over time, alongside major gaps in wastewater management and water source protection. These dynamics are highly relevant for low-lying coastal areas where sea level rise and storm surges can compound water quality risks and increase stress on freshwater sources, particularly groundwater and coastal aquifers.

Adaptation-relevant financing mechanism: a regulated tariff for water resource protection. A central feature of the case is the use of a regulator-approved "water resource protection tariff" that generates predictable domestic revenues earmarked for water source protection and climate adaptation measures. The case outlines how this tariff approach has been applied by public utilities and extended to community-based water providers, including an example in the Caribbean region. This illustrates a practical pathway for coastal settings to finance resilience through sustained, locally anchored revenue streams rather than relying exclusively on project-based external funding.

What the tariff can fund: nature-based and system-strengthening investments. The case describes an eligible investment menu that includes basic hydrological and hydrogeological studies, climate and resource monitoring, and socioeconomic assessments to identify priority protection areas. It also covers land purchase for safeguarding recharge zones, conservation and restoration of forests and degraded areas, reforestation, sustainable agricultural practices that reduce contamination and protect aquifers, and infrastructure to promote infiltration and aquifer recharge. In coastal and island contexts, this type of portfolio can be directly relevant to maintaining freshwater availability and buffering water quality against saline intrusion and contamination shocks.

Equity and accountability features. The case emphasizes participatory management, community involvement, and education to build a "new water culture" that supports protection of water sources and improved governance over time. These elements align closely with ensuring coastal adaptation finance supports inclusive decision-making and sustained public trust, particularly where trade-offs are sensitive and impacts fall disproportionately on vulnerable communities.

Why this is useful for the SCF Forum discussion. Costa Rica offers an example of a domestic fiscal and regulatory approach that can finance climate adaptation in water systems through an earmarked tariff

linked to clear eligible uses and multi-year planning. It also surfaces an important transition issue relevant to many countries: traditional sources of environmental finance can become less reliable under decarbonization trajectories, prompting the need to diversify funding sources, including exploring emerging opportunities such as land and maritime carbon markets that may support water-related ecosystem services and coastal resilience.

Case Study 4: Vanuatu – The experience of Vanuatu in securing Green Climate Funds for water security (SWA 2025)

Why this case is included for this sub-theme. Vanuatu is presented as a practical example of how a Small Island Developing State can access and structure large-scale climate finance for resilient water services. While the project is not framed solely around sea level rise, it addresses core SIDS vulnerabilities that are compounded by rising seas, including freshwater stress, service disruption risk, and the high cost of building and maintaining climate-resilient infrastructure across dispersed islands.

Finance package and scale. Vanuatu mobilized a major adaptation investment for water security and community resilience through a blended package anchored in international climate finance. The case demonstrates how grant and concessional resources can be combined to fund service continuity and resilience outcomes that are difficult to finance through tariffs or domestic budgets alone in a small-island context.

What enabled access to finance: pipeline readiness and governance. A central lesson is that finance followed credible, country-led systems for prioritizing and preparing investments. Vanuatu used a national investment planning platform and community-level Drinking Water Safety and Security Plans to identify risks, prioritize interventions, and demonstrate feasibility. This created a clearer line of sight from risk to action, improving investability and supporting a climate-finance case that is grounded in service delivery realities.

How the delivery model addressed SIDS constraints. The case highlights the importance of an accredited entity pathway and technical support to meet climate fund requirements. Vanuatu partnered with a regional entity to fulfil accredited entity functions and leveraged project preparation support, reflecting a scalable model for other SIDS that face similar capacity constraints.

Relevance to sea level rise and coastal resilience. The transferable insight for sea level rise discussions is that SIDS need predictable finance and streamlined access mechanisms to invest in foundational water security measures that reduce vulnerability to compound coastal risks. By strengthening resilient service delivery systems, countries are better positioned to manage salinity pressures, coastal flooding impacts on infrastructure, and increasing climate variability.

Key takeaway for the SCF Forum. For SIDS and low-lying coastal areas, the Vanuatu case reinforces that accelerating climate action in water systems often depends less on inventing new instruments and more on strengthening enabling conditions: investable pipelines, community-informed risk planning, accredited entity pathways, and readiness support that makes access to climate finance faster, more inclusive, and more accountable.

3. SUB-THEMES B3 + B6: Droughts and water scarcity in arid regions, including socioeconomic impacts such as displacement and food insecurity

Droughts and chronic water scarcity are among the most pervasive climate risks, affecting agriculture, energy production, ecosystems, and the viability of water supply and sanitation services. Arid and semi-arid regions already experience high baseline stress, and climate change is intensifying the frequency, duration, and spatial extent of droughts. The consequences extend far beyond hydrology: declining water availability undermines food security, increases the cost-of-service provision, accelerates rural–urban migration, and contributes to social instability and displacement.

For water and sanitation systems, drought leads to falling groundwater tables, higher salinity and contaminant concentrations, reduced functionality of on-site sanitation, and escalating competition between domestic, agricultural, and industrial users. Utilities face rising production costs from deeper abstraction, emergency water trucking, and energy-intensive alternatives such as desalination. Drought and water scarcity often increase unpaid care and time burdens, particularly for women and girls, who may spend additional hours collecting water and managing household water needs, reducing opportunities for education, livelihoods, and economic participation. Financing approaches must therefore address both resource resilience and service continuity, while protecting vulnerable populations from disproportionate burdens.

According to documents published between 2023 and 2025 by UN-Water, the World Bank, and the UNFCCC Standing Committee on Finance, drought and chronic water scarcity require financing approaches that protect human rights, sustain essential services, and reduce repeated crisis spending while accelerating SDG 6.

3.1. Key enablers and opportunities for financing

Integrated drought planning and investment pipelines. Financing is most effective when anchored in national drought strategies and water security plans that connect water supply, sanitation, agriculture, and social protection, with a clear project pipeline and sequencing of reforms and investments. Jordan's experience points to the value of long-term strategies that combine infrastructure investment with demand-side measures and agricultural water efficiency, alongside sustained technical cooperation and technology transfer.

Demand management and efficiency as first-line adaptation measures. In water-scarce and arid settings, the most affordable and fastest source of "new water" is frequently the water recovered by reducing non-revenue water—through metering and billing reforms, active leakage control, pressure management, and energy-efficiency upgrades that lower both operating costs and emissions. These measures strengthen service continuity during drought and reduce the scale and cost of supply augmentation. They also create conditions for responsible private participation through performance-based contracting, where risks and rewards can be aligned to verified results.

Diversification and circular water economy approaches. Drought resilience improves when financing supports diversified portfolios: treated wastewater reuse for irrigation and industry, managed aquifer recharge, conjunctive management of surface and groundwater, and selective desalination where economically and environmentally justified and powered by renewables where feasible. Jordan's case highlights sustained investment in treated wastewater reuse as a material component of water security in a scarce setting.

Nature-based and ecosystem-linked investments. Drought impacts are amplified by degraded catchments and ecosystems. Financing that restores watersheds, rangelands, and wetlands can improve infiltration and baseflows, protect water quality, and reduce long-run costs for utilities and communities. Such investments are especially relevant where drought interacts with food insecurity and rural livelihoods, provided that benefits, land rights, and safeguards are clear.

3.2. Role of finance actors to enhance scale and impact

In drought and water-scarce contexts, multilateral and bilateral finance actors can play a particularly important role in supporting water efficiency, reuse and resilience investments through targeted concessional finance and capacity support for arid-region utilities and institutions.

Public finance as the backbone, with climate-smart prioritization. In most countries, public resources remain central to sustaining water and sanitation services and protecting affordability during drought, particularly for rural areas and low-income communities. Strengthening budget credibility, execution, and climate-informed prioritization helps ensure that funding translates into functional services and risk reduction.

MDBs and climate funds to de-risk long-horizon investments and reforms. MDBs and climate funds can blend grants, concessional lending, guarantees, and technical assistance to reduce risk for reuse, efficiency, storage, and resilient service delivery, while supporting governance and utility reform programs. World Bank guidance emphasizes that scaling finance depends on improving the enabling environment and investment conditions that make capital more effective and sustainable over time.

Private sector engagement linked to results and safeguards. Private participation can help scale efficiency gains (for example, performance-based non-revenue water reduction), reuse operations, and renewable-powered supply solutions where appropriate. To be development-aligned, such engagement should be structured with transparent contracts, social safeguards, and accountability mechanisms that protect affordability and ensure service continuity for all, including those in informal settlements.

Humanitarian–development nexus financing. Drought can intensify food insecurity, displacement, and fragility. Approaches that connect early response to durable system strengthening can reduce the cost and frequency of emergencies. The World Food Programme's (WFP) framing underscores the importance of connecting climate risks to food security and vulnerability, which reinforces the case for joint planning and finance across water, agriculture, and social protection.

3.3. Integrating financing into national policies and plans

Countries can strengthen the policy-to-finance link by embedding drought-resilient water and sanitation targets into NDCs and NAPs, and by establishing clear requirements for climate-risk screening across groundwater, supply augmentation, and sanitation investments. Jordan's national strategy approach illustrates how long-term planning provides an anchor for prioritization and sequencing, including efficiency and reuse pathways that are highly relevant to drought resilience.

Policy coherence is particularly important where agricultural water use dominates baseline demand. Aligning agricultural incentives, irrigation practices, and reuse standards with domestic water security objectives helps prevent maladaptation and reduces competition between domestic, agricultural, and industrial users during drought periods.

3.4. Inclusive and equitable financing

Drought impacts fall disproportionately on low-income households, women and girls, and communities reliant on shallow groundwater, informal water vendors, or on-site sanitation. In drought and water scarcity contexts, gender-responsive financing is essential, as women and girls often face disproportionate burdens related to water collection, hygiene insecurity, and livelihood impacts. Financing approaches should incorporate lifeline service protections, targeted subsidies or vouchers during drought emergencies, and explicit provisions for informal settlements and climate-vulnerable rural areas.

Equity also requires participation and accountability: transparent decision-making on allocation and restrictions, accessible grievance mechanisms, and routine public reporting on service levels and affordability. These measures support the human rights to safe drinking water and sanitation by prioritizing non-discrimination, affordability, and meaningful participation in drought-related decisions.

Climate finance criteria should explicitly prioritize investments that reduce time poverty and unpaid care burdens, such as reliable piped water supply and nearby safe sanitation facilities, which can enhance resilience while supporting women's economic participation. Gender-responsive resilience investments in drought-affected settings should also include provisions for menstrual hygiene management, ensuring reliable access to water for hygiene, dignity supplies, and safe, private sanitation facilities for women and girls.

In water-scarce and drought-affected regions, equitable financing must also address both urban demand pressures and the specific vulnerabilities of rural communities, where limited fiscal capacity and low cost-recovery potential can otherwise lead to underinvestment in resilient water and sanitation systems.

3.5. Country-driven approaches and lessons

Jordan: reuse and efficiency as strategic pillars. Jordan's experience demonstrates that treated wastewater reuse and irrigation efficiency can be scaled through sustained investment, technical cooperation, and long-term planning, helping stabilize supplies under scarcity. This is directly relevant for

drought-prone regions where agriculture and domestic needs compete under tightening constraints. (UN-Water 2022-2025)

Arid-region reforms and regulation for demand management. UN-Water's country acceleration work (see case studies below) highlights that countries can accelerate progress through innovation and regulation in the face of extreme scarcity, including reforms that encourage efficiency and sustainability.

Across contexts, key lessons include prioritizing "efficiency-first" investments, linking capital to measurable performance improvements, maintaining pro-poor protections, and integrating drought preparedness with social protection and food security systems to reduce cascading socioeconomic impacts.

3.6. Science, data, innovation and early warning

Early warning and operational decision support are essential to move from reactive crisis spending to anticipatory action. Priorities include groundwater monitoring networks, remote sensing for drought indicators, and climate services that translate forecasts into utility operations and water allocation decisions.

Digital approaches (for example, operational analytics for leakage management, asset optimization, and targeted demand management) can improve resilience and financial sustainability, particularly when paired with governance reforms and transparent performance reporting.

3.7. Fiscal instruments and policy coherence

Well-designed tariffs and fiscal instruments can encourage conservation while protecting basic needs. Block tariff structures, abstraction charges earmarked for aquifer restoration, and incentives for efficient irrigation can support drought resilience if paired with strong social safeguards and enforcement capacity.

Policy coherence matters as much as instrument choice. Subsidies that incentivize water-intensive crops in arid zones, or fragmented responsibilities across water, agriculture, energy, and urban development, can undermine resilience investments. Aligning incentives and mandates reduces long-run costs and strengthens service continuity.

3.8. Simplifying access to finance

Many drought-relevant investments are replicable and programmatic. For example, district metering, pressure management, utility energy efficiency, modular reuse schemes. Standardized project templates and programmatic funding windows can reduce transaction costs and speed access, especially for small towns and under-resourced utilities.

Regional project preparation and technical assistance facilities can strengthen investment readiness and bankability, including for reuse, non-revenue water programs, and drought-resilient sanitation in arid and semi-arid regions.

3.9. Innovative financial instruments

Potential instruments to scale drought resilience include resilience bonds linked to avoided emergency costs, pay-for-performance contracts for verified leakage reduction, and blended finance structures for renewable-powered supply augmentation where appropriate.

Innovation should be paired with accountability: clear outcome metrics (service continuity, affordability, reduced losses, increased reuse), public reporting, and safeguards to ensure benefits accrue to vulnerable populations and do not increase exclusion during drought.

3.10. International cooperation and partnerships

Transboundary aquifers and shared basins in arid regions require cooperative drought observatories, shared data protocols, and joint investment platforms. International cooperation can also support south–south exchange among arid-zone utilities on reuse operations, efficiency programs, and governance models that improve resilience and reduce non-revenue water. Transboundary cooperation in shared basins and aquifers can expand the planning space for drought resilience, enabling joint monitoring, coordinated allocation measures, and regional climate finance readiness through basin-level investment platforms. (UNECE 2025)

Partnerships should bridge climate, water, agriculture, and food security communities to reflect real-world drought impacts, including displacement and food insecurity, and to ensure that financing supports integrated, country-driven solutions.

3.11. Capacity-building and technology transfer

Capacity needs are concentrated in utility operational performance, groundwater governance, reuse system design and regulation, and drought-resilient sanitation for low-water contexts. Training and institutional strengthening should be financed as core resilience investments, not treated as add-ons.

Technology transfer is most effective when paired with local enabling conditions: standards, regulatory clarity, workforce development, and transparent procurement and contracting. Jordan's experience highlights the role of sustained technical cooperation and technology transfer across levels, reinforcing that capacity and institutions are central to scaling drought resilience.

3.12. Illustrative Case Studies

The following case studies illustrate how countries facing chronic water scarcity and intensifying drought conditions are strengthening climate resilience through adaptive water supply and sanitation investments. Examples from Saudi Arabia, Jordan, and Ghana demonstrate a range of approaches to managing growing climate pressures on limited water resources, including improved efficiency and reuse, strengthened service continuity under arid conditions, and targeted measures to protect vulnerable communities from the cascading socioeconomic impacts of drought. Together, these cases highlight the

importance of long-term planning, innovative financing, and integrated resilience strategies to reduce climate-related risks to health, livelihoods, and stability in water-stressed regions.

Case Study 5: Saudi Arabia: Addressing chronic water scarcity through supply diversification and efficiency (UN-Water 2022-2025)

Context and risk profile. Saudi Arabia's case study presents an arid, highly water-scarce context with no permanent rivers and high drought risk. Water security is constrained by limited renewable resources and heavy reliance on groundwater, including non-renewable aquifers, with reported declines in groundwater levels and rising abstraction costs over time.

Socioeconomic risk pathway: the water–food nexus. The case highlights that agriculture dominates national water withdrawals. In arid regions, this withdrawal profile increases exposure to drought and groundwater depletion, raising the risk of food system stress and rural livelihood impacts that can contribute to instability and displacement pressures, particularly when water scarcity disrupts production and prices.

Demand-side reform to protect long-term water security. A central intervention described is the regulation of "green fodder" production. The policy introduced licensing and controls to reduce high-water-demand cultivation that had relied primarily on non-renewable groundwater. The case emphasizes managing the transition through differentiated requirements by farm size, aiming to conserve groundwater while shifting water use toward higher-value and more sustainable activities.

Supply diversification and resilience measures. The case also illustrates how arid regions can strengthen drought resilience by expanding unconventional water sources. It notes scaled desalination and increased reuse of treated wastewater for irrigation and industry, reducing pressure on scarce freshwater sources and improving resilience under climate variability.

Governance and accountability for sustained implementation. Saudi Arabia's approach emphasizes institutional clarity and performance management through a national strategy framework, with defined roles across the water value chain, measurable indicators, and regular reporting to senior leadership, supported by corrective actions when targets are off track.

Why this is useful for the SCF Forum discussion. The case provides a scarcity-focused finance and policy narrative relevant to arid regions: manage demand in water-intensive agriculture to reduce exposure to drought, diversify supply to protect essential uses, and strengthen governance and accountability so reforms translate into sustained outcomes. While the case does not document displacement directly, it illustrates prevention-oriented strategies that can reduce the socioeconomic impacts of chronic water stress that, in many settings, drive hardship, food insecurity, and mobility pressures.

Case Study 6: Jordan: Water scarcity and the need for coordinated financing and governance (UN-Water 2022-2025)

Context and risk profile. Jordan's case study describes a country facing chronic water scarcity and high drought risk, with water withdrawals exceeding renewable freshwater resources. Water supply interruptions are common, and increasing salinity in aquifers is intensifying the pressure to rely on non-

renewable groundwater. The case also highlights land degradation and desertification pressures, which further weaken resilience in already water-stressed areas.

Socioeconomic risk pathway: water stress, households, and displacement pressures. Jordan has made progress on drinking water and sanitation access, including through regulated non-piped supply options such as tankers and household-level solutions. At the same time, the case underscores the socioeconomic stress created by intermittent supply and scarcity, including impacts on household coping costs and service continuity. The country's experience of progress despite a significant influx of refugees is particularly relevant to this sub-theme, as it illustrates how large population movements can intensify demand, strain infrastructure, and increase fiscal pressure in a water-scarce setting.

Agriculture and water allocation under scarcity. Irrigated agriculture is highlighted as a major share of water use, and the case emphasizes efforts to reduce vulnerability through water-efficient agricultural practices. Examples include shifting to less water-intensive crops, deploying drip irrigation and precision fertigation, and expanding drainage water reuse, first in key areas and then scaling based on farmer demand driven by scarcity and irregular supply.

Supply diversification and resilience measures. The case shows how an arid country is expanding non-conventional supplies to reduce reliance on scarce freshwater resources. Jordan has invested heavily in the reuse of treated wastewater, supported by large and smaller treatment facilities, including in mining sites and refugee camps. It is also pursuing desalination from the Red Sea near Aqaba with conveyance to demand centres in the north, alongside other innovations such as solar panels on reservoirs to reduce evaporation and generate renewable energy and smart tools such as telemetry and irrigation applications.

Governance, finance, and accountability constraints that shape resilience. Jordan's approach is anchored in long-term national strategies and institutional reforms, including sector decentralization through multiple publicly owned utilities and strengthened oversight mechanisms. On finance, the case notes extensive public subsidies that support both capital investment and ongoing operations and maintenance, helping affordability but contributing to rising sector debt. It also points to the need to address non-revenue water, tariff and subsidy structure, and overall financial sustainability to strengthen the enabling environment for investment as donor support slows.

Why this is useful for the SCF Forum discussion. Jordan provides a scarcity-focused narrative that links drought and chronic water stress to household coping burdens, fiscal pressures, and the added demands associated with refugee inflows. It illustrates a practical mix of approaches that can reduce socioeconomic impacts: demand management and efficiency (especially in agriculture), expansion of reuse and non-conventional supplies, and reforms that strengthen governance, utility performance, and financial sustainability. While the case does not quantify displacement or food insecurity outcomes directly, it highlights the core pathways through which water scarcity can destabilize livelihoods and increase mobility pressures, and how systems-level investments and reforms can reduce those risks.

Case Study 7: Ghana: Strengthening governance and data for water security and service delivery under climate stress (UN-Water 2022-2025)

Context and risk profile. Ghana's case study highlights that water security risks are increasing due to climate variability and extreme events, alongside pressures from rapid urbanization, land use change, and pollution. While Ghana is not uniformly arid, the case emphasizes that water stress and service reliability challenges can still be acute in specific geographies and seasons, with impacts that disproportionately affect low-income communities and vulnerable groups.

Socioeconomic risk pathway: service reliability, livelihoods, and vulnerability. The case underscores that unreliable water services and inadequate sanitation create direct public health burdens and indirect economic costs, including time spent collecting water, lost productivity, and higher household expenditures on alternative sources. These pathways are important for the SCF Forum theme because they represent the channels through which drought, variability, and scarcity translate into socioeconomic impacts, including livelihood stress that can contribute to mobility pressures.

System strengthening and finance focus. Ghana's experience emphasizes improving governance and planning as prerequisites for mobilizing and using finance effectively. The case points to the value of stronger coordination across institutions and clearer investment planning to improve budget credibility and execution, including by strengthening data systems to inform decision-making and increase accountability for results.

Climate-relevant investment and risk management approaches. The case highlights actions that strengthen resilience to variability and drought impacts, such as improving service continuity through better operations and maintenance, reducing losses, strengthening water resource protection, and enhancing monitoring and early warning for water-related risks. These approaches are often lower-cost and faster to implement than major new supply infrastructure, and they can protect vulnerable communities during shocks.

Partnership and accountability mechanisms. The case illustrates how multi-stakeholder coordination and mutual accountability can support sustained follow-through, including through stronger monitoring and reporting, and clearer roles across government, service providers, and partners. This helps ensure that resilience investments translate into measurable improvements for people and that resources reach priority geographies and populations.

Why this is useful for the SCF Forum discussion. Ghana provides a systems-focused narrative: climate-related water stress and variability create socioeconomic vulnerability even outside the most arid settings, and the most effective finance response often combines targeted resilience investments with governance, planning, and accountability reforms that improve execution and protect equity. For the SCF discussion on drought and socioeconomic impacts, Ghana offers a transferable lesson that strengthening foundational systems (data, planning, O&M, and accountability) can reduce household coping costs and vulnerability during periods of scarcity, helping prevent the kinds of compounded stresses that can escalate into broader economic shocks and mobility pressures.

4. SUB-THEMES B4 + B7: Storm surges, floods and other extreme weather events, including preparedness and response

Storm surges, riverine floods, and intense rainfall events are now among the most destructive climate hazards, responsible for most of the disaster-related damage to water supply and sanitation systems worldwide. Flooding inundates treatment plants and pumping stations, destroys pipes and latrines, spreads faecal contamination, and disrupts solid-waste and drainage services. The public-health consequences—outbreaks of cholera, diarrheal disease, and vector-borne illnesses—often exceed the direct physical damage.

Urbanization in floodplains, loss of wetlands, and aging infrastructure amplify these risks. For utilities and municipalities, extreme events translate into emergency expenditures, revenue losses, and long recovery periods that divert resources from long-term development. Financing approaches must therefore link preparedness, resilient infrastructure, and rapid recovery, while strengthening the role of communities as first responders and stewards of local water systems.

4.1. Key enablers and opportunities for financing

Risk-informed infrastructure planning. In high flood-risk contexts, resilience is best financed when climate and hazard data are embedded into design standards and investment choices, including elevating critical equipment, protecting intakes, and prioritizing flood-resilient sanitation. In shared river basins, flood risk management and early warning systems are particularly effective when supported through transboundary data sharing, coordinated planning, and climate-informed cooperation between riparian states. Cambodia's case study highlights that flooding is frequent, exposes much of the country to high or extremely high risk, and can damage water infrastructure, reinforcing the need to integrate flood risk into planning and investment decisions rather than treating it as an exception. It also points to the value of locally appropriate technical solutions such as flood-resilient latrines.

Nature-based solutions for flood attenuation. Financing "natural infrastructure" can reduce peak flows, protect water quality, and lower lifecycle costs when combined with targeted grey infrastructure. The SWA NbS snapshot notes that measures like constructed wetlands and rain gardens can improve sanitation, reduce flooding, and reduce pathogens while supporting recharge, and that NbS can safeguard water quality through watershed protection.

Preparedness and continuity planning. Preparedness financing should prioritize minimum-service continuity, including emergency power, backup water points, modular treatment, and surge capacity for hygiene and infection prevention in public institutions. Pakistan's case illustrates how a national roadmap, costed plans, and investments in facilities and behaviour change can strengthen readiness and protect public health during crises, including through rapid rehabilitation and installation of WASH facilities in health care facilities and schools.

Urban drainage modernization. Flood resilience in cities requires financing for drainage and sanitation as interlinked systems. Cambodia's case highlights the role of responsible institutions for sanitation and drainage in cities, and the need to adapt services for flooded areas and unique settlement types such as floating villages, signalling that drainage modernization and flood-adapted sanitation need to be planned and financed together.

4.2. Role of finance actors to enhance scale and impact

In flood and disaster-prone contexts, climate funds and development banks can further strengthen impact by linking finance instruments with preparedness and recovery systems, including rapid-disbursement support and resilient rebuilding of essential water and sanitation infrastructure.

National and local governments. Public budgets remain foundational for drainage, solid waste management, and protection of critical water and sanitation assets. Government leadership can also "market-shape" resilient services by setting standards, targeting pro-poor support, and ensuring accountability for service continuity in high-risk areas, including for remote or atypical settlements.

MDBs and climate funds. Concessional finance and grant support can strengthen investment readiness and enable "build back better" approaches, particularly where costs exceed local fiscal space. In practice, this includes supporting bankable pipelines, strengthening data and governance, and financing reforms that allow utilities and municipalities to invest proactively rather than relying on repeated emergency responses. Cambodia's progress across the SDG 6 accelerators (data, governance, financing, capacity, innovation) reinforces the value of integrated support packages.

Private sector. Responsible private engagement can expand implementation capacity when regulation, transparency, and social safeguards are in place. Cambodia demonstrates how a carefully designed licensing system and longer license periods can support investment cost recovery, and how private operators can be organized to support experience sharing and performance improvements.

Insurance and contingent finance. Risk-layering approaches are relevant where utilities face sudden revenue losses and emergency repair needs. The submission outline also flags climate insurance and finance linked to risk reduction as an instrument area to integrate where appropriate, including for utilities and municipal systems.

4.3. Integrating financing into national policies and plans

Financing for floods and extreme events is most effective when integrated into national disaster risk reduction strategies and reflected in sector investment rules. Pakistan's case illustrates how a national roadmap can mainstream hygiene objectives across policies and institutions, supported by planning and financing departments and partners developing equity-based investment plans, with clear roles, targets, and monitoring. Cambodia similarly points to the need to adapt services for flooded areas and strengthen oversight tools and monitoring systems, which can be embedded into investment screening and permitting practices.

4.4. Inclusive and equitable financing

Extreme weather events often heighten sanitation insecurity and protection risks, underscoring the importance of gender-responsive design in emergency and recovery investments. Equitable flood finance prioritizes those most exposed and least able to recover, particularly informal settlements, schools, and health facilities, as well as communities living in atypical high-risk environments. Cambodia's floating villages example underscores how geography and livelihoods shape service vulnerability and why solutions must be adapted for context. Pakistan's approach emphasizes equity-based investment planning across settings like schools, health care facilities, markets, and households, which is essential for ensuring preparedness measures translate into reduced disease risk and protected dignity for all. Community participation also matters for sustained resilience; the NbS snapshot emphasizes community engagement and training as part of sustaining catchment-focused resilience actions.

Emergency preparedness and response measures should incorporate menstrual hygiene management as a baseline requirement, including availability of dignity kits, safe washing spaces, and gender-sensitive sanitation facilities in evacuation and recovery contexts.

Inclusive approaches should also ensure that climate finance reaches both dense urban areas facing flood-related service disruptions and rural or remote communities where infrastructure recovery is slower and profitable delivery models are often not feasible, increasing vulnerability to extreme events.

4.5. Country-driven approaches and lessons

Country experience highlights that resilience gains come from combining service design, governance, and financing. Cambodia demonstrates the value of locally adapted, flood-resilient sanitation, paired with market-enabling regulation (licensing) and financing approaches that can expand services while maintaining inclusion (including cross-subsidy approaches). Pakistan demonstrates how politically backed roadmaps and costed implementation plans, combined with large-scale hygiene promotion, investments in institutions, and trained frontline workers, can strengthen preparedness and reduce public health impacts during crises. Senegal's experience adds that resilient outcomes are strengthened when monitoring systems consolidate sector data and support decision-making, enabling earlier identification of bottlenecks and coordinated action.

4.6. Science, data, innovation and early warning

Operational resilience depends on actionable data, not only hazard forecasts. Cambodia highlights the value of accessible water quality information, including publicly available well contamination data presented in simple formats, which can strengthen trust and enable targeted risk mitigation. Pakistan emphasizes robust baselines, monitoring, and evaluation frameworks to track progress and accountability for results, including for public settings. Senegal's monitoring initiatives also show how strengthened monitoring and evaluation systems improve decision support and enable cross-sector collaboration and data sharing, which are essential foundations for early warning and coordinated response.

4.7. Fiscal instruments and policy coherence

Dedicated fiscal instruments can improve resilience when revenues are predictable and tied to maintenance and risk reduction outcomes. The NbS snapshot underscores the importance of valuing ecosystem services, including flood-control services of wetlands, and "capturing value" through policy and market mechanisms such as incentives and the removal of harmful subsidies. Cambodia's experience also suggests the importance of coherent regulatory frameworks that support cost recovery while maintaining oversight and inclusion, especially where private participation is part of the delivery model. Policy coherence across land use, housing, drainage, and sanitation is critical to prevent maladaptive investment in high-risk zones and reduce repeated loss and reconstruction cycles.

4.8. Simplifying access to finance

To reduce delays, finance can be structured around standardized, programmatic approaches that are replicable across cities and utilities, including pre-approved resilience packages for public institutions and rapid-disbursement windows that activate when thresholds are met. Pakistan's model of a national roadmap linked to provincial costed implementation plans illustrates how standardized planning frameworks can clarify investment needs, roles, and sequencing at scale, while supporting accountability for delivery. Cambodia similarly highlights how systemic accelerators (data, governance, financing, capacity, innovation) can be applied together to move from pilots to scale.

4.9. Innovative financial instruments

Innovation is most effective when it shifts incentives toward prevention, reduces long-term costs, and protects equity. The NbS snapshot provides two examples of innovative financing approaches relevant to flood risk: payments for environmental services (including city-level or basin level water funds) that can reduce sediment loads and cut annual flood damages while increasing dry-season water availability, and debt-for-nature swaps that create fiscal space while financing watershed conservation to reduce future damage costs. The submission outline also flags blue and green bonds and blended finance models as relevant instruments to integrate. These innovations should be paired with transparency and safeguards so that benefits reach vulnerable communities and do not increase exclusion after disasters.

4.10. International cooperation and partnerships

Flood risks often cross administrative and national boundaries, especially in shared basins and coastal systems. Cambodia's context underscores the importance of transboundary cooperation mechanisms for shared waters. Senegal provides a practical example of how regional working groups, joint declarations, and basin organizations can create platforms for consultation, shared data, and coordinated planning, which are foundational to preparedness and coordinated response. The NbS snapshot also notes that water funds can pool contributions across sectors and partners, highlighting the value of multi-stakeholder financing platforms for resilience (SWA 2025). Pakistan demonstrates the role of development partners in rapidly scaling hygiene-related investments and capabilities during crisis

response (UN-Water 2022-2025). Tools and events under the Water Convention also support transboundary cooperation in floor risk reduction.

4.11. Capacity-building and technology transfer

Capacity building is a core resilience investment. Pakistan's case documents large-scale mobilization and training of frontline sanitary workers and youth networks, alongside digital behaviour change tools, strengthening preparedness capacity that can be repurposed for future emergencies. Cambodia emphasizes the value of sector institutions and operator networks, including federations that support peer learning and performance. The NbS snapshot highlights training and engagement efforts linked to water funds and catchment management, reinforcing that sustaining resilience requires local capabilities, not only financing. Technology transfer priorities include modular treatment options, renewable backup power, flood-resilient sanitation design, and low-cost surveillance tools, applied through accountable national systems and community participation.

4.12. Illustrative case studies

The following case studies illustrate how countries exposed to storm surges, floods, and other extreme weather events are strengthening climate resilience across water systems, including service delivery, watershed management, and disaster preparedness. Examples from Sierra Leone, El Salvador, Pakistan, Bhutan, and Cambodia demonstrate practical approaches to reducing health and livelihood risks during floods, protecting critical infrastructure, and enhancing longer-term resilience through risk-informed planning, ecosystem-based measures, early warning systems, and stronger governance. Together, these cases highlight the importance of integrating climate and disaster risk considerations across water management and ensuring that climate finance supports both emergency preparedness and sustainable resilience building.

Case Study 8: Drin River Basin cooperation as a platform for climate-resilient investment (UNECE 2025)

In many regions, climate risks to water systems are inherently transboundary, as droughts, floods and ecosystem degradation often unfold across shared river basins. The Drin River Basin in the Western Balkans, shared by several riparian countries, illustrates how basin-level cooperation can provide an enabling platform for coordinated climate adaptation and resilience investment. Under frameworks supported through the UNECE Water Convention, the Drin riparians have strengthened joint governance, data-sharing and risk-informed planning, creating entry points for international support and coordinated financing of climate-resilient water management measures.

Despite the importance of such approaches, transboundary cooperation remains largely underrepresented in many NDCs and NAPs. Climate finance can play a catalytic role in scaling basin-level investment platforms, supporting early warning systems, drought and flood management measures, and resilient infrastructure in shared waters as part of adaptation implementation.

Case Study 8: Nature-Based Solutions (NbS) Case Study Snapshot (Sierra Leone and El Salvador) (SWA 2025)

Context and risk profile. The NbS snapshot frames a core challenge for countries and cities facing more frequent and intense extremes: conventional "grey" infrastructure is increasingly costly to build and maintain, while environmental degradation and climate change are raising flood risk, worsening water quality, and shortening the effective life of water and sanitation assets. NbS are presented as complementary "natural infrastructure" that strengthens resilience by restoring and protecting ecosystems that regulate runoff, stabilize soils, and protect water sources.

Extreme events and socioeconomic impacts. Flooding and extreme rainfall create direct costs (damaged assets and emergency repairs) and indirect costs (service disruption, contamination, household coping costs, and loss of livelihoods). The snapshot emphasizes that NbS can reduce these burdens by lowering sediment loads, protecting reservoirs and intake areas, and reducing flood damages, thereby supporting continuity of essential services during and after shocks.

Preparedness and risk-informed planning. The snapshot highlights practical NbS measures that support preparedness, including watershed protection and restoration, and sanitation-related green infrastructure such as constructed wetlands and rain gardens that help break down organic matter, reduce pathogens, capture runoff, and support groundwater recharge. The core preparedness lesson is that investing upstream in ecosystems can reduce downstream risks and damage costs, improving the reliability of services during extreme events.

Financing and delivery approaches relevant to floods. Two financing mechanisms are emphasized as scalable pathways for floods and extreme events:

- **Payments for ecosystem services (PES) and water funds** that pool contributions from multiple sectors (including tourism, carbon credits, private sector water users, and public sources) and channel them into coordinated catchment protection actions. The Freetown example (Western Area Peninsula Water Fund) is used to illustrate how a city-level scheme can create predictable finance for catchment protection while reducing the financial burden on utilities.
- **Debt-for-nature swaps (debt conversion transactions)** that create fiscal space while directing long-term resources toward conservation and watershed restoration. El Salvador's 2024 transaction is highlighted as a large-scale example, with a long-term commitment to watershed conservation in the Rio Lempa basin, designed to reduce future damage costs while also relieving debt pressures.

Governance and accountability for sustained implementation. The snapshot underscores that NbS perform best when they are not treated as add-ons. They require coordination among utilities, government agencies, and local communities, and a clear approach to valuing ecosystem services so that benefits like flood-control services and avoided damage costs can be recognized in investment decisions. Community engagement and capacity building are highlighted as elements that improve sustainability over time.

Why this is useful for the SCF Forum discussion. The NbS snapshot provides an overview case that aligns strongly with SCF priorities on enabling conditions and innovative instruments for extreme events. It demonstrates how preparedness can be financed through mechanisms that mobilize co-financing and reduce reliance on public budgets alone, while generating measurable avoided costs in flood protection, water treatment, and infrastructure replacement. It also reinforces a key message for the Forum: when ecosystem services are valued and integrated into planning and financing strategies, NbS can become a bankable component of resilient water and sanitation systems, complementing emergency preparedness and response measures rather than competing with them.

Case Study 9: Pakistan: Coordinating water and sanitation priorities under high flood risk (UN-Water 2022-2025)

Context and risk profile. Pakistan's case study underscores a high exposure to climate extremes, including major floods that disrupt drinking water and sanitation services, damage infrastructure, contaminate water sources, and elevate disease risk. Flood impacts are compounded by rapid urbanization and service delivery gaps, increasing vulnerability for low-income communities and people living in high-risk areas.

Extreme events and socioeconomic impacts. The case highlights that floods are not only infrastructure shocks but also public health and economic shocks. Service disruption and contamination increase outbreaks of waterborne disease and impose high coping costs on households. When extreme events intersect with fragile service systems, they can deepen inequality, erode livelihoods, and intensify humanitarian needs.

Preparedness and risk-informed planning. A key lesson in the case is the importance of moving from reactive response toward preparedness, including clearer institutional roles, improved coordination, and strengthened monitoring and evaluation. The country's SDG 6 acceleration efforts emphasize the need to promote hygiene and safe water practices at multiple levels, supported by a national roadmap and costed plans that clarify what needs to be done, by whom, and at what cost. These planning elements improve readiness for shocks by making response pathways clearer and enabling faster mobilization of resources.

Financing and delivery approaches relevant to floods. The case illustrates how political prioritization and coherent plans can support resource mobilization and better alignment of partner support. It points to increased international development assistance over time, linked to stronger national commitment and clearer strategies. For flood preparedness and response, this reinforces that financing is more effective when it is tied to investable pipelines and clear implementation arrangements, rather than being fully ad hoc after disasters.

Systems strengthening for resilient recovery. The case highlights the role of institutional and financial strengthening to improve implementation and follow-through. Strengthened monitoring, reporting, and multi-stakeholder coordination support course correction and accountability, helping ensure that post-flood investments "build back better" and reduce future risk, rather than simply restoring pre-existing vulnerabilities.

Why this is useful for the SCF Forum discussion. Pakistan provides a practical narrative on financing and governance for extreme events: preparedness requires more than emergency funds, it requires costed plans, coordination platforms, and accountability systems that enable rapid response and resilient recovery. The case supports an SCF message that strengthening foundational sector systems and aligning finance to risk-informed plans can reduce the human and economic costs of floods and other extremes, especially for the most vulnerable communities.

Case Study 10: Bhutan - Flood risks linked to glacier melting and mountainous hydrology (UN-Water 2022-2025)

Context and risk profile. Bhutan's case study reflects a high-risk mountain context where extreme rainfall, flash floods, landslides, and climate-driven hazards such as glacier-related flooding can damage infrastructure and disrupt essential services. In steep terrain, small failures in water supply or sanitation systems can cascade quickly, affecting settlements, schools, and health facilities and increasing the costs and complexity of emergency response.

Extreme events and socioeconomic impacts. The case underscores how shocks can disproportionately affect remote and rural communities where alternative service options are limited, and supply chains are harder to restore. When floods and landslides damage roads, intakes, and distribution systems, households face immediate coping burdens and heightened public health risks, and local economies can be disrupted by service downtime.

Preparedness and risk-informed planning. Bhutan's experience emphasizes the value of practical planning and risk management at service level, including approaches that strengthen safety and continuity of drinking water services and support local preparedness. In mountainous, hazard-prone settings, the case highlights the importance of embedding resilience considerations into planning, siting, and operation of infrastructure, not treating climate risk as a separate, downstream concern.

Financing and delivery approaches relevant to extreme events. The case illustrates how countries can combine public leadership with household and community investment to sustain basic sanitation improvements, which can be critical when disasters strain public budgets. For storm and flood preparedness, the transferable financing insight is that resilient service delivery depends on predictable resourcing for operations, maintenance, and rapid repair, not only capital projects, and that communities can play a meaningful role when policy and support systems are clear.

Systems strengthening for resilient recovery. Bhutan's experience points to the importance of institutional coordination and sustained implementation capacity to keep services functioning through shocks. Strengthening the enabling environment for service delivery, including local capacity for monitoring, maintenance, and timely repair, helps ensure that post-event recovery reduces future risk rather than restoring vulnerable systems.

Why this is useful for the SCF Forum discussion. Bhutan offers a relevant example for extreme-event discussions because it represents a hazard-prone context where resilience is achieved through a combination of risk-informed service planning, sustained maintenance and repair capacity, and practical financing arrangements that support continuity. The case reinforces an SCF message that

preparedness is built through strong systems, including local implementation capacity and predictable financing for service continuity, not only through emergency response mechanisms.

Case Study 11: Cambodia: Building resilience to floods through planning and service improvements (UN-Water 2022-2025)

Context and risk profile. Cambodia's case study highlights a climate risk profile shaped by major seasonal variability, where flooding is a frequent and defining condition for development. Large parts of the country face high to extremely high flood risk, and flooding can damage water infrastructure, making resilience to floods a core design and financing requirement for water and sanitation services.

Extreme events and service delivery impacts. Flooding disrupts service continuity through physical damage to systems and by undermining sanitation safety in flood-prone environments, including floating villages. The case emphasizes the need to adapt water supply and sanitation solutions to flooded areas and floating villages as a priority to protect public health and sustain progress during extreme events.

Preparedness through risk-informed technical choices. Cambodia's experience shows how preparedness can be built into service models through locally appropriate, affordable, flood-resilient sanitation solutions, alongside behaviour change and demand creation approaches. The case notes the role of flood-resilient latrines in improving sanitation access, and how community-led approaches and sanitation marketing have raised awareness and increased demand for improved sanitation and hygiene.

Financing and delivery approaches relevant to floods. The case is particularly useful for SCF discussions on enabling conditions because it demonstrates how financing architecture can support resilient services at scale. Cambodia has leveraged private investment for service expansion in both large and small utilities. Phnom Penh's utility model is presented as profitable and able to raise capital, while service expansion in smaller cities has been driven by private water operators, with public support used more selectively rather than relying on broad subsidies.

Governance, accountability, and market-shaping measures. Cambodia pairs investment mobilization with policy and governance choices that strengthen implementation and accountability. The case highlights a licensing approach designed to improve investment cost recovery through longer-term licenses, sector coordination mechanisms that support private operators, and cross-subsidy practices that enable expansion to poorer areas. It also points to the value of accessible public data tools to support planning, risk management, and trust in service quality.

Why this is useful for the SCF Forum discussion. Cambodia provides a strong "preparedness through systems" narrative for flood-prone contexts: resilience is advanced not only through emergency response, but through risk-informed service design (including flood-resilient sanitation), market-enabling regulation that supports investment, and financing models that mobilize private capital while

safeguarding inclusion through cross-subsidization and targeted support. This aligns well with SCF priorities on enabling conditions, simplifying access to finance, and ensuring investments translate into resilient, equitable outcomes.

5. SUB-THEME C4 Synergies between the three Rio Conventions

Water and sanitation are foundational to the objectives of all three Rio Conventions: climate change (UNFCCC), biodiversity (CBD), and desertification and land degradation (UNCCD). Yet financing for climate action in water systems is often fragmented across these frameworks, leading to duplication, missed co-benefits, and inefficient use of limited public and concessional resources. Strengthening synergies between the three Rio Conventions is therefore not only a governance objective, but a climate-finance effectiveness imperative. Recognising this, Annex I of the Report of the thirty-eighth meeting of the Standing Committee on Finance identifies "Synergies between the three Rio Conventions (C4)" as a cross-cutting sub-theme for the 2026 SCF Forum

This submission responds by highlighting how coordinated approaches to water and sanitation across the three Conventions can improve access to, targeting of, and impact from climate finance, particularly for adaptation, resilience, and nature-based solutions.

Integrated sanitation investments for coherence across Rio Conventions

Integrated approaches that link sanitation investments with ecosystem protection offer important opportunities for coherence across the Rio Conventions. In coastal and island contexts, improved wastewater and sanitation systems can contribute simultaneously to climate adaptation objectives under the UNFCCC, biodiversity and marine ecosystem protection under the CBD, and land–sea pollution reduction and resilience outcomes relevant to the UNCCD. These cross-cutting benefits highlight the potential for blended finance models and joint programming that recognizes sanitation as part of broader climate- and nature-resilient development pathways.

5.1. UN-Water system-wide approach to Rio Convention synergies

The United Nations System-wide Strategy for Water and Sanitation and its Collaborative Implementation Plan (2025–2028) provide a concrete operational framework for advancing these synergies. In particular, Priority Collaborative Action 3 (PCA 3): "Mainstream within UN Rio Conventions at all levels" sets out a coordinated UN system approach to supporting Parties in integrating water and sanitation into the implementation of all three Conventions.

Through PCA 3, UN-Water Members and Partners commit to:

- Supporting implementation of existing water- and sanitation-related mandates under the Rio Conventions (including NDCs, NAPs, the Global Goal on Adaptation, the Nairobi Work Programme, Land Degradation Neutrality targets, and National Biodiversity Strategies and Action Plans);
- Enhancing the inclusion of water and sanitation considerations in negotiated decisions, work programmes, and COP outcomes;
- Providing coordinated technical, scientific, and policy support to countries to integrate water and sanitation into national planning and reporting instruments;
- Leveraging major global moments, including Rio Convention COPs and the 2026 and 2028 UN Water Conferences, to test and scale mainstreaming approaches.

This system-wide coordination helps reduce fragmentation, align mandates, and improve the efficiency of financial resources deployed across climate, biodiversity, and land degradation agendas.

5.2. Implications for financing climate action in water systems

Strengthening synergies between the Rio Conventions has several direct implications for climate finance, highly relevant to the SCF Forum:

Improved access to finance. When water and sanitation priorities are coherently embedded across NDCs, NAPs, NBSAPs, and drought and land-degradation strategies, countries are better positioned to access climate, biodiversity, and land-related finance from multiple sources, including the Green Climate Fund, Global Environment Facility, Adaptation Fund, and bilateral channels.

More efficient use of public and concessional resources. Integrated programming reduces duplication between climate adaptation, ecosystem protection, and land-restoration investments. For example, watershed restoration, wetland protection, and drought-resilient water supply can simultaneously deliver climate adaptation, biodiversity conservation, and land restoration outcomes.

Stronger investment pipelines. Coordinated planning across the three Conventions enables countries to present larger, more coherent investment packages, increasing their attractiveness to MDBs and blended-finance mechanisms.

Enhanced accountability and results tracking. Aligning indicators and reporting across the Rio Conventions improves transparency on finance flows and outcomes, supporting the SCF's mandate to promote coherence in climate finance.

5.3. Country-driven implementation and capacity support

A central focus of PCA 3 is country-driven support, responding to requests from Parties and national focal points of the three Rio Conventions. Activities include:

- Analysis of how countries are already integrating water into NDCs, NAPs, land degradation neutrality targets, and biodiversity strategies, highlighting good practice and gaps;

- Development of practical tools and policy briefs to support mainstreaming of water and sanitation across Convention processes;
- Targeted capacity-building for national focal points, including joint briefings and technical support;
- Facilitation of linkages between the Rio Conventions and existing water-related conventions (e.g. the 1992 UN Water Convention and Ramsar Convention on Wetlands), reinforcing legal and institutional coherence.

These efforts are particularly relevant for developing countries, including SIDS, LDCs, and countries affected by climate-induced displacement, where institutional capacity constraints often limit effective access to climate finance.

5.4. Relevance for the SCF co-facilitators and Forum programme

From the perspective of the 2026 SCF Forum, the experience of UN-Water and its Members under PCA 3 offers concrete insights on:

- How institutional coordination and policy coherence can act as enablers of climate finance in water systems;
- how financing instruments and funding windows under different Conventions can be better aligned around shared water-related outcomes;
- how the SCF can help bridge technical discussions on finance with the operational realities of national planning under the Rio Conventions.

The SCF Forum provides an important opportunity to surface these lessons, encourage dialogue between Convention communities, and identify practical recommendations to improve the coherence, accessibility, and impact of climate finance for water and sanitation.

6. Possible additional sub-themes for the SCF co-facilitators to consider

- Accountability and climate finance effectiveness in water systems: how to track whether climate finance improves service continuity, equity, and resilience outcomes.
- Domestic public finance and budget execution for climate-resilient water and sanitation services, including how to reduce under-spending and strengthen procurement and asset management.
- Project preparation ecosystems for water systems and the ocean, including standardized approaches to climate risk screening, pipeline development, and social safeguards.
- Water and sanitation as enabling investments for climate mitigation and low-carbon transitions: Water and sanitation are not only adaptation priorities. They are also risk-

reducing enabling conditions for mitigation investment. They increase the returns and durability of climate finance across sectors. (UN-Water 2025)

- Given that transboundary water cooperation remains largely underrepresented in current NDCs and NAPs, climate finance can play a catalytic role in supporting basin organizations and cross-border resilience investments as part of adaptation implementation.
- Approaches for regional and transboundary cooperation in adaptation financing

7. Conclusion

UN-Water and SWA partners stand ready to support the SCF Forum through continued knowledge sharing and country learning. The experiences summarized here show that financing climate action in water and sanitation systems and the ocean is most effective when it is country-driven, strengthens institutions and accountability, and prioritizes equitable outcomes.

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